AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS OF PARENT-CHILD CO-PARTICIPATION IN MOUNTAIN BIKING

by

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Abstract

Parent-child relationships are known to be particularly influential on youth sport outcomes (e.g., Dorsch et al., 2021). The sport environment is intimately related to the social dynamics experienced in youth sport, influencing what types of parent-child interactions may occur (e.g., Côté et al., 2020). Non-traditional sports provide contexts for one unique type of influential relationship interaction; parent-child co-participation (e.g., Nash & Moore, 2021). Little research has been conducted on this phenomenon to date, but the existing literature shows that co-participation holds potential to greatly impact youth, adult, and adult-youth relationship outcomes (Smith & Côté, 2023). Therefore, the present study aimed to examine experiences of parent-child co-participation, with the intent to understand the processes and outcomes of these interactions. Using an interpretative phenomenological study design, semi-structured individual interviews were conducted with seven parent-child dyads. The data were then analyzed according to the IPA tradition (Larkin & Flowers, 2018). Four themes were constructed through this analysis: (a) Family-based and independent participation are two complementary pathways to co-participation; (b) Parents flow between the roles of peer, partner, and provider; (c) Participants employ adaptive strategies on either side of the 'sweet spot' of skill overlap; and (d) Shared activity allows for positive interpersonal interactions and relationship building. When present in concert in a regular and recurring manner, these four themes create fulfilling co-participation experiences between parents and their children. These results demonstrate co-participation's potential to act on the short, mid, and long-term outcomes of sport participation for both youth and adults, as well as on parent-child relationship development. Theoretically, these findings contribute to the field's understanding of support and optimal parent involvement. Practically, these findings provide insights in response to questions put forth by Cycling Canada

and represent potential strategies sport organizations may employ to improve parent engagement and behaviours.

Co-Authorship

This manuscript is the work of Haley H. Smith in collaboration with her supervisor, Dr. Jean Côté. All parts of the study were executed by Haley, including the ethics approval process, recruitment, data collection, data analysis, and the production of this thesis document. Dr. Côté provided critical guidance at each phase of this project and was the primary editor of this manuscript in the process of preparing it for submission.

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List of Abbreviations

CC: Cycling Canada

GREB: General Research Ethics Board

IPA: Interpretative phenomenological analysis

LOI: Letter of information

NICA: National Interscholastic Cycling Association

PA: Physical activity

PAF: Personal Assets Framework

PYD: Positive youth development

Chapter 1 Introduction

1.1 Context

The processes and outcomes associated with youth engagement in sport have been topics of research for several decades (e.g., Côté, 1999; Fraser-Thomas et al., 2005; Larson, 2000). Evidence shows that engagement in sports can impart physical, social, scholastic, and holistic benefits (Fraser-Thomas & Côté, 2009; Marsh & Kleitman, 2003); however, researchers assert that care must be taken to structure sports to facilitate these outcomes (Coakley, 2011). The elements that facilitate positive developmental outcomes in sport have been identified and examined using different ecological frameworks to display the relationships between engagement in sport and its intended effects (Côté et al., 2020; Dorsch et al., 2022; Henriksen et al., 2010; O'Sullivan et al., 2021). For example, the Personal Assets Framework (PAF; Côté et al., 2020), suggests that the physical and competitive environment, the activities, and the social dynamics of different sport environments are variables that lead to key developmental outcomes in youth, such as competence, confidence, connection, and character.

Each interactive variable of the PAF has been extensively studied in organized youth sport (e.g., Côté & Vierimaa, 2014; Holt & Neely, 2011), showing that the physical environment, athletes' activities, and social dynamics are consistently interacting to create positive or negative sport experiences. Bruner and colleagues' (2021) recent systematic review and meta-analysis of interventions designed to structure the sport experience for positive outcomes suggests that many specific and dynamic variables moderate a range of different outcomes. These findings highlight the complex and interactive nature of factors that lead to positive outcomes in youth sport. Among the interactive variables that most directly affect sport experiences are the social dynamics under which successful youth sport programs operate (e.g., Jowett & Lavallee, 2007).

Of particular note are parent-child relationship dynamics, which are known to be critically important in youth sport contexts (see Dorsch et al., 2021 for a review). Yet, research on the developmental impacts of these relationships has focused almost exclusively on traditional sport environments in which parents primarily play an ancillary support role (e.g., tennis, soccer, ice hockey; Harwood & Knight, 2015). Different sport structures provide different opportunities for involvement and outcomes, so examining sport contexts that offer a less organized social environment may provide new insights into the interactions and relationships that influence both immediate sport experiences and developmental outcomes over time.

These less organized social environments can often be found in non-traditional sport contexts. Non-traditional sports (referred to by many additional labels such as alternative or lifestyle sports) are characterized by their lack of formal rules and adult oversight, the absence of universally defined outcome goals, and informal practice/play environments conducive to participating with family and friends (Green et al., 2015; Rinehart, 2002; Säfvenbom et al., 2018). These sports include parkour, skateboarding, skiing, and mountain biking and are often unstructured and informal (Säfvenbom et al., 2018). Though the predominant conceptualization of sport within the field of psychology includes competition as a requisite (e.g., Coakley & Donnelly, 2004), non-traditional sports challenge this definition; alternative sports are frequently non-competitive and creative in nature (e.g., Thorpe, 2016; Wheaton & O'Loughlin, 2017; Säfvenbom et al., 2018). Historically associated with delinquency (e.g., Davis, 2004), these sport environments are being newly understood as a fertile context for positive youth development (e.g., Jeanes et al., 2020; Thorpe, 2016) and a site for the development of fulfilling relationships (e.g., Nash & Moore, 2021). This can be attributed (at least in part) to one relationship

phenomenon particularly suited to non-traditional sport environments: parent-child co-participation (e.g., Nash & Moore, 2021).

For the purposes of this study, I have used the available literature to operationalize parent-child co-participation as mutual participation in a sporting activity, whereby both the parent and child are engaged in a primary experience of the activity, which has both self-centric and relational aspects. Parent-child co-participation is associated with many positive psychosocial and behavioural outcomes (e.g., Burton et al., 2020; Nash & Moore, 2021). Driven by both curiosity and personal experience, I and my supervisor, Dr. Jean Côté, conducted a scoping review to determine what research exists on this topic, and how co-participation has been conceptualized in the literature (Smith & Côté, 2023). To broadly summarize, our key findings were as follows: (a) co-participation has primarily been examined as a predictive, unidimensional variable linked to physical activity and sport engagement rates, (b) a small number of studies (n=7) have discussed sport co-participation as a developmental process, and (c) the few papers examining the developmental contexts of co-participation provide evidence to suggest that this phenomenon may have important implications for youth, parent, and parent-youth relationship development. These findings indicate that further research examining co-participation as a developmental and contextual process is needed.

1.2 The Present Study

Encouraged by our aforementioned scoping review, this thesis examines parent-child sport co-participation in cross-country mountain biking, with the intent to improve understanding of the processes and outcomes associated with this phenomenon. No such project has yet been carried out, as co-participation has typically been conceptualized as a predictive variable. Where sport co-participation has been appreciated as a developmental process, it has been a coincidental

finding as opposed to a construct deliberately examined by researchers (Smith & Côté, 2023). Thus, this project aimed to explore the co-participation experience between parents and their adolescent children, focusing on the idiographic and dyadic outcomes and processes experienced therein. We must note that in our conceptualization, the term 'parent' can refer to many different forms of primary caregiver. So, while we use the term "parent" herein, we include guardians in this definition. This project employed a multiperspectival interpretative phenomenological analysis (IPA) approach (Larkin et al., 2018), utilizing a small sample size and in-depth qualitative inquiry. The following chapters will fully detail the literature at the foundation of the study, research design, process, and findings. Beginning with a comprehensive literature review to situate this project within the existing knowledge base (Chapter 2), this thesis manuscript will then detail the specific methodology followed (Chapter 3), communicate all findings (Chapter 4), and discuss the theoretical and practical implications of these findings (Chapter 5).

Chapter 2 Literature Review

2.1 Historical Foundations of Sport Parenting Research

A broad historical review of sport psychology research shows that parents' impact on the youth sport experience has received several decades of attention. Dorsch and colleagues' recent citation network analysis helps illustrate the history of youth sport parenting research, tracing the tree of research through the last 40 years (Dorsch, Vierimaa, & Plucinik, 2019). Early influential works are revealed through this citation analysis, including those produced by Scanlan and Lewthwaite (1984; 1986), Leff and Hoyle (1995), and Côté (1999). These foundational works primarily focused on the concepts of parental involvement, support, and pressure, as well as youths' perceptions of these behaviours. For example, in the papers resulting from their study with male wrestlers aged 9-14, Scanlan and Lewthwaite reported on various psychological aspects of competitive sport experiences. Specifically, parental support and pressure were found to play significant roles in youths' experiences of competitive stress, sport enjoyment, sport performance expectancies, and competitive trait anxiety (Scanlan & Lewthwaite, 1984; Scanlan & Lewthwaite, 1986). Namely, parental support was associated with positive and adaptive outcomes and experiences (e.g., success and enjoyment), whereas parental pressure was associated with more negative (e.g., anxiety) and maladaptive (e.g., perfectionism) outcomes.

Further research by Leff and Hoyle (1995) resulted in the formal operationalization of parental involvement as a construct consisting of two types of behaviours: pressure and support. In addition to shaping how the sport psychology field conceptualizes parental involvement, their findings reinforced the association between parental pressure and negative psychological outcomes, as well as parental support and positive psychological outcomes. In a novel approach for the times, Leff and Hoyle included both male (n=97) and female (n=57) youth participants in

their study, resulting in the identification of gender differences in the perception of parental support. With regard to gender, the authors found that: (a) female athletes were more likely to perceive higher levels of parental support than their male counterparts, and (b) male athletes were more likely to perceive pressure from their fathers than their mothers, whereas female athletes perceive no difference in the pressure exerted by their mothers and fathers. This work proved particularly influential in shaping the direction of future inquiry into parents in sport, as it delineated what "involvement" entailed.

These early works examining parental involvement focused on point-in-time data collection methods. Thus, while valuable, these findings did not provide an understanding of change-over-time or the impact of different types of support and pressure at different points on the athlete timeline. Côté's (1999) work on the role of the family in sport talent development addressed this gap by employing retrospective interviews with high performing adolescent athletes and their families (n=15). This type of in-depth qualitative inquiry allowed Côté to identify key temporal phases of development in the athlete's career, including the sampling, specializing, and investment years. The family, and particularly athletes' parents, were shown to have unique influences and provide different types of support throughout each of these phases. For example, parents are often providers of opportunity (for enjoyment and participation) in the sampling years, whereas parents provide support of a financial nature in the specializing years.

These early and influential works provide the backdrop against which sport parenting research has since proliferated. The body of knowledge has expanded to cover the influence and impact of a wide range of parent behaviours on youth outcomes, the various roles parents play in the lives of young athletes, the effects (and development) of the parent-child relationship, and

other such phenomena. The following sections will provide an overview of key takeaways from these lines of research.

2.2 Parent Influence and Impact on Youth Sport

2.2.1 Support, Pressure, and Associated Parent Behaviours

The influence of parent-child relationships in youth sport is well-documented. Dorsch et al.'s (2019) citation network analysis of work examining parent-child interactions in youth sport provides a map for understanding this body of literature. In this analysis, the authors identify 199 articles published between 1968 and 2017 that examine parent-child interactions in youth sport. This robust body of knowledge demonstrates that, among other factors, parents are key providers of support, experience, and resources throughout the youth development timeline (e.g., Côté, 1999; Fredricks & Eccles, 2005; Leff & Hoyle, 1995). Of course, not all parent-child tandems are created equal. The degree of parental involvement, supportive behaviours, encouragement, and all other facets of relationship quality will naturally vary between and within dyads, across both contexts and time periods.

Adhering to Leff and Hoyle's (1995) operationalization of parental involvement privileges two categories of behaviours as supremely influential: the application of pressure, and the provision of support. As previously shared, pressure has historically been associated with negative outcomes and support associated with positive outcomes. However, more recent research convolutes this distinction. Contrary to the simpler conclusions drawn by 1980s and 1990s research, we now know that parents and children are not always in agreement about what qualifies as pressure and what qualifies as support; the subjective nature of reality is critical here, as youth may perceive behaviours typically deemed to be supportive as pressuring (and vice versa), and parents may have a tendency to overestimate how supportive their own actions are

(Dorsch et al., 2016; Kanters et al., 2008). Furthermore, children's preferences for parent supportive vs. pressuring behaviours change depending on context and timing (Elliott & Drummond, 2017a; Knight et al., 2011; Tamminen et al., 2017*).*

Support is a multifaceted construct commonly broken down into five dimensions: emotional, network, esteem, tangible/instrumental, and informational (Cutrona & Russell, 1990). Within sport contexts, parental support tends to be discussed within the bounds of emotional, tangible/instrumental, and informational support (e.g., Côté, 1999; Turman, 2007; Weurth et al., 2004). Emotional support, often displayed through verbal encouragement, affection, and praise, is a key contributor to youths' initial and continued involvement in sport (e.g., Côté, 1999; Gould et al., 1985; Holt et al., 2008; Knight & Holt, 2014). Instrumental parent support also significantly contributes to youths' involvement in sport, in a less affective (but no less important) way; parents provide tangible support through financial investment in registration fees and equipment, transportation, and the various activities required to physically facilitate sport involvement (e.g., Baxter-Jones and Maffulli, 2003; Harwood et al., 2019). Informational support typically relates to the technical or practical advice and instruction that parents provide their children (Cutrona & Russell, 1990). Parents are likely to provide this type of support when they perceive themselves as highly knowledgeable (Holt et al., 2008). However, studies have also found that many parents avoid providing this type of advice due to a fear of being overinvolved or pushy (Knight et al., 2016a). In any case, discussions of this type of support appear less frequently in the literature than those regarding emotional and tangible support.

Parental pressure is operationalized as any behaviour enacted with the intention to prompt youth responses and outcomes that are desired by the parent (O'Rourke et al., 2011). These parental behaviours can include an explicit emphasis on winning, the communication of high

effort and outcome expectations, an overbearing monitoring of youth behaviours, unsolicited feedback, and outcome-contingent approval, among other authoritative behaviours (e.g., Knight et al., 2017; O'Rourke et al., 2011). As discussed previously, pressure has historically been viewed as a negative input: parental pressure has been associated with the development of unhealthy and toxic perfectionism (e.g., Ommundsen et al., 2006), sport dropout (e.g., Fraser-Thomas et al., 2009), and other maladaptive outcomes such as decreased enjoyment, competitive trait anxiety, and lower intrinsic motivation (e.g., Amado et al., 2015; Bean et al., 2016).

While the association between pressure and negative outcomes is well-established, a more complete picture shows that the impacts of pressure are highly nuanced. The perception of pressure as negative or positive is context, time, and person dependent. Perhaps surprisingly, the same is now said for support; depending on the context, youth may perceive stereotypically supportive behaviours as negative or pressure-inducing. For example, in their quantitative study of highly competitive youth swimmers (n=307), O'Rourke and colleagues found that motivational climate (i.e., ego vs. mastery orientations) mediates the outcomes of perceived pressure (O'Rourke et al., 2011). Specifically, high pressure-high ego climates were associated with relative increases in athlete anxiety, whereas high pressure-high mastery climates were associated with relative decreases in anxiety. These findings have been extrapolated in other contexts and studies, such as Dorsch and colleagues' (2016) multiperspective (i.e., incorporating data from youth and parents) quantitative examination of pressure and support in recreational sport teams in which the authors found that conflict and positive affect are positively related to both support and pressure in different contexts. Knight and Holt's (2014) research with elite youth tennis players (n=90) further supports the complex effects of pressure and support, finding that both athlete and parent goals influence how parental involvement is interpreted by youth,

and that even the timing of parental behaviours can impact whether support and pressure are perceived negatively or positively. Gender can also impact the perception of these behaviours; Wagnsson and colleagues' research with Swedish youth football players (*n*=213) shows that the same behaviours may be interpreted differently depending on if they are enacted by an athlete's mother or father (Wagnsson et al., 2016). The interpretation of supportive behaviours is also dependent on the domain of support offered. For example, youth have reported feeling negative pressure as a result of high parental instrumental support (e.g., Dunn et al., 2016; Lauer et al., 2010). Likewise, youth with elite or professional sport aspirations have reported that praise and/or parents' reluctance to constructively criticize (behaviours which parents self-report as supportive) may undermine youths' goals and make them feel as though their parents don't take them seriously (e.g., Knight & Holt, 2014). As we can see, pressure and support are two broad categories of behaviours whose boundaries move depending on many contextual and temporal factors.

2.2.2 Parenting Style

The collection of behaviours parents enact towards their children creates the broad emotional climate in which development occurs. This collection of behaviours is commonly referred to as parenting style (Darling & Steinberg, 1993). Typically, parenting styles are divided into four categories based on responsiveness and demandingness: authoritative/autonomy-supportive (high responsiveness and demandingness), authoritarian/controlling (low responsiveness, high demandingness), indulgent (high responsiveness, low demandingness), and neglectful (low responsiveness and demandingness) (Baumrind, 1991).

Within the sport context, authoritative or autonomy-supportive styles are associated with positive outcomes, whereas controlling or authoritarian styles are frequently associated with

negative outcomes. Specifically, autonomy-supportive parenting has been found to promote self-determined motivation, increased sport enjoyment, and increased rates of both healthy and non-perfectionism, among other outcomes (e.g., Holt et al., 2009; Rouquette et al., 2021; Sapieja et al., 2011). Conversely, controlling parenting styles have been linked to outcomes such as maladaptive perfectionism and decreased self-esteem and vitality (e.g., Holt et al., 2009).

Given that the interpretation of behaviours as positive or negative is context-dependent, it makes sense that the sum of parent behaviours (i.e., parent styles) may also be interpreted in a context-dependent way. Studies frequently find that the style preferred by youth depends on temporal, environmental, and social contexts. (e.g., Strandbu et al., 2019). Furthermore, parents are not always consistent in the style they apply. In their season-long examination of youth soccer players and their parents (n=56 parents, 34 female children), Holt et al., (2009) found that parenting styles may differ across situations. Parenting behaviours may also be impacted by family structure. For example, in multi-child families, parents may display different behaviours towards each of their children depending on each child's disposition and goals (e.g., Côté, 1999). This variability in enactment of and preference for specific parenting behaviours and styles makes the concept of ideal parental involvement difficult to define, yet remains an important piece of optimising the youth sport experience.

2.2.3 Parent Roles: What Constitutes Optimal Involvement?

The literature presented thus far makes the significance of parent behaviours undeniable. Parents exert a high degree of impact on youths' experiences and outcomes in the sport context, so understanding what constitutes optimal parental involvement is an important aim. In pursuit of this goal, we can take direction from research that (a) examines the effects of specific parenting behaviours, and (b) seeks to understand youths' preferences for parental behaviour.

Harwood and Knight (2015), two of the foremost experts in sport parenting research, provide recommendations for optimal parent behaviours in their position paper on parenting expertise. This paper presents six postulates informed by research of parent behaviours: (a) parents select appropriate sporting opportunities and provide appropriate social support, (b) parents apply an authoritative or autonomy-supportive parenting style, (c) parents manage their emotions and role model emotionally intelligent behaviours, (d) parents engage in healthy relationships with important others in the sporting environment (e.g., coaches), (e) parents successfully manage the organizational and developmental demands of youth sport, and (f) parents adapt their involvement throughout time to support their children through different stages of athletic development. These postulates provide a high-level overview of what optimal (or expert) sport parenting practices may look like.

Since the publication of Harwood and Knight's work, several studies have continued to refine the concept of optimal involvement through in-depth qualitative inquiry. Some of these studies examined parental perspectives, such as Pynn et al.'s (2019) study examining expert parenting practices in competitive female youth sport. Through in-depth interviews with sport parents (n=10) who were nominated by coaches as exemplary, the authors identified several key parenting behaviours. These behaviours align well with Harwood and Knight's postulates, and include actions such as: sharing goals, communicating openly, providing autonomy, building healthy relationships, and coping well with emotional demands. Other studies have explicitly examined youths' perspectives, asking how children want their parents to behave. In the elite setting, youth highlight their desire for parents to provide motivational and constructive training feedback, reduce youth stress through the provision of instrumental support, encourage growth mindsets, and focus on holistic development beyond the sport context (Knight et al., 2016b).

Interestingly, several of these desired behaviours are echoed by youth in recreational contexts: Furusa and colleagues (2021) found that youth want to be listened to, have parents understand their desires for pre-, during, and post-competition communication styles, and be supported beyond sport. However, we must again revisit the importance of context. As is the case with the outcomes of parental behaviours, preferences for specific behaviours are also context-dependent: youth have cited parental involvement as welcome in some contexts (e.g., providing instrumental and emotional resources in support of participation) and unwelcome in others (e.g., parental engagement in social and athletic aspects of sport participation), and these preferences differ drastically depending on the youth (Strandbu et al., 2019).

Youth sport also allows parents to be directly involved through roles such as volunteer coaches. A parent's proximity to (and influence over) their child when filling this role can complicate the enactment of optimal involvement. For example, to remain effective and facilitate positive experiences, parents must be able to balance or separate their parent and coach roles (e.g., KurtzFavero et al., 2023; Weiss & Fretwell, 2005). These attempts are not always successful, and may lead to parent-child conflict in sport and external environments (e.g., Elliott & Drummond, 2017b; Weiss & Fretwell, 2005). In a sense, volunteer parent coaches are co-engaging in the sport environment with their children. However, this differs from our operationalization of co-participation in one key way: parents are facilitators or designers of the experiences, as opposed to participants. Thus, volunteer coaching represents a unique, separate, and challenging way for parents to strive for optimal involvement.

Taken together, the research on support, pressure, and parental involvement shows that optimal involvement is not a clearcut construct. What *is* clear is that parents exert a significant

influence on their children's experiences and development, and that the behaviours enacted by parents must be chosen with a high degree of care and emotional awareness.

2.3 Parent-Child Relationships and Youth Sport

The behaviours enacted within any relationship are key aspects of that relationship. It is through these behaviours that parents socialize their children, or in lay terms, implicitly and explicitly teach their children to behave. The specific behaviours involved in parent-child relationships have been covered above, so here I review key points related to the concept of parent-child relationships. To date, most research investigating parent-child relationships in sport has focused on the elemental behaviours described previously, thus offering implicit rather than explicit findings of parent-child relationship quality and development (Rouquette et al., 2020). The body of research indicates that sport contexts can encourage both positive and negative parent-child relationship development, and it is difficult to tease out exactly what leads to either outcome (e.g., Dorsch et al., 2009; Rouquette et al., 2017).

Dyadic examinations of relationships offer nuanced insights into the meanings derived from relationships in sport contexts. For example, Clarke et al.'s (2016) phenomenological analysis of parent-youth dyads in the English professional football academy stream revealed that parents and their children feel closer to each other through their involvement in football, and that this closeness is felt by both sides of the relationship. Furthermore, this sport-related closeness is a central element of participants' lived experiences. The authors interpreted gender to be an important mediator of the way sport impacts relationship development: sport was found to provide fathers with permission to be engaged fathers, whereas mothers faced uncertainty and challenges due to an assumed lack of knowledge and credibility. Interestingly, experiences of stress were also shared by both parents and their children, highlighting the reciprocity of the full

emotional spectrum within sport experiences. Importantly, this research positioned the parent-child relationship as a context for fulfillment and affective experiences instead of a mere instrument of socialization.

There is a collective call for more dyadic perspectives of parent-child relationships in youth sport, as research has typically focused on unilateral examinations (e.g., Dorsch et al., 2021; Harwood & Knight, 2015). Historically, prevailing views of parent-child relationships in sport positioned parents as the only instruments of socialization and impact (Dorsch et al., 2021). However, it is now understood that parents, youth, and the sport context impact each other in a multidirectional relationship (e.g., Dorsch et al., 2009; Holt et al., 2009; Snyder & Purdy, 1982). For example, parents can be negatively impacted by stress derived from youth sport (e.g., Sutcliffe et al., 2021), relationship warmth felt by parents has been found to prevent parental burnout and promote parental engagement (Defreese et al., 2017), and youth sport parents experience complex emotional outcomes and relationship development with their peers and children (Dorsch et al., 2009).

2.4 Impact of Youth Sport on Parents

Whether positive or negative, there is an increasing understanding of youth sport as a reciprocally impactful environment. We now know that parents not only socialize their children but are socialized by their children through youth sport involvement (e.g., Dorsch et al., 2009; Holt et al., 2009; Snyder & Purdy, 1982).

Parents are becoming increasingly involved in youth sport, trending towards experiences driven by adults and less centred on youth (Brenner, 2016). Perhaps as a result of this increasing immersion, adults report feelings of concern surrounding the nature of their own involvement (Knight et al., 2016a). The reasons for this are intricate and reciprocal but are often attributed to

the ongoing professionalization of youth sport (Dorsch & Vierimaa, 2017; Dunn et al., 2016). Alongside this rise in professionalization have been increasing levels of disruptive and harmful adult behaviour (e.g., Bean et al., 2016; Horne et al., 2022), increased parent stress (e.g., Erdal, 2018; Sutcliffe et al., 2021), and high levels of hyper-parenting (e.g., Bonavolontà et al., 2021; Janssen, 2015; Kahler, 2019). This hyper-involvement may be a side-effect of the stress that parents experience as a result of their children's involvement in youth sport, evidencing some of the more negative possible impacts (Rouquette et al., 2017) of competitive youth sport. For example, in research positioning parents as consumers of youth sport, Murata and Côté (2022) reveal that parents may feel dissatisfied with the youth sport opportunities they are financially invested in, potentially leading to negative parenting behaviours.

Parents' experiences of stress in the youth sport context have received significant research attention. Côté's (1999) seminal work on the role of the family in youth sport identified several sources of parental stress, such as selection policies, organizational demands, and financial strain. In the nearly 25 years since this work, research has consistently identified recurring sources of parent stress such as competition demands, cost, concerns over youths' development and education, and social and family conflict (e.g., Harwood & Knight, 2009; Harwood et al., 2010; Lienhart et al., 2020; Sutcliffe et al., 2023).

Stress, however, is not the only outcome parents experience through youth sport. Youth sport can also positively affect parents' lives (Strydom et al., 2023; Sutcliffe et al., 2021). For example, Sutcliffe and colleagues found an association between youth sport involvement and decreased parental psychological distress (i.e., depression and anxiety; Sutcliffe et al., 2021). Qualitatively, the same authors have found that youth sport is a positive addition to many parents' lives, encouraging relationship development within parenting couples, increasing the

size of parents' social networks, and providing a source of comfort in the knowledge that their child is supported outside the family context (Sutcliffe et al., 2023). Parents also report feeling an enhanced sense of parental identity due to their children's participation in youth sport, among other positive affective experiences (Clarke & Harwood, 2014). Social experiences and financial investment are not the only sources of parental outcomes in youth sport. Parents are often asked to fill active roles in youth sport, such as volunteer coach positions. Fulfilling these additional roles can impact the parent-child relationship and present rewards and challenges for parents involved in organized youth sport (KurtzFavero et al., 2023). However, less is known about parents' demands and responsibilities in non-traditional sport environments, where organizational structures are less formal and participation is freer.

2.5 Parent Roles and Influence in Non-Traditional Sport Environments

Researchers have extensively reported on parent-child relationships in the traditional youth sport context, where parents may primarily play a support role (for a review, see: Dorsch et al., 2021). Dorsch and colleagues share two interesting findings within this review, namely (a) the youth sport parenting literature has focused primarily on traditional, organized sport contexts, and (b) examinations of parenting experiences, behaviours, and outcomes in non-traditional youth sport settings represent exciting future research opportunities. Spurred by Dorsch et al.'s finding that youth sport parenting research has focused on traditional contexts, I engaged in a broad search of the Queen's University Omni Library using search terms focused on non-traditional, alternative, and lifestyle youth sport. This search process revealed that youth sport parenting literature and alternative sport literature are two distinct fields that have not yet intersected.

Though there appears to be an absence of research on parent-child relationships in non-traditional youth sport, we may assume that many principles regarding parent influence in traditional sport would be generalizable to these environments. For example, support, which has been identified as having a strong effect on positive youth development (PYD) in traditional sports (e.g., Dorsch et al., 2016) may still exert a largely positive effect on PYD. Parents' roles as socialization agents in traditional sports (e.g., Anderson-Butcher et al., 2019; Lian et al., 2021) likely transfer to the non-traditional environment as well. However, one must take caution in attempting to generalize the specifics of these principles to non-traditional sports. For example, parents' behaviours to support their children in non-traditional sports may look different. Indeed, given the centrality of freedom in alternative sport, it would be logical for parental support to be more peripheral and less 'hands-on.' It is important to note that these statements are speculative; literature to investigate these claims has not been published, and so any assertions in this area are necessarily based on inference and indirect evidence.

Adjacent to the study of parent influence on youth in sport contexts is the study of parent influence on youth participation in general physical activity (PA). PA participation may occur in more informal circumstances than those found in organized youth sport, and so this research may be informative for non-traditional youth sport contexts. In particular, this research has found that parent role modelling exerts a significant positive impact on youth PA, especially amongst young girls (Krahnstoever Davison et al., 2003). In slight contradiction to Krahnstoever Davison and colleagues' (2003) findings, Reimers et al. (2019) found that parental modelling only impacts children's PA outside formal sport clubs. Another echo of the importance of parent role modelling on youth PA comes from Matos et al.'s (2021) systematic review of all literature from the past twenty years examining the association between parents' and children's PA patterns. The

results of this study show that role modelling is particularly important, and parents' and children's PA levels are strongly correlated. Interestingly, one of Matos et al.'s research-informed key recommendations was that parents and children should spend more time practicing PA together.

To revisit Dorsch and colleagues' (2021) recommendations, research into parent-child relationships and behaviours in non-traditional sport contexts presents exciting opportunities. At least part of this research potential rests on the revelation of a unique parent-child relationship process that occurs in non-traditional sport contexts: parent-child sport co-participation (e.g., Nash & Moore, 2021; Smith & Côté, 2023). This phenomenon has yet to be examined in depth.

2.6 Parent-Child Co-Participation in Sport

Our recent scoping review reveals that parent-child co-participation in sport has typically been viewed as an outcome variable, as opposed to a developmental process (Smith & Côté, 2023). Of the 31 published studies mentioning co-participation as a construct, only two have examined co-participation as a process that influences engagement within sport environments (Burton et al., 2020; Nash & Moore, 2021). In both cases, co-participation was found to be an important mechanism of youth development through sport, but was not the primary process under investigation. Burton and colleagues (2020) identified co-participation as an important outcome and process driving development within a multi-sport, coached intervention. This community-level intervention aimed to increase physical activity levels amongst youth and parents, and included more traditional sport activities such as soccer. Importantly, this intervention existed outside of formal sport leagues; it was designed as a family-based program that incorporated both traditional sports (e.g., soccer) and traditional delivery models (i.e., scheduled, coached, and including rule-regulated games). Through qualitative interviews with

program coaches, the authors found that this co-participatory program resulted in increased community engagement, increased co-participation and investment in family time, and positive behavioural development (e.g., positive socialization) in children.

While Burton et al. (2020) examined an orchestrated sport environment in the context of a formal intervention, Nash and Moore's (2021) study investigated organic youth sport involvement. This qualitative investigation of Tasmanian girls' (n=27) participation in action sports focused on self- and family-instigated (i.e., outside of formal leagues or community interventions) involvement in sports such as surfing, mountain biking, and skateboarding. The authors found co-participation to be an important driver of involvement in and development through these sports. Nash and Moore's study is the first to report on the nature of parent-child co-participation in the non-traditional sport context, beyond identifying a correlation between co-participation and PA involvement. Nash and Moore's stated purpose was to examine what drives girls' uptake of action sports such as mountain biking and what promotes retention in these sports over time. The results of this paper were based on a subset of data (i.e., the qualitative interviews) taken from a larger, mixed-methods study examining girls' participation in Tasmania, Australia. The interviews focused on the interpersonal, intrapersonal, and environmental reasons for girls' sports participation. Analysis revealed parent-child co-participation as a key phenomenon driving girls' initial and continued participation. Specific findings regarding elements of co-participation within these three non-traditional sports included: identifying fathers as key instigators for daughters' involvement; identifying fathers as girls' primary co-participant; and illuminating fathers' roles as sources of inspiration and in creating an atmosphere that helped girls navigate these traditionally male-dominated spaces. Other findings included: identifying action sports as an important context for father-daughter bonding and relationship development;

co-participation as a method of socialization to values, such as well-being, learning and commitment; and co-participation as a means to foster increased confidence and sport competence.

Other literature related to parent-child co-participation in sport has focused on role modelling as a positive developmental mechanism (e.g., Krahnstoever Davison et al., 2003; Reimers et al., 2019; Matos et al., 2021), without explicitly discussing co-participation. In these studies, co-participation as a form of parent-child interaction is primarily discussed in relation to young children's unstructured play, and is conceptualized as a predictive or unidimensional outcome variable. For example, Zahra et al. (2015) used telephone interviews with mothers to examine the role of fathers in British youth's PA participation (n=37). Their findings indicated that fathers' roles included directly encouraging their children's PA via co-participation. Interestingly, the gender of the child was noted as a factor: fathers were more likely to co-participate in PA with their sons as opposed to daughters. These gender-specific findings build on Cleland et al.'s (2011) five-year longitudinal study of PA levels of Australian youths (n=540), in which mother-daughter co-participation was associated with improved youth PA levels. An interesting perspective on this phenomenon comes from Morgan et al., (2018), who conducted a randomized controlled trial to assess the impact of a co-participation intervention on Australian parents' and children's PA levels. Participants were assigned to either a waitlist control group or an intervention condition, in which fathers (n=115) and daughters (n=153) were instructed to participate in PA together. Results of this study show that the co-participation condition was associated with a statistically significant increase in both father and daughter PA levels, improved social-emotional health, and father-daughter relationship quality.

The co-participation literature tends to focus on the youth half of parent-child dyads. However, logic would dictate that this relationship process is reciprocal, likely exerting impacts on parents as well as children. Some studies examining co-participation as an outcome measure do report its impacts on parent PA levels, but the studies examining co-participation as a developmental process have thus far restricted their interpretations of development primarily to youth and, only peripherally, to youth-parent relationship quality (Smith & Côté, 2023). A body of research examining parent wellbeing as it is connected to their involvement in youth sport does exist, but this research typically positions parents as spectators and supporters (Sutcliffe et al., 2023). One interesting study bridging the gap between parent-as-spectator and parent-as-co-participation comes from Misener (2020), who conducted an autoethnography of her experiences engaging in "sideline" PA in parallel to her child's sport (i.e., running or otherwise exercising while her child was playing hockey or soccer). While the author was not technically co-participating in the activity (i.e., engaging together with her child as a peer or co-performer), this study offers an interesting interpretation of the value of simultaneous sport experiences between parents and children. Importantly, Misener suggests that co-engagement may result in improved well-being amongst parents through the promotion of confidence, self-acceptance, physical fitness, and, interestingly, *appropriate* levels of involvement and emotional investment in their children's sports.

2.7 Parent-Child Dyad Research in Youth Sport

The research presented above has tended towards a unilateral perspective of a phenomenon. However, the above reviewed literature also shows us that the impacts of youth sport are multidirectional, and in many cases, are dependent on relationship processes. Relationship impacts and outcomes are co-created by all participating relationship members, and

so it is surprising that more research has not examined the dyadic nature of youth sport experiences. Indeed, in recent years, researchers have begun to call for the use of dyadic perspectives, citing a need to incorporate both children's and parents' perspectives within the same studies (e.g., Dorsch et al., 2021; Harwood & Knight, 2015). While dyadic research designs are still less common, some researchers have heeded this call. I present here a selection of dyadic sport research across various methodological approaches, highlighting the strengths and concerns of this approach.

Dyadic research is perhaps more common in the positivist tradition, which tends to focus on quantifiable comparisons. These studies frequently attempt to compare parents' qualities against their children's, and vice versa, often looking for correlation or prediction. For example, Appleton and colleagues (2010) investigated the association between parents' and their elite junior athlete children's perfectionist tendencies using questionnaires and comparative statistics. The dyadic nature of this study design is obviously crucial to the findings: without measures from both parents and children, no quantifiable association can be made. More recently, quantitative dyadic research has begun to examine the perceptions held by parents and their children with regard to experiences of phenomena such as specialization (Hernandez et al., 2021), support (Kaye et al., 2019), and criticism (Goodman & James, 2017).

The qualitative tradition provides opportunities to more deeply explore the meaning people derive from experiences, as well as the relational processes involved in those experiences. An early example of qualitative multiperspective youth sport research comes from Weiss and Hayashi (1995), who examined the factors influencing high level participation in competitive youth gymnastics. Unique for the times in their inclusion of both parent and youth perspectives, the authors did not examine the data from a truly dyadic approach; parent and youth experiences

were treated as separate, as opposed to co-created. Thus, Weiss and Hayashi provide us with an early example of the value of multiperspective research, while not quite delving into dyadic analysis.

Two recent informative examples of dyadic inquiry in youth sport come from Elliott and Drummond (2017a), and Felber, Charbonneau, and Camiré (2020). Elliott and Drummond explored parent-child post-match interactions in Australian football through a combined approach of focus groups and interviews. The authors explain their decision to use a dyadic approach as an attempt to get a clearer picture of reality; while both voices were represented in their findings, the youth perspective was primarily used to verify parents' behaviour. As a researcher holding a constructionist epistemology, I am mindful of the pull researchers may feel to use dyadic perspectives purely for verification or triangulation. In the context of the present project, which will operate within bounded relativism, I believe that the strength of a dyadic approach lies in its ability to explore the co-constructed nature of relationships – not to unearth "reality."

Felber, Charbonneau, and Camiré (2020) provide a dyadic example that is methodologically aligned with the present project. Their exploration of youth athletes' basic needs satisfaction truly examined dual perspectives, focusing on the convergences and divergences of parent and youth experiences of the same life events. An important distinction between this work and Elliott and Drummond's (2017a) centres on the idea that, here, parent and youth experiences are equally valid and true. When used in this way, dyadic sport research provides exciting opportunities to explore developmental and relational phenomena more fully. One specific methodological approach presents a unique opportunity to leverage the strengths of dyadic research: interpretative phenomenological analysis (IPA).

2.8 IPA Approach in Sport Psychology

In considering various methodologies to approach the present project, l continually returned to phenomenology. Phenomenology is typically used to understand experiences and phenomena that have not been extensively researched (Tesch, 1990), and as uncovered by our scoping review (Smith & Côté, 2023), parent-child sport co-participation falls into this category. Though phenomenology is well-suited to guide this project, it presents only a general lens to approach research: a choice of specific methodology remains to be made after establishing a general phenomenological approach. With the advice of my proposal committee and after extensive reading, I elected to follow the tradition of multiperspective interpretative phenomenological analysis for the present project.

Perhaps due to the extensive time investment required to properly execute IPA, there are few examples of true IPA research in sport psychology. However, the research that does exist provides useful instruction for the selection of ontological and epistemological frameworks, study design, and data analysis. I have found three studies to be particularly informative in the design of the present project: Clarke et al.'s (2016) exploration of parent-child dyadic experiences in English youth football, Burgess et al.'s (2016) study of parents' experiences of stress and coping in elite youth gymnastics, and Smith et al.'s (2020) investigation of performance-influencing factors in college basketball practice environments. Though the topics of these three studies vary greatly, they share key attributes: an ontological approach (relativism), a purpose of deeply exploring experiential phenomena, and, importantly, an extensively detailed reporting of their methods and data analysis. The design and write-ups of these studies influenced the present project's design, which will be delineated in the methods section of this manuscript. However, a few key points are worth noting in this background section: the authors

of these studies selected IPA for its ability to privilege individual narratives as opposed to presenting average experiences, the use of extensive verbatim quotes is essential in remaining close to participants' personal interpretation of experience, and a self-reflexive understanding of the interpretive nature of the analysis is paramount to quality IPA research.

I have not, however, taken instruction only from studies which I seek to emulate. Research that has employed similar phenomenological methodologies to IPA proved useful in understanding why one may select IPA in preference to another similar approach. Specifically, close readings of Clarke and Harwood's (2014) descriptive phenomenological study, and Dunn and Tamminen's (2022) combined case study and phenomenological analysis were particularly informative.

Most attributes of Clarke and Harwood's (2014) descriptive phenomenological study are shared with the IPA approach. The key difference is in the approach one brings to the analysis: in descriptive phenomenology, the researcher's prior knowledge and experiences do not influence the analysis, whereas, in interpretative phenomenology, the research acknowledges that these things are part of the interpretive nature of the analysis. While a descriptive approach was appropriate for Clarke and Harwood, I am aware that my personal knowledge and experience of the present study's phenomena are so significant that an interpretative approach is best. I came to appreciate the nuance of this distinction through Clarke and Harwood's study, which also provided a useful example of phenomenological analysis in a sport psychology context.

Dunn and Tamminen's (2022) study helped me to understand the specific nuances distinguishing dyadic (or multiperspective) IPA. The authors incorporated pairs of parents and their children within this study, considering each dyad to be a bounded "case" of interest. This approach is essentially the same as dyadic IPA. The differences between traditional

multiperspective IPA and Dunn and Tamminen's methodology come in the analysis phase: where dyadic IPA follows a specific and multistep protocol for data analysis, these authors interacted with their data in a general phenomenological manner. Thus, this study served to illuminate the fullness of the IPA approach: dyadic IPA presents an all-encompassing methodology that guides research at every stage from the development of the research question through to and including data analysis and subsequent write-up.

2.9 Study Purpose

The purpose of this study was to explore parent/guardian-child co-participation as a social process within sport. Specifically, the research objective was to interpret the idiographic and dyadic experiences of sport co-participation, including the perceived developmental processes and outcomes. This study will interview parents and children separately, analyzing the resultant data from both idiographic and dyadic perspectives.

Chapter 3 Methods

3.1 Positionality Statement and Reflexivity

My relationship to this topic and community of study is multilayered. First, I am a professional mountain biker and have represented Canada at the Olympics and on the World stage for twelve years. This means that I both have a degree of prominence within the Canadian mountain bike community and am intimately involved with mountain biking as a lifestyle and sport pursuit. Second, I began my mountain bike journey in a co-participatory fashion with my father; he was my first riding partner and my primary co-participant for many years. My personal experiences with co-participation in sport have been largely positive. With a retrospective viewpoint, I can appreciate that these experiences contributed to my personal development and relationship with my father. However, I must acknowledge that my experience is limited to one half of the co-participatory experience; I am not a parent, and thus cannot fully appreciate the demands, emotions, and experiences of parenthood. Third, I am acquainted with many of the Canadian mountain bike community and have existing social relationships with some potential participants. Fourth, my non-traditional sport experiences are balanced by the positive experiences I have had in traditional youth sport. Through the age of 18, I played several organized sports, including competitive rep ice hockey and soccer. These personal experiences will be assets as long as reflexivity remains at the core of my approach.

3.2 Ontology and Epistemology

For the purposes of this thesis, I adopted an ontological approach of bounded relativism. Bounded relativism understands reality as existing in the mind of an individual, with each person constructing and understanding reality uniquely as a function of their circumstances and experiences (Moon & Blackman, 2014). The epistemological level of my philosophical approach

was constructionism. Constructionist orientations are broadly associated with qualitative research and acknowledge that meaning is constructed through interactions between subject and object (Moon & Blackman, 2014). A constructionist epistemology aligns with a bounded relativist ontology; these philosophical positions agree that what can be known and how we come to know it are both subjective and multiple. Given that my research objectives were concerned with interpreting individuals' experiences, a worldview that foregrounds the individual perspective was a necessary outlook. Furthermore, bounded relativism and constructionism are coherent with an IPA methodology, in which the researcher's role as an active interpreter is central; the researcher acknowledges that her own life experiences and knowledge create a lens through which participants' experiences and narratives are interpreted. (e.g., McInally & Gray-Burton, 2021).

3.3 Study Approach

My methodological approach to this study was phenomenological. Phenomenology is concerned with identifying themes to describe patterns and is employed as a means of studying phenomena about which little is known (Tesch, 1990; Donalek, 2004). In more detail, phenomenology is a qualitative method employing inductive analysis to describe the contexts and significance of subjective experiences (Gray, 2009). Nesti (2011) endorses phenomenological inquiry as a potential method to bridge the gap between theoretical knowledge and application in sport psychology, given its emphasis on describing participants' lived experiences as they occur in real-world contexts. As this study sought to describe a concept only beginning to appear in the literature (i.e., parent-child sport co-participation), a phenomenological approach allowed for the description of contexts unencumbered by the need to fit observations into pre-determined frameworks. In essence, it allowed the data to be interpreted

without ‘presuppositions’ derived from the academic literature (van Manen, 2016). To address the topic of methodological coherence, phenomenology is a form of interpretivism that aligns closely with both constructionist and bounded relativist worldviews (Moon & Blackman, 2014).

3.4 Participants

Participants of this study were parent/guardian-adolescent dyads (n=7) of any gender who are/were co-active in mountain biking. Specifically, participants were eligible for inclusion if they met the following criteria: they had historically been or currently were co-active in mountain biking at least 1-2 times per week during the summer months (i.e., mountain biking’s primary season), and their parent/guardian was the instrument of introduction to the sport. In this sense, I operationalized co-participation as mutual engagement in mountain biking, whereby both the parent/guardian and the child are involved in a primary experience of the activity. In layperson’s terms, the parent-child dyads must have ridden together at some point during their timelines. This is opposed to shared but not co-participatory sport experiences such as those lived in situations where the parent/guardian is involved in their child’s sport in an ancillary capacity. My sample size was selected in alignment with the IPA tradition, which typically examines small and homogenous samples to allow for in-depth idiographic and dyadic analyses (Smith, 1996). Of the seven total dyads, one was a mother-daughter pair, one was a mother-son pair, one was a father-daughter pair, and four were father-son pairs.

Participants were sampled from two regions in Canada (Yukon Territory and Ontario). These regions were deliberately chosen, as they represented two contrasting environments: one in which competition is foregrounded and mountain bike participation trends towards institutionalized (i.e., Ontario), and one where competition opportunities are fewer/less emphasized and mountain biking is frequently more self-organized. Table 1 summarizes general

participant demographics, with some specifics (such as the number of children) withheld to protect participant identities. I also wish to make note that participants were asked how they identify with respect to gender, as opposed to what sex they were assigned at birth. I have reported this information as 'W' for woman or girl, and 'M' for man or boy.

	Dyad 1		Dyad 2		Dyad 3		Dyad 4		Dyad 5		Dyad 6		Dyad 7	
Participant Code	P1	Y1	P2	Y2	P3	Y3	P4	Y4	P5	Y5	P6	Y6	P7	Y7
Age	51	15	48	14	46	14	48	16	49	14	49	15	43	15
Gender	W	W	M	M	M	M	M	M	M	W	M	M	W	M
Family Makeup	Parents together, multiple children		Parents together, multiple children		Parents together, multiple children		Parents together, multiple children		Parents together, multiple children		Parents together, multiple children		Parents together, multiple children	
Region	Yukon		Yukon		Ontario		Ontario		Ontario		Ontario		Yukon	

An adolescent age range (i.e., youth aged 13-18) was deliberately selected to capture those athletes who had experienced a more expansive development timeline through sport, compared to younger participants. It was thought that adolescent participants would produce a greater depth and breadth of developmental narrative than those in a younger age range. Furthermore, this age range also allowed the participants to recall recent youth sport experiences. Finally, the question of motivation for sport participation (i.e., autonomous or parent-enforced) was thought to be easier to untangle with adolescents than with younger athletes at the beginning of their sport career.

3.5 Design and Procedure

Following the receipt of ethics approval from Queen's University's General Research Ethics Board (GREB; see Appendix B), I began recruitment of parent-child dyads who co-participate(d) in mountain biking. To recruit participants, I identified and contacted gatekeepers from across Canada who were involved with recreational clubs and/or provincial cycling associations in an administrative or leadership capacity. In our correspondence, I introduced myself, explained my study, and attached the study's letter of information (LOI) detailing all information pertaining to study involvement (see Appendix C). I asked the gatekeepers to forward the information to any parent-child pairs they suspected may be interested in participating. Pre-determined email outlines were used to guide these communications (see Appendix D), and potential participants were asked to either contact me directly via the email address on the LOI, or indicate their interest to gatekeepers and explicitly consent to said gatekeeper forwarding their contact information to me. Once I had directly communicated with parents via email and established the dyad's interest, Zoom interviews were scheduled at a time convenient for participants. This recruitment process took place from late summer through early fall 2023.

Prior to beginning study interviews, I conducted three one-on-one pilot interviews (one parent, two youth) to test my interview guides and become comfortable with the study processes. Pursuant to these pilot interviews, I made a few minor modifications to improve the flow of the interview guides. Specifically, the number of questions was reduced, and my 'bank' of prompts was refined. These pilot interviews also helped improve my comfort conducting these interviews and yielded noticeable reductions in awkwardness. Due to geographical spread, all interviews took place virtually using the video conferencing platform Zoom between September and

November 2023. Interviews lasted between 30 and 70 minutes, with parent interviews typically running longer (i.e., 35-70 minutes) and youth interviews running shorter (i.e. 30-40 minutes). Parent participants were always interviewed prior to the corresponding youth participant. This choice was deliberately made to ensure consistency and to provide context for the youth interviews in case the youth participants were particularly reserved. Though informed that they could stop the interview at any time, all participants completed their interviews in full. At the beginning of each interview, the participant and I went through a verbal consent process (see Appendix C). This included a "talk back process" for youth participants, in which the youths were asked to explain to me, in their own words, what the study was about and what their own involvement entailed. The interviews were recorded through Zoom for later transcription. During transcription, any identifying information was redacted, and the participant was assigned a code (i.e., P1 through P7, corresponding to parent one through seven; Y1 through Y7, corresponding to youth one through seven) to protect anonymity. The number associated with each participant indicated the dyad to which each belonged. Completed transcripts were stored on OneDrive, and physical copies were printed for hand-written analysis.

3.5.1 Data Collection

The present study used in-depth, semi-structured interviews to explore participant experiences. Semi-structured interviews are typically used in multiperspective IPA, as this format allows individuals to construct and ascribe meaning to their experiences through narrative (e.g., McInally & Gray-Burton, 2021). Smith and Osborne (2003) provide comprehensive recommendations for conducting semi-structured interviews in alignment with IPA tradition, which guided the crafting of my interview guide and style. In general, they suggest that the interviewer follow a more free-flowing format, do not adhere rigidly to the order of questions,

and allow the interview to follow the participant's interests. Smith and Osborne make one specific recommendation: an attempt should be made to encourage the participant to speak with as little input from the researcher as possible. Informed by these recommendations, my interviews were loosely structured and not informed by an existing framework or theory. Two unique interview guides (one for parents/guardians and one for youth) were crafted, both of which were inspired by other idiographic and dyadic IPA work in the fields of health, psychology, and sport (e.g., Arvinen-Barrow et al., 2009; Clarke et al., 2016; Sandardos & Chambers, 2019; Smith et al., 2020). Copies of the present study's interview guides are appended to this manuscript (see Appendix E). Generally, the interviews began with a brief collection of demographic information (participant age, gender, hometown, family makeup/structure) before asking, "Can you tell me about how you got started in mountain biking?" This question directed the flow of the remainder of the interview.

3.6 Data Analysis

Following transcription, a hardcopy of each interview was printed for manual data analysis. Interview data were analyzed in alignment with multiperspective IPA tradition, in which transcripts are analyzed individually before progressing through dyadic and cross-dyadic analyses (Smith & Osborne, 2003). Smith and Osborne (2003) comprehensively detail four key steps to conducting an IPA: (a) looking for themes in the inaugural case (i.e., the first participant interviewed; Parent One), (b) connecting themes within the inaugural case, (c) applying steps one and two to ensuing cases to identify and connect new themes, and (d) the write-up. It is important to note that in dyadic IPA, analysis progresses from the idiographic level (i.e., the analysis conducted in phases one and two) to dyadic thematic development. This second layer of analysis done in step three is the one key domain in which multiperspective IPA differs from

traditional, idiographic IPA. Larkin et al. (2018) provide several practical strategies for conducting this level of analysis, as well as suggestions for implementing these strategies. These strategies include: identifying consensus or conceptual overlap, identifying conflict of perspectives, identifying reciprocity of concepts, identifying paths of meaning, and identifying lines of argument.

The present study followed the above guidelines. To begin, the transcript for the inaugural participant (P1; Parent One) was read several times, and notes regarding significant or interesting data were made in the left-hand margin. After completing this, I returned to the beginning of the same transcript and made notes in the right-hand margin to document emerging themes. I then began to connect themes within this inaugural case. Themes were initially listed chronologically in table format (i.e., in the order they occurred in the transcript). After the completion of the inaugural case, I moved on to the next participant. I conducted all analyses in the order in which participants were interviewed, beginning with the parent in each dyad, followed by the child of the same dyad, and then moving to the next dyad.

In dyadic IPA, researchers are given the choice of building on the table of themes from case to case, or beginning each case from scratch. I chose to begin anew with each transcript, with the reflexive awareness that my experiences with the previous transcripts influenced and provided context for the interpretation of ensuing transcripts. Once I had completed analysis of each individual transcript, I crafted a table of superordinate themes. This table is available in Appendix F. I then began the dyadic phase of my analysis, in which I looked for shared and divergent lines of meaning within each dyad and across each dyad. A summary of this phase of analysis is available in Appendix F. After completing the dyadic phase of my analysis, I began

the write-up. I strove to foreground the participants' voices throughout the entire analytic process and write-up.

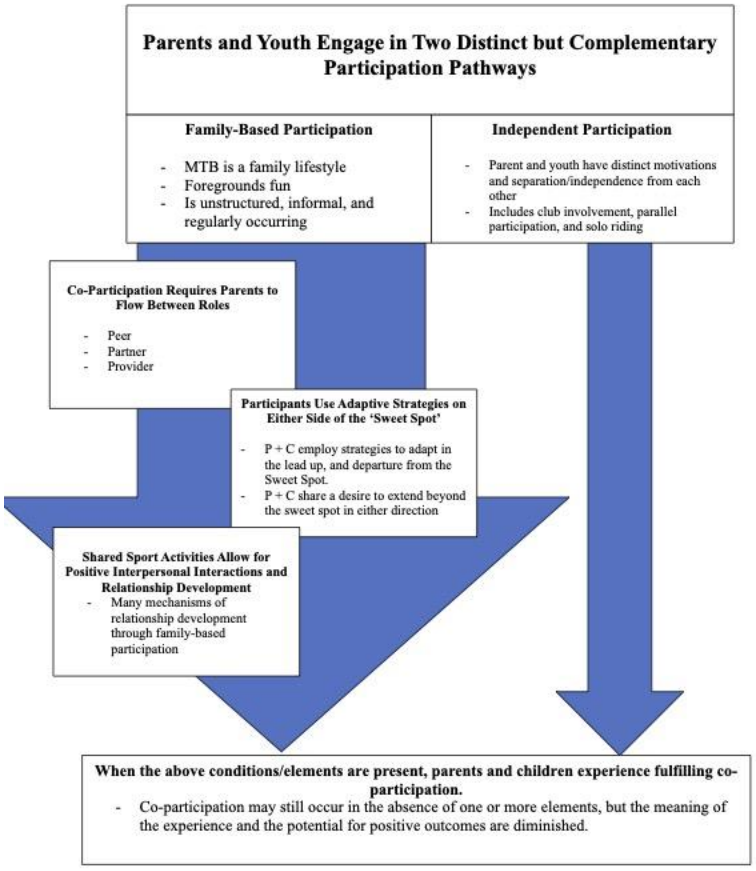
I leaned on examples of other IPA and multiperspective IPA work. This type of research is common in healthcare settings, and several exemplary studies exist that detail the minutia of conducting quality IPA, from questioning strategies to data analysis (e.g., Birtwistle et al., 2022; Larkin et al., 2018; McInally & Gray-Brunton, 2021). Likewise, the sport setting offers several examples of IPA research with idiographic and multiperspective approaches (e.g., Arvinen-Barrow et al., 2009; Clarke et al., 2016; Sandardos & Chambers, 2019; Smith et al., 2020). These studies were excellent resources throughout the entirety of the present project, but particularly in both guiding my approach to data analysis and informing how I interacted with the data.

Chapter 4 Results

An iterative and collaborative analytic process was used to interpret participants' experiences of co-participation. The result of this process is summarized in Figure 1, which describes participants' experiences of sport co-participation. I support this thematic relationship with a brief selection of participant data; more in-depth participant quotes can be found in Appendix G. In summary, the participants of this study described four key elements of their shared sport journeys: (a) family-based and independent participation are two complementary pathways to co-participation; (b) parents flow between the roles of peer, partner, and provider; (c) participants employ adaptive strategies on either side of the 'sweet spot' of skill overlap; and (d) shared sport activities allow for positive interpersonal interactions and relationship development. I suggest that these four elements represent the key characteristics of fulfilling parent-child sport co-participation experiences.

Figure 1.

Summary of Fulfilling Parent-Child Co-Participation



4.1 Family-Based and Independent Participation Are Two Complementary Pathways to Co-Participation

All study participants described engaging in an ongoing combination of informal family-based mountain biking and independent mountain biking. These autonomous pursuits took the form of organized club mountain biking and, for parents, self-directed riding (both solo and with peers). These two participation pathways work harmoniously to encourage engagement and contribute to athletic and personal development.

Pathway 1: Family-Based Participation

Invariably across all dyads, mountain biking was a key part of the family lifestyle. This family-based style of riding was unstructured, informal, and regularly occurring, and privileged *fun* as a main focus.

Parents expressed a deliberate choice to weave mountain biking into the family lifestyle. P1's choice to do this was based on her "motivation to sort of foster their involvement in sports that my husband and I also like to do. So, we could do it together as a family." Similar to other study participants, mountain biking was "mostly what [they] do as a family collectively" for P6's family. The dyadic nature of this study revealed that both parents and youth derive positive meaning from the integration of mountain biking into the family lifestyle. At 15 years old, Y7 believed that "time with your family is the most important […] And that's how I would want it to be." Mountain biking gave this family the means to spend this time together; according to Y7's parent, "if you're looking for something to do as a family with teenagers, if we say, hey, you want to go biking? It's like a guaranteed yes. So that's a big draw right now for us for sure."

The tendency of family-based mountain biking to be unstructured and informal contributed to the enjoyment of the activity: Y5 liked riding with her parents outside of the club environment because she didn't have "to be with a whole bunch of other people, and then I can like pick the pace, I can mainly pick where we go. Yeah, and not having like too much structure to it." The casual nature of co-participation was important to P6, who values that "it's not a training ride, it's not a, there's nobody measuring your performance." P6 shared that the lack of assessment and structure was important to his son's enjoyment of and overall progression in mountain biking.

In addition to being informal and unstructured, participants described their co-participatory experiences as regular and recurring. Participants reported frequencies of family-based riding occurring 1-3 times per week throughout their timelines during the summer months.

When speaking about their co-participatory experiences, both parents and youth highlighted fun as a central element. One way that co-participation facilitated fun was through parents' ability to match the difficulty of the riding session to their child's skill and fitness levels. Y5 illustrated how the club environment was not as enjoyable for her as co-participation was when she was newer to the sport:

> Y5: I did like a program, I guess, like a little team before […] but a lot of the times I didn't like it.
>
> H: Is that, do you think that's true also for when you were just riding with your dad or your family?
>
> Y5: I think I liked when I was riding with them more. Because sometimes like riding with the group it wasn't how fast I could go. And it was too hard for me."

Y5's father, P5, noted that his primary goal for co-participation "was always about just going and having fun," as opposed to challenging his daughter or focusing on her progression.

Pathway 2: Independent Participation

In addition to co-participating, all study participants engaged in mountain biking independently of their family-based riding. This independent engagement took the form of club involvement and, for parents, self-directed riding and parallel participation. All youth participants began mountain biking in a co-participatory, informal manner before enrolling in club/structured streams of mountain biking. Club involvement did not begin at a consistent age across participants; structured participation began at various ages ranging from childhood to early adolescence. Participants believed that club involvement was important for fulfilling youth social needs and providing formal coaching. P4 "wanted to give [his kids] the opportunity to ride

with other kids. Just because you know that aspect of being with kids your own age is a lot of fun. And they were really just mainly riding with" him. All parent participants communicated that access to coaching was another direct and welcome benefit of enrolling their child in a club environment. Y4 appreciated the access to coaching, which helped "add to my skills and I got to ride two more times a week than I normally probably would have." In several cases, this club involvement served to increase co-participation rates in somewhat of a positive feedback loop.

> [P3's son] took to [the club] right away, so it was only, at that time it was only I think once a week they were going. So, naturally wanted to go out more at the time so we just rode, just went up for extra rides at times.

When his son "started with [the club], we definitely explored more on our own after that" (P3).

The youth club element of the independent participation stream also provided parents with opportunities for self-centric participation. Parents frequently engaged in parallel participation during their kids' club rides, where they "tend to take the time to ride with other parents (laughs). It's a way for me to get rides in during the week" (P4). The club structure allowed parents to get together and "go do our ride for two hours. So, it's a really good way for us to get out and get exercise and socialize and do all of those sorts of things." (P6)

The dual lines of meaning (self-centric and youth-centric) that parents drew from mountain biking each exerted important impacts on the parent experience. Still, across all dyads, parents shared an understanding that prioritizing their child's involvement and the parent-child relational experience held greater meaning than a self-centric riding agenda.

4.2 Parents Flow Between the Roles of Peer, Partner, and Provider

These shared activity experiences required parents to flow in and out of several different roles, often embodying multiple roles simultaneously. These roles included the friend/peer, the partner, and the provider.

Most youth participants described their parents as embodying a peer or friend role: “he is like a friend while we’re riding” (Y5), “I would say she’s much more a friend than an authority” (Y7), “he’s just kinda like one of my friends” (Y3). As sub-roles within the peer domain, parents acted as both competitive peers and responsible peers. Parental embodiment of the competitive peer role contributed to both their own and their child’s enjoyment, in addition to providing a low-stakes benchmark against which their child can self-assess. Dyad 5 had a lot of fun with parent-child competition. Y5 remembers that her dad “would always like ask me if I was gonna beat him and I always said yes, I didn't always beat him though […] It was fun [smiles].” Referring to more recent co-participatory experiences, P5 and his daughter “even still joke about this, she's always telling me she's, she kicks my ass, which, which is true […] it's fun. It's, it's playful” (P5). More overtly focused on performance, Y3 had recently “been trying to challenge [his dad] a bit on our rides […] I just kinda wanna see like, where I am compared to where I was.” In his mind, his father represented a static benchmark that helped him assess his progress.

Concurrent with their peer role, parents also had to demonstrate responsibility. When the local trail organization constructed a series of technical trails in their region, P7 “paid for a private session with a biking instructor” because she needed “them to know how to crash.” Instead of forbidding her children from riding what she perceived as a trail unsuitable for kids, she gave her children tools to facilitate their success. Attending to safety while simultaneously not infringing on youth freedom is a recurring way that parents balanced peerhood and parenthood. While Y2 remembers “just going like, for a ride together, I guess [my dad] was, um, looking back on it, I guess he was carrying like water and bear spray and food and stuff. He was kind of like making sure nothing bad happened.”

Youth also described their parents as good riding partners, using language suggesting equality of power and ownership. P4 shared similar sentiments from the parent perspective, noting that "sometimes we will give each other pointers if there's something that we're working on or sessioning." The reciprocal sharing of knowledge was striking as an important element of riding partnership. Other parents described a tricky balance of providing pointers as a riding partner while not overstepping into a coach role. P2 said that there was a period where his son "was motivated to be a better rider […] and there I was doing more, definitely more, more coaching […] teaching him how to like, ride rock and pick the lines." Y2 felt that his father successfully walked the line of instructor/partner, recalling fond memories of when "he'd teach me stuff when I was interested, you know?"

In addition to filling peer and partner roles, parents also embodied a provider role. Parents provided their children with opportunities and encouragement, among other things. P6 was clear in his role as a provider, believing that his

> job is to provide you the environment under which you can decide how serious you want to be about this. And if you want to be really serious, we'll give you the tools to do so. And if you want to do it just for spending time in the forest a few times a week with your [club] friends and doing the odd race here and there, that's great too.

The intentional provision of opportunity was echoed by P1, who has "always tried, too, to facilitate her [daughter] and other friends going on rides." Several youths appreciated the encouragement provided by their parents. Y4 noted that his dad "really encouraged me through the first little bit when it was tough." Similarly, Y5 valued that her dad was always

> just like, encouraging me. Because a lot of time if I see something I don't think I can ride it, I just stop. So then he just like tells me to keep going because most of the time I can do it, but I just don't think I can.

Though some tensions existed in the balance of contrasting roles, both youth and adults described relative ease of role transition as well as convergence of role perception. These parent roles oscillated throughout the timeline and depended on parents meeting their children where they were in terms of skill, fitness, and goal orientation.

4.3 Participants Employ Adaptive Strategies on Either Side of the 'Sweet Spot' of Skill Overlap

In general, parents and youth in this study described either inverse developmental trajectories between themselves, or an upward youth trajectory paired with a static or more-slowly increasing adult trajectory. This meant that there was a narrow window of time in which parent and youth ability levels perfectly overlapped, which I have termed the 'sweet spot.' In each case, this overlap occurred in early to mid-adolescence. At the time of this study, Y2 and his father were in this 'sweet spot' and were "more of a compatible pace for like, actually, a pace that works for both of us. Yeah, it's definitely… I like it. He's a good riding partner." At 15 years old, Y2 and his father were experiencing a unique time in which co-participation required little modification or compromise from either party.

Dyads described using several strategies to participate together outside of the 'sweet spot.' Y6 used to ride in a bike-pulled chariot behind his father, and "he would get out and ride a little bit and then get back in and we would kinda repeat that process until he kinda got to the point of being able to ride longer distances." Y3 recalled similar experiences with an equipment modifier called a "trail-a-bike" that his "dad would tow behind his bike," allowing his son to pedal or coast as he desired (as well as eliminating the requirement for bike handling skills). On the departure from the 'sweet spot,' parents did things such as resting while their child rode "more technical trails and jumps and things like that" (P4), or riding a slower endurance pace

while their child completed “intervals and he'll go out, and yeah, and then he might just, his recovery might be coming back to me.” (P4) Of note, dyads expressed a desire to adapt to extend the ‘sweet spot.’ P2 recalled a touching conversation he shared with his son about the desire to accommodate each other to continue co-participating, in which he said

> I'll ride with you as long as I can still keep up, right? And then, and then, you know, and that's, I sort of left that. And he sort of thought about it for a couple of seconds, and then he said, yeah, and then, I'll ride with you, right? (chuckles). I thought, oh my god, you're the cutest kid. Because I did, I wasn't like fishing for that at all. It was, it wasn't the intention. The intention was just, the intention was just, to sort of say, yeah, I'll ride with you, ‘cause I see you're getting stronger so I’ll ride with you until I can't keep up with you anymore because then you're gonna wanna go fast, right? But then he's like, no, no, then I'll ride with you.

Once dyads moved away from the ‘sweet spot’ of ability overlap, learning became more bidirectional. Early in co-participation, the flow of knowledge was primarily from parent to child. Once youth were in adolescence, this changed and became

> the other way around. Like, if there's something [my dad’s] not too sure of, I try to help him get over the fear or the, whatever it is that he's nervous about, to do a feature on a trail or something and we basically both help each other out in that sense. (Y4)

The transition from more skilled to less skilled party was welcomed by P3, who “like[s] the challenge. I, I actually learn from him now.”

Despite inverse progression trajectories, several parents expressed their children’s improvement as motivation for them to elevate their own abilities. P6 saw his son’s improvement and desire to ride more as “an opportunity for [his mom] and I to do a little bit more riding volume as well, which is good” because it was likely that his mom “or I will ride with him in those times where he's doing additional riding outside of the [club] environment.” In some ways,

passing the ‘sweet spot’ provided parents with an opportunity for personal development and the chance to pursue their personal motivations alongside those of their children.

4.4 Shared Activity Allows for Positive Interpersonal Interactions and Relationship Building

Shared mountain bike experiences were integral to each dyad’s relationship. A common mechanism of relationship connection via mountain biking is conversation. Mountain biking provided “an opportunity to have you know, conversations with a teenager where you’re not staring, you know, into each other’s eyes [laughs]. Sometimes the conversation will just flow more easily on the trail” (P1). Many parents shared the perception that mountain biking facilitated high-quality conversation. P5 feels that

> you can have great conversations with all of them because they all know that you're out there for the exact same reason that they are. There's no hidden agendas, it's pretty, it's pretty, it's pretty simple […] There's no barriers when you're on the bike. You can have conversations about pretty much anything or nothing. And it could be, it could be serious or it can be silly. But I think it gives a good bond.

Youth participants also perceived mountain biking to facilitate relationship connection, such as Y2 who had conversations with his father while riding that were “about really anything. Sometimes it's riding, sometimes it's bikes. Sometimes, it could be anything. But I'd say that's where some of our best conversations happen, is when we’re riding.”

Conversely, one youth participant shared that conversations when mountain biking with his father can be a challenge. For example,

> like if he starts talking about like school, or you have a test coming up or something like that, like I don't really like talking about that when I'm out trying to have fun. (Y4)

This tension that Y4 describes may reveal a potential difficulty in striking the correct balance between parenting and partnering during recreation time.

In addition to the opportunity for conversation, parents expressed gratitude for how mountain biking permitted them to be present and involved in their teenagers' lives. P1, P2, P5, and P7 all explicitly discussed this sense of connection, with a subtextual understanding that they might not have felt as connected to or involved with their child without mountain biking. P2's connection to his son came from

> sharing something. I don't know. It's just like, it's, you see a lot of parents become irrelevant to their kids as they become teenagers. And this is the way that we just like, very honestly without any real effort, um, can share some really joyful and meaningful time together (P2).

Shared mountain biking also contributed to relationship development through experiences of fun, challenge, conflict, and volume of time spent together. Y3 and his father "work on the bikes a lot together", demonstrating that mountain bike co-participation extended beyond physical engagement in the sport. P4 found value in spending

> a lot of time together because of you know, both being involved in the sport and he's at an age where not able to sort of be self-sufficient […] So, you know, I think just that time together I think sort of strengthens and, you know, helps your relationship.

With a high amount of time spent together, it is natural that dyads would experience some degree of conflict. Mountain biking was an important arena for parents and youth to work through these conflicts and bond closer as a result. "You know, the relationship piece isn't always about all the joy and laughter. It's like also like some of that navigating some of those, those challenges in our relationship, which is, it provides a good context for that sometimes" (P2). Though dyads "can have different opinions on something, and like how to approach it, how to do this with like, even just which way to go […] we always find like a conclusion that works well" (Y6).

4.5 When the Above Elements Are Present, Parents and Children Experience Fulfilling Co-Participation

The parents and youth in this study described largely positive experiences of co-participation. When asked, “is there anything that makes riding with your parent/child difficult?” and “is there anything you dislike about riding with your parent/child?”, participants responded with variations of “there's like the obvious challenges of mountain biking, like as a sport, but not particularly with my dad and definitely not in a bad way.” (Y2). Each dyad spoke fondly of their co-participation experiences and, tellingly, shared a desire to continue co-participating as a dyad in the future. Participants talked about the positive potential of co-participation but, importantly, did not elaborate on co-participation’s negative potential. This could be attributed to elements such as the participant sample, the wording of interview questions, and selective response bias.

The four elements I have described above (complementary participation pathways, multiple parent roles, adaptive strategies, and a commitment to relationship building) were common to each dyad, and appear instrumental in the experience of meaningful co-participation. In the following chapters, I will theorize about the necessity of each element to complete and fulfilling co-participation experiences, as well as discuss the significance of these findings in the context of the literature and practical applications.

Chapter 5 Discussion

The purpose of this project was to examine parent-child sport co-participation in cross-country mountain biking, with the intent to improve understanding of its associated processes and outcomes. Our results suggest that four key elements contribute to experiences of fulfilling co-participation: (a) parents and youth regularly engage in a combination of family-based and independent participation pathways, (b) parents flow between multiple roles in a non-linear manner, (c) parents and youth employ adaptive strategies to facilitate co-participation outside of the parent-child skill overlap window, and (d) parents and youth invest in the parent-child relationship through shared activities, which leads to improved relationship quality. Each of these four elements impacts and is impacted by various aspects of the sport ecosystem. These elements could have also been affected by enduring factors independent of the sport environment, such as gender, family structure, the family's socioeconomic status, and location or national/cultural contexts. As such, situating the results within an ecological framework that account for the impact of different levels of influence can help us to understand the implications of each element of co-participation.

The Personal Assets Framework (PAF; Côté et al., 2020) is particularly useful in understanding the inputs affecting co-participation and the outputs resulting from co-participation. The PAF breaks down the inputs of engagement in sport into three interactive categories: engagement in activities, social dynamics, and environmental settings. Each element of co-participation acts on a combination of these inputs, resulting in unique outcomes. The PAF describes how manipulations of the three interactive categories (activities, social dynamics, and settings) can lead to changes in short (e.g., interest, flow), medium (e.g., confidence, competence), and long-term (e.g., performance, personal development) outcomes. This chapter

will examine the impacts and outcomes of each element of co-participation using the PAF as a guiding framework and will discuss how the findings of this study contribute to the existing literature on parenting and positive youth development in sport.

5.1 Dual Paths of Involvement and the Development of Interest (Short-Term Outcomes)

Engaging in a combination of family-based and independent participation pathways is influenced by each interactive category of the PAF (namely, settings, activities, and social dynamics). Co-participation that includes both engagement pathways provides the participants with different arrangements of setting, activities, and social dynamics that immediately impact short-term outcomes. In particular, the combination of family-based and independent participation pathways may be a key factor in developing interest. Described by the PAF as a short-term or immediate outcome, interest is the "relatively enduring predisposition to reengage particular contents over time" (Hidi & Renninger, 2006, p. 111) and significantly influences attention span, goal pursuit, level of learning achieved, and ultimately, an individual's ongoing engagement in a particular activity. Hidi and Renninger's Four-Phase Model of Interest Development suggests early phases of interest (i.e., situational interest) are primarily supported externally by important others and optimal environments. Later phases of interest development (i.e., individual interest) are more self-generated, founded on prior knowledge and experience, and suggest the presence of initiative (Larson, 2000).

In fulfilling co-participation journeys, youth are introduced to the sport through family-based activities that the family engages in as part of its collective lifestyle. Engagement in these activities is dependent on unique family circumstances, such as location of residence and its proximity to trails, and disposable income and time that parents possess. In the context of this study, these activities resemble lifestyle or non-traditional sports, which de-emphasize

organization and defined patterns of engagement (Green et al., 2015; Rinehart, 2002; Säfvenbom et al., 2018). This informal participation context may be unique in its ability to support early phases of interest development; a recent scoping review of lifestyle sport research suggests that the open and flexible nature of lifestyle sports encourages the development of motivation, among other positive youth outcomes (Säfvenbom et al., 2023). Family-based participation's lack of structure and the centrality of an invested one-on-one adult-youth relationship provide youth with an open and nurturing environment that can be tailored exactly to youths' needs, creating the optimal conditions described in the early phases of Hidi and Renninger's model. Säfvenbom and colleagues' scoping review identifies this specific quality (i.e., non-traditional sport environments' ability to be tailored to participants' needs and desires) as important for youth motivation, closely related to interest. Conversely, the participation pathways introduced later in development (club involvement, peer-based riding, etc.) may lend themselves to the development of more advanced, self-generated interest by virtue of their emphasis on youth independence. Our results suggest that independent engagement allows youth to pursue challenges on their own terms, enact agency over their involvement pathway, and forge meaningful peer relationships through club-based participation. Family-based and independent participation streams complement each other, providing contexts supporting the full range of conditions necessary to promote situational and independent interest (Côté et al., 2019). It is important to note that the family-based stream may not be accessible to everyone. The ability to engage in this type of participation depends on parent resources (money, time) and, equally as important, parents' perception of resources. When communicating the potential benefits of co-participation to sport organizations and the general public, thought must be given to how these participation patterns may work for families with less disposable income and/or greater time constraints. For example,

co-participation could be framed as a way for parents to attend to multiple things at once: their own health and physical activity needs, their children's health and physical activity needs, and quality time spent together. Thus, co-participation could actually help parents effectively invest their available time.

While each participation pathway individually contributes to interest development, their impact may be even greater when combined. Participants communicated that the opportunities for deliberate play (i.e., deliberately engaging in playful activities with the intent to derive enjoyment; Côté, 1999; Stodden et al., 2021) provided by informal family-based participation support the experiences gathered through structured engagement and vice versa. The combination of participation pathways provides youth (and parents) with a degree of variety reminiscent of within-sport sampling and deliberate play associated with positive outcomes like long-term participation (Côté et al., 2019). The unique blend of structured, independent engagement paired with informal family-based activities lets participants explore and have freedom while benefitting from the initiative-promoting aspects of more formal and goal-oriented environments. This observation aligns with Côté and colleagues' (2019) recommendations for developmentally appropriate strategies to enhance interest, as well as other researchers' work regarding exploration in sport contexts. In their unifying framework describing holistic youth development, Stodden and colleagues (2021) position "exploration" as a key factor for skill development and PYD: these authors suggest that exploration (engaged in via a combination of structured and unstructured play) is critical to developing cognitive, emotional, social, and physical skills, which aligns closely with the findings of the present study.

The results of the present study show that the family-based participation stream provides an environment conducive to the development of the early phases of interest. However, sport

context may play a critical role in this input-outcome relationship. Mountain biking, the contextual focus of this study, is frequently thought of as a non-traditional or lifestyle sport, which is characterized by its open environments and lack of formal rules and structure (Green et al., 2015; Rinehart, 2002; Säfvenbom et al., 2018). These defining characteristics are also part of the environments conducive to developing the early phases of interest (Côté et al., 2019; Hidi & Renninger, 2006). As our participants described, family-based participation may be more difficult to naturally integrate into traditional sport environments (e.g., hockey, swimming). Thus, while I can confidently claim that the dual streams of participation in co-participation can contribute to the development of interest and initiative in non-traditional sport, I am less certain about how these outcomes would manifest in traditional, organized sport contexts. Integrating a regularly occurring, informal adult-child participation pathway in traditional sports like soccer or basketball would require creativity in how this would occur. A promising example of this creativity in action comes from Erikstad et al. (2021), who examined a uniquely successful youth football (soccer) program in Norway. This program, which boasted remarkable retention and success rates, encouraged both organized practices and unorganized, peer-led play outside of team practices. This hybrid engagement style, which resembles the participation patterns of dual-stream co-participation, ultimately led to increased enjoyment of and interest in soccer, strong peer connections, and long-term participation.

5.2 Support, Optimal Parent Involvement, and Medium-Term Outcomes

While our results show that a combination of independent and family-based participation streams is important for holistic sport experiences, the present study revealed particularly interesting insights into the processes underlying the family-based stream. Specifically, our

participants helped us to expand on the concepts of parental support and optimal parent involvement in youth sport, and their relationship to the development of youth assets.

Youth sport researchers have historically typified support as emotional, tangible/instrumental, and informational (e.g., Côté, 1999; Turman, 2007; Weurth et al., 2004). The act of co-participating organically includes many supportive behaviours, such as encouragement (which, for example, can be both emotionally and informationally supportive). However, co-participating as a discrete behaviour or action can also be thought of as a form of support provision – and one that does not neatly fit into the current conceptualization of support types. Bearing the most similarities with instrumental support (which typically relates to the provision of opportunity), co-participation as a regular and recurring behaviour expands how the field has typically thought of support within the sport context. In organized sport contexts, researchers have shown that parent support lessens in importance in early adolescence, coinciding with increased importance of coach and peer support (e.g., Côté et al., 2019). In the context of a non-traditional sport such as mountain biking, we see that co-participation presents parents with an opportunity to provide a novel type of support during a developmental stage when youth will otherwise source social support from outside of the family.

Co-participation also presents unique circumstances in which youth actively support their parents. The adolescent participants of this study described encouraging their parents to learn new skills and push their limits, which may be interpreted as forms of both informational and emotional support. Parent participants described increased opportunities to ride because of their children's involvement, learning new skills from their teenage children, and feeling a sense of emotional connection through co-participating; these circumstances could all be described as forms of instrumental, informational, and emotional support. While we typically focus on how

support may impact the positive outcomes of sports participation for youth, it is important to recognize that adults also benefit from co-participation.

Support is but one aspect of optimal parent involvement in youth sport (Harwood & Knight, 2015). Co-participation provides a practical method for parents to embody other elements of optimal involvement, such as engaging in healthy parent relationships in the sport context (for example, through parallel participation) and adapting involvement over time to support the different stages of youth development (for example, by fluidly embodying peer, parent, and provider roles). Parent roles unique to co-participation (in particular, the role of the competitive peer) provide opportunities for parents to enact optimal involvement in ways not described in-depth by the youth sport literature. Youth engaged in co-participation benefit from the effects of these parent roles across all timescales, but perhaps most tangibly on a seasonal basis. The PAF explains mid-term outcomes using the 4Cs framework (Côté et al., 2020), highlighting that recurring engagement in positive environments, activities, and relationships leads to the development of confidence, competence, connection and character over the course of a timeframe, such as a year or season. Within co-participation, embodying the role of competitive peer allows parents to contribute to their children's development of mid-term outcomes such as confidence and character. For example, by providing low-stakes opportunities for competition, parents allow youth to play with competition, success, and failure when their competitive identities are not on the line, leading to incremental increases in self-belief and confidence. Once youth progress beyond their parent's skill level, co-participating allows youth to cultivate compassion and other positive traits, as youth appear to learn flexibility and compassion (a well-established outcome of positively structured sport experiences; Fraser-Thomas et al., 2005) in the process of making accommodations for their parents.

Revisiting Erikstad and colleagues' (2021) case study of the remarkably successful Norwegian youth soccer program, we see that similar strategies can be employed to positive effect in the traditional sport stream as well; this program deliberately de-emphasized the importance of winning, committed to not de-selecting players in early adolescence, and integrated fun and frequent competition into practices. These factors, reminiscent of the environment constructed by this study's co-participating dyads, seemed to make competition a positive force for developing youths' mid-range outcomes and long-term participation, as opposed to a stress-inducing element of the youth sport experience.

In sharp contrast to optimal parent involvement are the increasingly prevalent problematic, disruptive, and over-involved behaviours displayed by parents in some competitive sport contexts (e.g., Bean et al., 2016; Horne et al., 2022; Bonavolontà et al., 2021). The reasons for these behaviours are complex, ranging from the individual level (i.e., high financial investment; Murata & Côté, 2022) to the societal (i.e., increasing professionalization of youth sport; Dorsch & Vierimaa, 2017). We wonder if co-participation may be protective against some of these behaviours due to the increased understanding that comes from sharing sport experiences between parents and children. Our parent participants suggested that co-participating gives them more context to appreciate their children's efforts, struggles, and ambitions, which may temper negative parent responses and behaviours.

5.3 Activity Adaptations, Participant Flexibility, and Long-Term Outcomes

Mountain bike co-participation presents a narrow window of time (the 'sweet spot') where parents and youth are closely matched in terms of skill and fitness. If parents and youth desire to co-participate outside of the sweet spot, then they must adapt to accommodate each

other. One might assume that the responsibility to adapt would fall on parents; however, our data show that parents and youth both make adaptations, depending on the point in time and context.

Early on in co-participation, parents exhibit greater flexibility than their children. They will lower their speed, dial back the trail difficulty, and backseat their personal motivations to allow their children to keep up. Parents employ strategies such as competitive engineering (e.g., Burton et al., 2011; McCalpin et al., 2017) and scaffolding (e.g., Ramos et al., 2023) to cater to their child's ability level; competitive engineering refers to the concept of modifying elements of the playing environment (e.g., selecting trails with 'B' lines or routes with less climbing), whereas scaffolding (in this context) refers to a technique in which parents gradually reduce the provision of instructional guidance they provide their children. These strategies help to achieve desirable difficulty and the optimal level of challenge necessary for encouraging engagement (Bjork, 1994). Most interestingly, as co-participation progresses, these roles reverse, and youth begin to adapt their riding to cater to their parents. Just as their parents used to, youth will engineer the ride experience to allow their parents to keep up.

Sport is often considered a microcosm for life, in which we see large social phenomena enacted on the field of play. In this case, co-participation mimics the journey of aging and the relationship processes that happen therein; once the shepherds guiding their children on the mountain bike trails, youth (in some ways) eventually become responsible for improving their parents' mountain bike experiences. This journey almost certainly impacts the development of personal assets for both parents and youth. Bending to accommodate each other likely has an effect on traits such as compassion, character, and ability to connect to one another, and doing so in a prolonged manner (over the course of years) will lead to long-term personal development. A significant body of research from education and family psychology fields has examined

developmental relationships, finding that engaging in these types of relationships has positive impacts on motivation sustainment, performance-based outcomes (e.g., GPA), and sense of connection (i.e., social belonging; e.g., Scales et al., 2020; Scales et al., 2023). The present study's findings suggest that developmental relationships result in similar asset outcomes in the sport context as well. Perhaps more importantly, and most simply, our findings show that the process of adapting leads to continued co-participation and long-term engagement in the sport. Thus, the adaptive strategies employed by both parents and youth are critical aspects of continued participation for both parties and likely help prevent dropout among youth and parents alike.

5.4 Parent-Child Relationship Development

Positive parent-child relationships share many attributes of developmental relationships (Li & Julian, 2012). Predicated on a foundation of enduring emotional attachment, youth and adults engaged in a developmental relationship participate in progressively more complex joint activities, over time facilitating the transfer of power from the developer to the developing. This process results in increased youth independence and lessened adult control, as well as improvements in youth competency and self-efficacy. Fulfilling co-participation journeys include each of these elements (attachment, joint reciprocal activities, power transfer, and positive developmental outcomes). However, the manifestation and development of the parent-child relationship in co-participatory scenarios extends the concept of a developmental relationship in two key ways: first, through reciprocity of expertise/information sharing and role reversal, and second, through adopting a paradigm in which both dyad members are viewed as developing.

These two key differences are reminiscent of organizational developmental relationships and networks (e.g., Methot & Cole, 2023), described in organizational psychology as adult-adult

informal mentorships. These relationships are characterized by informational reciprocity, mutuality, and informality and seem to promote similar positive outcomes as seen in adult-youth developmental relationships (e.g., Higgins, Dobrow, & Chandler, 2008; Higgins & Thomas, 2001; Methot & Cole, 2023). Thus, co-participation shares most, but not all, attributes of both types of developmental relationships described in these different fields.

Typically, the transfer of information in a developmental relationship is understood to be downstream, from developer to developing (Li & Julian, 2012). Our findings show that in sport co-participation, youth seem to outpace their parents in early adolescence. Critically, youth continue to participate with their parents beyond this inflection point, from here adding the role of developer to their ongoing role as the developing. At this point, parents, too, experience a role expansion or reversal; the developmental relationship shared by dyad members continues with each member facilitating the other's development through their joint reciprocal activities and autonomy-supportive instruction and knowledge sharing.

Li and Julian's (2012) model of developmental relationships firmly positions one dyad member as the authority figure/developer, and one as the learner/developing. In co-participation, parents and youth share the understanding that each member is developing, and that this development is facilitated through quality interactions with the other dyad member. This is particularly interesting with respect to parental development in sport contexts; in co-participatory contexts, dyads show us that both parents and their children are invested in each other's development and see their co-engagement as a powerful avenue for personal development for both parties. The literature trends towards a focus on youth sport and the outcomes of those experiences for young people, but focuses less attention on the positive developmental outcomes adults may experience through participation in sport; though not done systematically, searches of

sport science databases return a high volume of research on youth sport outcomes, the relationship of youth sport participation to adult physical levels, and correlates and health metrics associated with adult physical activity. Specific examinations of the positive outcomes of adult sport participation are notably fewer.

To responsibly interpret the outcomes of co-participation for adults and the parent-child relationship, factors such as gender and socioeconomic status must also be considered. A majority of this study's participants were men, which inspires questions about both the barriers mothers may face to co-participation and the outcomes that mothers may be missing out on. Is the experience of co-participation different for mothers versus fathers? Additionally, while family income and employment metrics were not collected for this study, we can infer that the study participants have enough resources to engage in a time- and equipment-dependent sport. How would the co-participatory experience (and the resultant adult, youth, and relationship outcomes) differ for families of lower socioeconomic status? Future studies would do well to isolate these variables, hopefully garnering insights into how co-participation may manifest for those in diverse circumstances.

5.5 Summary

Co-participation as a sport-specific developmental process impacts, and is impacted by each input and output described in the PAF (Côté et al., 2020). Participant engagement in activities, the environmental settings of those activities, and the various aspects of sport-related relationships are all unique in co-participatory contexts. Accordingly, co-participation impacts immediate, mid-range, and long-term outcomes in unique ways. These processes extend the field's understanding of concepts such as interest, optimal parent involvement, the application of activity adaptations, and sport-specific developmental relationships.

Chapter 6 Conclusion

This study revealed developmental processes unique to co-participation. While the findings may be most specific to a non-traditional sport context, I draw confidence from other studies on traditional sport environments (e.g., soccer; Erikstad et al., 2021) that describe similar strategies to promote positive outcomes such as performance and long-term engagement. In what remains of this thesis manuscript, I will discuss the practical and theoretical implications of these findings (including the potential to extend these results to traditional sport environments). I will draw attention to the strengths and weaknesses of this study and conclude with recommendations for future research.

6.1 Practical and Theoretical Implications

The results of this study hold significance at several levels. First, this study provides insights into queries that Cycling Canada (CC; the national governing body for cycling in Canada) raised through our consultations during the design phase of this project. Second, these findings make contributions to the field's knowledge of optimal sport parenting behaviours and present examples of how parents can enact these behaviours. Third, the present study's results provide insight into how sport programs can adapt to encourage more positive parental engagement.

6.1.1 Impacts for Cycling Canada

The design phase of this project included consultations with CC to understand the governing body's information needs. CC posed three key questions: (a) Does co-participation lead to longer engagement in the sport, and if so, what drives this continued participation; (b) Does co-participation lead to involvement in organized cycling; and (c) What barriers to cycling co-participation do parents experience? While I cannot definitively answer these questions, given

that none of this study's participants have dropped out of cycling, the present findings and analysis can still provide valuable insights.

Parents and youth report initial and ongoing motivation to mountain bike as having both relational and activity aspects. Parents are motivated to introduce their kids to mountain biking so that they can spend quality time together doing an activity that parents love. Likewise, youths' motivation to co-participate stems from a desire to spend time with their parents doing an activity for which they nurture a budding attraction. Both parents and youth in this study predicted that they will continue to co-participate in mountain biking into the future for the above reasons. Thus, one can infer that co-participation may lead to long-term engagement in the sport.

Without exception, each of this study's youth participants began their mountain bike journey in a co-participatory fashion. Being introduced to the sport by their parents was a precursor to organized club involvement; again, without exception, youth went on to enrol in formal mountain biking formats to accompany their co-participatory endeavours. Thus, we can be confident that well-rounded co-participation may lead to involvement in organized cycling.

CC's third question regarding barriers to co-participation is the most difficult for me to answer, as this study's conclusions are limited by selection bias; each dyad in this study has had largely positive experiences with co-participation and struggled to identify any barriers. To address this question, it would be prudent to interview parents whose children are disinterested or vice versa. What I can offer is that the parents in this study encouraged co-participation by providing a relaxed, fun-focused environment for their children, providing opportunities for their children to also ride with peers, and never stressing the competitive aspects of the sport without their children first expressing an interest in that stream of mountain biking.

6.1.2 Expansions on Optimal Parent Involvement

Harwood and Knight's (2015) position paper on optimal parent involvement describes six categories of ideal sport parenting behaviours: selecting appropriate opportunities and providing necessary support, applying appropriate parenting styles, managing the emotional demands of competitive sport, developing healthy relationships with others in the sport environment, managing the logistical and developmental demands of sport participation, and adapting involvement to match the stages of children's sport development. Co-participation represents a pathway in which parents can fulfill these behavioural guidelines. The successful enactment of these behaviours is perhaps more crucial in co-participation than in more traditional participation pathways given the depth of parental involvement in youths' sport activities. The behaviours a parent displays while participating with their child have different potential to impact development than behaviours displayed from a distance (such as those in the stands or on the sidelines).

Most elements of co-participatory parent behaviour are encompassed within Harwood and Knight's framework if not explicitly laid out. For example, co-participating parents must still pay mind to providing appropriate opportunities (e.g., skill-appropriate trail selection) and providing required support (emotional, instrumental, etc.). However, the nature of the support required by these circumstances may be unique to this participation stream, as expanded upon previously in the discussion. Yet, optimal parent involvement in co-participation likely includes one behavioural category not described by Harwood and Knight: the (un)intentional role modelling parents display when encountering challenges and learning new skills for themselves in the co-participatory context. Co-participation is unique in that youth and parents are engaged in learning together, and often, the parent is not the superior or most skilled party. Thus, to

optimally be involved in their child's sport journey and to encourage positive development, parents must display an evolved approach to challenge and learning.

6.1.3 Strategies for Sport Organizations

Non-traditional sport environments have inherent potential for co-participation; with their lack of competitive structure and organizational constraints (for example, not needing access to facilities such as ice pads or turf fields), it is simple for parents and children to co-participate together in a casual and informal way. Co-participation may be more difficult to adopt in traditional sports, which require facility resources and the participation of other teammates or opponents. In the case of these sports, sport organizations may borrow one particular strategy from the co-participating parents of the present study: parallel participation.

One benefit of co-participation is that parents and children develop a more robust understanding of each other. Parents more fully understand the challenges and experiences their kids encounter in sport because they themselves are experiencing these same things first hand. Just as our parent participants described engaging in parallel participation with other parents during structured club rides, traditional sport organizations (e.g., league convenors) can consider providing these opportunities for parents during youth practices.

An additional (and simple) strategy for sport organizations to encourage co-participation in parallel to their organized offerings would be to provide an infographic to parents at the beginning of enrolment/registration/season play. This infographic could present at-home game suggestions as well as guidelines for positive co-participation outside of league contexts.

6.2 Strengths and Limitations

Like all research, this project was impacted by many strengths and weaknesses inherent to both the study design and the resultant process. Taking an IPA approach provided an in-depth

look at the processes at work in co-participation, and the dyadic nature of this specific study extended IPA's strengths to the dissection of relational phenomena as well. The analysis process benefitted from innumerable conversations with critical friends (both in academic and sport communities), which permitted frequent opportunities to practice reflexivity and to consider the data from multiple perspectives. As an insider of the cycling community, I also benefitted from both my knowledge of the sport's inner workings and my status as an Olympian, which may have influenced participants' disclosure and willingness to take part in the study. While likely a strength in many ways, insider status may also have been a limitation of this study; familiarity with mountain biking's inner workings and, more importantly, familiarity with the experience of mountain biking with a parent certainly impacted my approach to the study and analysis of the data. It is for this reason that reflexivity and critical discussion were so crucial throughout the research process.

In many ways, the results of this study seem to be 'rosy.' That is, participants largely described positive experiences and, even when pressed, had difficulty recalling any negatives of co-participation. This could be due to a reluctance to speak poorly of their family members or their shared experiences, but could also be attributed to elements of the study design. For example, this study only included adolescent-parent dyads who currently engage in co-participation. As a result, I was unlikely to encounter dyads who find the experience particularly challenging or unenjoyable, as those dyads would be more likely to cease co-participating earlier in life. The wording of interview questions may have also encouraged primarily positive recall. For example, participants were asked to recall negatives of co-participation in a general sense, but may have been more effusive if prompted to recount specific instances of difficulty they have encountered in co-participation.

Finally, we must consider the sport and cultural contexts in which this study was positioned. Mountain biking is a unique sport, blending elements of non-traditional sport and institutionalized competition opportunities. Thus, our results may not be generalizable to more traditional sport contexts. The structure of mountain biking is also dependent on the cultural context in which it is practiced; for example, within Canada, mountain biking is largely unstructured. However, in the United States, the sport is more institutionalized and dependent on nationwide youth programming offered through NICA (i.e., the National Interscholastic Cycling Association). I cannot make firm claims about how our results would translate to these types of sport and cultural/national contexts.

6.3 Future Recommendations

This study provided a first examination of parent-child co-participation specific to adolescent sport engagement. Our findings show promise for parent, youth, and relationship outcomes, so I encourage continued inquiry into this phenomenon.

First, I suggest examining co-participation in more traditional sport environments. Given that this is not as likely to occur organically in structured settings, exploring co-participation through orchestrated interventions may be appropriate. Second, I suggest research questions that focus on specific outcomes, such as sport parenting behaviour (e.g., spectator behaviours), youth self-efficacy and capability, and both youth and adult long-term participation. Third, I suggest investigating these processes through novel methodologies, such as longitudinal studies incorporating immersive design elements such as researcher-as-participant. These types of designs will create a more robust understanding of the developmental impacts of co-participation. Finally, undertaking these studies in collaboration with community stakeholders

such as provincial or national sport organizations will help ensure this research addresses real-world problems, and will ensure that the knowledge garnered is translated to practice.

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Appendix A: Thesis Proposal Documents

Graduate Program

SKHS
School of Kinesiology and Health Studies

Advisory Committee / Thesis Proposal Meeting Form

Date of Meeting: June 22, 2023 Student Name: Haley Smith

Supervisor Name: Jean Côté Student ID: _____

Committee met for the purpose of: (circle one) 1st Meeting
- present thesis proposal
- constructive feedback from committee
- file thesis proposal

Additional Meeting
- consultation
- submit revised proposal

Thesis Proposal Approved for Final Submission **YES** X **NO** _____
Additional meeting required **YES** _____ **NO** _____

Summary of items discussed and any actions to be taken:
1. Clarify that the purpose of the study is on co-participation.
2. Consider examining 5-10 dyads from mountain bike only.
3. Re-define your philosophical and methodological approach using an Interpretive Phenomenological Approach.
4. Assure coherence between your philosophical approach and methodology.
5. Make sure you are inclusive when using the term "parents" or use an alternative term such as "guardian."
6. Collect demographic data on the family characteristics (number of children, gender, age, etc).

Committee members (supervisor and minimum 2 other faculty members) present:

Supervisor: Jean Côté Signature: Jean Côté

Committee Member: Matthew Vierimaa Signature: Matthew Vierimaa

Committee Member: Jennifer Turnnidge Signature: Jennifer Turnnidge

Committee Member: _____ Signature: _____

Student: Haley Hunter Smith Signature: Haley Smith

Master's Students normally hold their Thesis Proposal Advisory Committee meeting during their third term of study before data collection begins; Doctoral Students normally meet during their fourth term of study following successful completion of their comp examination and before significant activity e.g. data analysis and/or data collection begins.

The Thesis Proposal must be a formal document (power point slides are inappropriate). The Student must submit the Thesis Proposal to the Advisory Committee for review **five working days prior to the Thesis Proposal meeting**. This Form should be used to record each meeting and is to be signed by the Supervisor, Student, and all committee members attending that meeting. The Student may request subsequent meetings and/or request additional access to some or all members of their Committee following the initial meeting to receive ongoing guidance. These meetings may occur via telephone, email or at a formal meeting. All communications should be documented using this Form. The Supervisor is to submit each signed Form to the SKHS Graduate Assistant for recording and filing. A new Form should be submitted for each successive meeting.

The student is responsible for providing a PDF or WORD version of their final APPROVED thesis proposal to the SKHS Graduate Assistant for recording and filing in their SKHS graduate student file.

Rev: 15Dec2011
Rev: 11Nov2008

Appendix B: Ethics Clearance

Queen's University General Research Ethics Board (GREB)

GREB Initial Ethics Clearance

August 11, 2023

Ms. Smith
School of Kinesiology and Health Studies
Queen's University

TRAQ #: 6039240
Study Title: "GSKHS-449-23: Parent-Child Co-Participation in Non-Traditional Sport"
Date Ethics Clearance Issued: August 11, 2023
Ethics Clearance Expiry Date: August 11, 2024

Dear Ms. Smith:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled **"GSKHS-449-23: Parent-Child Co-Participation in Non-Traditional Sport"** for ethical compliance with the Tri-Council Guidelines (TCPS 2) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405), your project has been cleared for one year.

Renewals: An annual renewal event form or a study closure event form must be submitted annually as per the TCPS 2 Article 6.14. As a courtesy, the Office of Research Ethics Compliance may send reminders 30 days in advance of the ethics clearance expiry date. All lapses in ethics clearance will be documented on the annual renewal clearance letter. A Suspension letter may be issued for lapses in ethics clearances, with subsequent termination and closure of the ethics file for lapses greater than 10 business days.

Completion/Termination: The GREB must be notified of the completion or termination of this study through the submission of a study closure event form in TRAQ. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

Amendments: No deviation from, or changes to the protocol, informed consent form and conduct of study should be initiated without prior written clearance or an appropriate amendment event from the GREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the study. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at http://www.queensu.ca/traq/signon.html; click on "Events;" under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies." Once submitted, these changes will automatically be sent to the Ethics Coordinator, GREB, at University Research Services for further review and clearance by GREB or the Chair, GREB.

Adverse Events: You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one-year period (access this form at http://www.queensu.ca/traq/signon.html/; click on "Events;" under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the

Appendix C: Letter of Information and Verbal Consent Script

Letter of Information and Informed Consent Form

Study title
Parent-Child Co-Participation in Non-Traditional Sport

Study investigators
Principal Investigator: Ms. Haley Smith, MSc Student, PLAYS Lab, School of Kinesiology and Health Studies, Queen's University. email: haley.smith@queensu.ca

Supervisor: Dr. Jean Côté, PLAYS Lab, School of Kinesiology and Health Studies, Queen's University. Phone: 613-533-6000, ext. 79049; email: jc46@queensu.ca

Invitation to participate
You are being invited to participate in a research study. Choosing whether or not to participate is entirely your choice. If you decide not to participate, there will be no negative impacts on your relationship with the researcher. The information provided in this form tells you about what is involved in the research, what you will be asked to do, and any potential risks or benefits. Please read this form carefully, take all the time you need, and ask any questions you may have.

Consent is an ongoing process. During the research study, we will tell you about any significant finding that could affect your willingness to continue to participate in this study.

Purpose of the research study
The purpose of this study is to investigate the developmental processes at work in parent-child co-participation in non-traditional sports. We are interested in understanding what individual and relationship outcomes result from this type of sport involvement.

What you will be asked to do
If you decide to participate in this research, you will be asked to participate in one interview over Zoom with the principal researcher, in which you will be asked questions pertaining to your experiences in co-participatory sport contexts. We are hoping you will tell us the story of your sport history and involvement. The interview will last between 30 to 60 minutes. With your permission, this interview will be recorded and transcribed to accurately record your views and opinions.

Who can take part in the research study?
Participants of this study will be youth aged 13-18 who participate in mountain biking, skiing, or surfing in a co-participatory manner, as well as the parents of these youth.

Possible risks and benefits
Risks: As the interviews will ask for your personal opinions and for you to recall meaningful experiences in sport, it is possible that uncomfortable topics or memories may arise. If this happens, the researcher can refer you to resources within the community that can help you. You

may leave or stop the interview at any time, and you do not have to answer any questions that make you uncomfortable. You can also withdraw your participation and/or consent at any time.

Benefits: There is no guarantee that you will benefit directly from participating in this study. However, the interview will provide you with the opportunity to voice your opinion and your experiences and will hopefully contribute to understanding the developmental potential of co-participation in sport. The research team hopes that this data can be used to inform national sport engagement guidelines and recommendations.

Privacy and confidentiality

With your permission, the interview will be recorded to facilitate collection of information, and later transcribed for analysis. If you do not consent to being recorded, the researcher will take handwritten notes during your interview. Your data will be de-identified and your name will not appear in any thesis or report resulting from this study. However, with your permission de-identified quotations may be used. Data collected during this study will be retained for 5 years on the Queen's University OneDrive and will be password protected. After this 5-year period, the de-identified data will be archived. Only the principal researcher and her supervisor will have access to the data from this study. Confidentiality will be protected to the extent permitted by applicable laws. De-identified data will not be able to be re-identified after the publication of the study; at that time, the only document (which will be password-protected and only accessible by the primary researcher) attaching your personal information to the study (i.e., your name and email address) will be permanently erased.

The Queen's General Research Ethics Board (GREB) may request access to study data and/or all other study materials used in this research to ensure that we (the research team) have or are meeting our ethical obligations in conducting this research. GREB is bound by confidentiality agreements and will not release any personal information

Reporting of results

Although the project outcomes will be determined by the research findings, possible research products will include: articles in scientific journals and plain language summaries. We will only report group results, therefore, you will not be identified in our reports. Any quotes will be de-identified and will not be attributed to a specific individual. If you wish to be informed of the results of the research, please indicate this on the signature page below.

Withdrawing from the study

Your participation is completely voluntary, and you are under no obligation to participate. If you decide to participate but change your mind later on, you are free to withdraw at any time without consequence up until two weeks after you're the completion of your interview. After this time, it will not be possible to remove your de-identified data from the study. Your decision to withdraw will not influence your relationship with the researcher in any way. To withdraw from the study, you may contact the principal researcher or her supervisor at the addresses listed above.

Conflicts of interest

None of the researchers have any conflicts of interest in this study.

Questions and contact information

If you have any questions about the study or would like more information, please contact:

Ms. Haley Smith
haley.smith@queensu.ca

Dr. Jean Côté
Jc46@queensu.ca
Phone: 613-533-6000, ext. 79049

If you have any ethics concerns, please contact the General Research Ethics Board (GREB) at 1-844-535- 2988 (Toll free in North America) or email chair.GREB@queensu.ca.
Please note that GREB communicates in English only

If, at any point, you experience distress throughout the course of this study, these free, 24/7 crisis lines are available to you:

Canada: Mental Health Support, 1-866-585-0445
USA: SAMHSA's National Help Line, 1-800-662-4357

This study has been reviewed for ethical compliance by Queen's University's General Research Ethics Board (GREB). This study is funded by the Social Sciences and Humanities Research Council of Canada, via a student grant (CGS-M grant).

Verbal Consent Script Template

Study Title: Parent-Child Co-Participation in Non-Traditional Sport

Participant Study Number/ID:_____

I confirm the following:

☐ I have explained all aspects of this study to the participant as outlined on the letter of information.

☐ I answered all of the participant's questions to their satisfaction and the participant had sufficient time to consider their participation in this study.

☐ The participant was informed that they may choose to stop their participation at any time for any reason without penalty/impact on academic standing/impact on employment/without affecting future care.

☐ The participant was informed that their legal rights would not be affected by consenting to participate in this study.

☐ If a youth, the participant completed a "talk back" process to ensure understanding of study requirements

☐ The participant verbally agreed to participate in this study and to follow the study procedures.

☐ The participant was provided with/offered a copy of the Letter of Information for their records.

☐ The participant consented to the use of Audio Recording/Video Recording/Use of Quotes

Signature of the person conducting verbal consent discussion _____

Printed Name _____

Date _____

Appendix D: Email Recruitment Template

Email Recruitment Script

Dear [Participant],

I am reaching out to you to inform you of a research study that I am conducting as part of my MSc in Sport Psychology at Queen's University, and to gauge your interest in participating in this study.

The title of this study is ***Parent-Child Co-Participation in Non-Traditional Sport***, and the purpose of this study will be to understand the developmental processes that happen in this type of sport involvement. I will be investigating this topic through interviews with youth and their parents who either currently are, or have previously been, co-participants in mountain biking, skiing, or surfing.

As a potential participant, I will ask you to partake in one interview of 30-60min over Zoom. If you are interested in participating, please respond to this email and I will forward you the letter of information and consent form describing the specifics of this study. Participation is completely voluntary, and the decision to participate or not will have no impact on your participation in the cycling community.

Thank you,

Haley Smith

haley.smith@queensu.ca

Appendix E: Interview Guides

Interview Guide

Youth Interview

Introduction/Warm Up

1. To start, can you tell me how old you are, where you're from, and what is your gender?
2. Do you have any siblings? Do you live with both, one, or neither of your parents/guardians?

Body

1. Can you please tell me about your experiences in mountain biking from when you started, up to the present?
    a. Prompts and probes, depending on the flow of the conversation:
        i. How/why did you get into mountain biking?
        ii. Who got you into it?
        iii. Was this a family activity?
        iv. Did you participate with anyone other than your parent(s)/guardian?
        v. How often did you ride?
        vi. Who made the plans for riding?
        vii. Is your involvement now different from when you started?
        viii. What is or was a typical ride like?
2. Can you tell me about how or if your parent has been involved in mountain biking with you?
    a. Prompts and probes:
        i. Can you tell me about your relationship with your parent? Is this related to mountain biking at all?
3. Can you tell me how you feel when you're mountain biking?
    a. Prompts and probes:
        i. How has mountain biking influenced how you feel about your self? Others? Community? Sport in general
        ii. Do you see yourself continuing with mountain biking or moving on from it?
        iii. What do you like most about mountain biking?
        iv. Is there anything that's challenging or you dislike about mountain biking?
4. Can you tell me how mountain biking fits into your family environment?

Conclusion

1. Opportunity to follow up on any promising tangents or narratives.
2. Thank participant for sharing their story.
3. Is there anything you'd like to add?

Parent/Guardian Interview

Introduction/Warm Up

1. We're going to start with a little bit of demographic information. Can you tell me your age, gender, and where you're from?
2. How many children do you have? Does your family all live together, separated, or any other family format?

Body

1. Can you tell me about your experience in mountain biking from when you started, up to the present?
    a. Prompts and probes, depending on the flow of the conversation:
        i. How did you get into it?
        ii. Was this a family activity?
        iii. Who introduced your child(ren) to mountain biking?
        iv. How often did or do you ride?
        v. Who makes the plans for or initiates riding?
        vi. Is your involvement now different from when you started?
        vii. Is mountain biking about you, your kid(s), or some combination?
        viii. What is your role during mtb rides with your kids?
2. Can you tell me about how or if your child(ren) has been involved in mountain biking with you?
    a. Prompts and probes:
        i. Can you tell me about how or if mountain biking has impacted your child(ren)?
        ii. Can you tell me about how or if mountain biking has impacted your relationship with your child(ren)?
3. Can you tell me how you feel about mountain biking?
    a. Prompts and probes:
        i. How do you feel when you're mountain biking?
        ii. Do you see yourself continuing with mountain biking or moving on from it?
        iii. What do you like the most about mountain biking with your child?
        iv. Is there anything that makes mtbing with your child difficult or unenjoyable?
4. Can you tell me how mountain biking fits into your family environment?

Conclusion

1. Opportunity to follow up on any promising tangents or narratives.
2. Thank participant for sharing their story.
3. Is there anything you'd like to add?

Appendix F: Supplemental Methods

Data Analysis: Theme Matrix

	Themes						
Participant	**Pedalling Together**	**Co-P Foregrounds Fun**	**Informal CoP and Organized Club work in Harmony**	**CoP Requires Parents to Wear Many Hats**	**Sweet Spot**	**It's About the Parents, Too**	**MTB CoP is Central to P-C Relationship**
P1	- Parent was the "spark" – family started riding because mom rode. - Mom is often the instigator and encourager to get kids out the door - MTB CoP is big part of lifestyle (vacations) - Parents deliberately chose "lifestyle" sports that can be done as a family	- MTB Co-P is unstructured and unscheduled – spontaneous! - Ride plans are collaborative and based on feel. - Mom Co-Ps w/ daughter to keep her engaged (prevent dropout) b/c friends aren't into the sport	- Despite intro'ing child to MTB and being their 1st riding buddy, parent (subconsciously?) described child's beginnings in a formal club - Parent hires coach to teach kids basic skills, but still rides with them on their own - Mom's participation is purely recreational – daughter's P defies a label – sometimes competitive, sometimes not.	- Rejects "coach" label/role - More of a peer when mom's friends are around, more parent when daughter's friends around, dual role when just mom and daughter	- Co-P follows natural progression of less parent involvement as youth gets older (but still Co-P for fun) - Mom gives daughter choice in the rides (how long, where to go, etc) - Allows daughter to branch off, but has instilled a desire to ride with her mom. - Mom inspired to be better athlete by kids' skills - Mom experiences pride watching daughter ride in front of her	- Parent got into MTB for own enjoyment - Parents has own motivations for MTBing and rides on her own - While kids with skills coach, parent does her own ride (parallel participation)	- Parent engages in Co-P to spend time w/ daughter - Likes that Co-P provides opportunities for low pressure conversation - Mom finds her daughter more talkative and easier to talk to when they're riding. - The trails bring the family together in the summer
Y1	- Mom motivates Y1 and initiates riding. - Mom motivates by simple presence – motivation level can change dependent on mom's place in space relative to Y1 - Mom helps Y1 navigate low motivation - MTB was a family lifestyle from very young age - Family vacations revolve around MTB – big part of	- P-C Co-P has prevented dropout for Y1 - Co-P helps diversify participation methods/avenues - Co-P helps develop habits of participation, fun, and interest	- Y1 likes freedom of not only being competitive and vice versa. Co-P helps facilitate this. - MTB helps Y1 relate to other youth outside of the MTB environment – social connectedness is fostered. - Y1 has gone through periods of participating primarily w/ club, then w/ parents, etc.	- Y1 definitively says mom is not a coach, but doesn't identify peer role the way mom did (say's ("she's just my mom")	- Despite having different skills and trail preferences, P1 and Y1 can still Co-P together.		- Y1 and P1 have lots of conversations on the trail, impacted by the nature of the trail (uphill vs. downhill) - Mom and Y1 share a positive relationship both on and off the bike. - MTB is one of many connection points.

	enjoyment and recreation - Multi-family Co-P was imp. part of early participation years						
P2	- Parent introduced kids to MTB. - Parent suggests riding more frequently (kid is not a "planner") - Whole family is invested in outdoor sports and MTB in particular - Parent describes how MTB is a complete lifestyle for son; work, friends, hobby, sport - Parent thinks MTB will be a lifelong lifestyle for him and his son. - Parent talks about parent-child-peer co-participation and this unique social environment.	- Co-P promotes engagement by encouraging youth to get out when he doesn't want to, and by focusing purely on fun. - P-C co-p in other aspects of MTB like fandom and gear.	- Parent enrolled kids in a coached program to learn skills after they were introduced through Co-P - Parent is not competitive - Youth is both competitive and recreational in this sport and in others - At this point, youth is choosing to specialize and performance-orient - Parent appreciates that their child has competitive and recreational pursuits - Parent remarks that community is really important to son, and he needs that additional social connection.	- Father's role is mostly peer, but he will also coach and teach if needed. Stresses that it's mostly just for fun and spending time together on the trails. - Felt his "coach" role ignite a little bit when youth expressed a desire to focus on performance.	- Parent comments that around adolescence, child started to peer orient - Youth has started to ride with friends more, who push each other technically. Still rides with dad, but less frequently. "Natural way" - At this point, youth takes some initiative in deciding whether to Co-P or not and the focus of the riding. - Parent remarks on how much they have learned from their child (re: competition) - Parent and child have reached a point where youth has outpaced parent, but still wants to ride with and encourage him. A role reversal. -Parent loves to witness child's progression and skill level. - Co-P motivations have changed over time and through youth's development - Parent was faster, they're now on an even level, and soon it will flip. There is a sweet spot in adolescence which would	- Parent has always been into alt sports, has MTB background, and is highly proficient in MTB - Parent has own motivations for participating, but is able to foreground his child's needs and is happy to do so.	- Co-P makes parent feel relevant in their child's life; motivated to co-engage in order to be part of their life. - Co-P is ready-made quality time. - MTB is one of P-C's main points of contact. Co-P is central relationship development mechanism - Co-P fosters a friendship btw P and C - Parent seems to have a high degree of behavioural awareness and this comes across as positively contributing to the P-C relationship. - Both the P-C and display a high degree of relationship maturity and depth (evidenced through conflict resolution on the bike) - By nature of spending so much time together on the bike, there are instances of conflict created by these contexts and experiences that P-C have to work through almost collaboratively (ex. The gravel race and mechanicals) - Parent makes compromises on desires, but

					typically be a tough time for parents and kids to spend real, quality time together.		this is not a negative.
Y2	- Dad introduced son to the sport and encouraged his early riding - Lifelong lifestyle sport for the youth. - MTB is ingrained in the family's lifestyle	- Parent facilitates and is integral part of formative early riding experiences (first "big" ride) - Son really drawn to the skill progression he experiences in hybrid formal/informal MTB envt's, which snowballs to encourage more interest and drive/motivation - MTB provides a varied and constantly novel field of play, which youth finds very engaging (interest development)	- Outsourced formal skills coaching - Driven by fun, which is found in both recreational participation and competitive participation - Because of co-p in MTB, youth has a way to connect with friends and spend positive time with them. MTB is central part of friendships. - Engages in both, but didn't start competing until adolescence - Part of a club/team, but also rides on his own/with family/friends for fun.	- When young, father made the riding about son (pace setting, trail choice, etc). More a facilitator when young child. - PARENT AS RESPONSIBLE PEER - Parent provides a safety net - Parent informally provides instructional coaching support at youth's direction - Parent is a source of encouragement and positive support, never pressuring (e.g., when learning new skills). Instructional coaching is youth driven.	- Over time, parent has transferred control, leadership, independence to son (rides more alone and with friends now, son is now the instigator of riding with dad but it used to be the other way around when he was younger)		- Youth foresees a future of riding (with his dad) and is motivated to engage in Co-P b/c he likes spending time and riding with his dad. - Co-P is a main point of relationship contact, and mtbing is where most of their high quality conversations are had. - Parent and youth share a notably positive relationship with open communication and good conflict resolution skills. Ability to disagree/argue and work their differences out.
P3	- Parent introduced kids to the sport initially, and also was the instrument of introduction to the organized participation model/club, provides instrumental support and opportunity, suggests the rides and organizes riding outings - The whole family is involved in MTB racing and training, they take vacations to races together, etc. - Outdoor family		- Discounts their (and their kids) participation pre-organized involvement as not really mountain biking, but contradicts this a bit by saying they did always ride together - Participates both formally and informally, races and enjoys just riding (both parent and youth). Sometimes they ride to train, other times they ride just to ride. - Parent perceived Y to be performance oriented and ambitious - Club involvement actually triggers more P-C CoP by developing more	- Parent is a coach of the younger riding groups, also a riding partner for his child, sometimes a peer, ride leader, responsible adult with carrying food and water etc.) - P and Y compete with each other informally, get carried away with pace and having fun on trails, truly manifest the "riding buddies" label.	- At age 14, P has started to transfer some responsibility to Y (getting himself to the trails by riding on his own, etc). - Parent learns from kid now! Loves seeing Y progress and feels joy seeing him take up something that P himself loves. - The tipping point has maybe been reached in this relationship; P has a hard time keeping up with Y now, and is now often the student. - Ride at different paces	- Also has a racing history, rides for own enjoyment, trains for own fitness, etc. - Dad joined in on club as a coach in order to be part of the riding experience	- Parent is motivated by their kid's progress and racing, and participates to keep up with that (motivated by both CoP and being an important part of their son's experience) - P and Y converse a lot on the bike/trails, and also ABOUT biking and the trails. A central connection point within their relationship.

	lifestyle sports are a tradition across generations and ingrained in family routines. - Multi-family CoP is something this family does for fun on longer MTB adventures.		skills and ability to ride more outside of the club. - Family is always riding, both in and outside of the club		and in different ways (Ferrari vs diesel), but they find a way to make it work.		
Y3	- Parent introduced Y to mtb, both the informal and formal pathways. - MTB CoP is a family lifestyle and has been for Y's upbringing.	- Co-P is central to performance-orientation, b/c the Y is convinced that what he does outside of the formal context matters more, and all of that extra riding is done with P.	- Youth assumes MTB history only means organized involvement; adjusts when probed and reveals a lifelong history of mtb riding with parent - Formal coaching comes from outside the P-Y dyad. - Y is mostly performance-oriented, but also gets out "just for fun" and uses CoP to achieve this. - Y is involved in both formal and informal participation, but is very performance-oriented. - The formal pathway has been important for expanding social environment.	- P has a fluid role based on Y's needs - P seems to bridge the gap in coaching (mtb is not a centralized, daily coached sport) - P and Y being on the same page about Y's goals and orientations is what allows P to embody the appropriate role. VERY IMPORTANT.	- There is a shared responsibility of making ride plans and getting out on the bike. - While there is a sweet spot, there seems to be room for different styles and orientations – Y is performance-oriented, but MTB is still a family activity - They seem to be in a sweet spot, where CoP is providing a safe space for fun competition and benchmarking.		- MTB CoP is a central point of relationship contact
P4		- Would not have started mtbing if not for CoP	- Club was important for providing the opportunity for Y to ride with other kids, have access to coaching, helped keep Y interested and motivated.	- Doesn't do a lot of coaching, but will give pointers - Says has been more like a parent than a peer	- When kids get old enough, MTB becomes a way to "get the time back" – something they can all do together, but that is physically fulfilling and challenging for parents also. - More challenging for P to keep up, but still manage by riding together on Y's Z2 rides	- Parallel participation during Y's club riding; time spent riding and socializing with other parents	- Really values the fun they have out on the trails together, and thinks the time spent together is important "that time together strengthens the relationship"
Y4		- CoP provided a way for Y to gradually	- Y values the club for providing	- Says dad would sometimes give a	- Uses sheepdog technique so		- "a lot of the conversations

		increase exposure to more trails and higher difficulty of trails	more riding opportunities/days - Club lets Y ride with friends	bit of instruction, but only if desired. - Says dad feels like his dad when they're out riding together - Jokes around and races against dad when riding (competitive peer)	they can still ride together when Y has intervals, etc. - They've passed the sweet spot, so CoP is less frequent (2-3x/week now)		we have is about biking"
P5	- The whole family engages in the club riding - Mom picked up riding b/c it was a way to spend time as a family – whole family was keen to do it.			- Says not a coach; mostly just there to ride with them and facilitate fun. - Fills a competitive peer role for daughter	- Fondly reflects on how the skill balance has tipped in Y's favour	- Parents ride with or without the kids; it's become something that they love to do on their own as well - Intro'd family to mtb because it was something he loved to do. - All his stress melts away on the bike! -Parallel participation during club hours	- MTB CoP is a key way to spend time with teenagers, and to have a "commonality" that connects them. "Common bond" - Easy to have great conversations with kids on trails because there's that common connection
Y5	- Expressly "loves" that mtb is a whole family thing - Likes engaging in multi-family CoP	- CoP is really fun for Y - CoP is. Place for Y to test herself against dad (low stakes competition) - CoP was really important b/c early club experiences were negative/too difficult. CoP bridged this gap and made it fun. - Appreciates the unstructured nature of CoP		- Says that parent was never a coach; just encourages her. - Says parent is like a friend when they ride together, but also like a "dad" (responsible peer?) - Jokes around with her dad about who's faster; competes with him.			
P6	- MTB is "mostly what we do as a family collectively"	- CoP is important because it's a type of riding where performance isn't being measured and it's not training, per se.	- Uses CoP to balance the club; CoP for fun and just riding, club more for training	- Says was deliberately never an instructor/coach - Says job is provide resources and opportunity.	- Parents used a chariot to help Y build up to longer rides - Y has moved beyond the sweet spot, but P is excited b/c this means he needs to do more riding to support Y's goals	- Derives a lot of enjoyment out of seeing Y improve on the bike. - Parallel participation during Y's club rides	
Y6	- Entire family is involved in the club - Multi-family CoP important part of lifestyle and source of enjoyment	- CoP is important b/c Y can't ride on his own (doesn't know routes, etc.)		- Says that parents have been instructors/coaches (taught him most of the stuff he knows) - Says parent is now mostly just a riding buddy!			- MTB CoP is a site of conflict resolution skill development ("always find a conclusion that works well") - MTB CoP important b/c likes his P's company and

							learning from him.
P7	- MTB is a "guaranteed yes" for spending time with their teenagers.	- CoP is "all the good things about being a parent" – being outside doing something you love together.	- Role models from the club environment are very important to son's development and interest in the sport	- Parent assumes responsibility for making sure that Y knows how to ride technical terrain	- Kids will sort of coach and provide tips to parents (kids more skilled now) - Now that kids are older, beginning to peer orient a bit more (but still CoP with parents)	- Likes the adrenaline of mtbing and accomplishing something new. - Rides w/o the kids as her own form of recreation	
Y7	- A Sunday family MTB ride is part of the family's routine. - "Time with your family is the most important" – prioritize this through their MTB recreation habits. - MTB key part of how family recreates (including with travel)			- Parent is like a friend, not an authority.	- Used tandem bikes to work up to the sweet spot	- Assumes that parents don't actually like mtbing, and only do it for the kids.	- Says the biking has been a highlight of parenting - Key way to stay connected to teenagers.

Data Analysis: Dyadic Analysis Summary

Dyad 1: Mother-daughter. Converge on the experience and meaning of most storylines. Perceive the same parent role, the positive nature of their P-C relationship and the role MTB plays in constructing this. Both believe in the importance of MTB for mental state (particularly for Y). Main divergence is that youth emphasizes multi-family Co-P experiences more than parent does, but parent still acknowledges them as important.

Dyad 2: Father-son. Both really emphasized the importance of riding to their relationship, and how much they valued the connection that bikes bring them (while riding, while in leisure time – like working on the bikes, etc.). Importantly, this P sometimes assumes an instructional or quasi-

coach role, and both P and Y perceive this positively and on a desired/need basis. Each of this pair displays a lot of self-awareness of actions and how those impact the other party.

Dyad 3: Father-son. This was the most openly performance-oriented dyad, with the youth professing big goals and a desire to perform. Father perceived there to be increased CoP after club involvement (better skills made youth want to ride more), and youth explicitly said that it's all the riding outside of the club that makes the performance difference – and this is all done in a CoP manner. So, CoP seemed to hold more conscious value to Y than to P, because Y feels that it is central to his performance goals and not just relationship fulfillment. Importantly, shared understanding on what Y's goals are and where they're at in their CoP journey.

Dyad 4: Father-son. Parent professes personal motivations for riding, which youth doesn't acknowledge (all parents did this, but this father more than others). Really shared an understanding of why/how mtb is important for their relationship. Youth emphasized that it's just nice having dad around when they ride, but sometimes dad's conversation topics are too serious for this recreational environment (e.g., school, racing, etc) whereas dad said he uses the opportunity of the biking context (rides, car rides, etc) to ask these questions and stay up to date. A small friction there.

Dyad 5: Father-daughter. Share a remarkable alignment of perceptions, perspectives, and derived meaning from their experiences. Parent's perspective of enjoying watching daughter progress was more foregrounded in parent's interview. Daughter was more outright that she didn't enjoy initial organized mtb involvement because it was too hard/not appropriate for her (dad didn't get

into this). Had convergent memories and experiences of parent roles, the importance of club vs. informal participation. Dad had a more articulate or better developed idea of how mountain biking is important to the P-C relationship. Shared an appreciation for the family lifestyle of MTB. Both highlight the fun of shared experiences on the MTB.

Dyad 6: Father-son. Again, mostly shared agreement of meaning and experiences. One divergence was related to instruction – parent was adamant that he outsourced coaching and leaves instruction to the coaches, but youth says that one of dad's primary roles was providing instruction in the past – importantly, he said this fondly and not with a wish that father would behave differently. Parent said his role is mostly to provide opportunity, but son highlighted that his dad is a good ride buddy. Interesting anecdote about sending a huge jump – youth had to push to get permission. Dad didn't talk about this.

Dyad 7: Mother-son. Just like most other dyads, share remarkable convergence on all things discussed and the interpretation of meaning. This son had a higher degree of awareness for his parents' experiences (appreciated that they sort of do what the kids want in order to make it work). Son thinks that mtb is not the parents' favourite thing, but mom says she will mtb without her kids and with her friends instead. So, she must like it more than he perceives. One big difference is that mom communicated a big worry for son's safety, and takes precautions to look after that, but son doesn't perceive his mom as someone who tells him what to do or is an authority figure (feels a high degree of independence/autonomy). Also, son seems to like mtb with friends more than mom thinks he does (she thinks he prefers just gravel and long rides) – son says what's more important is who the experience is WITH, not what the experience is.

Summary: Across dyads, there is a certain degree of self-absorption among the youth participants. They aren't selfish perse, but didn't acknowledge their parent's autonomous experiences in mtb and how the parents might experience fulfillment. The parents were able to talk about their children's derivation of meaning as well as their own (partially due to how the interview guide was structured). For the kids, it came across as "this sport is about me and about our relationship", whereas for the parents it came across as "this sport is about my child, our relationship, and also myself". Parents also expressed a joy derived from their children's experiences, not just their own or shared experiences – youth derived joy from personal and shared experiences, but not their parents' individual experiences (though, they weren't asked about that). Overall, there is remarkable convergence – parents and youth are on the same page with most things (goals, role preferences, relationship elements).

Appendix G: Supplemental Results

Interviews yielded a wealth of data which, due to space constraints, could not all be included in the results write up. To do justice to participants' contributions and experiences, the following is a selection of additional quotes organized according to our themes.

Theme 1: Family-Based and Independent Participation Are Two Complementary Pathways to Co-Participation

Y1: I kinda like the mix where I'm at now is like, I'm not like forced into doing the competitions and constantly, and I can just kind of ride on my own, but if I want to I have the option, like once or twice a year. Yeah."

P1: "Well, I think originally it was riding with me, like, we, they were early adopters of riding bikes, like they all learned to bike when they were three or four, and so we would go on bike rides as a family, for sure, before they were enrolled in those programs. So we would go on those you know, wider trails without a lot of technical, um, stuff. Even on, even on their run bikes before they could pedal, we would do that often. But to actually get introduced to technique? That, I farmed that out to the professionals (laughs)."

P6: "So let's just go have fun, or we go ride with, with other families whose kids are, you know, similar age and ability. You know, and just be more focused on the riding and the being out there and the reasons to continue to ride your bike that have nothing to do with the racing and the training, right, so let's, it's a beautiful day, let's just get out on our bikes, right? And kind of leaving it at that"

P2: "They all work together, I guess. It's like, it's not like, I wouldn't want you to come out with the impression that, I think, I know that I've had a, an impact on [my son] in terms of his relationship to biking and his ability to do it but I think there's also, it's also within this larger community of really great people and programs. Stuff like that. Like, you know, he can work at the bike shop and he's got [his coach's] group and he's got, he's great friends and the way that the ski program interacts with biking and just like all that stuff, right? Like, it all matters."

Y2: "Recently gotten more like, I guess competitive. Like actually training for racing, rather than just going out and doing stuff. I still like, I enjoy also just going out and biking for fun. And, well, I do have fun racing, so I guess, I do, I train and I just go and have fun. Yeah."

Y2: "I remember also, before I was in [my coach's] group, I did like some summer camps with Terra riders, which was good. It helped me like improve my technical skills. They work on a lot on that. And that was good."

P3: "well, we always rode together. Once we got into [the club], it was, [my son] took to it. [MY other son] was still too young when [my eldest] started. [My eldest] took to it right away, so it was only, at that time it was only I think once a week they were going So, naturally wanted to go out more at the time so we just rode, just went up for extra rides at times."

P3: “I didn't have a very much experience with mountain biking at that point. So it was more of just, taking him for trail rides. [Local trail system], for example, like mainly like double track. Didn't venture into the single track technical stuff at that point. I wasn't experienced enough in it to take him in there yet, so.”

P3: “But once he started with them, we definitely explored more on our own after that”

P3: “I think he’d still enjoy it without. Maybe not, maybe not do it as often or as intensely. But I think he’d still enjoy it without, like he still enjoys the no purpose rides, just riding. Enjoying the trails and exploring, trying new trails. Occasionally, he’s like, I just want to ride.”

Y3: “I ride with, I ride with the [club] during the week, during the training nights. And like, sometimes go for ride to my friends on the weekend but like most of the, my rides outside [the club] are with my dad”…… “that's where I feel like I make the difference when I'm racing my teammates because like we're all training, we're all doing the same training during [club rides], but the difference is usually made like what you do on your own.”

Y4: “then I also started mountain biking, not competitively, but just out in the trails with my dad when I was probably 10, maybe younger not 100% sure. Then competitively I started three and a half years ago I think.”

Y6: “Yeah, so it was a family decision to do the club in the first time, but now my whole family's into it. My parents go ride with other parents and then my sister's in her group and I'm in my group and we all really enjoy it.”

Y7: “I mean at the same time as I discovered like competitive mountain biking, I sort of discovered competitive road biking and gravel biking. So. I don't know, I like them all. There's more of a road biking and gravel biking in community in [my town], than there is a mountain biking community, so that sort of plays a role in it because there's a lot fewer, like opportunities for races and things for mountain biking. But yeah, I mean. Sort of equally enjoy them.” Paired with P7: “he actually prefers road biking and gravel biking, but there isn't really a team here. Like we do, like we ride a hundred kilometers a day all summer on our bike trips, but there’s not really a program to do that sort of thing here”

P7: “the role models have been super important. Like I don't have, I don't know how much you hung out, maybe you hung out quite a bit, but the [provincial] cycling association guys, they're very unique group of guys, in that they are fit and they're competitive, but it's not like overly serious? Like every event always has goofy awards and it's not always like, the first place finisher who wins the award or anything. And, [my sons and their friend] who've been going to these races since they were littles, you know, they're almost like little mascots to these guys. I don't know what it would be like if they were girls, you know, certainly there are girls involved in, they get really excited, you know, if I sign up to race, they're like, oh a girl! You know, but having, yeah, that's made a big difference for them. To have people who are older, who are doing this, who are loving it, and having fun with it, but are competitive, you know that are obviously out there to race and they're super fast, but it's been a surprise, especially for [my son] I think as

he's gotten a little bit older and can identify with them a little bit more. He's like, oh, I love those guys, you know. Whereas like when you're 10 you might not identify with a 20 year old but, you know. Yeah, they're just so encouraging and like, take a real interest in them and yeah, makes a big difference, especially in a small town where there aren't that many teenagers that wanna ride long distances, you know."

P5: "Well, we're up riding probably 3 times a week on, on Tuesday, Wednesdays, Thursdays, and it's usually club rides. And so she's always riding with a group of people that she would normally ride with and then the parents kinda go off and do their own thing"

Y2: "I started by joining [my coach's] group. Just for the mountain biking aspect. I wasn't even fully aware of the whole racing part. When I had first joined it. But then I kinda gradually got more interested in it, as I did it and then, about just over a year ago, I actually joined the ski program and that's kind of, very racing focused. Partly to get more fit because skiing, cross country skiing is a pretty good like, everything trainer, kind of, and I wanted to, I thought it would be a good asset. Well, so 2 things. I have a lot of friends in the program. 3 things. I like skiing, and it's good for training for biking. And then I got even more into racing. So I'm not sure like, I'm kind of bouncing around on the timeline here, so it's probably a little bit confusing. But I got, I guess I got into it in [my coach's] program and then more into it after I joined the skiing program. I guess like, the more I race the more I realize, whether it's good or bad, how competitive I am (laughs). But I really like competing."

Y3: "we went for like the odd mountain bike ride at [local trails] before that so then, yeah, I decided I wanted to try it with the [club]."

Y3: "Well like in the [club], whatever group you're in, there's a coach for each group and like when you're younger, it's kinda just like, it's more like we just kinda go and ride but now like our coach is like, if, if we ask where we, they help us with like training plans and like what to do each day"

P4: **"**as my son got a little bit older, [the local club] started, which, yeah, I know you're aware of that, I probably don't need to explain what [the club] is, but, but that started to introduce him to you know, just getting out with other kids really, because you know, he didn't have a lot of friends that rode. So getting out with other kids, getting exposure to some other coaching"

P4: "And then I think the [club] program was also kind of, after that helped as well just getting another sort of environment to ride in, with some different kids and different coaches and, you know they really enjoyed that. So I think that kind of helped as well to kind of keep them interested and motivated."

P4: "I really wanted, or wanted to give them the opportunity to ride with other kids. Just because you know that aspect of being with kids, your own age is a lot of fun. And they were really just mainly riding with me"

Y4: “I thought it would just be a little more fun. And also just add to the experience that it was because I loved mountain biking and I, and my dad also played role in that he, he was the one who actually introduced me to the racing side of things.”

Y4: Um, just to add to my skills and I got to ride 2 more times a week than I normally probably would have.”

Y6: “I mostly ride with my parents, just going out on rides, cause I don't really know the routes around [my town] just yet. I'm working on knowing some more of them. So I mostly ride with them because they know a lot of them”

P2: “Let me think about that. I mean, mostly we just ride and have fun. And, um, and as he gets better, I feel like I've got less to teach him. Um, and I think he'd agree, I’m still better than him, (smiles) but I'm still waiting, we're getting close though, I think”

Y2: “I remember the first time my dad took me out. We did Quickie. And that was kind of, I guess, the first real introduction to mountain biking. And then I kind of just, always liked it since then.”

Y2: “I guess like, yeah, mostly I started mountain biking with my dad. Recently I've been going probably as much with my friends as with my dad, um, I still bike with my dad a fair bit. But, I, yeah, I definitely started off just biking with my dad.”

Y2: “I think yeah probably mostly my dad in the earlier years. And I would, I'd be usually keen to go with him. Um, and then later I started being like, oh dad, you wanna go for a ride? He’d be, Yeah. And yeah. Around, around 50/50 now.”

Y2: “I like riding with him because he's a great guy and he's fun to ride with. He's a good pace too. We have good conversations. I guess those are probably the main things. We both just love riding. And we get along great so, we ride together. Yeah, I like riding with him”

Y2: “Not in a bad way. We definitely like, I'd say, well, there's like the obvious challenges of mountain biking, like as a sport, but not particularly with my dad and definitely not in a bad way. Like the challenges are like, of the sport, as a sport, kind of like progressing, all that stuff, but yeah, it's, I can't think of anything bad about riding with my dad.”

Y3: “when I was really young, he taught me how to like, ride on the push bike and then I got like, this little mountain bike and then we’d usually just go for rides like around our neighborhood when I was younger. And then we started doing like more trail rides and stuff”

Y4: “I remember we would go out to [the trails] a lot. And we would just ride some of the trails. Started out on double track mainly, and then he slowly worked me into the single tracks, and then when like a new trail would come out we would go and look at it see, see what it was like, and generally a good time out there, and just having fun on the bikes, you know.”

Y6: “And then I think might have been 2017 or 18 for Thanksgiving, we went with some of our friends, went up to [trail destination] and rode there and we did that 2 years in a row. And we've done it 3 times, or 4. And we all love the trails up there.”

Y5: “I love it. I'm glad that it's not just like my dad that takes me and then we come home and my parents, or my mom and brother ask about it. I'm glad that they're like, there”

Y5: “It was fun. I don't remember like, I don't think we went out for very long most of the time and sometimes we invited like, my dad's friends and their younger kids like my age. Which we, also wasn't for very long, but.”

Y5: “So a lot of times, well, when my brother and I were younger, we would do a lot of organized rides with the family, our family and other families like [my friend’s]. We always have time, like twice or 3 times a week, I always go up to do my own practices, and my dad will drive me up, my brother's assistant coach, my mom rides, actually my mom and dad ride at the back of my group. So we do lots of riding together, but also with other people. But that's for cyclocross right now. And then for weekends, there's almost always races that we all go to together. And my brother and parents will watch me race and then we’ll wait for my brother to race. There's a lot of biking with us.”

Y7: “Yeah, usually on Sundays we'll do something as a family, so that'll often be a bike ride”

Y7: “It's always been one of like, time with your family is the most important. So, yeah, spending time with your family comes first and that's kind of always been the deal. And that's how I would want it to be.”

“Y7: Um (chuckles), our friends kind of got us into it, but we kind of got our parents into it like, as a result.” Paired with P7 “we've all just sort of learned together as family since we moved here. But we're definitely not like, my husband and I don't have any skills (laughs)”

Y7: So I think I've gone on a bike trip of some sort every summer since I've been born whether that's in like, in a chariot or on a tandem or a mountain bike.

Y7: “every year on my dad's birthday we drive to [neighbouring town] which is a town maybe 45 min from here, and we spend the weekend in a cabin in [up there] going mountain biking and that's sort of like a birthday tradition now, for him.”

P7: “But yes, biking is... Biking is everywhere”

P7: “if you're looking for something to do as a family with teenagers, if we say, Hey, you want to go biking? It’s like a guaranteed, yes. So that's a big draw right now for us for sure.”

Y1: “so basically we usually like, go around [the prvince] and we stop in mountain bike areas. And we'll like, camp for however long and each day we’ll get up. And for example, like in [one town], um, we went to [a ski resort] and we did some more downhill focused riding, which is really fun, I really like that.”

P1: “Well, I think originally it was riding with me, like, we, they were early adopters of riding bikes, like they all learned to bike when they were three or four, and so we would go on bike rides as a family, for sure, before they were enrolled in those programs. So we would go on those you know, wider trails without a lot of technical, um, stuff. Even on, even on their run bikes before they could pedal, we would do that often. But to actually get introduced to technique? That, I farmed that out to the professionals (laughs).”

P1: “But I did always have a motivation to sort of foster their involvement in sports that my husband and I also like to do. So we could do it together as a family”

P1: “I would say it’s our primary thing that we do, except for my husband right now because of his knees, but it’s our primary thing that we do right now in the summer. And those like, especially like those last three years or so, which, these road trips that we do, it’s mostly to go to different places to mountain bike, like this year we happened to go to [surf town] as well, but every other stop was like, oh let’s go check out the trails here and mountain bike. And so, that also to me is like, it’s like, we’re still, even though they’re teens and tweens, like we’re still travelling together, doing something we love, and everyone’s enjoying it, um, and we’re staying in this tiny trailer, and it’s just the funnest thing! So, yeah, that like, it’s our main summer activity, here, and then also on these road trips. And every year, they’re like, where’s our road trip gonna be next year? Like, always [one place], but where else?”

P5: “But once [my son and daughter] were riding, she realized quickly that this is something we can do together as a family. And we can, you know, make this a family outing and so she picked up and started riding a lot more than she had before and now we're out you know 2-3 times a week rather than just 2 or 3 times a season”

P5: “I know like, just like an example again in the summer when [my daughter] was away at camp and [my son] was off at races, [my wife] and I still went to the [club] and rode with the parents of the [club kids], even though we didn't have any kids there. So I think that probably speaks to the, answers that question that yeah, I think we, collectively or individually, will still continue to pursue the biking because I think it's, it brings us a lot of satisfaction and exercise and just something we look forward to.”

P6: “it's mostly what we do as a family collectively”

P3: “we have occasionally managed to get out altogether. I would say usually on holidays. And then when we're on vacation together, have more of a chance to get out together”

Y3: “as much as I can remember we would go like, every time I’d get like a PA Day off of school, we would kinda go for a ride with my dad”

P4: “So when your kids get old enough that they can just say with you, you kinda get that time back because it becomes family time. You know, it's not sort of a selfish pursuit of, you know, being out on your own while your family is, you know, not there. And it's enjoyable as well, right? You just want to introduce your kids to it because it's something that you've always

enjoyed and think your kids will or, or at least to give them exposure to it so that, you know, if they do enjoy it, they have that and can continue on with it”

Theme 2: Parents Flow Between the Roles of Peer, Partner, and Provider

Y6: “Yeah, they taught me most of the stuff I know. And up until the last couple years, where like they just would teach me, here’s how you get over this rock, here’s how you got over this log, here's how you do this, here's how you do this, here's a corner and here's how you like go, go down a downhill, climb up a hill, like your position on the bike and gearing and whatnot.”

Y6: “Especially when I was younger, we’d go for a lot of mountain bike rides, and he’d help me work on stuff.”

Y5: “No, not really, just like, encouraging me. Because a lot of time if I see something I don't think I can ride it, I just stop. So then he just like tells me to keep going because most of the time I can do it, but I just don't think I can.”

P6: “never an instructor of my own children, which you know, is part of the reason that I put my kids in [the club] because you know, [the coach] can deal with that (laughs). You know, that's to me that, it's very important that there is separation there, that I'm not responsible for, specifically at this age, driving [my son’s] training and performance, right? That, that to me is a very important separation. I'm his parent, I provide them the tools and the access and all of those things, but the coaches are the coaches for a reason. And for me having that separation is very important”

P6: “Well, mostly I'm struggling to catch up to him (laughs), but so there's always that aspect of, of riding with them. You know, always a very humbling experience when, you know, you're getting lapped by your child in race. That's always fun. Or I mean, that being said, where they're beating you and then this year in a cross race now being lapped by him. But you know, I, there's always some aspect and this is where it's kind of the difficult balance between riding socially and then trying not to get into the coaching aspect of things. But I try really hard to steer away from that and then just kind of talk about, you know, the bike, the trail the, you know, what's going on in his life, like trying to make it more of a social experience, right?”

P2: “I can't remember the age he was exactly when that happened, but there's definitely a period there where he went from riding like a mediocre hard tail to a nicer dual suspension bike, and at that time, he sort of want, he was motivated to be a better rider. And start caring more about his equipment and how it worked. And, um, and there I was doing more, definitely more, more coaching, you know, like.
Like we’d go to [trail destination], there's some really good hard rock lines there. Just teaching him how to like, ride rock and pick the lines”

P2: “I'll give him things to think about but, but mostly when we ride together, it's just, we're just having fun. It's not like about, it's not really about that. Like I'll throw the odd tip out if I see something that I'm noticing, um, and or chat about gear sometimes or different things but really It's just biking. Just biking for fun. Chat about other stuff. Yep”

Y2: “he'd maybe, we'd stop at it. He wouldn't, he wouldn't be pressuring me to do it. But, he'd kind of tell me how if I wanted to, and like and kind of encourage me without pressuring me to do it. Or he'd do like a demo or something. And then, but yeah, he would never make me do anything I didn't feel comfortable doing.
H: What is it like-

Y2: He was definitely helpful though, like, helping me learn how to do stuff."

Y2: "Like I was, I was definitely, he'd teach me stuff when I was interested. You know? Like he wasn't, it wasn't, I guess we would just go for rides together and have fun and then he'd teach me stuff that I wanted to know."

P3: "I guess, sort of coaching when we're just together, it's just the 2 of us. Keeping him, you know, how to, how to put this… Not, holding him back, but reminding him of what he's doing. So essentially coaching him through some of the training rides when it's just the 2 of us. His coaches were really good at putting together some basic programs for them this summer. Aside from their, their group rides together, they would have sort of a, just a general idea of what they should be doing each day of the week. Depending on feeling, and depending on race schedule of course and, yeah, I would, I guess I would just kinda remind him of what we're supposed to be doing today and sometimes keeping him on a leash. Without, uh, and he says, and sometimes it's like, yeah, yeah, pushing too hard at this point or I'm not pushing hard enough. Yeah. And sometimes I'm just trailing along carrying all the food. (laughs)"

P4: "I don't do a lot of, try to do a lot of coaching. You know, sometimes we will give each other pointers if there's something that we're working on or sessioning or whatever. But that's very infrequent. It's usually just getting out and riding, to be honest."……. "so yeah, it's probably less about coaching and instruction and more about just, just being together and enjoying the time"

P4: "you always want to see your kids, you know, do well. So you're always gonna offer, you know, whatever advice you can, but, um, but I tend to leave it more to the coaches."

Y4: "he gave me a little bit of instruction sometimes, and then also it would be, so like if we were out on the trails he would try and help me with whatever it was, balancing, making it over roots, or making it over little bumpy sections or whatever. And then other times it was just like, hey, what do you wanna do?"

Y6: "So now I think it's more just someone to ride with. And someone to talk to while I ride, and just someone to show me different things and new things that, to do. And then in the past that it was more teaching me how to do these new things, to then show me what we're doing now and show me new things."

Y6: "Yeah, yeah, it was a bit of both. We were standing at the top and I was just like, I think I could do that and they're like, no not today. And then I looked at it more and I'm like, oh, I really think I could do that. And they're like, Okay, look at it a bit longer, check it out from the bottom, roll down that ramp first, look at it, and then maybe you can do it. Then I did all that, and I checked it out and I watched some people go and then they're like, okay, you can do it if you think, if you really, you know, like you're 100% sure if you can. And I was sure I could do it after looking at it and then I just went for it."

Y5: "Um… It like, he is like a friend when we're riding. Sometimes he becomes more of a dad and tells me like, I can't think of an example, but. Yeah, more of like a friend, not too much of a coach. Yeah."

Y7: "I would say she's much more a friend than, than an authority. Like that's, I think it's a healthy relationship in that aspect. And definitely I look up to her and she's my friend more than like, someone who tells me what to do, sort of."

P7: "So whenever they opened that trail we actually paid for a private session with a biking instructor. That was the first time we'd ever had any coaching. But I was just like, I need them to know how to crash. And so that's about as proactive as I've been"

Y1: “Well, sometimes I'm like not super into it like that day I'm like, oh, I don't, I don't really want to go for a mountain bike ride and then she kind of convinces me to go and I'm like, okay kind of reluctant to do it and then she will, and then after the ride I feel like much better. She usually says like, anytime I do like, physical activity or something, I'm always so grumpy about doing it and then afterwards I'm in such a good mood.”

Y1: “She's kinda like a mom who like, wants what's best for me, so she's like trying to push me. And she's like, you could go a bit faster, like remember to like, push yourself on this hill or whatever. But definitely not like a coach. Like it feels like my mom. So.”

P1: “When she was a bit younger and less busy, um, then we probably rode together a little bit more, um but I, I still like to carve out the time. And sometimes she’ll join me and my friends on rides as well, um, so. And I’ve always tried, too, to facilitate her and other friends going on rides. Like, okay, let’s get you and A, B, and C friend to go out for a ride. That’s, again, becoming sort of a bit trickier as she gets older and they develop their own lives and, interestingly, it’s, well, you probably know this, it’s not exactly a female-dominated sport, so the ones that are interested in riding are kind of dropping off a little bit, so. Yeah, I kind of would like to try and keep her as engaged as possible”

P1: “: Yeah, I feel like I’m motivating her to get out, because she probably wouldn’t on her own, yeah.
H: Do you, um, if you had to put yourself, if you had to label yourself. Would you say that you’re a coach, a peer, her mom, like how do you feel when you’re out there with her? Like what sort of, yeah.
P1: Definitely not a coach, like she’s a better rider than me for sure. Um, maybe a little bit of a peer, but I would say mostly mom. Yeah, yeah.”

P5: “No, I… I'm gonna say there's probably a few times where I put a few pointers out there which were quickly dismissed because I was told I was not their coach (chuckles), but it was always about just going and having fun and that was kind of my goal out of biking and the racing team as a result of the exposure to the sport rather than… Honestly, when we started mountain biking with [my kids], I had no idea the C-Cup series existed.”

P6: “My job is to provide you the environment under which you can decide how serious you want to be about this. And if you want to be really serious, we'll give you the tools to do so. And if you want to do it just for spending time in the forest a few times a week with your shredders friends and doing the odd race here and there, that's great too. Right?”

P6: “For [my son] at this age, it's about seeing how far he can now decide to push himself, right? So, here's the [club] environment, here's [a coach] or as a supplement to that. And then what additional load will he require and how will we support that going into 2024.”

Y2: “I kinda thought of it, we're just going like, for a ride together. I guess he was, um, looking back on it, I guess he was carrying like water and bear spray and food and stuff. He was kind of like making sure nothing bad happened. I really liked, I think the way that he would kind of encourage me to develop at mountain biking, like he was never really like pressuring me to do anything I didn't feel comfortable to do. And I guess I just enjoyed a lot, more than if he was pressuring me to do stuff. Yes, it was good”

P3: “it's usually me that has to take him up to the forest, of course. So it's when we're able to. Yeah, it's usually me. I'm usually planning ahead trying to get him as much riding as I can and as much riding as he’d like to do as well”

Y3: “It depends like, if we're, he's always just like, like my dad or my friend, but like, he’ll also like help coach me sometimes too if, If I'm feeling like, if we're going on a training ride together, he'll help coach me, but he's always like, my dad and my friend on the rides anyways”

Y3: “Well, I look up to him a lot, like, for biking and stuff and running and like, um, it's pretty much, like It's kinda like, he's just kinda like one of my friends. He's like, he's like my dad, of course, but like, like we kinda joke around and stuff and like. Yeah”

P4: “More parent than a peer. I mean, I wouldn't. Yeah, I wouldn't say it's like a peer. Well, I do, occasionally we’ll invite along one of his friends and they'll ride together and I’ll just kind of be there. Yeah, more so just to, to make sure that they're okay and make sure that you know they need anything there's somebody around. So we've done that a few times where, you know, just get one of his buddies, from, you know, the race team and we'll go to, we went to [the local forest] where, you know, it's bit more freeride, bit more built up kind of stuff where they'll be, you know, jumping and things like that. So it's, you know, it's nice to have someone around in case something does happen if someone, you know, crashes or whatever. So, I tend to kind of sit back and just let them do their thing and maybe get a couple of videos so they can, you know, see themselves and that kind of thing. But definitely more of a parenting role than a peer, I guess.”

Y4: “When we're riding together, he's my dad and he's really encouraging. So, like when I go to races and stuff, he’ll always be encouraging me and like cheering for me and all that stuff. So it's just, yeah.”

Y5: “He would always like ask me if I was gonna beat him and I always said yes, I didn't always beat him though. And I'd always try to, sometimes he would wait and let me cross the finish line before him.
H: Was that, did you like that? Was it fun or was it, um, pressure filled or how was it?
Y5: It was fun. I liked when he waited, cause he didn't normally have to wait that long. And he would just like slowly pedal into the line and I could just pass him there.
H: That's fun. Okay, so then let's think about the rides that are not races, more informal where you're just riding with your dad. Are you competitive with each other?
Y5: Sometimes he'll like, try to race me up a hill. But it's kind of hard to like race him in the trails where he can't pass me.”

P5: “Oh, we even still joke about this, she's always telling me she's, she kicks my ass, which, which is true, but in [an annual race], her and [her friend] stopped to grab cookies and I didn't, and so I was, I finished a few seconds ahead of them (both laugh). So I'm gonna hold onto what little abilities I have. And, but yeah, no, it's fun. It's, it's playful, and you know even with the cyclocross we were, you know, if we're having, she's putting 60% effort in, I'm putting a hundred percent, I'm kind of behind her and then she'll, once she's warmed up she'll take off.”

P3: “I think it's just the fun, we're on trails that we know, we know how hard we can ride them. And we’re happy to be there so, tends to come out and an hour in, we're saying, wow. Pushing a little bit harder than we should be here. So. But usually it's just, yeah, just fun being on them. So kinda hard not to”…..
“Definitely now. Usually it's the finishing sprint home. But there's definitely some competition on the climbing. There is no competition in the trails, unfortunately, for me anymore, but definitely on some of the road climbs. Sometimes get a bit carried away, so. So yeah”

Y3: “Well, in the past it’s, like my dad still chooses the route and stuff, and in the past he would always set my pace for me but recently I’ve been trying to challenge him a bit on our rides.”

Y3: “Well, like, as I’ve been getting older, I’ve been getting faster and like, I just kinda wanna see like, where I am compared to where I was, like, a few years ago I could, my dad was just riding easily with me on like the weekend and now it's like a good ride for both of us.

Y4: “Oh, a lot, yeah. Definitely when we were like really closely knit in terms of speed, if there was like a hill, just out of nowhere like he would jokingly like accelerate like crazy and then I would chase him down or he's still like, we still do that all the time like, joking around with each other kind of chasing each other or whatever right, um, yeah.”

Theme 3: Participants Employ Adaptive Strategies on Either Side of the ‘Sweet Spot’ of Skill Overlap

Y7: We've, it's been pretty chill. I mean we’ve always, until I was I'm gonna say 10 or 11, maybe 9, I was riding with them like on a tandem bike. So there's, wasn’t really an opportunity for them to go ahead and after that we were sort of more able to keep up, so. I find it, and it was never really a competition on tours, we were just taking it easy, I find. And it's the same when we go on weekend rides or anything here, like it's just, it's not a race on the weekend.”

P7: “we all started at the same point of not knowing anything, but they've just progressed a lot faster. So yeah, they'll wait for things. They'll, they'll take easier routes for us, you know. They'll give us heads up so we don't crash. You know, sometimes they'll be like, oh, follow me do exactly what I do and then they'll pick an easier line and then we'll try to do the same things, but they never like, we don't split off into separate trails. Like it's, you know, this is like spending the weekend together or spending the day together depending on where we go. They're very patient. It's very nice.”

P7: “less of an issue now, but I think kids go through kind of like an awkward stage, like first you’re towing them along, and then they're wanna do everything themselves but they're kind of slow and sometimes not, like you know if we're going for like a run like, now they're super, they're training for cross country skiing so they're you know, training all the time, but bikes is definitely the one thing where like, there's never going to be any whining and there's never any like, okay, I'm tired, can we go home? Like they just have always wanted to like, more, more, more, more, more, more, I want to go for a longer ride, I want to go for a longer trip, you know, I want to do another lap, so I think that from the beginning has always been like, okay, they're so into this that we're, this is a guaranteed home run and we can just kind of follow them around and everybody's gonna be happy and, now that they’re older they can do all sorts of things at high speed, but, yeah, it’s just always fun. It's never, never hassle.”

P7: “This is how it always happens. We're like, where do you want to go? They’ll look at the maps, they'll agree on something, they'll ask us if we think it's okay and then we follow them around.”

P1: “I would say it’s usually fairly collaborative. Um, yeah, I would say it’s fairly collaborative, like, we’ll be like, oh let’s go here, but if we’re tired we’ll shorten it. Like, um, it’s usually me making the suggestion and then it becomes a collaboration.”

P6: “there were points where we would have to put both kids in a chariot and, you know, [my daughter] would be pulled in the chariot, but we would have a bike for [my son] in there. And he would get out and ride a little bit and then get back in and we would kinda repeat that process until he kinda got to the point of being able to ride longer distances”

Y2: “I think I would usually go in front of my dad. Just for pacing, cause I was a lot slower than him. Um, and it would usually just be the loop out there, maybe, maybe… Between 5 and 10 kilometers. I

remember one time I was like, Dad, let's go set my record. Like let's do the longest ride ever and it was like I think maybe 20 K, and we did all the trails out there. And it was, it was a solid ride and I came back and I was absolutely done (chuckles)."

Y3: "I've just kind of always ridden with him. Like, we used to go for rides with my brother on like, the trail-a-bike. My dad would tow behind his bike, and then like, I remember, I always used to want to ride his bikes, cause they were cooler than mine"

P4: "I'd say sometimes we have different goals, so yeah, he'll want to go you know to more technical trails and jumps and things like that, and that's not necessarily my thing. You know, I did a little bit of that, but you know, once I am up and down, like the [local] downhill area like, 2 or 3 times, I'm good to go. He might want to do a couple more, so I'll usually just sort of sit more or less at the bottom and watch him come down and wait. Or if he needs to put in like a, you know, a real work out, then it's harder for me to participate because I just can't ride at that pace, you know. But we usually try to make it work. If he's doing intervals, he'll just sort of come back. So he'll do intervals and he'll go out, and yeah, and then he might just, his recovery might be coming back to me and then he goes again kind of thing, right? So that also is kinda, kinda works, but I wouldn't be able to just stay with him the whole time, if that makes sense."

Y4: "Normally he'll come out for a ride with me when we do it, but then usually I'll do my intervals and then we'll meet back up afterwards and continue the rest of the ride from there. There have been times where he has, he does do them with me, and there still are times where he does do them with me. Uh, but yeah."

P5: "I get quite a chuckle over, you know, how things have progressed over the years. Where, you know, areas where we used to be difficult for them is now difficult for me. And, you know, like going through [technical local trail], I can never make the rocks at the end, but everyone else in my family seems to be able to. And it's just really cool seeing that, how they progress and I've been left behind (laughs)."

P5: "I just wish I had more time to get out there more frequently. I know I'm very fortunate being able to get as often as I do, but I still would like to get more if I was at all possible."

P6: "he wants to take on a bigger training load next year to see how he can improve his performance. And you know, I think 2 things about that. One, it's going to increase the amount of riding he needs to do, which you know, I'm, it's likely that [his mom] or I will ride with him in those times where he's doing additional riding outside of the shredders environment" […] "you know, it's an opportunity for [his mom] and I to do a little bit more riding volume as well, which is good"

P2: "I saw him getting stronger and I was like I was like, yeah, [son], like, I'll ride with you as long as I can still keep up, right? And then, and then, you know, and that's, I sort of left that. And he sort of thought about it for a couple of seconds, and then he said, yeah, and then, I'll ride with you, right? (chuckles) I thought, oh my god, you're the cutest kid. Because I did, I wasn't like fishing for that at all. It was, I wasn't the intention. The intention was just, the intention was just, to sort of say, yeah, I'll ride with you, cause I see you're getting stronger so I'll ride with you until I can't keep up with you anymore because then you're gonna wanna go fast, right? But then he's like, no, no, then I'll ride with you."

P2: "I'm a hundred percent sure it's gonna get better. Because, well, I intend on staying fit. I intend on riding my bike till I'm 90. And I see [my son] is totally hooked so I don't see biking leaving his life. And so, and he'll eventually like riding on gravel as well (both laugh)."

Y2: “It's less of him going out like, going out and teaching me stuff, we're just kind of going for a ride together. We're probably more of a compatible pace for like, actually, a pace that works for both of us. Yeah, it's definitely… I like it. He's a good riding partner”

P3: “Today I like the challenge. I, I actually learn from him now. But going backwards, it's just something I have always wanted to do with them. And as long as they enjoyed it, um, something I always wanted to do with them. And the older they get, obviously the more fun. It's, it's fun when they're really young, cause it's all new. Just seeing them love doing what, something that you love doing is amazing. And then as they get older and progress with skills and fitness and just sheer size of them, it's now fast forwarded to a challenge for me to keep up with them and again, I learn skills from both of them now”

P4: “You know, we still ride quite a bit together. It's getting more difficult for me to keep up (laughs). So, you know, it. Once, like, once they hit about 12, you know, you can keep up descending, but climbing, they're out-climbing you at that point and then by the time they hit like 14 then they're just, yeah, they're faster up and down the hills. So yeah, we still ride quite a bit, but, you know, usually it's his zone 2 or his like recovery ride or something where, you know, he doesn't have a structured workout as much”

P4: “And I do enjoy just seeing how much he’s progressed. So you kinda, you know, you see them ride things and you're just like, wow. It's, you know, their skill level is beyond, you know, mine. And, you know when you're, when they’re younger obviously their skill level isn’t quite at yours, so as they kind of start to surpass you, it's… you know, there's a bit of pride in that, I guess, or just, you know, sort of, you know… Yeah, proud of what they've accomplished or what they're able to do.”

Y4: “Before I rode with him almost every ride, whereas now I ride with him for probably like, a couple rides a week, usually 2 or 3.”

Y4: “Um, just having company most of the time, and like before, he was encouraging me to do new things, and now it's kind of the other way around. Like, if there's something he's not too sure of, I try to help him get over the fear or the, whatever it is that he's nervous about, to do a feature on a trail or something and we basically both help each other out in that sense.”

Theme 4: Shared Activity Allows for Positive Interpersonal Interactions and Relationship Building

Y6: “Not really, no, like sometimes we can have different opinions on something, and like how to approach it, how to do this with like, even just which way to go. But I think it doesn't really change it much. We always find like a conclusion that works well.”

P2: “you know, the relationship piece isn't always about all the joy and laughter. It's like also like some of that navigating some of those, those challenges in our relationship, which is it provides a good context for that sometimes and, yes so that's another example”

Y4: “Sometimes like conversational points. Um, like if he starts talking about like school, or you have a test coming up or something like that, like I don't really like talking about that when I'm out trying to have fun. And then other than that, there isn't really much”

Y6: “Yeah, I like the company, I like talking to him and I like seeing what he knows ‘cause he’s been riding a lot longer than I have. And just seeing what he knows about how to do this, where to go, and just learning from him.”

P7: So I think just a natural evolution and we love spending time together as a family on a bike, all those bike trips… Yeah, they've just been like highlights of parenting has been, being on bikes. Like general bikes. The mountain biking is fun too, but I'd say that's more like continuing to hang out with our teenagers."

P7: if you're looking for something to do as a family with teenagers, if we say, Hey, you want to go biking? It's like a guaranteed, yes. So that's a big draw right now for us for sure."

Y1: "yeah, we do talk. We have conversations about, um, my life, my school life, her life, her friends and what not. Um, so a whole bunch of different things. And I do think that it's like a good, like not only is it like good that I'm like, getting out there and getting exercise, but I'm also like, interacting and socializing with her and other people too. So yeah"

Y1: "Um, I'd say it's one of many things that we do together, we do to interact. And I don't think like, like I do definitely think that it's like, good for both of us. Um, but it's not like the highest, like it's not like it is the only thing we do to interact with each other. So I think it's like one of many things."

P1: "Yeah, just to, yeah, to hang out together, I feel like it's an opportunity to have you know, conversations with a teenager where you're not staring, you know, into each other's eyes (laughs). Sometimes the conversation will just flow more easily on the trail. So as a teenager, in the present day, I think that's probably my primary motivation, is to get her active, but also to have good quality time together that's not sitting around and maybe, you know, less conducive to a flow of conversation. Because I do find that she's, she tends to be more of a conversationalist when we're out on the trail."

P1: "Umm, I think it's just being together, outside, on the trails. I really admire her skills, like I think it's so cool that kids here learn to bike at such a young age and can tackle these trails. Um, so it's like, I don't know, like, it makes me proud as a parent kind of thing. Um, but I think it's just that being outside, together, moving, is an important thing to me."

P5: "You know what, I think it is socially very rewarding as a parent, to see your kids thriving in something that they like to do which is, it's obvious that they like to do it because the amount of you know, laughing and chit chat that takes place while they're riding is, is there and you know, I can't think of a better way of spending time and seeing how much they enjoy what they're doing."

P5: "I, I, yes, I think it's, it's, you know, there's not too many 14 year olds, or with [my son] 18 year olds, who probably wanna hang out much with their parents. Yet going out, there's, there's a commonality in terms of enjoyment. So it's kind of like, skiing as well, you know, you can go do it as a family. Where it's different than swimming where you drop off your kid and watch them in the pool for 2 h. Mind you, [my friend] and I did join the master's program last year, which just made the tiring aspect that much greater (laughs). But I think that, it just… being able to share the time together. It's probably the biggest thing that we've got and it's, you know, if we participate in the same event, you've got something in common with the kids that, you know, you're like, oh, you know, that root or that rock that caused these problems, you just have the same obstacles, you're doing the same challenges, you know, obviously they're going way faster, but you still…. There's a common bond from, the experiences that you're putting forth. And I think that really allows you to have a, a different relationship with the kids."

P5: "And you know, you can have great conversations with all of them because they all know that you're out there for the exact same reason that they are. There's no hidden agendas, it's pretty, it's pretty, it's pretty simple."

P5: “there was a lot of communication going on while you're riding and it's all… There's no barriers when you're on the bike. You can have conversations about pretty much anything, or nothing. And it could be, it could be serious or it can be silly. But I think it gives a good bond.”

P2: “Yeah, that's huge. Yeah, because, like it's one of our main points of contact, I would say.” […] “I'm not as big into that but he loves it so we'll watch that together. Um, things like that, you know, we'll connect at that level on the sport as well. Yeah, I think, yeah, I'd say it's a lot, it's a big point of contact with us.”

P2: “it's something we share. We both, we share, like a hard, punishing effort followed by the reward of exhilarating descending. Like, it's like for some people it's just the right package, right? And so we really connect on that. And just, just sharing something. I don't know. It's just like, it's, you see a lot of parents become irrelevant to their kids as they become teenagers. And this is the way that we just like, very honestly without any real effort, um, can share some really joyful and meaningful time together. Yeah.”

Y2: “we’ll just have conversations about really anything. Sometimes it's riding, sometimes it's bikes. Sometimes, it could be anything. But I'd say that's where some of our best conversations happen, is when we’re riding. Um, for sure.”

Y2: “I'd say it's one of the main things, but it's not the only thing. Cause, we have, we have a lot of shared interests and even if it's not completely overlap we’re happy to just listen to each other talk about what we're interested in, just cause, just for the sake of conversation. But yeah, I'd say mountain biking is definitely one of the core things that we both love”

P3: “there's definitely usually some conversation going on. Whether it's about the bikes or anything, really. Bikes, the race, the training, uh, it could be about video games sometimes, so (laughs).”….. “there’s a lot of bike talk, some training talk, lot of questions on his part on whether or not, what he should be doing today, should I be resting, should I be running, what tires am I gonna run on the weekend,”

Y3: “we work on the bikes a lot together”

P4: “I mean, it's just a lot of fun for us. I mean, I just love being out there with him and it's just a good time with your kids really. I don't, and it’s good, we both have an interest in it and both interested in training to some level, so, that's worked out really nicely.”

P4: “I think it's just, but it's more about just the time that we spend together. So we, you know, spend a lot of time together because of you know, both being involved in the sport and he’s at an age where not able to sort of be self-sufficient. So, yeah, can't drive himself to a race cause he's 15. So, you know, I think just that time together I think sort of strengthens and, you know, helps your relationship.”

Y4: “I think we probably talk around the same on and off the bike. But a lot of the conversations we have is about biking or like what happened on the weekend when he watched the World Cup or I watched the World Cup”