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**Parental Support, Sibling Influences, and Family Dynamics across the Development of  
Canadian Interuniversity Student-Athletes**

24 Parental Support, Sibling Influences, and Family Dynamics across the Development of Canadian  
25 Interuniversity Athletes

26 A variety of factors are known to shape athletic development (Durand-Bush & Salmela,  
27 2002). Following a synthesis of the youth and athlete development literature, the Personal Assets  
28 Framework (PAF) was developed to describe and explain patterns of youth development and the  
29 accrual of positive developmental assets and outcomes in sport over time (Côté, Turnnidge,  
30 & Evans, 2014). The PAF posits that three dynamic elements interact to shape the long-term  
31 development of youth in sport: appropriate settings, including the social and physical  
32 environment; quality social dynamics, such as relationships with coaches, parents, and peers; and  
33 personal engagement in activities, which may involve structured, unstructured, adult-led, and  
34 youth-led activities (Côté, et al., 2014). Although the interaction of all three elements contributes  
35 to complex developmental processes, the nature and quality of young athletes' social  
36 relationships have received substantive attention in the literature to date (e.g., Barnett, 2008;  
37 Fraser-Thomas, Côté, & Deakin, 2005). In particular, familial influences are regarded as one of  
38 the most important factors influencing the development of athletes throughout the childhood and  
39 adolescent years (Bloom, 1985; Côté & Hay, 2002; Harwood & Knight, 2009; Côté & Fraser-  
40 Thomas, 2015). While a large body of evidence supports the importance of parental roles and  
41 support in youth sport, the influence of other family members living in close proximity to  
42 developing young athletes (e.g., siblings) and the dynamic system of the family unit as a whole  
43 have yet to be investigated beyond a preliminary level (Taylor, Carson, & Collins, 2017). A  
44 comprehensive understanding of the family system over time – encompassing both the individual  
45 parts (e.g., parents and siblings) and the overall dynamic of all contributing members – is an  
46 important next step for research focused on family influences in youth sport.

## 47 **Parental Roles and Support**

48           For several decades, researchers have documented the salient role that parents play in the  
49 early, middle and later years of a child's development. In the early stages of development (e.g.,  
50 ages 6-12), Bloom (1985) and Côté (1999) agree that it is crucial for parents to enroll their  
51 children in a variety of different activities to provide them with the freedom to eventually choose  
52 the sport or activity they are passionate about pursuing. These early years of sport engagement  
53 serve as a way for parents to interact and engage with their children prior to the middle years  
54 (e.g., ages 13-15; Dorsch, Smith, & McDonough, 2015), in which parents play a key role in  
55 supporting their child's sport participation and continued development. For parents, this involves  
56 a substantial investment of resources, money, and time (Côté, 1999). In the later years (e.g., ages  
57 15 and over), parents continue to influence their child's development; however, their role shifts  
58 from providing primary (and often necessary) support to that of "fitness consultants" or "career  
59 advisors" (Côté, 1999).

60           While the role that parents play in their child's sport involvement may change over time,  
61 so too might the types of support offered by parents over the course of their child's athletic  
62 development. Côté and Hay (2002) describe four forms of parental support: emotional support,  
63 informational support, tangible support and companionship. Throughout development, athletes  
64 turn to their parents for emotional support (e.g., encouragement, reassurance) in times of sadness,  
65 frustration, and stress. This form of support reflects an autonomy-supportive parenting style, in  
66 which athletes feel as though parents pay attention to them when they express themselves  
67 (Keegan, Spray, Harwood, & Lavallee, 2010). Alternatively, informational support from parents  
68 takes the form of instruction, feedback, and advice related to sport-specific skills or more general  
69 decisions regarding sport specialization and investment. According to Knight, Dorsch, Osai,

70 Haderlie, and Sellars (2016), parents who have a sport background similar to their children will  
71 be more likely to provide effective informational support. In contrast, tangible support relates to  
72 the time and money parents give up in order for their child to participate in sport. Although  
73 tangible support may impose stress on parents, it is essential for enabling progress in competitive  
74 sport (Harwood & Knight, 2009). Finally, companionship allows parents to form social bonds  
75 with their children. For example, both the parent and child engage in sport-related activities  
76 together (e.g., attending sporting events, watching sport shows on TV). Overall, Harwood and  
77 Knight (2015) stress the importance of providing support that reflects the child's experiences and  
78 desires in the preferred sport.

79 Parental roles and support in the youth sport context have been investigated extensively  
80 over the years. To date, researchers have garnered a well-informed understanding of how  
81 parents' roles in youth-athlete development change over time, as well as the types of support that  
82 parents provide more generally across youth-athlete development. However, parents are not the  
83 only family members with the potential to significantly impact the development of youth in  
84 sport. Many developing young athletes grow up in close physical and age-related proximity to  
85 their siblings, who often participate in the same or similar activities (Davison, 2004; Blazo,  
86 Czech, Carson, & Dees, 2014). Thus, siblings may also influence athlete development.

### 87 **Sibling Influences**

88 Unlike the literature focused on parental roles and support, research examining sibling  
89 influences on athlete development is less robust. That being said, there is some evidence to  
90 suggest that siblings can have both positive and negative effects on one another in relation to  
91 their sport development (e.g., Blazo & Smith, 2015; Côté, 1999; Davis & Meyer, 2008; Davison,  
92 2004; Hopwood, Farrow, MacMahon, & Baker, 2015; Taylor, et al., 2017). Regarding the

93 positive effects, Blazo and Smith (2015) posit that siblings aid one another in their participation  
94 and continuation in sport, which may be a predictor of future sport success. Generally speaking,  
95 girls and boys who are physically active experience more support from siblings in the context of  
96 the physical activities in which they participate when compared to youth who are less active  
97 (Davison, 2004). The mechanism behind this relationship may be partially explained by the work  
98 of Davis and Meyer (2008), who demonstrated that same-sex siblings are an important source of  
99 emotional support (e.g., showing pride in one another) and informational support (e.g., offering  
100 tips and advice) for one another in high performance sport. A study by Hopwood et al. (2015)  
101 provides nuance specific to the birth order of each sibling, suggesting that older siblings have the  
102 potential to positively influence younger siblings in their sport trajectory. For example, Taylor  
103 and colleagues (2017) discuss the influences an older sibling may impart on a younger sibling  
104 through observational learning and skill development.

105 On the other hand, competition among siblings may have negative effects on athlete  
106 development. For example, Davis and Meyer (2008) demonstrated that youth with siblings were  
107 motivated to maintain athletic status and perform better than their sibling in order to impress  
108 others who observe their performance. As such, siblings may extrinsically motivate one another  
109 in order to perform. While any form of motivation may have positive effects on the skill  
110 development and success of an athlete, extrinsic motivation may be associated with negative  
111 consequences related to the psychological health of an individual. For example, siblings and  
112 peers may extrinsically motivate one another when they feel the need to perform well in order to  
113 maintain the friendship, which may be detrimental to the overall quality of the relationship (e.g.,  
114 Keegan et al., 2010). Furthermore, jealousy may arise when younger siblings feel as though their  
115 older sibling receives more attention in his or her sport (Blazo et al., 2014). By drawing on

116 preliminary evidence describing sibling roles and support, we can infer that siblings are likely to  
117 have an important influence on youth-athlete development in sport – for better or for worse.

### 118 **Family Dynamics and Structure**

119 In describing the Family Systems Theory (FST), Taylor and Collins (2015) depict the  
120 importance of subsystems within a family that differentiate one family from another. FST  
121 suggests that all members in a family interact together to influence the behaviour of each  
122 individual member, and each individual member plays a role in the family relationship as a unit  
123 (Fingerman & Bermann, 2000). As such, family dynamics encompass the individual  
124 relationships that exist between family members, as well as the broader unit to which those  
125 relationships contribute. The individual relationships that an athlete forms with each parent and  
126 sibling are clearly important for the overarching family relationship. However, the influence of  
127 these relationships on family functioning and the broader dynamics that exist among family  
128 members have yet to receive any significant attention in the sport literature. What we do know is  
129 that the varied relationships within a family influence one another differently depending on  
130 family structure (Furman & Burhmester, 1985) and that overall family support is important for  
131 sustaining physical activity behaviours (Davison, 2004). We also know that positive family  
132 relationships play an important role in athlete development as a whole (Donohue, Miller,  
133 Crammer, & Cross, 2007). Thus, the family unit may be just as important as the individual  
134 relationships between an athlete and his or her family members in terms of fostering optimal  
135 development in and through sport.

### 136 **Rationale and Purpose**

137 While an extensive body of literature has examined parental roles and support in athlete  
138 development, research focused on sibling relationships and family dynamics remains limited.

139 Thus, the purpose of this study was to explore how family dynamics (i.e., patterns of relating or  
140 interacting among family members comprising a unique family unit) – encompassing an athlete’s  
141 individual relationships with parents and siblings – influence the development of Canadian  
142 interuniversity (i.e., varsity) student-athletes. Our decision to focus on university-level student-  
143 athletes stemmed from the fact that these individuals have attained a relatively high degree of  
144 success both academically and athletically extending beyond the high school years and into  
145 young adulthood. As such, these athletes have achieved a balance of long-term outcomes  
146 associated with optimal development in sport: long-term participation, high-level performance,  
147 and personal development (Côté, et al., 2014). In doing so, this study will examine the role of  
148 FST (Taylor & Collins, 2015) in the broader context of the PAF (Côté, et al., 2014) through the  
149 experiences of university-level varsity athletes in Canada.

## 150 **Methods**

### 151 **Methodology**

152 The guiding theoretical orientation for this study was symbolic interactionism. According  
153 to Benzie and Allen (2001), symbolic interactionism is built upon three basic assumptions: (a)  
154 People attach meanings to objects and individuals in their lives, (b) meanings are developed  
155 through the process of interaction between people (via symbols or language), and (c) the  
156 interactive process through which meanings are assigned and modified is constantly changing.  
157 From the perspective of symbolic interactionists, the individual and the context in which the  
158 individual exists cannot be separated; therefore, reality is tentative and relational (i.e., meanings  
159 are context-dependent). Knowledge of reality is achieved through attempts to interpret and  
160 understand the meaning that has been attributed to a particular person, object or situation from  
161 the perspective of the subject and his or her surrounding context. As such, we aimed to examine

162 the meaning of familial relationships in the context of athletic development from the perspective  
163 of current varsity athletes.

164         Using a retrospective timeline interview procedure, the interviewer and participant  
165 worked closely together to construct a visual timeline of the participant's lifespan sport  
166 experiences (e.g., Adriansen, 2012). This timeline served to facilitate discussion surrounding the  
167 role of the participants' family members within and throughout their development into varsity  
168 athletes. Guided by symbolic interactionism, we assumed that athletes would construct their  
169 sport timelines in relation to their own meanings and experiences, which would be generated in  
170 relation to their interactions with parents and siblings throughout their development.

### 171 **Participants**

172         Recruitment for this study focused on individual and team sport athletes at the  
173 interuniversity (i.e., varsity) level in Canada. To be considered for inclusion, athletes were  
174 required to have at least one sibling that was born within four years of themselves (i.e., no more  
175 than a four-year age gap). A four-year age gap was selected in line with previous research  
176 suggesting that this would be an appropriate age gap for the comparison of siblings (Blazo &  
177 Smith, 2015). This decision was informed by the theory of social comparison processes  
178 (Festinger, 1954), which suggests that it may be difficult to compare people who are too  
179 dissimilar from one another. Siblings who are born within four years of one another were  
180 considered more likely to have developed within a similar physical and social environment, thus  
181 enabling a prospectively more fruitful exploration of sibling relationships and family dynamics  
182 within a comparable developmental context. In total, four male and six female varsity athletes  
183 were interviewed (for demographic details, see Table 1). All participants attended an established  
184 and reputable post-secondary institution in Canada. Although we did not collect data related to

185 socioeconomic status, participants described their development in a manner consistent with a  
 186 middle- to upper-class upbringing.

187 Table 1

188 Participant demographic information

Pseudonym	Age (Years)	Sport	Number of Siblings	Number of Siblings within 4-year age gap
Jennifer	21	Cross-Country	2	2
Elizabeth	25	Lacrosse	5	At least 1
Maria	21	Rowing	2	2
John	21	Football	1	1
Eric	18	Cross-Country	2	1
Samantha	20	Lacrosse and Squash	5	At least 1
Todd	18	Rowing	3	2
Molly	21	Basketball	1	1
Heather	21	Soccer	1	1
Chris	22	Ultimate Frisbee	2	2

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## 190 **Procedures**

191 Athletes were recruited through e-mails that were sent to the head coaches of varsity  
 192 teams, and they forwarded information about the study to their athletes. Interested athletes took  
 193 part in an interview procedure, which was based on a retrospective timeline approach outlined by  
 194 Adriansen (2012). To begin the interview, participants worked collaboratively with the  
 195 interviewer to co-create a visual timeline of the athlete's sport involvement. Using a large sheet  
 196 of paper and writing utensils (e.g., pens and markers), the participant guided the researcher in  
 197 recording the sport activities, important moments, and major life experiences or milestones  
 198 experienced by the participant in relation to his or her athletic development and family life.  
 199 Subsequently, a semi-structured interview guide was used to elicit key information associated  
 200 with the participant's development into a varsity athlete. Based on the PAF (Côté et al., 2014),

201 the interview guide was divided into three sets of questions aligning with the three dynamic  
202 elements considered to influence the quality of youths' development in sport: activities (e.g., "In  
203 addition to the structured activities we are placing on the timeline, in what ways were you  
204 involved in less formal sport and physical activity – led by yourself, your peers, or your  
205 siblings?"), relationships (e.g., "How has your relationship with [family member] influenced  
206 your sport involvement?"), and settings (e.g., "How do you think your environment – at home or  
207 in sport – has affected your development in sport over time?"). Questions concerning the  
208 participant's relationships formed the bulk of the interview guide, as we aimed to explore the  
209 role of parents and siblings within each athlete's personal sport history. The timeline was used as  
210 a tool to facilitate recall and stimulate discussion during the interview (Adriansen, 2012).

## 211 **Analysis**

212 Interviews were transcribed verbatim and thematically analyzed (see Braun, Clarke, &  
213 Weate, 2016) using NVivo software. A thematic analysis enabled an exploration of patterns  
214 within and between the participants' interviews – allowing an in-depth examination of the  
215 meanings and interactions that participants described regarding the influence of family  
216 throughout their development as athletes (cf. Benzies & Allen, 2001). As outlined by Braun and  
217 colleagues (2016), the following six phases guided the analysis: (a) familiarization – reading and  
218 re-reading the transcripts to develop an intimate familiarity with the data, (b) generating initial  
219 codes – line by line coding of the transcripts, (c) developing themes – sorting initial codes into  
220 overarching themes, (d) refining themes – examining whether or not candidate themes are  
221 representative of the coded extracts and the dataset as a whole, (e) naming themes – labeling  
222 each them with an appropriate representation, and (f) writing the report.

223 Throughout the analysis, abductive reasoning was used to create meaningful and

224 practically relevant findings (e.g., Coppola, Hancock, Allan, Vierimaa, & Côté, 2018; Taylor,  
225 Ntoumanis, & Smith, 2009). Correspondingly, the findings were generated through an iterative  
226 process of inductive and deductive analytical approaches. In Phases 1 and 2, the first author  
227 approached the analysis inductively. To assist with familiarization, she took notes on the  
228 transcripts and kept a reflexive journal. Initial codes were reviewed by the second author, who  
229 acted as a critical friend (i.e., a “theoretical sounding board,” challenging biases or assumptions;  
230 Sparkes & Smith, 2014) throughout the analytical process. After the initial codes were generated,  
231 they were grouped into constituent themes in Phase 3. At this time, the first author employed a  
232 deductive lens to map the codes onto the elements of existing frameworks (e.g., the PAF; Côté et  
233 al., 2014). From this point forward, the first and second authors moved back and forth between  
234 inductive and deductive analytical approaches (i.e., abductive reasoning) as the themes were  
235 refined and labelled. For example, a framework emerged that aligns with the elements of the  
236 PAF, but provides information specific to family dynamics and relationships in a developmental  
237 sport context. The final phase (writing the report) is presented in the results section that follows.

### 238 **Methodological Rigour**

239 Consistent with ontological relativism and epistemological subjectivism, a flexible list of  
240 criteria was developed to evaluate this research (Sparkes & Smith, 2014). The criteria on this list  
241 can be viewed as characterizing and contextually-dependent traits, which have been carefully  
242 chosen to reflect our theoretical orientation as well as the purpose and context of this particular  
243 study (see Smith, 1993; Smith & Hodkinson, 2005; Sparkes & Smith, 2014). These criteria are  
244 not intended to be absolute or universal in nature. Drawing on Tracy (2010), our list includes: (a)  
245 rich rigour, (b) credibility, (c) significant contribution, and (d) meaningful coherence.

246 Rich rigour encompassed the use of carefully considered procedures, as well as an

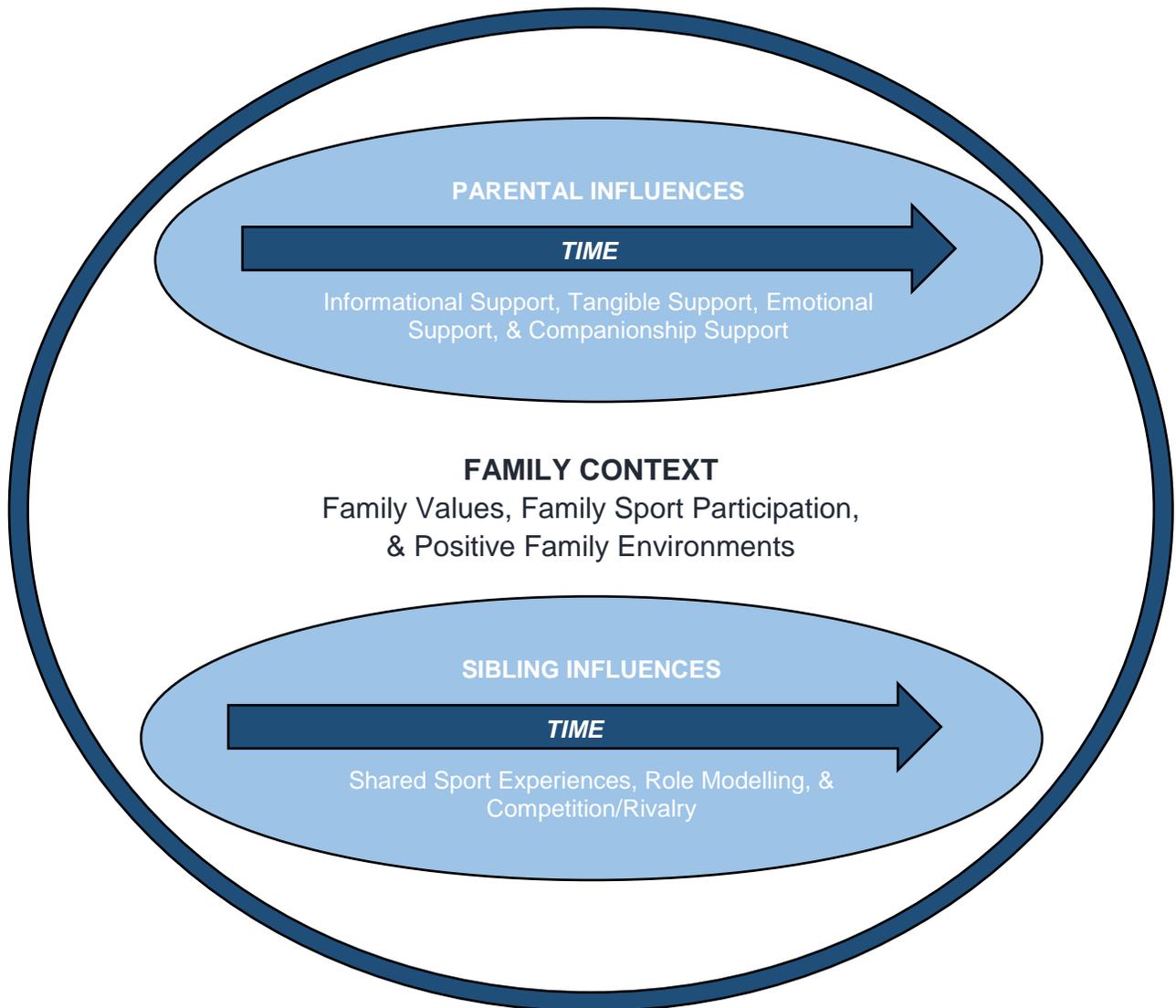
247 appropriate sample, sufficient data, and immersive analysis. Participants were selected to meet  
248 the inclusion criteria and interviewed in a safe environment with no time limit or restrictions,  
249 allowing the researcher to access and interpret complex chronological descriptions of the familial  
250 influences surrounding the development of varsity athletes. To encourage rich rigour, the lead  
251 researcher kept a reflexive journal and consulted with critical friends (second and third authors)  
252 throughout the research process. Credibility was achieved through rich description and member  
253 reflections. The participants' voices were highlighted throughout the results, and each participant  
254 was provided with an opportunity to reflect on both the timeline and the transcript from their  
255 interview. In terms of significant contribution, this research has important theoretical and  
256 practical implications. These findings support and expand a small body of pre-existing literature  
257 that examines sibling influences within athlete development, while also providing relevant  
258 practical recommendations for parents and coaches to support the optimal development of  
259 siblings in sport. Finally, our report demonstrates meaningful coherence by grounding our  
260 research questions and methods in the literature, and interpreting our findings accordingly. More  
261 specifically, we explored and reported on the results of our research question using well-suited  
262 methods (e.g., timeline interview), and informed our interpretation by existing frameworks of  
263 athlete development and social influences in sport (e.g., personal assets framework,  
264 developmental model of sport participation).

### 265 **Results**

266 As expected, our analysis revealed that interactions among family members – namely,  
267 parents and siblings – played an important role in shaping varsity athletes' developmental  
268 pathway in sport. Considering these findings, we established a framework to further explain how  
269 these familial influences worked to produce the successful development of a varsity athlete (see

270 Figure 1). The outer layer of this framework consists of an exterior ‘bubble’ intended to  
271 represent the stable interactions and positive relationships of the family unit as a whole (i.e.,  
272 athlete, siblings, and parents) with respect to physical activity and sport participation, including  
273 the surrounding environment. In the context of this stable family ‘bubble,’ two distinct and  
274 dynamic influences emerged. First, *parental influences* encompassed the changing types and  
275 levels of support (i.e., tangible, informational, and companionship) afforded to the athletes  
276 throughout their development. Second, *sibling influences* stemmed from a variety of common  
277 sources expressed by the participants, including shared sport experiences, competition among  
278 siblings, and role modelling. While the overall family context remained stable over time (i.e.  
279 family environments and values), parent, and sibling influences changed in strength and content  
280 over the course of development.

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*Figure 1.* Individual parental and sibling influences are dynamic and change over time as the athlete progresses through increasing levels of competition. These dynamic influences operate within the broader context of the family, which remains stable over time.

**295 Family Context**

296           At the broadest level, positive family dynamics and shared values were crucial for the  
297 successful development of varsity-level athletes. A stable family context facilitated the more  
298 dynamic parental and sibling influences over time. Three sub-themes supported the overarching  
299 family context theme: First, strong family values and bonds were important for catalyzing  
300 healthy development, in and out of the sport context. Second, participation in physical activity  
301 and sport together as a family facilitated interest and engagement in sport. Third and finally,  
302 positive family environments – whether permanent or alternative family environments (e.g., a  
303 cottage) – with access to leisurely activities, facilitated opportunities for deepening interest in  
304 sport and ‘quality’ family time.

305           **Family values.** Many of the participants recognized strong family values and healthy  
306 relationships among family members that, although existing separately from their sport  
307 involvement, played an important role in supporting their development. These participants  
308 explained how their families valued spending time together, even when more advanced training  
309 and competition schedules meant working harder to make time for those shared experiences.  
310 Resilient family values and bonds were exemplified by Elizabeth, who stated:

311           We always had family dinners together every single night... a lot of the times as you get  
312 older you start missing more and more because practices tend to fall during meals... but  
313 [mom and dad] would try and time it around the most amount of people who could  
314 possibly be there.

315           Not all participants had positive relationships with their family at all times throughout  
316 development, but these participants still described positive family dynamics on the whole. For  
317 instance, Molly described a turbulent relationship with her mother when she was growing up and

318 how her family dynamics were not ideal, but conceded that spending time together was still a  
319 core family value:

320 I just know for sure we had family dinner regardless of if someone had practice. Right  
321 after school or later we made sure we had time for everyone to sit down and have an hour  
322 out of our day where we'd be sitting together talking and stuff like that.

323 Molly recognizes her higher appreciation for family now than she did before as her family as not  
324 all living together anymore. When she reunites with her family now, they are all happy to be  
325 together.

326 Alternatively, family values were not necessarily constricted to the biological or "home"  
327 family of an athlete. John's parents divorced when he was young; consequently, he spent a lot of  
328 time with the family of close childhood friend. This family became his "adoptive" sport family,  
329 supporting his sport participation in the early years of his involvement. He described this family  
330 as being one of the most influential factors in shaping his sport career, allowing him to "build the  
331 love for sports." This family helped out by driving him to and from practice, and generally  
332 "hanging out playing sports for about seven years of [his] life." Overall, group or family values  
333 that favoured togetherness and active lifestyles served to foster a stable context for supporting  
334 development in and through sport.

335 **Family sport participation.** In some cases, participating in one or multiple sports,  
336 together as a family, was important for promoting athletic growth and motivation to continue  
337 participation in sport activities. For example, as a varsity cross-country and track athlete, Chris  
338 described the role his family played in starting his running career: "It was my family doing it; it's  
339 a group of runners called [club name] and they're a group of runners all over the world, and we  
340 joined the one where we lived... we'd do this once a week." Chris went on to describe how his

341 family's participation in a running group influenced his decision to specialize in the sport and  
342 pursue higher levels of competition as a distance runner. Furthermore, when families participated  
343 in sport together, they were able to nurture positive interactions within their family as a whole.  
344 To demonstrate, Elizabeth described some of her fondest memories as "playing the Christmas  
345 squash tournament with my family or one of our skiing chairlift rides." Elizabeth maintained  
346 positive associations with the sporting environment, which may have contributed toward her  
347 motivation and success in the sport environment. Interactions among family members in sport  
348 allowed for compatibility and shared values, reinforcing a positive family environment.

349 **Positive home or alternative family environments.** The broader environment in which  
350 some of the participants' families were situated also played an important role in stimulating sport  
351 engagement – individually, and thus contributing to positive family dynamics. Participants'  
352 families tended to live in environments that promoted physical activity, such as neighbourhoods  
353 with easy access to sport opportunities. As an example, Samantha attributed her early sport  
354 involvement (e.g., ages 6-12) to time spent with family in their backyard:

355 I think a lot of it was my dad used to play with us in the backyard... We had a big  
356 backyard and there were always sisters who I had to play with so we'd spend a ton of  
357 time in the backyard and neighbors would always come to our house.

358 This environment promoted participation in sport from a very young age. As emphasized by a  
359 few athletes, alternative family environments (e.g., family-owned or rented cottage or chalets;  
360 vacation destinations) were also important for providing children with opportunities to spend  
361 quality time together with their families. For example, when Maria – a rower – was asked about  
362 having the opportunity to engage in leisurely activities, she responded that her family's cottage  
363 enabled her with these opportunities. These alternative family environments allowed for

364 participants to engage in various recreational physical activities and offered the additional  
365 opportunity to promote positive interactions among individuals in the family. Whereas not all  
366 participants' families had second homes such as cottages, regular vacations at venues such as ski  
367 hills, or camping adventures offered similar opportunities for families to spend time together in  
368 physical activity-promoting contexts. Overall, opportunities for families to participate together in  
369 a shared environment – whether at or away from home – formed the foundation for successful  
370 sport participation among these young athletes.

### 371 **Dynamic Supporters: Parental Influences on Athlete Development**

372 While the overarching family context remained stable over time, the type and amount of  
373 support provided by parents was active and changed over the course of development. Three types  
374 of support were identified, consistent with previous research (Côté & Hay, 2002): Informational,  
375 tangible, and companionship. While companionship support remained stable throughout some of  
376 the participants' personal sport timelines, other forms of support (i.e., informational, tangible)  
377 became more prominent in specific phases of development.

378 **Informational support.** Many participants described receiving informational support  
379 from their parents at a young age (i.e., ages 6-12), and this type of support peaked as they began  
380 to specialize in more competitive sports (i.e., ages 12-16). The participants described  
381 informational support as guidance when children were struggling (e.g., to make a decision)  
382 regarding their trajectory in sport. Parents tended to offer this type of support by taking on roles  
383 such as volunteer coaches in the early years of their child's sport involvement. Although parents  
384 did not always fill formal coaching roles as participants grew older, informal support assisted the  
385 athletes as they progressed to higher levels of competition. For example, Heather – a competitive  
386 soccer player – stated, “if I was a boxer my dad would be my coach in the ring,” thus

387 emphasizing the crucial role her father had played in her sport involvement. Contrarily, Heather  
388 did mention that her father once prevented her from continuing in specific sport at a young age  
389 because he did not find it appropriate, and that he believed she would thank him for this decision  
390 in the future. Informational support tended to peak as athletes transitioned into more competitive  
391 sport involvement, but declined when the athlete began a varsity sport career. In the words of  
392 Molly: “My mom’s role definitely changed after she coached me in competitive soccer... and  
393 then she was more of a spectator at my sports and stuff like that, which is where both my parents  
394 kind of fall now.” Varsity coaches were able to provide participants with informational support  
395 at this stage.

396       **Tangible support.** As soon as athletes began to participate in organized sport (i.e., ages  
397 6-12), many parents began to provide tangible support. In general, tangible support can be  
398 described as the extent to which parents provide physical or material support for their child’s  
399 sport participation (Côté & Hay, 2002). Chris noted that his parents played an important role in  
400 his sport participation “early on” because “they’re your transport and looking after you and stuff  
401 like that.” Similar to informational support, tangible support became more prominent when  
402 parents realized that their children were serious about pursuing sports. At this stage, parents  
403 dedicated a significant amount of time and financial resources to their child’s sport participation,  
404 while also assisting their child with research into sport-related opportunities for advancement.  
405 For example, Chris stated how his parents’ role changed after they noticed he wanted to take  
406 sports to the next level: “In 2010, we considered sending me back to [home country] to attend  
407 soccer schools in [home country] full time.” This was because Chris’s home country provided  
408 him with better sporting opportunities that would enable his trajectory. While financial support  
409 remained consistent or increased over time, tangible support in the form of transportation became

410 less frequent as athletes gained independence and moved away from home.

411           **Companionship.** In many cases, companionship support tended to remain stable over  
412 time. Companionship support allows parents and children to develop a positive relationship  
413 through athletes' sport participation. As exemplified in the overarching family context theme,  
414 parents were able to create social connections with their children through sport at all stages of  
415 development. John – a football player – who viewed a lack of this support in his own  
416 development as an athlete, expressed the importance of companionship:

417           I wish my dad was there more. It definitely would have been a motivator and he was a  
418           really good athlete. So I know there was lots of other kids to have their dad to help them  
419           out with their skills but I never really had that so I wish he was there for that aspect.

420 John was an outlier in our sample considering the lack of tangible, informational and  
421 companionship support he experienced during his own development as an athlete; nonetheless,  
422 his responses reinforced the importance of parental support.

### 423 **Role Models and Rivals: Sibling Influences on Athlete Development**

424           Sibling influences on athletic development were also identified as dynamic and changing  
425 over time. Sibling roles tended to be most prominent in the early years of sport participation, but  
426 were often impactful in terms of stimulating participants' motivation and interest in competitive  
427 sport involvement. Three sub-themes helped capture the complexity of the sibling role in  
428 participants' sport development: (a) shared sport experiences, (b) role modelling, and (c)  
429 competition and rivalry.

430           **Shared sport experiences.** Many Participants who were close in age with their siblings  
431 were presented with numerous opportunities for shared sport experiences. In the early years of  
432 sport participation (i.e., ages 6-12), siblings were able to engage in both structured (e.g.,

433 organized sports) and unstructured (e.g., outdoor play, pick-up games) sport activities together.  
434 As an example of these informal activities, Heather stated: “Me and my brother played every  
435 single day after school all the time in our backyard. We would play baseball until there was no  
436 light.” These shared experiences provided opportunities for physical skill development outside of  
437 structured practice time, while also maintaining a high level of enjoyment.

438         Moving into higher levels of competition (e.g., ages 13+), some siblings who specialized  
439 in the same sport and continued to share sport experiences often described a competitive  
440 advantage over their other teammates. Siblings who were involved in the same sport at a  
441 competitive level described relationships founded on empathy and understanding, as well as  
442 opportunities for practice and improvement. As such, athletes were able to access both  
443 informational and emotional support from their teammate-siblings. Samantha explains, “Because  
444 I had older sisters that were more serious in it, I got to practice shooting too which was lucky for  
445 me because I got to be become better.” Even athletes who had parted ways at the varsity level to  
446 compete for different teams described a sense of emotional support and accountability. For  
447 example, Molly described the benefits of visiting home at the same time as her sister: “It’s nice  
448 when we both go home. We can both go out to the gym together and stuff like that and we keep  
449 each other on schedule training-wise.”

450         **Role modelling.** Among some of the participants in our study, younger siblings were  
451 inevitably exposed to older sibling’s sport experiences, and benefitted regardless of whether or  
452 not they were the same or opposite sex. For example, when referring to his younger sister, Eric  
453 said, “She did the same sports as I did pretty much, when I got enrolled, she got enrolled too.”  
454 This phenomenon was primarily observed in the early years of sport participation (i.e., ages 6-  
455 12), unless participants continued onto competitive involvement and specialization (i.e., ages 13-

456 15) in the same sport – in which case, older siblings remained important role models for their  
457 younger counterparts. Not only did younger siblings often enroll in the same sports as their older  
458 brothers or sisters, but they also often viewed their older siblings sport accomplishments as  
459 inspirational. Many younger siblings aspired to achieve what their older sibling had done, which  
460 motivated continued participation and an ambition for high performance. To demonstrate,  
461 Samantha – a lacrosse player – referred to her older sister as “the best athlete in the house” and  
462 stated, “I just felt like I was way younger than her... I feel like I always looked up to her.” On  
463 the other hand, participants who did not pursue athletic careers within the same sport as their  
464 siblings often did not view their siblings with the same reverence. For instance, Jennifer  
465 explains, “I really kind of took my own route with running so then it became less comparable,  
466 but yeah I looked up to [my brothers] more so in the elementary school years because in high  
467 school we really started differentiating ourselves.”

468         While some younger siblings perceived their older siblings as highly influential in  
469 shaping their decisions and motivation within competitive sport, the opposite was not the case. In  
470 comparison, some older siblings did not recognize their younger siblings as particularly  
471 influential for motivating or directing their sport participation. With respect to her younger sister,  
472 Molly explained:

473             I don’t think she ever really had an influence on whether or not I would play sports just  
474             ‘cause I was older and went through it first. I’m sure it’s different for her ‘cause [she was]  
475             watching me grow up and play so many sports.

476 Some older siblings described a stronger parental influence, whereas some younger siblings were  
477 able to admire and model themselves after the athletic endeavours of their brothers and sisters.

478         **Competition and rivalry.** In the sport context, competition between siblings can have

479 positive and negative effects on sport trajectory. Through a positive lens, competition often  
480 drove motivation to excel in athletic development – particularly when younger siblings were  
481 determined to achieve or exceed the skillset of an older sibling. A few younger siblings described  
482 feeling overshadowed by older siblings and wanted to prove themselves as equals. In the words  
483 of Heather when she was a child:

484           Having an older brother, not that he was excelling in sports, it's just that he was older  
485           than me so everything he did he has two years of age and he was a boy so he had a  
486           natural ability to do things better than me which I didn't like.

487 These feelings often motivated young athletes to practice sport skills in order to compensate for  
488 what they lacked in physical growth and maturity. Siblings who specialized in the same sport and  
489 continued to compete with or against one another into adolescence and early adulthood also  
490 described how inter-sibling rivalry motivated improvement. For example, Elizabeth – a lacrosse  
491 player – discussed how her relationship with her sister influenced her work ethic when they  
492 played together on the same varsity team, stating: “It wasn't because we wanted to work harder,  
493 it was because we wanted to beat each other.” Contrary to a positive perspective on sibling  
494 competition, siblings who specialized in the same sport described how the constant competition  
495 could be discouraging and hinder motivation. With respect to competing against her younger  
496 sister, Elizabeth explained: “If anything, it discourages me and I think it's because she can  
497 probably beat me and I'm not ready to give up that title.”

498           Alternatively, sibling competition remained present even when one sibling pursued a  
499 competitive sport career and the other did not. The mere presence of a sibling appeared to instill  
500 a competitive instinct that could then be transferred to the sport environment. For example, when  
501 referring to his brothers, Chris – an ultimate Frisbee player – stated:



525           This study aimed to extend the body of literature examining parental influences in  
526 athletic development, and to investigate specifically how other familial relationships, such as  
527 sibling influences, and the broader family dynamic contribute to the development of Canadian  
528 interuniversity student-athletes. Furthermore, we have provided a body of evidence that  
529 illuminates the role FST (Taylor & Collins, 2015) in the broader context of youth development,  
530 as described within the PAF (Côté et al., 2014). Our analysis revealed three main themes: (a) the  
531 stable family context, (b) varied types and amount of parental support, and (c) positive and  
532 negative sibling influences. These findings offer insight into the dynamic nature of parent and  
533 sibling relationships with athletes in youth sport, as well as how these relationships operate in the  
534 broader family environment to optimize (and, at times, hinder) athletic development.

535           The PAF describes three dynamic elements that contribute to optimal long-term  
536 development in youth athletes: personal engagement in activities, appropriate settings, and  
537 quality relationships (Côté et al., 2014). While the “relationships” component was used to  
538 contextualize the findings of our study, all three dynamic elements were captured within the  
539 stable family context theme. First, the importance of personal engagement in activities was  
540 exemplified through family unit participation in sport. Provided that both peer- and adult-led  
541 activities are important to optimize the development of youth-athletes (Côté et al., 2014), the  
542 interaction among all members of a family in sport activities may provide opportunities for  
543 varied forms of play and practice as led by parents, siblings, and athletes themselves. Consistent  
544 with FST, our findings support the importance of the broader family relationships developed  
545 through the interactions of various dyads within a family (Fingerman & Bermann, 2000).  
546 Moreover, positive family environments may promote sport engagement through easy access to  
547 leisurely sporting activities (e.g., kayaking at family cottage, skiing while at family cabin). A

548 positive family environment with access to opportunities to participate in physical activities  
549 together may have been important for facilitating quality relationships among family members,  
550 given that multiple family structures within close proximity positively interact to influence sport  
551 trajectory in children (Wheeler, 2011). Provided that family support is important for sustaining  
552 physical activity behaviours (Davison, 2004), positive family dynamics created through family  
553 participation in activities, a family environment in which physical activity is valued, and quality  
554 relationships among family members may have played an important role in facilitating the  
555 developmental pathways of these athletes. That being said, the alternative family environments  
556 (e.g., cottages, ski trips) discussed by participants in this study suggest that these athletes may  
557 have been brought up in families of middle to high socioeconomic status. As such, access to  
558 these extensive resources may have played an important role in facilitating athletes' sport  
559 development, thus aligning with previous research showing that lower socioeconomic status is  
560 associated with lower rates of sport participation (Kamphuis, 2008).

561         Our findings were consistent with the vast body of literature suggesting that parents are  
562 influential in an individual's athletic development (Bloom 1985; Côté & Hay, 2002; Harwood &  
563 Knight, 2009; Côté & Fraser Thomas, 2015; Scanlan & Lewthwaite, 1986). Researchers have  
564 documented the salience of informational support in the early years of an athlete's sport  
565 trajectory (e.g., Holt, Tamminen, Black, Sehn, & Wall, 2008), and participants in our study  
566 discussed increases in tangible and informational support from parents during adolescence.  
567 However, declines in both types of support were noted during participants' varsity careers –  
568 likely because the athletes had moved away from home to attend university and compete as a  
569 varsity athlete in another city, province, or country. These findings are consistent with the work  
570 of Bloom (1985), which affirms that developing athletes are able to progress over time without

571 direct guidance from their parents. The findings suggest that informational support and tangible  
572 are considered important at all stages of participants' athletic development, while companionship  
573 persisted throughout athletic development, further reinforcing the importance of positive parent-  
574 athlete relationship to facilitate progress (e.g., Dorsch, Smith, & Dotterer, 2016). Alternatively,  
575 our findings did not adequately reflect emotional support, which has been described as parents  
576 offering encouragement and reassurance in times of frustration or stress (Côté & Hay, 2002).  
577 Although athletes expressed various forms of support from parents through out their athletic  
578 trajectories, their descriptions did not appropriately reflect this specific form of support.

579         While our findings offer important insight and nuance with respect to parental roles and  
580 support in the development of varsity student-athletes, perhaps the most novel contribution of the  
581 study is an understanding of dynamic sibling influences in athletic development. For example,  
582 participants often described their siblings as most influential between the ages of six and 16, and  
583 less influential during the most competitive years in older adolescence and young adulthood –  
584 unless siblings were engaged in the same sport during this time. Siblings may be able to relate to  
585 one another more closely if they are engaged in the same sport (e.g., practicing together), thus  
586 encouraging positive communication and a more intimate relationship (Trussell, 2014).

587         In addition to valued sibling relationships stemming from shared sport experiences,  
588 younger siblings who strive to be like their older sibling often have more intimate relationships  
589 compared to those who want to be different (Whiteman, McHale, & Croutner, 2007). Consistent  
590 with Davis and Meyer's (2008) research, we found that older siblings are able to provide  
591 informational support for their younger siblings, thus serving as role models. In contrast,  
592 participants with younger siblings (but not older siblings) did not express the same relationship  
593 with their siblings. This could be due to the fact that the older siblings are already receiving

594 informational support from parents, and have advanced beyond the level of knowledge obtained  
595 by a younger sibling.

596         Another important finding – entailing both positive and negative effects – was the role of  
597 sibling rivalry in motivating athletic success. While Davis and Meyer (2008) discussed sibling  
598 competition in the sport context, our findings suggest that this type of competition exists in non-  
599 sport contexts as well. For example, some participants were motivated to beat their siblings in  
600 other domains (e.g., academics), or attempted to differentiate themselves from their siblings by  
601 succeeding athletically even when their sibling was not an athlete. These findings are consistent  
602 with previous literature, which suggests that older siblings can have a positive effect on the work  
603 ethic of younger siblings and thus motivate them to work harder (Côté, 1999; Hopwood et al.,  
604 2015). In some cases, however, sibling rivalries may not have positive implications for mental  
605 health. For example, some participants felt discouraged when the competition was too intense,  
606 leading to sport drop-out. These findings are consistent with the work of Trussell (2014), which  
607 showed that when younger siblings were viewed as the more successful athlete, older siblings  
608 questioned their skill level and desire to continue with the sport. Finally, these findings reflect  
609 the work of Taylor, Carson and Collins (2017), which provides insight into jealousy among  
610 siblings within their sport achievements. They determined that if a younger sibling succeeds  
611 before an older sibling, the older sibling may compensate with false information (e.g., making  
612 excuses for his or her poor performance).

### 613 **Limitations and Future Directions**

614         Before concluding, we must acknowledge some limitations of our research. First, our  
615 findings were based on a homogeneous sample of participants who attended the same university,  
616 and the majority of the participants were raised in the same country. The participants in this

617 study were largely raised in middle-to-upper class families with extensive access to resources  
618 that supported their development in sport. Consequently, our findings may not be generalizable  
619 to athletes of more diverse backgrounds and socio-economic status. Another limitation was the  
620 size of the sample. Although we gained the in-depth perspectives of 10 participants included in  
621 this study, a larger number of participants may have revealed new themes or provided additional  
622 context for existing themes. By increasing the size of the sample, there would also be an  
623 opportunity to recruit participants from more diverse backgrounds and socio-economic status.

624         There is still a long way to go in terms of understanding family dynamics within the  
625 complex developmental processes that occur in sport. Continued research into parental  
626 influences in sport should move beyond the types of support offered by parents, to examine the  
627 relationship between contextual factors (e.g., socio-economic status, marital status of parents,  
628 family values) and parental support for youth sport participation. For example, a study  
629 comparing traditional nuclear families and blended families/households may provide unique  
630 insight into parental and sibling influences on athlete development. An explicit focus on the  
631 family context may be necessary to fully unpack the factors that influence parental and sibling  
632 influences in sport, as well as additional family relations that help or hinder athlete development.

633         Additionally, although we aimed to examine the relationship between participants and  
634 siblings within a four-year age range, participants with additional siblings who *did* exceed a four-  
635 year age gap also appeared to influence athletic development. Therefore, future research should  
636 consider similarities and differences between siblings of varying age ranges, as siblings may take  
637 on different roles depending on their age. Another important factor worth consideration is the  
638 number of siblings in a family. Research by Barnett (2008) demonstrated that there tends to be  
639 more sport involvement if there are more siblings in a family. As such, future research should

640 account for not only differences in age among siblings, but also the number of siblings. Finally,  
641 gender may also play an important role in defining the nature of sibling relationships, and thus  
642 warrants further attention in the literature.

### 643 **Conclusion**

644 The findings from our study reflect previous literature to suggest the importance of  
645 familial influences in athletic development over time. Taken together, the family context can be  
646 understood as the environment in which an athlete develops stable relationships with family  
647 members that influence his or her sport-related values and trajectory through sport. On the other  
648 hand, parent and sibling influences may have a more direct impact on athletic progression via the  
649 provision of guidance, support, motivation, and competition. This study not only validates the  
650 importance of parental figures in athlete development, but also builds upon the minimal research  
651 examining sibling influences in sport. Overall, this study provides insight into the family-related  
652 factors and dynamics that cumulatively contribute to a successful sport trajectory.

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