A SYSTEMATIC OBSERVATION OF COACH LEADERSHIP
BEHAVIOURS IN YOUTH SPORT

by

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A thesis submitted to the Department of Kinesiology and Health Studies

In conformity with the requirements for

the degree of Master of Science

Queen’s University

Kingston, Ontario, Canada

(January, 2017)

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Abstract

There is growing recognition for the Transformational Leadership (TFL) framework in youth sport. Indeed, theoretical and empirical evidence suggests that coach TFL plays a salient role in promoting developmental outcomes in youth athletes. Nevertheless, research examining the influence of coach leadership behaviours typically relies on self-report measures and inductive analytical techniques, thus providing a limited picture of TFL. It is therefore important to generate baseline descriptive data, revealing the extent to which leadership behaviours are currently being employed by youth sport coaches. Accordingly, the overarching purpose of this study was to provide quantitative descriptions relating to the nature and extent to which youth sport coaches display leadership behaviours across playing contexts (i.e., training and competition).

Participants were seven head coaches of youth soccer teams and 73 athletes (Mage = 14.26, SD = 1.27, 40 female). Systematic observation was employed to examine the frequency of coach leadership behaviours. Descriptive data regarding the coaches’ use of leadership revealed that coaches spend more time exhibiting neutral behaviours compared to active leadership (e.g., TFL). This was consistent across training (75.2% neutral) and competition (77.5% neutral). When coaches actively displayed leadership, they frequently displayed TFL behaviours, including individualized consideration (M = 9.29%), inspirational motivation (M = 6.68%), and less frequently, intellectual stimulation (M = 2.95%), and idealized influence (M = 1.5%). Additionally, coaches rarely displayed passive and ineffective leadership. Finally, the results indicate that coaches display similar levels of leadership in both training and completion. These findings provide insight into the leadership behaviours employed by coaches across playing contexts, which can inform future leadership workshops focused on promoting athlete development. These findings hold practical implications, and lend insight into the youth sport coaching and TFL literature.
Co-Authorship

This thesis presents the original work of Jordan Lefebvre, in collaboration with his thesis advisor Dr. Jean Côté, and collaborators Dr. Blair Evans and Jennifer Turnnidge. Dr. Jean Côté provided guidance throughout the entire process, including the design, data collection, analysis, and writing stages of the thesis. Dr. Blair Evans provided overall mentorship and guidance throughout the conceptualization and initial phases of the thesis. Jennifer Turnnidge provided feedback and support throughout the analysis, results, and discussion stages. Finally, as the author of this thesis, Jordan Lefebvre was primarily responsible for the initial conceptualization, the study design, data collection, coding, analysis, and the drafting and revising of the entire manuscript.
Acknowledgements

I would like to begin by extending my sincerest gratitude to the soccer club, coaches, and athletes, without whom this thesis would not have been possible. Additionally, I am extremely appreciative of the support, guidance, and patience, of my supervisor Dr. Jean Côté. You provide a high standard learning environment conducive to academic success for which I am eternally grateful. Your unparalleled expertise in the field of sport and exercise psychology has been an invaluable asset to the current thesis, and serves as a source of inspiration towards my academic pursuits.

Blair, witnessing your determination for achievement and exposure to your lessons in research, writing, and general conduct, has certainly left a mark on my identity as a researcher. Indeed, I am extremely fortunate to have had not just one great supervisor in Jean, but a second in you—despite the lack of an official title. The same holds true for you, Jen. One can describe the emergence of your leadership as “clutch” and invaluable. I could not have done this without either of you.

I have also learned a lot from both Luc and Ian, through the various opportunities presented to me, and hope to continue to work with the both of you in the near and distant future. To the rest of my lab mates: Veronica, Michelle, Herby, Liz, Chantal, Matt #1, and Matt #2, thank you for the unforgettable moments and support throughout. I am also grateful to have met wonderful people from all corners of the world, bringing their own expertise and desire to learn into our lab environment, which included but was not limited to: France, Turkey, Brazil, and Deutschland.

To the countless research assistants, the friends and family, and to the ones I hold dear to my heart, thank you for everything. Words simply cannot express my appreciation. Cheers.
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Chapter 1

Introduction

By participating in sport, youth athletes form relationships and take part in experiences that shape their personal development (Fraser-Thomas, Côté, & Deakin, 2005). Indeed, research has demonstrated a strong relationship between sport participation and a wide array of physical and psychosocial benefits. For instance, sport participation results in increased physical fitness, and provides an optimal context for adolescents to explore their emotions and develop their identities (Alfano, Kleges, Murray, Beech, & McDlananhan, 2002; Hansen, Larson, & Dworkin, 2003). Additionally, sport participation is associated with high levels of intrinsic motivation, effort, concentration, and overall health (Eime, Young, Harvey, Charity, & Payne, 2013; Larson, 1994; Lowe Vandell et al., 2005). These positive outcomes are, perhaps, aspects that contribute to sport being one of the most prevalent organized out-of-school activities engaged in by youth (Larson & Verma, 1999). Despite substantial evidence regarding the benefits of participating in sport, certain conditions can also lead to negative outcomes such as excessive alcohol consumption, delinquent behaviours, and aggression (Begg, Langley, Moffitt, & Marshall, 1996; Eccles & Gootman, 2002; O’Brien, Blackie, & Hunter, 2005). Hansen et al. (2003) suggest that inappropriate behaviours from adults, such as pressuring young athletes in relation to performance, often set the conditions for negative youth behaviours associated with sport.

The social agents that surround young athletes (e.g., coaches, parents, and peers) play a pivotal role in the sport experiences and outcomes of these athletes. In particular, athletes spend a considerable amount of time interacting with coaches, who are largely responsible for shaping the sport environment (Gilbert & Trudel, 2004a). As such, a large number of youth sport
development studies have focused on understanding high-quality coach-athlete interactions (e.g., Barnett, Smoll, & Smith, 1992) through the lens of leadership theories such as the cognitive mediational model, the integrative model of leadership, and the multidimensional model of coach leadership (Chelladurai, 1993; Duda & Balague, 1999; Smoll & Smith, 1989). In recent years, Transformational Leadership (TFL) has been a common framework utilized by researchers to investigate how coaches’ leadership behaviours are associated with favourable outcomes in youth sport (e.g., Price & Weiss, 2013; Tucker, Turner, Barling, & McEvoy, 2010; Vella, Oades, & Crowe, 2013a).

TFL occurs when a coach demonstrates interest in their athletes, acts morally, motivates their athletes beyond self-interested goals, and engages athletes individually (Avolio & Bass, 2002; Hopton, Phelan, & Barling, 2007). Research indicates that when athletes report their coaches as exhibiting TFL behaviours, they experience greater levels of intrinsic motivation, group cohesion, sport related well-being, and team success (Callow, Smith, Hardy, Arthur, and Hardy, 2009; Charbonneau, Barling, & Kelloway, 2001; Stenling & Tafvelin, 2014). Perhaps most notably, in relation to youth sport, initial research evidence demonstrates a relationship between TFL and positive developmental outcomes (e.g., personal and social skills; Vella et al., 2013a).

Positive Youth Development (PYD), which has been adapted from other areas of youth development research, is arguably a holistic representation of youth developmental outcomes that can result from sport participation (Côté, Bruner, Erickson, Strachan, & Fraser-Thomas, 2010). Notably, Côté et al. (2010) adapted Lerner, Brown, and Kier’s (2005) 5Cs model of PYD to characterize positive sport experiences as those that promote young athletes’ development of competence, confidence, connection, and character. Studies have provided initial evidence
linking TFL and PYD (e.g., Vella et al., 2013a; Vella, Oades & Crowe, 2013b), however, there is a need to further this understanding and outline the actual leadership behaviours that are displayed by coaches in training and competition. As such, the overarching purpose of this thesis is to explore the leadership behaviours of youth sport coaches in training and competition using observational methodology.
Chapter 2

Literature Review

Coaching science as a field has been expanding steadily over the last several decades, and has seen (a) global efforts to professionalize coaching (Duffy et al., 2011), (b) the expansion of national governing bodies (e.g., Coaching Association of Canada) and international organizations (e.g., International Council for Coaching Excellence), and (c) overall growing recognition regarding the importance of coaches for athletes across all developmental stages. Accordingly, a large scope of existing coaching research consists of efforts to identify the key personal, social, and cultural characteristics of coaching, and the developmental process involved in becoming a coach (Gilbert & Trudel, 2004b). Nevertheless, the aspect of coaching that has undeniably dominated the literature has been coach effectiveness, and the behaviours that characterize effective coaches.

Coaching—a dynamic and systematic process (Lyle, 1993; Woodman, 1993)—involves an extensive repertoire of actions, behaviours, and knowledge, which collectively impact athlete development and performance outcomes. Although the achievement of performance outcomes, such as win-loss percentages, commonly operationalized outdated delineation of coaching effectiveness (Horn, 2008), recent efforts have taken a much-needed integrative approach. According to Côté and Gilbert (2009), a coach must be knowledgeable and display behaviours in three domains: professional (e.g., sport-specific skill), interpersonal (e.g., relationships), and intrapersonal (e.g., self-reflection). This definition further postulates that the consistent application of these three domains of knowledge, in the appropriate contexts, will yield competence, confidence, connection, and character in athletes. Traditionally, much emphasis has
been placed on the professional knowledge of coaches; however, Côté and Gilbert (2009) contend that an increasing focus on the interpersonal domain may be warranted.

**Interpersonal Coach Behaviours**

Coaching has been suggested as a complex reciprocally-influential process (Bowes & Jones, 2006). Thus, an investigation of interactive and communicative coach behaviours, referred to as interpersonal coach behaviours, can explain the influence coaches have on athlete outcomes. It is through direct interactions that fundamental aspects of coaching are communicated (e.g., planning, practice structure, observation, and analysis; Erickson & Gilbert, 2013). Although the design of coach training programs often overlooks education related to developing interpersonal skills in coaches, these skills are certainly a vital coach competency (Lefebvre, Evans, Turnnidge, Gainforth, & Côté, 2016). The few coach development programs that focus on coaches’ interpersonal knowledge and behaviours have originally been developed to promote a mastery-focused coaching style (Conroy & Coatsworth, 2006; Duda et al., 2013; McLaren, Eys, & Murray, 2014; Smoll, Smith, & Cumming, 2007). This includes teaching coaches to create an environment—though their interactions—that prioritizes learning, effort, and improvement of athletes’ sport skills, and to help them develop a healthy perspective toward sport (e.g., selecting challenging tasks, persisting in the face of setbacks, giving maximal effort; Ames, 1992; Horn, 2008).

Research on interpersonal coach behaviours has traditionally focused on coaches’ teaching and sport-specific behaviours. In a recent review of the coaching behaviour literature, Erickson and Gilbert (2013) suggested that studies have repeatedly identified three main types of coach-athlete interactions related to a positive learning environment: instruction, support and encouragement, and management. For instance, observational studies of effective coaches have
shown that providing instruction, displaying support and encouragement, and exhibiting frequent organizational behaviours in practices have a positive impact on athletes’ learning (e.g., Ford, Yates, & Williams, 2010; Segrave & Ciancio, 1990). Additionally, when coaches use less punitive and punishment-oriented behaviours, athletes have greater perceptions of competence, enjoyment, and affinity for their coaches (Horne & Carron, 1985; Smith & Smoll, 1990).

Importantly, the majority of the aforementioned studies have focused on coach behaviours exhibited during training sessions (e.g., Segrave & Ciancio, 1990), yet the reality of coaching is not limited to the training context and includes other interactive settings, such as the competition environment (Côté, Salmela, Trudel, Baria, & Russell, 1995).

Whereas coaches dominantly display instructional behaviours and encouragement in training, Trudel, Côté, and Bernard (1996) observed youth sport coaches teaching behaviours in competition and found that ice hockey coaches display high levels of observation and organization, but low levels of feedback. Parallel to these findings, Smith and Cushion (2005) observed six top-level professional youth soccer coaches, revealing that coaches spent the majority of time in competition silently observing (40%), and comparatively little time displaying instruction (27%). These findings suggest that coach teaching and sport-specific behaviours may vary depending on the playing context investigated. Other studies conducted in the competitive context have generally focused on contrasting behaviours across game-related situations. For instance, Smith, Shoda, Cumming, and Smoll (2009) revealed that within distinctive competition-related situations, such as winning, coaches consistently respond with similar patterns of behaviours. While coach behaviours are consistent within situations, Guzmán and Calpe-Gómez (2012) demonstrated that coaches altered their behaviours across situations. Specifically, coaches displayed more favourable feedback and encouragement after positive competition-
related actions (e.g., winning), and displayed more adverse feedback after negative competition-related situations (e.g., losing). These findings suggest that it is important to consider contextual and situational factors (e.g., playing contexts) when investigating coach behaviours and their effects on athletes’ development.

**Contextual factors: training vs. competition.** Indeed, coach behaviours are shaped by the context in which they operate (Mageau & Vallerand, 2003), such as training and competition. Although few studies have attempted to compare interpersonal coach behaviours across both contexts beyond pedagogy, two studies provide a direct comparison of playing contexts using coach-created motivational climates. First, Van de Pol, Kavussanu, and Ring (2012) investigated 410 competitive soccer players’ perceptions of a coach-created motivational climate in training and competition from an achievement goal theory perspective (i.e., mastery vs. performance climate). Consistent with the coach behaviour literature, they found that athletes perceived differences across contexts. Specifically, athletes reported higher levels of coach-created performance climates in competition compared to training. Nevertheless, athletes reported similar levels of mastery-climates across both contexts. Second, extending this research, Smith, Quested, Appleton, and Duda (2016) compared coach-created motivational climates across playing contexts using an observational methodology. Through an integrated conceptualization of achievement goal theory (i.e., task- vs. ego-involving) and self-determination theory (i.e., basic psychological needs; autonomy, competence, and relatedness supportive), they investigated the extent to which coaches create an empowering (i.e., task-involving and autonomy/relatedness supportive) or disempowering (i.e., ego-involving, and controlling/relatedness thwarting) climate for their athletes. Using 17 grass-roots level soccer coaches and their respective athletes, their findings suggest that coaches were more empowering in training sessions. Specifically, their
findings indicate that coaches demonstrated higher levels of task involvement, as well as autonomy and relatedness support in training sessions compared to competitions. Notably, the authors used a global rating method to code behaviours, which did not allow them to specifically describe a range of empowering and disempowering behaviours that were observed in training and competition.

Collectively, the findings on coach teaching behaviours, and coach-created motivational climates demonstrate the importance of considering differences in coach behaviours across playing contexts. Nevertheless, there has been a paucity of research that takes into account these differences by contrasting coach behaviours across both training and competition within the same study. Although Van de pol et al. (2012) and Smith et al. (2016) made strides to inform these contextualized investigations, both studies are limited by their methodological approach to identifying coach behaviours. Indeed, the use of athlete self-report questionnaires have many limitations, which influence our understanding of coach behaviours. While the use of systematic observation makes a discernable contribution to addressing this shortcoming, Smith et al. (2016) used a global ratings method to code behaviours, which did not allow them to provide specific descriptions of coach behaviours. Importantly, despite certain limitations, these studies made significant contributions in the coaching literature by investigating behaviours beyond the traditional pedagogical approach, thus paving the way for novel approaches to understanding coach behaviours and their contextual nuances. Notably, although the investigation of coaching pedagogical behaviours and coach-created motivational climates have been seminal to the progression of the coaching literature, there have been consistent efforts over the years to investigate coaching from a leadership perspective (e.g., Rowold, 2006).
Coach Leadership

Leadership research focusing on coaching came to light more than 30 years ago mainly through the work of Chelladurai (the multidimensional model of coach leadership) and the line of observational studies conducted by Smith and Smoll (see review Chelladurai, 1993; Smoll & Smith, 1989). These authors defined and studied coach leadership as, primarily, an aggregation of sport-specific behaviours that influence performance, satisfaction, and psychosocial outcomes in athletes. More recently, Vella, Oades, and Crowe (2010) expanded this definition of coaching leadership to address the interpersonal nature of coaching and to encompass a more comprehensive view of coaches’ leadership behaviours and athletes’ outcomes. Accordingly, they define leadership as “A process of interpersonal influence that is dependent upon the relationship between coach and athlete, and is used to facilitate the athlete outcomes of competence, confidence, connection, and character” (Vella et al., 2010, p. 431). Vella et al. (2010) situate their proposed definition of coach leadership within Côté and Gilbert’s (2009) definition of effective coaching. With a focus on the relational aspects of coaching, they suggest that coach leadership is best accounted for by the interpersonal domain of knowledge of effective coaching. Additionally, this definition effectively provides a more holistic view of coach leadership that is supported by the mainstream leadership research.

The full-range leadership model (Bass & Avolio, 1994), originating from the organizational psychology literature, consists of three core leadership styles: laissez-faire, transactional, and TFL. Starting with the least active approach, laissez-faire leadership is conceptualized as leaders that operate with indifference toward followers and are either slow to act, or do not act at all (Bass & Avolio, 1994). As a more active approach, transactional leadership includes behaviours characterized as contingent rewards and management by
exception (active and passive). In other words, transactional leaders use rewards, punishment, and positive feedback to acknowledge and influence followers’ performances. Finally, TFL is known to “augment” any effects generated by transactional behaviours. TFL occurs when a leader demonstrates interest in his/her followers, acts morally, motivates his/her followers beyond self-interested goals, and engages with followers individually (Avolio & Bass, 2002).

**Transformational Leadership**

According to Bass and Riggio (2006), TFL is characterized by four separate dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. For instance, leaders display *idealized influence* when they foster trust and respect among their followers, as well as model ethically desirable behaviours. *Inspirational motivation* is displayed when a leader expresses high expectations for their followers, while inspiring and energizing them to achieve their goals. *Intellectual stimulation* is displayed when a leader encourages their followers to engage in issues from multiple perspectives, and to question internally held assumptions, as well as those of others. Finally, leaders display *individualized consideration* when they demonstrate a genuine sense of care and concern for a follower, while recognizing and acting upon their personal and psychological needs. Leaders also display individual consideration when they celebrate the successes of their followers (Bass & Riggio, 2006). Although the conceptualizations of these four concepts are mutually exclusive, they combine to paint a picture that transformational leaders provide a positive environment conducive to beneficial outcomes in their followers.

**Adult populations.** The majority of what we know about TFL originates from research conducted with adult populations, particularly within the organizational setting (i.e., working population). In fact, a review by Turnnidge and Côté (2016) identified 151 English language
field-based studies of leadership across a variety of contexts, revealing that all but three studies included participants above the age of 18. This comes as no surprise given that 96% of leadership research, non-specific to TFL, was conducted with a working population in the organizational context (Barling, 2014). Fortunately, the knowledge gained from the organizational context served to inform and pave the way for growth in other contexts that include research with youth (e.g., physical education, sport). Accordingly, the abundance of research in the organizational context has identified TFL to directly and indirectly influence follower outcomes through mediating and moderating variables (Barling, 2014). Turnnidge and Côté (2016) proposed a conceptual model to summarize the mechanisms and processes—emerging from the TFL literature—through which TFL can influence followers. The conceptual model suggests TFL positively influences a range of organizational outcomes (e.g., psychosocial outcomes) through (a) intrapersonal (e.g., follower self-perceptions), (b) interpersonal (e.g., followers’ relationships with their leaders), and (c) environmental processes (e.g., changes in culture). The conceptual model additionally proposes boundary conditions (i.e., moderators) for the effects of TFL, which include follower characteristics (e.g., values/beliefs), relationship characteristics (e.g., collective efficacy), and contextual characteristics (e.g., features of the environment). This conceptual model effectively provides insight into how and why TFL influences follower outcomes, which is fundamental to help inform the possible influences of TFL in other contexts, such as sport.

Research within the organizational literature has played a large role in guiding the emergence of TFL in the sport context, where leadership has been described as synonymous with coaching, and an indispensable element of the coaching process (Laios, Theodorakis, & Gargalianos, 2003; Vella et al., 2010). For instance, a study conducted with university athletes revealed that coach TFL significantly influenced sport performance by elevating athlete’s
intrinsic motivation (Charbonneau et al., 2001). Additionally, in a sample of 309 young adults, Callow et al. (2009) revealed that when coaches were inspirationally motivating, and individually considerate, athletes reported higher levels of group cohesion. However, these relationships were moderated by performance level, indicating that inspirational motivation was only effective with lower performing athletes, whereas individualized consideration was only effective with higher performing athletes. In another study investigating 186 martial-arts students of all ages, higher levels of coach TFL was related to increased satisfaction with their coaches and greater effort during training (Rowold, 2006). This study particularly distinguishes itself in two ways. First, it was one of the few studies in the sport context to investigate multiple leadership styles. Doing so, Rowold revealed that TFL accounted for unique variance beyond that of transactional leadership alone, thus providing support for the augmentation hypothesis (Bass, 1998). Second, by encompassing a wide age-range of participants (i.e., 13-70), Rowold’s study includes youth participants in the study of coach TFL.

**Youth populations.** Arguably the most extensive TFL related program of study targeting a youth population has been conducted in the physical education context. First, Morton, Keith, and Beauchamp (2010) conducted focus groups and in-depth interviews to identify the extent to which physical education teachers were using TFL behaviours. They found that students perceived their teachers to exhibit all four dimensions of TFL while noting however that idealized influence was the least prevalent of all four dimensions. Subsequently, Beauchamp et al. (2010) developed and validated the transformational teaching questionnaire, the first to be developed directly with youth as the target population. Using this questionnaire, they revealed that students’ perceptions of their teachers TFL behaviours predicted their self-determined motivation, their levels of positive affect, their engagement, and their within-class and leisure-
time physical activity levels (Beauchamp et al., 2010; Beauchamp et al., 2014; Wilson et al. 2012). Finally, informed by these findings, Beauchamp, Barling, and Morton (2011) designed a one-day intervention with the goal of training physical education teachers to utilize TFL. Not only did the intervention successfully enhance the levels of TFL in teachers, the students of trained teachers additionally rated higher levels of self-determined motivation, self-efficacy, and physical activity related intentions compared to students in a control group.

The benefits of coach TFL among youth have not been limited to physical education, likewise, there is also evidence that coach TFL has a positive impact among youth in sport. Price and Weiss (2013) conducted a cross-sectional examination of the influence of coach leadership on psychosocial and team outcomes in 412 female competitive youth soccer players (ages 14-18). Using the multifactor leadership questionnaire (Bass & Avolio, 2004; Bass & Riggio, 2006), they found coach TFL significantly predicted athletes’ perceived competence, enjoyment, task cohesion, and collective efficacy. Similarly, Stenling and Tafvelin (2014) employed the transformational teaching questionnaire (Beauchamp et al., 2010) with 184 competitive older adolescent floorball players ($M_{age} = 17.7$). They conducted a cross-sectional examination investigating the mechanisms through which coach TFL influences the well-being of athletes. Findings revealed that while TFL significantly predicted well-being in athletes, this relationship was fully mediated by need satisfaction. In other words, coach TFL behaviours fulfill the three psychological needs of autonomy, competence, and relatedness, subsequently resulting in greater levels of perceived well-being in athletes. Finally, Tucker et al. (2010) conducted a short-term longitudinal study to investigate the impact of coach TFL and youth recreational ice-hockey players on-ice aggression (i.e., anti-social behaviours). To do so, they employed a revised version of the global transformational leadership scale (Carless, Wearing, & Mann, 2000) with
183 hockey players (primarily male), prior to the mid-point of their season. They subsequently accumulated the total aggressive penalty minutes for each athlete in the second half of their season as a measure of on-ice aggression. Accordingly, their findings revealed a negative relationship between perceived TFL at time 1 and on-ice aggression at time 2. Informed by these findings, Tucker et al. suggested that coaches characterized as transformational leaders model pro-social behaviours in their athletes.

While the aforementioned studies (i.e., Price & Weiss, 2013; Stenling & Tafvelin, 2014; Tucker et al., 2010) demonstrate the usefulness of TFL in a sports context that focuses on youth, the findings must be considered in light of their shared limitations. For instance, these studies solely rely on the use of self-report questionnaires to measure TFL (e.g., the multifactor leadership questionnaire). Additionally, TFL is conceptualized as a whole, without taking into consideration the influence of its individual dimensions (e.g., idealized influence). Nevertheless, these studies make a significant contribution to the literature by revealing that coach TFL either directly, or through mediating variables, plays a significant role in outcomes relating to PYD frameworks. Specifically, established relationships with outcomes such as perceived competence, collective efficacy (i.e., confidence), cohesion and relatedness (i.e., connection), and pro-social behaviours (i.e., character) provide preliminary support for an association between TFL and PYD.

**Positive Youth Development**

According to Weiss (2016), research investigating the development of youth nearly dates back to the beginning of the twentieth century. Yet, it is not until recently that the study of youth development has been grounded in various frameworks, such as the developmental assets, life skills, and 4Cs frameworks (Benson, 1997; Little, 1993; Petitpas, Cornelius, Raalte, & Jones,
The 4Cs as an indicator of youth development has gained recent research attention; however, this framework has had various conceptualizations of its core components. Little (1993) originally proposed a model containing four outcomes, the 4Cs, to encompass PYD (i.e., competence, confidence, connection, and character). Lerner and colleagues (2005) subsequently expanded the 4Cs by including caring/compassion as an additional core component—resulting in a 5Cs framework. Although this framework has been popular in developmental psychology, key researchers in the field of sport and exercise psychology used the original 4Cs model to conceptualize PYD in sport (Côté & Gilbert, 2009; Côté et al., 2010). In fact, Côté et al. (2010) advocated collapsing caring/compassion into the character component, arguing that within the sport literature, character, caring, and compassion are not adequately differentiated.

PYD is a strength-based approach to youth psychosocial development grounded in the positive psychology movement (Lerner et al., 2005). Accordingly, under the right conditions, organized youth activities (e.g., performing arts, sport) can provide opportunities to foster positive developmental changes (Larson, 2000). However, participation in sport does not necessarily yield positive developmental outcomes, but rather, these outcomes are contingent upon psychosocial and contextual factors (Coakley, 2011). Fraser-Thomas et al. (2005) argued that coach influence is one of the key contextual factors within sport. Indeed, coaches represent substantial determinants of youth sport experiential and developmental outcomes. They are responsible for shaping the youth sport environment and exert considerable influence on those involved (Gilbert & Trudel, 2004a; Smoll & Smith, 2002). Of note, the application of coach TFL has been advocated for the youth sport setting because (a) a central tenet of TFL theory is to enable followers to reach their full potential and to transform followers into future leaders, and (b) it emphasizes quality relationships and promotes athletes’ developmental experiences by
focusing not just on performance, but also on the growth and personal development of followers (Vella et al., 2013a).

**Coach TFL and Athlete PYD**

Although studies have previously demonstrated that TFL is associated with PYD outcomes (i.e., Price & Weiss, 2013; Stenling and Tafvelin, 2014; Tucker et al., 2010), these studies did not directly situate their work within a PYD framework. Conversely, using the developmental assets PYD framework, the work of Vella and colleagues provides the first direct assessment of TFL and PYD in youth sport. Vella et al. (2013a) conducted a cross-sectional investigation of the relationship between TFL and positive developmental experiences in 455 adolescents playing recreational soccer (ages 11-18). To do so, they measured TFL using a revised version of the differentiated transformational leadership inventory validated in the youth sport context, and PYD using the youth experience scale for sport (MacDonald, Côté, Eys, & Deakin, 2012; Vella, Oades, & Crowe, 2012). Accordingly, their findings revealed that athletes’ perceptions of coach TFL behaviours significantly predicted an overall measure of positive developmental experiences in athletes. In particular, positive development was best predicted when athletes reported an elevated degree of perceived individualized consideration, intellectual stimulation, and coach role modeling behaviours (i.e., idealized influence).

Subsequently, Vella et al. (2013b), conducted a quasi-experimental pre-post design pilot intervention to (a) further investigate the relationship between TFL and PYD, and (b) evaluate the effectiveness of a pilot TFL training program. They compared nine teams consisting of 116 athletes (ages 12-18) who received TFL training, against nine teams consisting of 127 athletes who did not receive TFL training. Their findings indicated that trained coaches demonstrated elevated levels of appropriate role modelling (i.e., idealized influence), intellectual stimulation,
and overall TFL behaviours, but not individualized consideration or inspirational motivation. Moreover, they found that athletes of trained coaches resulted in better developmental outcomes than those of untrained coaches. These findings lend support to the idea that coach TFL behaviours should be considered in light of its ability to promote positive developmental outcomes in athletes.

**Uninvestigated Topics and Methodological Limitations**

Although PYD frameworks provide an excellent foundation for TFL research, certain limitations exist concerning the methodological approach utilized by researchers in youth sport. First, the studies that assess TFL in sport most commonly attempt to explore the correlational and causal mechanisms of TFL. However, Potrac, Brewer, Jones, Armour, and Hoff (2000), argue that “before inductive analytical techniques can be employed to develop a reality grounded analysis…it is first necessary to generate baseline descriptive data of the instructional behaviours emitted by coaching practitioners” (p. 190). Potrac et al. (2000) stipulate that investigating quantitative descriptions of coach behaviours is a necessary first step to developing a comprehensive understanding of micro-level interactions (e.g., coach and athlete). Second, TFL in the youth sport context has always been measured through self-report measures based on coach perceptions of their own behaviours, or athlete perceptions of their coach’s behaviours (Rowold, 2006; Turnnidge & Côté, 2016; Vella et al., 2013a). However, there have been consistent reports of discrepancies between coach self-report measures and observed behaviours (e.g., Curtis, Smith, & Smoll, 1979). Finally, coach TFL studies do not take into consideration the *playing context* in which leadership is exhibited, and within the youth sport context these studies additionally do not contrast TFL to other leadership styles that incorporate the full-spectrum of coaches’ leadership behaviours (i.e., TFL, transactional, laissez-faire).
In particular, limitations such as the exclusive reliance on (a) inductive analytical techniques and (b) coach and athlete perceptions provides a limited picture of coach TFL. Accordingly, the use of observational methods would provide an alternative solution to these limitations. Turnnidge and Côté (2016) have developed a novel tool to code—through observation—the full-spectrum of coach leadership (e.g., transformational leadership). Notably, this tool offers the ability to observe leadership in training and/or competition. The Coach Leadership Assessment System (CLAS; See Appendix A) categorizes coach behaviours across 18 lower-order leadership dimensions, which are further categorized into eight distinct higher-order dimensions representing the full-range of leadership. These include: (a) transformational; four dimensions, (b) transactional; one dimension, (c) laissez-faire; one dimension, and (d) neutral; one dimension. The CLAS includes an additional dimension to address a range of behaviours that were left unaccounted for during the development of this observation instrument (toxic; one dimension). This higher-order leadership dimension is further subdivided into two lower-order leadership dimensions. The CLAS is also designed to capture behaviour modifiers that provide context to the emerging leadership behaviours. These include the content through which leadership is conveyed and the recipient of coach behaviours (i.e., content and recipient behaviour modifiers).

**The Current Thesis**

**Purpose.** The overarching purpose of this thesis is to explore the leadership behaviours of youth sport coaches using observational methodology. To do so, we used the newly developed CLAS, to code the frequency of coach leadership behaviours (e.g., transformational), because it measures the full-range of leadership behaviours and allows for the measurement of leadership in both training and competition. Accordingly, the purpose is further subdivided into three specific
objectives. The first objective is to contrast the quantitative descriptions across the full-spectrum of coach leadership behaviours, with a particular focus on TFL behaviours. The second objective is to contrast coach leadership behaviours across both the training and competitive playing contexts. The final objective is to acquire an understanding of how coaches display leadership by exploring: (a) the content through which leadership is most frequently displayed, and (b) the recipient of these behaviours.

**Day-to-day youth sport coaches.** With the hopes of contributing to the limited, yet growing literature investigating the impact of TFL in a youth sport setting, the current thesis will specifically focus on the behaviours of youth sport coaches. Often, coaching research describes the behaviours of “expert” successful coaches (e.g., Becker & Wrisberg, 2008; Bloom, Crompton, & Anderson, 1999; Bloom, Durand-Bush, & Salmela, 1997) or “model” youth sport coaches (e.g., Gilbert & Trudel, 2004a; Segrave & Ciancio, 1990; Turnnidge, Côté, Hollenstein, & Deakin, 2014). While this research lends insight into the effective behaviours of knowledgeable and experienced coaches, this does not represent the majority of youth sport coaches. In fact, youth sport coaches are typically volunteers with little training, which is typically aimed at improving sport-specific knowledge (Holt & Neely, 2011; Trudel & Gilbert, 2006). It is therefore reasonable to assume that youth athletes are more commonly subject to these relatively undertrained volunteer coaches on a day-to-day basis, rather than successful model coaches. Our study will therefore investigate these “day-to-day” youth sport coaches, operationally defined as: volunteer coaches with limited training and representing the most common type of coaches found in youth sport.

**The developmental environment.** Given that development is inherently embedded within youth sport, and provided there is growing support for the relationship between TFL and
PYD, a complementary aim of this thesis is to provide a season-long environmental “description” of PYD (i.e., the developmental environment). That is, coach behaviours do not occur in a vacuum, they are shaped by antecedent factors and exert influence over athletes (Horn, 2008). Through their behaviours they create an environment that can be characterized by varying levels of development. Thus, providing a description of the developmental environment will serve to contextualize the leadership behaviours displayed by coaches. To achieve this undertaking, the current thesis includes a preluding chapter titled “Athlete Developmental Environment: Contextualizing Coach Leadership” which will function to inform the findings emerging from the main purpose of this thesis. Accordingly, prior to exploring coach leadership behaviours, chapter 3 examines PYD in athletes (i.e., competence, confidence, connection, and character), measured at two time points throughout a four-month season (i.e., beginning and end of season). This chapter will contextualize the observation findings of the thesis presented across chapters 4-6.
Chapter 3

Athlete Developmental Environment: Contextualizing Coach Leadership

The aim of this chapter is to provide context for the coach leadership behaviours emerging from the main purpose of this thesis by providing a description of the developmental environment in which coaches work. Although this chapter will seemingly be structured and presented as its own related but disjointed study, the data were collected and analyzed concurrently with the rest of the thesis. Thus, this chapter provides a description of the developmental environment across one full season, specifically one in which our sample of coaches were displaying the leadership behaviours explored in chapters 4-6. The current chapter is divided into four sections. First, it begins by presenting a brief introduction to the literature that investigates youth development over time. The second section presents the methodology used to portray the youth sport developmental environment. The third section presents the emerging findings. Finally, the fourth section briefly focuses on the implications of athlete development over a 4-month soccer season before transitioning into the main purpose of the thesis.

Introduction

A surge of research has emerged over the last decade suggesting PYD as a prominent framework to understand the holistic development of youth through sport. The emergence of a second edition of “Positive Youth Development Through Sport” (Holt, 2016) is perhaps indicative of this growth. While there have been recent advances in our comprehension of PYD through sport, the overwhelming majority of research in the sport setting has been cross-sectional
(Holt, Deal, & Smyth, 2016). Given that development is inherently a temporal process, the reliance on cross-sectional data promotes ergodic assumptions (e.g., all athletes are the same and do not change), thus limiting our understanding of PYD (Vest Ettekal, Lerner, Agans, Ferris, & Burkhard, 2016). Accordingly, many PYD sport researchers have recently encouraged the assessment of PYD over time (e.g., Holt et al., 2016; Vella et al., 2013a; Vest Ettekal et al., 2016).

While the field of PYD through sport has rarely measured PYD over multiple time points (Holt et al., 2016), researchers in developmental psychology have developed a series of longitudinal studies that has the potential to inform sport researchers with similar pursuits (e.g., Lerner et al, 2005). Referred to as the “Longitudinal 4-H study of PYD,” Lerner and colleagues collected data from 7,071 (59.9% female) students over the span of grades 5 through 12. Findings across a collection of 4-H studies revealed a small yet significant decline in PYD scores across grades 5 through 9, followed by a significant increase in PYD scores in grade 10 (Bowers et al., 2010; Phelps et al., 2007; Phelps et al., 2009). Notably, certain studies within the 4-H include sport participation as a contextual variable, revealing several important variables associated with sport participation and positive developmental outcomes. These include (a) breadth of participation (i.e., sport in combination with other out of school activities; Zarrett et al., 2009), (b) patterns of participation (i.e., participating in both individual and team sports; Agans & Geldhof, 2012), (c) intensity of participation (i.e., minimum weekly hours of participation versus over-scheduling; e.g., Mahoney, Harris, & Eccles, 2006), and (d) sport continuity (i.e., the stable participation of sport over time; Zaff, Moore, Papillo, & Williams, 2003).
The 4-H line of studies lends valuable insight into the temporal developmental trajectory of youth and the possible influential variables relating to sport participation. Nevertheless, researchers have advocated the need for PYD research to be conducted with sports-based PYD programs and sport-specific contexts (Fraser-Thomas et al., 2005; Gould & Carson, 2008).

Embarking on a pursuit similar to that of the 4-H line of studies is not only daunting, but would require considerable resources, funding, and time. While such a feat has yet to occur in the sport context, there is one particular study that has investigated PYD over time in a youth sport-specific context. Erickson and Côté (2016) assessed the season-long positive development of youth athletes using a person-centered approach. They measured PYD, conceptualized through the 4Cs, in 55 competitive volleyball players (Mage = 15.89) at three time points throughout a 6-month season. To measure the individual athletes’ developmental trajectories over time (i.e., PYD), they conducted a cluster analysis, revealing three distinct developmental clusters. The largest cluster of athletes (n = 23) were found to report high levels of PYD at the beginning, subsequently increasing in development throughout the season. The athletes in the second largest cluster (n = 19) were characterized as moderate ratings of development outcomes, with stable, unchanging levels throughout the season. Finally, the smallest cluster of athletes (n = 13) reported low levels of PYD at the beginning, and decreasing levels of development across the season.

In light of their findings, Erickson and Côté (2016) suggest that the emergence of distinct clusters validates (a) the usefulness of the 4Cs framework to represent developmental outcomes, and (b) its ability to capture development over time, in as little as one season. Nevertheless, Erickson and Côté (2016) used a combined measure of PYD to measure development that did not allow for the differentiation of individual developmental outcomes. The aim of this chapter is to provide a season-long temporal representation of athlete psychosocial development using
individual developmental measures. Accordingly, we examined the 4Cs of PYD in athletes (i.e., competence, confidence, connection, and character), measured at two time points throughout a four-month season (i.e., beginning and end of season).

Methods

Participants. The participants came from seven competitive youth soccer teams, which resulted in 73 youth athletes. The athletes were 33 males and 40 females, and ranged from 12 to 16 years of age ($M = 14.26$, $SD = 1.27$). The amount of time that athletes spent with their coaches formally in training and competition, ranged from four to eight hours per week ($M = 4.91$, $SD = 0.68$). The number of seasons athletes formerly spent with their current head coach ranged from one to eight seasons ($M = 2.26$, $SD = 1.72$).

Measures. As a composite of several existing subscales or scales representing distinct concepts from the youth sport setting, the PYD 4Cs toolkit (Vierimaa, Erickson, Côté, & Gilbert, 2012) was employed to assess a range of concepts encompassing athletes’ athletic abilities and psychosocial outcomes. Accordingly, a variety of measures were distributed to both coaches and athletes to assess athlete competence, confidence, connection, and character. More specifically, coaches were asked to rate the competence levels of their athletes (see Appendix B), and athletes were asked to rate their own levels of confidence, connection, and character (see Appendix C).

Competence. Athlete competence was measured using the sport competence inventory (see Vierimaa et al., 2012). This inventory, adapted from a procedure designed to measure perceived athletic ability in school children (Causgrove Dunn, Dunn, & Bayduza, 2007; Martens, 2004), is composed of three items assessing technical, tactical, and physical skill. Each item is rated on a 5-point Likert scale ranging from 1 (not at all competent) to 5 (extremely competent) and is prefixed with the statement “Please rate this person’s sport competence in the following
areas” (Causgrove et al., 2007). The sport competence inventory is available in several similarly structured versions (i.e., the self, the coach, and peers), which can be employed to obtain ratings of competence for each individual athlete from different perspectives. Nonetheless, for the purpose of this chapter, only the coach version was employed in order to keep the questionnaire concise, while obtaining an accurate measure of competence. Accordingly, the coach version of the sport competence inventory consisted of multiple copies of the set of items, one for each athlete. The coach version has been applied in multiple studies (e.g., Erickson & Côté, 2016), one of which reported internal consistency levels of .72 (Vierimaa, 2013).

Confidence. An athlete’s belief that they have the ability to be successful (i.e., confidence) was measured using the self-confidence subscale of the Revised Competitive State Anxiety-2 (CSAI-2R; Cox, Martens, & Russell, 2003). The Likert-type ratings subscale consists of five items (e.g., “I’m confident about performing well”) ranging from 1 (not at all) to 4 (very much so). In order to assess confidence as a trait rather than state confidence, Vierimaa et al. (2012) altered the directions prior to completing the questionnaire; the phrase “indicate how you feel right now” was changed to “indicate how you generally feel”. Furthermore, Cox et al. (2003) validated this subscale within sport, and reported standardized path coefficients ranging from .69 to .80, and internal reliability coefficients ranging from .86 to .91, collectively providing evidence of good psychometric properties.

Connection. Athletes’ connection with their coach was measured using the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004) which is designed to assess the relationship between a coach and athlete. This 7-point Likert scale consists of 11 items ranging from 1 (not at all) to 7 (extremely). The CART-Q contains both coach (e.g., “I respect my athlete”) and athlete (e.g., “I respect my coach”) versions, nevertheless, only the athlete
version was included. Additionally, this scale has been shown to demonstrate acceptable levels of reliability (α’s = .82 - .89; Jowett & Ntoumanis, 2004).

**Character.** Character was measured using the Prosocial and Antisocial Behaviour in Sport Scale (PABSS; Kavussanu & Boardley, 2009). This 5-point Likert scale consists of 20 items, ranging from 1 (never) to 5 (very often). This scale measures how often athletes engage in prosocial behaviours towards teammates (e.g., “gave positive feedback to a team-mate”; 4 items) and opponents (e.g., “helped an opponent”; 3 items) as well as antisocial behaviours towards teammates (e.g., “swore at a teammate”; 5 items) and opponents (e.g., “physically intimidated an opponent”; 8 items). Additionally, this scale has been demonstrated to be both valid and reliable within the youth sport setting (α’s = .74 - .86; Kavussanu & Boardley, 2009).

**Procedure.** After consent was provided, demographics information and measures within Vierimaa et al.’s (2012) PYD toolkit were administered to coaches (i.e., competence) and athletes (i.e., confidence, connection, and character) respectively, on two occasions throughout a four-month soccer season. First, questionnaires were distributed within the first month of the competitive season, while leaving enough time for the athletes to become acclimated to their coach. Next, within the last month of the season, coaches and athletes were asked to complete their respective questionnaire packages a second time. The completion time for the questionnaires was approximately 10 minutes for coaches, and 15 to 20 minutes for athletes. Questionnaires were most frequently administered as a group, on-site, following a training session or competition at the convenience of the head coach. An effort was made to ensure the questionnaires were completed individually to guarantee confidentiality was maintained throughout the process. On occasion, questionnaires were brought home and returned to researchers via e-mail, or in person.
Data analysis. Prior to the analysis, variables were screened for missing data, outliers, normality, and linearity, and violations were dealt with using appropriate statistical techniques (e.g., expectation maximization, square root transformation; Tabachnick & Fidell, 2013). The measures of PYD assessed athletes’ (a) competence, (b) confidence, (c) connection, and (d) character. Each variable was measured at two time points, beginning of season (time 1), and end of season (time 2). Each variable at each time point was standardized into a 5-point scale for ease of interpretability. The four measures of PYD were assessed over time using a profile analysis (also known as the multivariate approach to repeated measures analysis of variance). The within-subject independent variable was time, which consisted of the two time-points: time 1 and time 2. There were no between-subject variables. The dependent variables consisted of the four PYD outcomes.

Results

All PYD variables were examined using IBM SPSS for accuracy of data entry, missing values, and fit between distributions. Only the participants with completed questionnaires from both time 1 and time 2 were retained for the analysis. Notably, there were no differences at baseline (time 1) across all four measures of PYD between participants excluded (n = 9) and participants retained for the analysis (n = 73). Means, standard deviations, and Cronbach’s alpha (α) are presented in Table 1.

There were two significant violations of normality, connection at time 1, and connection at time 2. Both variables were moderately skewed, therefore a square root transformation was conducted. Four univariate outliers were detected for competence at the end of the season (cases 7, 9, 11, and 46). No univariate outliers were detected for all other variables. The analysis was run with and without outliers, revealing comparable conclusions, therefore all outliers were
included in the analysis to preserve a larger sample size. Finally, based on calculation of Mahalanobis distances, no multivariate outliers were detected with $p < .001$.

Table 1

**PYD Descriptive Data**

<table>
<thead>
<tr>
<th>Developmental outcome</th>
<th>T1</th>
<th></th>
<th>T2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>$\alpha$</td>
<td>M</td>
</tr>
<tr>
<td>Competence</td>
<td>3.68</td>
<td>0.60</td>
<td>.70</td>
<td>3.79</td>
</tr>
<tr>
<td>Confidence</td>
<td>3.93</td>
<td>0.61</td>
<td>.81</td>
<td>3.99</td>
</tr>
<tr>
<td>Connection</td>
<td>2.50</td>
<td>0.72</td>
<td>.95</td>
<td>3.27</td>
</tr>
<tr>
<td>Character</td>
<td>3.87</td>
<td>0.41</td>
<td>.74</td>
<td>3.82</td>
</tr>
</tbody>
</table>

*Note: Non-transformed values are presented for connection at time 1 and time 2 for ease of interpretability.*

A profile analysis was conducted to assess the temporal trajectories (T1 to T2) of all four measures of PYD. Using Wilks’ criterion, the analysis revealed that the profiles deviated significantly from flatness, $F(5, 69) = 25.07$, $p = .000$, partial $\eta^2 = .592$. Investigating each dependent variable individually, univariate tests (sphericity assumed) revealed a significance across time for competence, $F(1, 72) = 6.65$, $p = .012$, partial $\eta^2 = .085$, and connection, $F(1, 72) = 94.79$, $p = .000$, partial $\eta^2 = .568$. Coaches reported higher levels of competence in their athletes at time 2 ($M = 3.79$, $SE = 0.06$) compared to time 1 ($M = 3.68$, $SE = 0.07$), however the size of the effect was small (partial $\eta^2 = .085$). Additionally, athletes reported higher levels of connection with their coaches at time 2 ($M = 1.81$, $SE = 0.03$) compared to time 1 ($M = 1.58$, $SE = 0.03$), thus demonstrating a temporal increase in connection over the season. Alternatively,
confidence and character failed to deviate significantly from flatness, thus demonstrating a lack of change over time (see Figure 1).

![Positive Youth Development Over Time](image)

*Figure 1.* A temporal depiction of PYD over the course of a season. Non-transformed values are presented for connection at time 1 and time 2 for ease of interpretability.

**Discussion**

The aim of this chapter was to provide a season-long temporal representation of athlete psychosocial development using individual measures of development. The main goal of this chapter was to provide athletes’ information to better contextualize the coaches’ observational data that will be presented in the following chapters. Accordingly, our findings indicate that, on average, athletes exposed to the current developmental environment for one full soccer season with day-to-day coaches (a) enhanced their social relationship with their coaches (i.e., connection), and (b) modestly increased in their physical abilities and sport skills (i.e., competence). Alternatively, athletes did not (c) develop a greater sense of self-perceptions (i.e., confidence), and (d) develop superior levels of moral reasoning (i.e., character).
findings revealing that athletes perceived the quality of their relationships with their coach to improve over the course of the season, there is evidence to support that personal relationships between coaches and athletes can emerge over a short time period (Antonini, Sagar, Huguet, Paquet, & Jowett, 2011). Additionally, given the major focus on the improvements of athletic skills within sport, it was surprising that the findings resulted in statistically significant, yet relatively trivial (from a practical standpoint) increases in competence ($M_{diff} = .011$, partial $\eta^2 = .085$). Finally, given the potential for sport programs to foster PYD in athletes (Fraser-Thomas et al., 2005), it was unexpected that athletes reported temporally unchanging levels of confidence and character over a period of four months.

There are several possible explanations that may account for these findings. First, we can postulate that a longer duration may be necessary to generate meaningful developmental improvements from participating in extra-curricular activities such as sport. Although Erickson and Côté (2016) identified developmental trajectories that increase in PYD, they used a person-centered approach and did not report their findings at the group-level. Thus, the combination of increasing, maintaining, and decreasing PYD trajectories of individual athletes combined might have resulted in a comparable developmental environment. On a larger scale, longitudinal studies that tracked students involved in different extra-curricular activities found improvements in developmental outcomes only after six years of follow up (Bowers et al., 2010; Phelps et al., 2009). Second, it is possible that the amount of time spent in this sport setting (i.e., average weekly commitment of 4.91 hours) lacked the necessary intensity to stimulate acute developmental changes (Mahoney et al., 2006). Perhaps similar investigations with elite populations who spend a considerable amount of time engaged in their sport might reveal different results. Third, measurement issues such as the reliance on self-report, or ceiling effect
(Salkind, 2010) could explain the lack of changes in PYD indicators over time. Finally, the National Research Council and Institute of Medicine (NRCIM, 2002) outline a range of developmentally appropriate setting features, which serve to inform the design and structure of sport programs that aim to promote youth development (e.g., promoting positive social norms, the integration of family, school and community). It is plausible that the sport program was not structured in a way that would foster the desired developmental outcomes targeted (Fraser-Thomas et al., 2005).

Alternatively, there is theoretical and empirical support to suggest that coach behaviours play a salient role in promoting athlete developmental in youth sport. For instance, theoretical definitions of effective coaching and effective coach leadership both suggest the promotion of positive development (Côté & Gilbert, 2009; Vella et al., 2010). Moreover, coach leadership behaviours are considered a key indicator in determining the quality of a coach-athlete relationship, the development of competence, character building, and developing a sense of self-worth (Price & Weiss, 2013; Jowett & Chaundry, 2004; Stenling & Tafvelin; Tucker et al., 2010; Vella et al., 2013a). Thus, the remainder of this thesis will investigate the behaviours of the coaches of this sample of athletes—from a leadership perspective—that possibly contributed to the developmental environment described in this chapter.
Chapter 4

Methods

Participants

The participants in the current thesis came from seven competitive youth soccer teams, recruited through a competitive soccer club in Eastern Ontario, Canada. Thirteen coaches of athletes at various age levels (e.g., Under 13; U13) were initially contacted, of which, eight coaches agreed to participate. One coach became ineligible to continue during the data collection due to a coaching change. Therefore, the seven coaches of the athletes described in the previous chapter were observed during this phase of the study. Four of the participants were coaches of female athletes: U13, U14, U15 and U16; and three of the participants were coaches of male athletes: U13, U16(a), and U16(b). The coaches ranged from 40 to 50 years of age ($M = 44.29$, $SD = 3.35$), with two to eight years of previous soccer coaching experience ($M = 7.71$, $SD = 4.68$). Whereas three of the coaches had never coached a sport other than soccer, the remaining four coaches had experience coaching other sports, such as rugby, judo, wrestling, badminton, gymnastics, volleyball, and hockey. Five coaches reported obtaining at minimum a bachelor’s degree, of which four pursued post-graduate studies. The coaches were employed within a variety of professions, which included: engineer, firefighter, police officer, military, research data analyst, neuroscientist, and public health.

All the coaches acquired the minimum coaching qualifications required by the soccer organization. This included two nationally accredited workshops affiliated with the National Coaching Certification Program (Coaching Association of Canada, 2017a). The first, “Respect in Soccer”, is a workshop delivered online and is designed to ensure coaches are respectful with
their athletes in the sport environment (Ontario Soccer Association, 2017a). The second, “Soccer for Life”, is an NCCP Community Sport Coach level workshop, which is delivered in person, spans over 16 hours, and covers the basics of sport coaching (Coaching Association of Canada, 2017b). This includes skills that relate to professional knowledge, such as technical and tactical skills, as well as planning and delivering effective practices. Two coaches additionally acquired the “Pre-B” coaching certificate, now referred to as the “C License Course” (Ontario Soccer Association, 2017b), and another coach took part in the NCCP workshop “Make Ethical Decisions” (Coaching Association of Canada, 2017c). Beyond the professional courses described above, none of the coaches reported having received any type of formalized workshop specifically designed to target leadership training.

Measures

Coach leadership. The coaches’ leadership behaviours were measured through systematic observation using the newly developed CLAS (Turnnidge & Côté, 2016). The CLAS, an exhaustive and exclusive systematic observation coding system, was designed to code coach behaviours on three dimensions in the following sequence: (a) leadership dimension (e.g., transactional), (b) a content modifier (e.g., organization), and (c) a recipient modifier (e.g., team).

Leadership dimension. Within the CLAS, coach behaviours are first coded as representing one of 17 lower-order leadership dimensions (see Table 2), which are further classified into one of eight higher-order leadership dimensions. The lower- and higher-order dimensions correspond to four different leadership styles. First, the CLAS contains 11 lower-order dimensions, classified into four higher-order dimensions, which represent the four components of TFL. Second, two lower-order dimensions are classified into the transactional leadership higher-order dimension. Third, a single lower-order dimension is directly classified
into the laissez-faire higher-order dimension. Finally, two lower-order dimensions are classified into the toxic higher-order dimension. The CLAS also contains a neutral dimension designed to capture coach behaviours that lack a leadership related tone.

Table 2

*The Coach Leadership Assessment System: Lower- and Higher-order Dimensions*

<table>
<thead>
<tr>
<th>Higher-Order Dimension</th>
<th>Lower-Order Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idealized Influence</td>
<td>1  – Discussing/modelling pro-social values or behaviours</td>
</tr>
<tr>
<td></td>
<td>2  – Showing vulnerability/humility</td>
</tr>
<tr>
<td>Inspirational Motivation</td>
<td>3  – Discussing goals/expectations</td>
</tr>
<tr>
<td></td>
<td>4  – Expressing confidence in athlete(s) potential</td>
</tr>
<tr>
<td></td>
<td>5  – Promoting team concept</td>
</tr>
<tr>
<td></td>
<td>6  – Providing rationales/explanations</td>
</tr>
<tr>
<td>Intellectual Stimulation</td>
<td>7  – Eliciting athlete input</td>
</tr>
<tr>
<td></td>
<td>8  – Sharing decision making/leadership responsibilities</td>
</tr>
<tr>
<td></td>
<td>9  – Emphasizing learning/process</td>
</tr>
<tr>
<td>Individualized Consideration</td>
<td>10 – Showing interest in athletes’ feelings/needs/concerns</td>
</tr>
<tr>
<td></td>
<td>11 – Recognizing athlete achievements/contributions</td>
</tr>
<tr>
<td>Transactional</td>
<td>12 – Discussing rewards/penalties</td>
</tr>
<tr>
<td></td>
<td>13 – Searching for/responding to deviations from rules or standards</td>
</tr>
<tr>
<td>Neutral</td>
<td>14 – Neutral</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>15 – Showing disinterest</td>
</tr>
<tr>
<td>Toxic</td>
<td>16 – Expressing anger/hostility</td>
</tr>
<tr>
<td></td>
<td>17 – Modelling anti-social behaviours</td>
</tr>
<tr>
<td>N/A</td>
<td>X  – Uncodable</td>
</tr>
</tbody>
</table>

In accordance with the CLAS coding guidelines, coach behaviours were coded within lower-order dimensions, subsequently fitting into the higher-order dimensions. To provide an
example, when a coach says to an athlete “Fantastic, John! That was a great pass!”, this leadership behaviour would be coded as the lower-order dimension “recognizing athlete achievements/contributions”, which would be further classified into the higher-order dimension “individualized consideration” (Turnnidge & Côté, 2016). Notably, throughout this thesis coach behaviours will be described according to the higher-order dimensions, thus in the example above, the coach would be displaying individualized consideration.

Content/recipient modifiers. Providing context to coach leadership behaviours, the CLAS includes a content, and a recipient modifier, as a means to understanding how coaches are exhibiting leadership. First, the content modifier corresponds to the content through which a leadership behaviour is conveyed. These codes consist of instruction/feedback, organization, and general communication. The neutral dimension is associated with one additional content code: observation, which accounts for time when the coach is not directly interacting with an athlete(s). Second, the recipient modifier corresponds to the recipient or target of the coach’s leadership behaviour. Although the CLAS offers several alternatives for coding the recipient modifier, as per the standard protocol of the CLAS, in the current thesis the recipient modifiers consisted of team (i.e., two or more athletes), and individual athlete.

Psychometric properties. While developing the CLAS, Turnnidge and Côté (2016) employed several strategies to establish initial measures of face, theoretical, and predictive validity, as well as convergent and divergent validity. Turnnidge and Côté (2016) additionally assessed the inter- and intra-rater reliability of the CLAS across four coders. They reported inter-rater reliability ranging from 78 to 84% (kappa range = 75-82%) and intra-rater reliability ranging from 75 to 76% (kappa range = 72-75%). Collectively, these estimates provided preliminary evidence for the instruments reliability. The coder training and protocol followed in the present
thesis—in order to assure reliability—will be discussed in the “data management: coding and data preparation” section.

**Procedure**

After obtaining approval from the general research ethics board (See Appendix D), the primary researcher met with athletes, parents, and coaches to introduce the study and distribute letters of information and consent forms (see Appendices E and F). Upon receiving consent from all parties, a series of behavioural observations were carried out across training sessions and competitions. The coaches were told they were being filmed to acquire a better understanding of their role in the sport environment, without specifying the precise behaviours that will be investigated. Each team was video recorded three times: two training sessions and one competition. The purpose of videotaping the first training session was to acclimate the athletes and coaches to the presence of the camera and researchers. The subsequent training session and competition were used for data analysis. There was one coach (C5) whom, due to scheduling conflicts, was only filmed twice and therefore did not receive the video acclimation.

During each observation session, two different video cameras were used to capture different angles, each paired with a microphone to capture coach and athlete verbalizations. The first camera was set up to capture the entire area of play, and was paired with a parabolic microphone designed to capture all conversations, collectively capturing the majority of interactions on the field. Due to the size of the field, it was not always possible to capture all the athletes at once. In these instances, the objective was to capture the majority of the play area. The second camera was directed specifically at the coach throughout each video-session, and was paired with an omni-directional wireless microphone, capturing all coach interactions and verbalizations in greater detail. The videotaping began upon the arrival of the first athlete and
finished subsequent to the final team huddle as the athletes dispersed upon termination of the training and/or competition. An effort was made to remain consistent across all video-recording sessions.

**Data Management: Coding and Data Preparation**

Following the observation sessions, the obtained video-footage was uploaded onto multiple secure hard-drives. Next, the video-footage of both cameras were synchronized and paired together using IMovie, and then uploaded together into Noldus observer XT software (Version 9: Noldus, Trienes, Hendrickson, Jansen, & Jansen, 2000). The footage was then coded using the CLAS to reveal the prevalence of coach leadership behaviours. The CLAS allowed us to accurately catalogue the lower- and higher-order leadership dimension, the content, and recipient, for each behaviour in real time. The observational data were coded “continuously”, meaning that every second of the coaches’ behaviours were accounted for using one of the categories of the CLAS. Using this instrument, all of the video footage across training and competition were coded within the Noldus software.

The primary and secondary coders underwent rigorous training in accordance with the coding protocol of the CLAS, thus ensuring adequate skill and knowledge of the system. The various steps included: (a) providing all the coders with reading materials, and initiating group discussions; (b) participating in group-based coding sessions; and (c) completing the independent coding of 10-minute video segments, which were subsequently assessed for inter-rater reliability. The third step was repeated with different video segments until an acceptable inter-rater reliability was attained. Consistent with the standard protocol used in previous research, the primary coder and the secondary coder were required to attain a minimum of 75% reliability on frequency before being allowed to code the footage that was used in the analysis (e.g.,
Hollenstein, Granic, Stoolmiller, & Snyder, 2004). Thus, at the outset, the primary coder (i.e., the first author) was required to attain inter-rater reliability with the researcher responsible for developing the coding system on two consecutive 10-minute video segments. Once that was achieved, the primary coder became the *gold standard*. The secondary coder (i.e., a research assistant) was subsequently required to attain inter-rater reliability with the primary coder, also on two consecutive 10-minute video segments. Accordingly, the primary coder attained 80% (kappa = 72.7%) and 82.5% (kappa = 79.8%) reliability with the developer of the coding system, and the secondary coder attained 81% (kappa = 76%) and 85% (kappa = 77%) reliability with the primary coder. Inter-rater reliability was also assessed at the end of the process. The primary and secondary coders again reached the minimum standard of agreement (83%; kappa = 73%).

**Data Analysis**

Descriptive observations were conducted to address the three objectives in line with the purpose of the thesis. A sequence of exploratory analyses were conducted to explore higher-order leadership dimensions across playing contexts (i.e., objectives 1 and 2). The first analysis provided an *overall picture* of coach leadership across training and competition. This overview served to inform and direct subsequent analyses in line with the first two objectives. At various occasions, paired-samples t-tests were conducted to provide further assessment throughout the analyses. The t-tests were employed intermittently to avoid conducting an excessive number of unwarranted inferential analyses. Due to the lack of power and generalizability of the current sample, these t-tests were conducted solely for descriptive purposes and should therefore be interpreted with caution. Next, to provide a contextualized picture of coaches’ real-time leadership behaviours, descriptive statistics were conducted to reveal the frequency of content and recipient modifiers (objective 3). Notably, due to the variation in the duration of video
sessions, frequency is represented by *proportional* frequency (i.e., percentage of leadership, content, and recipient) for each variable. For instance, the frequency of idealized influence was calculated using the following formula: idealized influence behaviours/total coach behaviours*100).
Chapter 5

Results

A total of 9,867 active (e.g., eliciting athlete input), and neutral leadership behaviours were coded across seven training sessions (4,922 behaviours) and competitions (4,945 behaviours). There were 16 uncodable behaviours during training (0.32%), and 91 uncodable behaviours during competition (1.8%). Uncodable behaviours were typically the result of either audio or video equipment malfunction, or the coach exiting the filming parameters. Moving forward, uncodable behaviours will no longer be considered, thus, a total of 9,760 active and neutral leadership behaviours were coded across training (4,906 behaviours) and competition (4,854 behaviours). As previously mentioned, although coach behaviours were initially coded within the lower-order dimensions (e.g., eliciting athlete input) they were subsequently categorized into the higher-order leadership dimensions of the CLAS (e.g., intellectual stimulation), and will be referred to as such moving forward.

Table 3 displays the frequency of all higher-order active and neutral leadership behaviour dimensions. Notably, the findings in this table reveal the neutral leadership dimension as being overwhelmingly more prevalent in contrast to all other higher-order leadership dimensions. Accordingly, the vast majority of behaviours displayed by coaches were absent of a leadership related tone. The remainder of this chapter will present the frequencies of the active higher-order leadership dimensions across playing contexts through a series of exploratory analyses that collectively address the first two objectives within the main purpose of the thesis—in no particular order. Subsequently, in accordance with the third objective, this chapter will conclude by further contextualizing the frequency of coach leadership in relation to the recipient of the
behaviour (i.e., individual, and team) and the four content modifiers (i.e., instruction/feedback, organization, general communication, and observation).

Table 3

**Percentage Frequency of Higher-order Leadership Dimensions Across Playing Context**

<table>
<thead>
<tr>
<th>Playing Context</th>
<th>Higher-order Leadership Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Idealized Influence</td>
</tr>
<tr>
<td>Training</td>
<td>2.3%</td>
</tr>
<tr>
<td>Competition</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

**Frequency of Active Higher-order Leadership Dimensions**

First, the frequencies for the active higher-order leadership dimensions across playing context are presented in Figure 2. Figure 2 illustrates that the pattern of frequency for the leadership dimensions are very similar across both training and competition, suggesting that coaches display comparable leadership behaviours across playing contexts.

To further explore the similarities in the leadership patterns across training and competition, the seven active leadership dimensions were merged together to form an average leadership score. This was done in order to specifically contrast training and competition—irrespective of individual leadership dimensions. Figure 3 displays the mean frequency of leadership in training and competition. This figure supports the speculation that coaches display similar frequencies of leadership across playing contexts. To provide further support, a paired-samples t-test was conducted to contrast the frequency of leadership across the two playing contexts. The results indicated that coaches display comparable frequencies of leadership in
training ($M = 3.54\%, SE = 0.19$), compared to competition ($M = 3.22\%, SE = 0.21$), $t(6) = 1.06, p = .332$.

Figure 2. A visual overview displaying the patterns of active leadership dimensions across training and competition.

Figure 3. Contrasting active leadership across playing contexts. Individual leadership dimensions were combined to form an average frequency of leadership for each playing context—irrespective of individual dimensions. As an example, coaches exhibit each active leadership dimension, on average, 3.54% in training.
Given the similarities in leadership across playing contexts, behaviours in training and competition were merged together in the next phase to contrast the leadership dimensions—irrespective of playing context. This allowed for greater insight into the specific dimensions of leadership exhibited by coaches. Figure 4 provides the average frequency for each higher-order leadership dimension. First, focusing on the four components of TFL, the findings in Figure 4 suggest that individualized consideration, followed by inspirational motivation were the most frequently displayed leadership dimensions by coaches, and thus, the most frequently displayed components of TFL. Conversely, intellectual stimulation, followed by idealized influence were the least frequently displayed components of TFL. Next, the frequency of transactional leadership appears to be comparable with the lower levels of the TFL components. Finally, the laissez-faire and toxic leadership dimensions equally emerged as the least frequently displayed higher-order leadership dimensions.

![Active Leadership Dimensions](image)

*Figure 4.* Contrasting active leadership across higher-order dimensions. Playing contexts were combined to isolate the differences across individual dimensions—irrespective of playing contexts. The remaining 76.36% of behaviours not accounted for in this figure correspond to the neutral leadership dimension.
In order to provide further support for these descriptive observations, and provided that exploring the four components of TFL is a major focus of the thesis, six paired-samples t-tests were conducted to contrast the components of TFL. The findings are presented in descending order of frequency. Results indicate that coaches displayed similar levels of individualized consideration ($M = 9.29\%, SE = 1.04$) and inspirational motivation ($M = 6.68\%, SE = 0.79$), $t(6) = 1.73$, $p = .135$, but significantly higher levels of individualized consideration compared to intellectual stimulation ($M = 2.95\%, SE = 0.20$), $t(6) = 5.87$, $p = .001$, and idealized influence ($M = 1.50\%, SE = 0.34$), $t(6) = 8.62$, $p = .000$. Similarly, coaches displayed higher levels of inspirational motivation compared to intellectual stimulation, $t(6) = 5.21$, $p = .002$, and idealized influence, $t(6) = 4.86$, $p = .003$. Finally, coaches displayed similar levels of intellectual stimulation and idealized influence, $t(6) = 3.17$, $p = .019$.

In sum, the findings pertaining to the first two objectives suggest that: (a) coaches most frequently engaged in neutral interactions with their athletes; (b) coaches displayed similar frequencies of leadership behaviours across training and competition; (c) of all active leadership dimensions, coaches most frequently displayed behaviours characterized as individualized consideration, followed by inspirational motivation; (d) intellectual stimulation followed by idealized influence were the least frequently displayed TFL components; (e) coaches display similar levels of transactional leadership as intellectual stimulation—one of the least frequently displayed TFL components, and finally (f) behaviours characterized as laissez-faire and toxic leadership were the least frequently displayed of all the higher-order leadership dimensions.

**Contextualizing Leadership Through Recipient and Content Modifiers**

Finally, in accordance with the third objective, this section presents the frequencies of recipient and content modifiers, thus providing context to the leadership behaviours. First, Table
4 displays the percentage frequency of behaviours towards whom the combined higher-order active leadership, and neutral leadership dimensions were directed (i.e., the recipient). Results indicate that when coaches were actively displaying leadership in training, the recipient of their interactions was relatively evenly distributed between the team and specific individuals. More specifically, in training, coaches interacted with the entire team, or groups of athletes, as often as with individual athletes. In competition, however, there was a slight tendency for coaches to employ a more individualized approach to leadership. Regarding the neutral leadership dimension, the results indicate that in training, the vast majority of behaviours were directed towards the team. Alternatively, in competition, the recipient of behaviours characterized as neutral leadership was evenly distributed across the team and individuals.

Table 4

*Percentage Frequency of Recipient Modifiers Across Playing Context*

<table>
<thead>
<tr>
<th></th>
<th>Active Leadership</th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Team</td>
<td>Individual</td>
<td>Team</td>
</tr>
<tr>
<td>Training</td>
<td>12.9%</td>
<td>11.8%</td>
<td>32.2%</td>
</tr>
<tr>
<td>Competition</td>
<td>9.2%</td>
<td>13.3%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

Note: This table, split between the combined active leadership dimensions and the neutral leadership dimension, displays the frequency of the recipient whom coach behaviours are directed across training and competition.

Second, Table 5 displays frequency comparisons of the content through which coaches convey leadership across training and competition. When combining both the active and neutral leadership dimensions (i.e., total), the results indicate that coaches most frequently organized and observed their athletes in both training and competition. The same trend existed when isolating the neutral leadership dimension, across both playing contexts. Alternatively, the active
leadership dimensions were most frequently exhibited through instruction/feedback or organization across both playing contexts. Accordingly, in both training and competition, coaches used very little general communication to convey leadership.

Table 5

Percentage Frequency of Content Modifiers Across Playing Context

<table>
<thead>
<tr>
<th>Content Modifiers</th>
<th>Training</th>
<th></th>
<th></th>
<th>Competition</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Active Leadership</td>
<td>Neutral</td>
<td>Total</td>
<td>Active Leadership</td>
<td>Neutral</td>
<td>Total</td>
</tr>
<tr>
<td>Instruction/Feedback</td>
<td>11.16%</td>
<td>12.74%</td>
<td>23.9%</td>
<td>10.72%</td>
<td>9.7%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Organization</td>
<td>11.32%</td>
<td>32.91%</td>
<td>44.2%</td>
<td>9.04%</td>
<td>31.2%</td>
<td>40.2%</td>
</tr>
<tr>
<td>General Communication</td>
<td>2.12%</td>
<td>1.35%</td>
<td>3.5%</td>
<td>1.50%</td>
<td>1.36%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Observation</td>
<td>N/A</td>
<td>28.21%</td>
<td>28.2%</td>
<td>N/A</td>
<td>35.19%</td>
<td>35.2%</td>
</tr>
<tr>
<td>Total</td>
<td>24.61%</td>
<td>75.22%</td>
<td>100%</td>
<td>21.27%</td>
<td>77.48%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: This table, split between the active leadership dimensions and the neutral leadership dimension, displays the frequency of content through which coach leadership behaviours are conveyed across training and competition. Within the coach leadership assessment system, the laissez-faire leadership tone automatically does not receive a content modifier code (see Appendix A). Therefore, these totals do not include the percentage of leadership proportioned by the laissez-faire dimension for both training (0.2%) and competition (1.2%; see Table 3).
Chapter 6

Discussion

The overarching purpose of this thesis was to explore the leadership behaviours of day-
to-day youth sport coaches. For this reason, the focus of this chapter will pertain to the leadership
behaviours of the coaches in this study. Nonetheless, at times, the chapter will additionally
support and contextualize the emerging leadership behaviour trends using the description of the
athletes’ developmental environment (Chapter 3). With that in mind, the following discussion
will begin by addressing the three objectives aligned with the main purpose. The majority of this
discussion will individually discuss the frequency of each active higher-order leadership
dimension (objective 1). This will be followed by a discussion of the similarities in leadership
behaviours displayed across training and competition (objective 2), as well as the recipient and
content behaviour modifiers (objective 3). To conclude, this chapter will discuss the practical
implications, as well as the limitations and future directions.

Higher-order Leadership Dimensions

In line with the first objective, our findings indicate that when actively engaged in
leadership, coaches displayed higher frequencies of TFL in contrast to transactional, laisser-faire,
or toxic behaviours—which is a good sign for the state of youth coaching within this sample.
Indeed, coaches’ overall conduct revealed a considerable number of positive interactions with
their athletes. This is underscored by the fact that coaches displayed the TFL dimensions across
22.0% of all their behaviours in training, and 18.8% in competition, indicating that youth sport
coaches are indeed capable of engaging in a variety of leadership behaviours and naturally
display TFL (Rowold, 2006).
**Neutral.** Despite the use of TFL behaviours, coaches in this study mostly engaged in neutral interactions with their athletes and therefore did not take full advantage of the many opportunities that sport offers for the development of personal assets (Lerner et al., 2005). Specifically, 75% of behaviours in training, and 77.5% of behaviours in competition were absent of a leadership component (i.e., neutral). Thus, despite the ability to engage in leadership behaviours, more often than not, coaches did not display active leadership behaviours when intervening with their athletes. According to the COM-B model (Michie, van Stralen, & West, 2011), in order for an individual to engage in a particular set of Behaviours (B), it requires Capability (C), Opportunity (O) and Motivation (M). Drawing upon this model, perhaps coaches have the capability, but feel as though they lack the time and/or the opportunity to engage in a higher prevalence of active leadership with their athletes, thus hindering coaches’ motivation to engage in these behaviours. Further observational work, in combination with qualitative interviews with coaches and athletes may help to shed light on this contention.

**Transformational leadership.** Although the conceptualizations of the different leadership dimensions were distinctly measured in this study, they combine to paint a picture that TFL was the dominant leadership style displayed by youth sport coaches. To our knowledge, this is the first study that provides an objective account of different types of leadership displayed by coaches. The fact that coaches are neutral for more than 75% of their interactions is somewhat concerning, however, it is reassuring to see that when our sample of coaches actively displayed leadership, they appeared to want to create a positive environment conducive to beneficial outcomes in their athletes (Turnnidge, Vierimaa, & Côté, 2012). Specifically contrasting the subcomponents of TFL, coaches most frequently displayed individualized consideration and inspirational motivation, followed by intellectual stimulation, and idealized influence.
**Individualized consideration.** The hallmark of individualized consideration, which emerged in our findings as the most frequently displayed leadership behaviour, is that leaders (e.g., coaches) listen to and display a sense of care towards their followers (e.g., athletes). Coaches were capable of manifesting individualized consideration in training and competition, which has been referred to, in PYD studies, as a key factor for athletes’ development in sport (Fraser-Thomas & Côté, 2009; Vella et al., 2012; Vella et al., 2013). For example, Fraser-Thomas and Côté (2009) found that coaches’ attentiveness to feelings and emotions, and displaying interest in their athletes contributed to perceptions of higher quality relationships with their coaches (i.e., connection). Likewise, Barling (2014) suggests that behaviours conveying individualized consideration defines the quality of the leader-follower relationship. This evidence is in accordance with the characteristics of the developmental environment in which our sample of athlete reported that the quality of their relationships with their coach improved over the course of the season. Indeed, it is possible that the emergence of individualized consideration as the predominantly displayed leadership tone by coaches carries weight over the development of this relationship. Overall, it seems the youth sport coaches in this study were capable of demonstrating a sense of care and concern towards their athletes, and use this as a means to convey leadership, and forge a relationship with their athletes.

**Inspirational motivation.** Inspirational motivation was equally prevalent to individualized consideration. According to Horn (2008), the primary antecedents of coaching behaviours are coaches’ expectancies, goals, values, and beliefs. Drawing upon the findings of the present study, it appears that coaches translated their goals and expectations (i.e., inspirational motivation) into their behaviours more often than their values and beliefs (i.e., idealized influence). It is possible that coaches recognize the value of discussing and setting clear goals
and expectations given the prevalence of goal-setting in sport (Lock & Latham, 1985) and its emphasis within traditional coach education curriculum (e.g., NCCP’s basic mental skills multi-sport training). By engaging in specific leadership behaviours, such as discussing clear expectations and providing rational for decisions in the sport environment, it is entirely possible that inspirational motivation contributed to the moderate increases in competence. Moreover, according to Rowold (2006) inspirational motivation in particular contributes to effective leadership.

Intellectual stimulation. Although intellectual stimulation was not the least displayed dimension of TFL, coaches engaged in this behaviour significantly less than individualized consideration and inspirational motivation. Parallel to these findings, Morton et al. (2010) found that children perceived intellectual stimulation as the least displayed TFL dimension in the physical educational context. They further noted that the absence of intellectual stimulation can result in negative effects, such as the potential to undermine their motivation. Researchers in the organizational setting have noted intellectual stimulation as the least researched component of TFL (Locke, 2003). Collectively, the lack of research regarding intellectual stimulation, and the lack of integration on the part of leaders is unfortunate given its potential. For instance, by allowing athletes to think for themselves, make their own choices, and be involved in decision making, intellectual stimulation can promote autonomy in athletes (Horn, 2008; Stenling & Tafvelin, 2014). In line with self-determination theory, the extent to which an environment is either autonomy-supportive or controlling will influence the three basic human needs necessary for personal growth (i.e., autonomy, competence, and relatedness; Deci & Ryan, 1985; Deci & Ryan, 2000). This may be particularly important since the three basic needs have been empirically associated with numerous positive outcomes in sport (e.g., athlete health and well-
being; Charbonneau et al., 2001). Therefore, from a theoretical standpoint, a coach who frequently and effectively displays intellectual stimulation should result in an autonomy-supportive environment that promotes competence and connection. While the developmental environment resulted in increasing levels of connection—despite the infrequent display of intellectual stimulation—the development of competence was modest at best. Coaches could perhaps further enable the growth of competence by spending more time challenging their athletes and sharing leadership responsibilities.

Although intellectual stimulation was found to be relatively low in comparison to individualized consideration and inspirational motivation, studies investigating the usefulness of TFL training, indicate that intellectual stimulation behaviours in particular are malleable and easy to teach (Barling, Weber, and Kelloway, 1996). In the sport context, a pilot test of TFL training revealed that training coaches resulted in elevated levels of intellectual stimulation and idealized influence, which was associated with developmental experiences in athletes (Vella et al., 2013b). Therefore, although coaches in youth sport, as indicative of our sample of coaches, do not frequently engage in intellectual stimulation or idealized influence, it is possible for coaches to learn to adopt these behaviours into their coaching repertoire.

**Idealized influence.** Finally, the results indicated that idealized influence was the least frequently displayed TFL dimension. This finding is particularly salient given that Vella et al. (2013a) recently suggested that role modeling is one of the most influential components of coach TFL for athlete development. Moreover, Morton et al. (2010) found that adolescents’ most desired TFL dimension in their physical educator was idealized influence, signifying the importance adolescents place on such behaviours. However, given the competitive focus of sport, coaches may overlook the importance of role modeling appropriate behaviours in the sport.
setting. The reduced levels of idealized influence may explain why the athletes’ developmental environment was portrayed as stable unchanging levels of character. This postulate is in line with the findings of Tucker et al. (2010) who demonstrated that coach TFL directly, and through mediating variables, influences prosocial behaviours (i.e., character) in athletes. From a social learning theory perspective, individuals learn how to behave by observing and modeling the behaviours of other influential individuals (Bandura, 1977). There is further evidence in support of this theory within the sport context; researchers have demonstrated that character building occurs when fair play, sportsmanship, and moral development is consistently communicated (Bredemeier, Weiss, Shields, & Shewchu, 1986; Gibbins, Ebbeck, & Weiss, 1995; Hodge, 1989). Perhaps if coaches were to effectively utilize the teachable moments that naturally occur in the sport environment, thus demonstrating higher levels of idealized influence, research evidence would suggest that this might result in a developmental environment that leads to character building.

**Transactional leadership.** The findings indicate that on average, 2.37% of coach behaviours were transactional, which was more than idealized influence (1.5%) but less than intellectual stimulation (2.95%). Transactional leadership is typically performance driven, rewards are contingent upon successful performance (i.e., contingent reward), and mistakes are typically met with stern responses (i.e., management-by-exception passive/active; Bass & Avolio, 1994). Perhaps the values embedded within transactional leadership are disconnected with the goals of the sport context in which the observed coaches are situated. Coaches in a context with a greater emphasis on talent development where athletes spend considerable time in deliberate practice per week may be characterized by greater levels of transactional leadership behaviours.
The assessment of transactional leadership in youth sport is rather limited, thus, further observational work across varying contexts would be necessary to provide further insight.

**Laissez-faire and toxic leadership.** The more passive and ineffective leadership dimensions, laissez-faire and toxic leadership (Bass & Avolio, 1994), were the least frequently displayed behaviours by coaches. Coaches’ exclusion of laissez-faire related behaviours is consistent with the findings of Price and Weiss (2013) who reported that youth sport athletes perceived their coaches to engage in these behaviours on a limited basis, if at all. While it appears coaches have the tendency to remain on task, it is entirely possible that the CLAS is limited in its ability to capture passive and/or avoidant type behaviours. Furthermore, it is encouraging that our sample of coaches infrequently displayed toxic leadership given that (a) coaches have previously been described as regularly engaging in anti-social behaviours with referees or opposing coaches (Trudel et al., 1996), and (b) such leadership behaviours can negatively influence athlete development (Chelladurai, 1993; Smoll & Smith, 1989). In fact, consistent with Bandura’s (1977) social learning theory, adults’ modelling inappropriate behaviours often set the conditions for negative youth behaviours associated with sport (e.g., aggressive behaviour), and may thwart the benefits of sport participation towards PYD (Bandura, 1973; Hansen et al., 2003). Although many components of the developmental environment were stable—indicating a lack of developmental growth—perhaps this omission of passive and negative behaviours prevented the developmental environment to be characterized by a decline in development (e.g., character). One can also speculate that the minimal display of the laissez-faire and toxic tones on the part of this sample of coaches may have also contributed in forging the development of the positive coach-athlete relationships.
Leadership Across Playing Contexts

The second objective of this study was to contrast coach leadership behaviours across playing contexts (i.e., training and competition). Our findings demonstrate that coaches displayed similar levels of leadership across the individual dimensions (e.g., transactional leadership), conveyed leadership through similar content (e.g., general communication), and addressed comparable recipients (e.g., individual athletes) in both training and competition. Essentially, from a leadership perspective, coaches appeared to show consistent levels of leadership across playing contexts. These findings are in contrast to observational studies investigating coach behaviours from different perspectives (Smith et al., 2016; Trudel, Côté, & Bernard 1996). For example, in a study comparing coaches’ motivational behaviours in training and competition, Smith et al. (2016) discovered that coaches are less empowering (i.e., task-involving and autonomy/relatedness supportive) in competition compared to training. Perhaps the underlying mechanisms that influence coaches’ situational use of leadership differs from the underlying processes that influence their situational use of teaching and motivational behaviours. There have been few attempts to investigate the behavioural differences of coaches across situations (i.e., playing contexts), and this study provides the first attempt to compare leadership in training and competition. Thus, further exploration is required to obtain a better understanding of the differences between leadership and other types of coach behaviours (e.g., teaching and motivational) between training and competition.

Recipient and Content Modifiers

The final objective was to garner an understanding of how coaches are exhibiting leadership (i.e., the recipient and the content of behaviours). The results indicated that the recipient of coaches’ leadership behaviours (e.g., team), and the content of their behaviours (e.g.,
organization) were relatively similar across both training and competition. First, the findings reveal that in training, the recipient leadership was equally targeted towards the team and individual athletes, whereas in competition, there was a slight trend towards individualized leadership. There is evidence that coaching behaviours are more effective when they are targeted at specific individuals (Becker, 2013; Gould et al., 2002). That is, the needs of athletes are different and therefore require individualized behavioural approaches. We would thus expect that a higher level of individualized leadership behaviours across both playing contexts, while accommodating the different needs of each athlete, should result in more effective leadership actions, and perhaps, better outcomes (e.g., confidence).

Second, regarding the content modifiers, the findings indicate that leadership predominantly emerged through instruction/feedback and organization, regardless of the playing context. In fact, only a small proportion of leadership emerged through general communication. According to Erickson and Côté (2016), one aspect that differentiates athletes with temporally increasing PYD trajectories throughout a season is their exposure to personal communication with their coaches—thus, providing support for coach-athlete interactions beyond purely sport-related matters. Moreover, research evidence suggests that general communication—not specific to sport—predicts greater sport enjoyment and commitment, which is more likely to lead to sport continuity (Stuntz & Spearance, 2010; Visek et al., 2015). In sum, there exist ample opportunities, and motives, for coaches to integrate non-sport specific (i.e., personal) communication into their overall coaching and more specifically through their leadership.  

**Practical Implications**

Notwithstanding the relative variability of leadership in training and competition, its overall prevalence is very limited. In fact, our findings indicate that coaches spent the majority of
their time in a neutral state (i.e., 44.61%), or not directly interacting with their athletes (i.e., observation; 31.7%), suggesting that coaches might be missing out on opportunities to influence their athletes through their leadership. Furthermore, in relation to the proportion of interactions where coaches are displaying leadership (23.65%), there was a tendency for coaches to rely on individualized consideration and inspirational motivation. Yet, there is potential value in other, underused behaviours, such as intellectual stimulation and idealized influence (e.g., Barling, 2014; Fraser-Thomas & Côté, 2009; Stenling & Tafvelin, 2014; Vella et al., 2013). While it is unreasonable to expect coaches to display leadership at all times, through leadership training coaches could learn to change some of these neutral interactions into positive leadership behaviours (Barling, 2014). Moreover, through improved leadership actions, coaches could possibly contribute to a developmental environment that is characterized by developmental growth. Leadership training is not a novel idea given that multiple researchers have previously called for the need to design a workshop implementing TFL in sport coaches. Notably, this feat has previously been achieved in the organizational context, in the physical education context, and even as a pilot intervention in the sport context (Barling et al., 1996; Beauchamp et al., 2011; Vella et al., 2013b).

Importantly, the findings in this study could serve to inform the development of a leadership workshop in several ways. First, by garnering a better understanding of the type and frequency of day-to-day youth sport coaches’ leadership behaviours, this study provides a baseline of leadership behaviours in youth sport. Baseline data such as this facilitates the first stage of successful intervention development, which is to understand the “target behaviour” or set of behaviours, so they can be used as a baseline measure (Michie, Atkins, & West, 2014). Second, providing a thorough description of the frequency of coach leadership behaviours allows
for the identification of potential areas of concerns (e.g., coaches’ insufficient use of leadership),
to then pinpoint specific target behaviours for discussion and intervention. While our sample of
coaches engage in positive leadership actions (e.g., frequent individualized consideration, and
infrequent toxic leadership), there are also potential areas of concerns warranting consideration
by future leadership workshop curriculum: Coaches (a) display limited overall frequencies of
leadership in both training and competition, (b) display limited levels of intellectual stimulation
and idealized influence, (c) could further target leadership towards individual athletes, and (d)
could further convey leadership beyond sport-specific situations (i.e., through general
communication). Accordingly, a well-designed and implemented leadership workshop grounded
in Michie et al.’s (2011) behaviour change theory has the potential to mold coaches into effective
leaders with the potential to promote positive developmental outcomes.

Limitations and Future Directions

An important contribution of this study is the use of observational methodology to assess
leadership. The overwhelming presence of self-report measures in the assessment of leadership
across contexts called for an alternate methodology (Turnnidge & Côté, 2016). While the
implementation of the CLAS resulted in to new and insightful data, it was not without its
limitations. Most importantly, leadership is complex and multifaceted (Avolio, Walumbwa, &
Weber, 2009), therefore, it was perhaps simplistic to assume that “quantity” of behaviours
necessarily translates to “influence”. Arguably, the mere occurrence of a behaviour (e.g.,
leadership) does not indicate that the behaviour achieved its intended purpose (e.g., effective
execution). Alone, the CLAS does not capture information beyond frequency and duration, such
as the quality of leadership behaviours. Further research efforts pairing observation with other
methodologies could provide insight into effective implementation of leadership beyond sheer
frequency. For instance, the CLAS paired with state space grid methodology (Hollenstein, 2007; Lewis, Lamey, & Douglas, 1999), could uncover the structural features of leadership based interactions (e.g., effective behaviour sequencing of leadership).

Additionally, within the current thesis, the CLAS was implemented in a relatively limited basis. As an example, recipient was assessed dichotomously (i.e., individual athlete vs. team), thus ignoring subgroups of athletes (e.g., athlete leaders vs. non-leaders). Alternatively, the CLAS offers alternative methods to coding the recipients of coach leadership. For example, athletes’ can be coded using specific identifiers (e.g., athlete d), subsequently allowing researchers to assemble athletes in subgroups according to relevant characteristics. For example, a study could investigate how coaches engage in leadership according to differences in the skill level of athletes. Indeed, a fine-grained analysis of the target/recipient of leadership would be an interesting area of inquiry in future studies.

Furthermore, although this study provides a comprehensive picture to describe “what” leadership behaviours are displayed by youth sport coaches, and to a much lesser extent “how”, it fails to capture “why” coaches engage in varying leadership behaviours. Accordingly, in order to harvest a complete or holistic understanding of the coaching process, Potrac et al. (2000) recommend a triangulation process, which extends beyond identifying what the behaviours are, by exploring why coaches use these behaviours. Qualitative interviews with coaches and athletes may help to provide a richer picture of these more nuanced aspects of the leadership process. Furthermore, the combination of observational and qualitative data (i.e., using stimulated recall methodology; Lyle, 2003) may shed new light on coaches’ leadership behaviours in youth sport.

Finally, observational research is quite time consuming, which requires considerable resources and makes it difficult to collect large sample sizes (Frick, Barry, & Kamphaus, 2010).
Indeed, our small sample size (a) limited our ability to conduct comprehensive analyses beyond mere quantitative descriptions, and (b) limited the heterogeneity and generalizability of our sample to male youth sport soccer coaches. Future studies might consider attempting to collect a sample size large enough to investigate the direct link between objective measures of coach TFL (e.g., the CLAS; Turnnidge & Côté, 2016), and positive youth developmental outcomes using more complex inferential analyses. This would additionally provide the opportunity to examine differences in leadership behaviours across sports, and/or coach gender.
Chapter 7

Concluding Thoughts

The overall reliance on self-report measures and inductive analytical techniques within the coach TFL literature provides a limited understanding of coach leadership. Thus, the purpose of the thesis was to explore the leadership behaviours of day-to-day youth sport coaches using alternative methodology (i.e., systematic observation). Exploring 9,760 active and neutral coach leadership behaviours, the current thesis provides a detailed descriptive picture of seven day-to-day youth sport coaches’ leadership behaviours. Notably, the findings indicated that coaches spent the majority of their time displaying neutral leadership in training and competition. Moreover, when coaches were explicitly displaying leadership, five major trends were observed. Specifically, the findings revealed that: (a) the frequency of coach leadership dimensions were consistent across training and competition; (b) coaches most frequently exhibited individualized consideration and inspirational motivation; (c) intellectual stimulation and idealized influence were the least frequently displayed transformational leadership dimensions; (d) the recipient of coaches’ leadership was evenly distributed between individual athletes and the team as a whole; and (e) coaches conveyed leadership primarily through sport-specific communication (i.e., instruction/feedback and organization), and less frequently through non-sport communication (i.e., general communication).

Importantly, the aforementioned findings may hold notable implications pertaining to the positive development of youth athletes. The developmental environment described in chapter 3 indicated that athletes exposed to these day-to-day coaches (a) enhanced their relationship with their coach, and (b) moderately increased in competence, but did not (c) develop a greater sense.
of confidence, or (d) build character. While the current thesis did not directly explore the relationship between coach transformational leadership and positive youth development, there is theoretical and empirical support to suggest that coach leadership behaviours play a salient role in promoting athlete development (e.g., Price and Weiss, 2013; Vella et al, 2010). This would suggest that the leadership behaviours of our sample of day-to-day coaches may have contributed to the developmental environment emerging throughout the four-month athletic season. It would perhaps be worthwhile for future research to further investigate these possible implications.

Overall, the results emerging from this study offer valuable insight into the leadership behaviours employed by coaches across playing contexts. Notably, from a practical standpoint, by observing and identifying real-life manifestations of coaches’ leadership behaviours, these findings provide a baseline of coach leadership and identifies potential areas of concern. Accordingly, the findings from this thesis can inform and facilitate the development and implementation of leadership training in coach education curriculum, which may have a direct impact on coaches. These findings additionally lend insight into the youth sport coaching and TFL literature. For instance, the emergence of varying dimensions of leadership provides support for the full-range model of leadership. Moreover, when actively engaging in leadership, coaches primarily displayed TFL, supporting the notion that TFL theory may be a salient framework for examining coaches’ leadership behaviours in the youth sport context. Conclusively, through the use of objective methodology, these findings provide an account of coach leadership that serves to supplement the current understanding of coach leadership. In order to continue to garner a superior comprehension of coach leadership, it is hoped that this study will serve to generate further interest in this area of study.
References


American Society for the Psychology of Sport and Physical Activity (NASPSPA)
Conference, Montreal, Quebec, Canada.


## Appendix A

### Coach Leadership Assessment System (CLAS) Coding Manual

#### CLAS Coding System Structure

<table>
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<tr>
<th>Higher Order Dimension</th>
<th>Lower Order Dimension</th>
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<th>Content Modifiers</th>
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<td>Idealized Influence</td>
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<tr>
<td></td>
<td>1- Discussing/modelling pro-social values or behaviours</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>2- Showing vulnerability/humility</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>3- Discussing goals/expectations</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>4- Expressing confidence in athlete potential</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>5- Promoting team concept</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>6- Providing rationales/explanations</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>Inspirational Motivation</td>
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<td>7- Eliciting athlete input</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>8- Sharing decision making/leadership responsibilities</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>9- Emphasizing the learning process</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>10- Showing interest in athlete feelings/needs/concerns</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>11- Recognizing athlete achievements/contributions</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>Individualized Consideration</td>
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<td>12- Discussing rewards/penalties</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>13- Searching for/responding to deviations from rules or standards</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>Neutral</td>
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<tr>
<td></td>
<td>14- Neutral</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication 4-Observation</td>
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<td></td>
<td>Laissez-faire</td>
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<td></td>
<td>15- Showing disinterest</td>
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<td></td>
<td>Toxic</td>
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<td>16- Expressing anger/hostility</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>17- Modelling anti-social behaviours</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>N/A</td>
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<tr>
<td></td>
<td>X- Uncodable</td>
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</tbody>
</table>
General Coding Guidelines

Overview

The Coach Leadership Assessment System (CLAS) has been designed so that it can be used to code videos that have been uploaded into a computer program (e.g., Noldus Observer). When using the tool, coders review videos of coaches – pausing the video to code each coach behavior. This tool is intended for use with a continuous coding approach and thus every possible type of coach behavior must be classified into one of the categories of this instrument. Each behavior is then coded according to the individual initiating the behavior (e.g., coach) and the leadership tone of the behaviour (i.e., the primary code). In addition, coders complete ratings to further describe the behaviour, and indicate the more specific content of the behaviour, as well as with the recipient (i.e., athlete) of the behaviour and the context in which the behaviour occurs (i.e., scrimmage).

This instrument is designed to be able to capture leadership behaviours in a variety of sports (e.g., volleyball, soccer, swimming, synchronized swimming, beach volleyball, hockey, basketball, etc.) and sport activities (e.g., competition, practices).

Coding sessions will involve coding the continuous behaviour of the coach during a 15-minute video clip. The amount of time required to code each 15-minute segment in its entirety is highly variable, and may depend on factors such as the experience of the coder or the content of the particular segment.

The codes in the CLAS are based on classification of behaviours across two (2) dimensions:

1. Coach Behaviour, which includes:
   a. The initiator subject (i.e., whose behaviour is being coded)
   b. The leadership tone of a given interactive behaviour
   c. The content modifier of a given interactive behavior
   d. The recipient of a given coach behavior (i.e., to whom a coded behavior is directed).

2. Context (the training or competition activity context in which a given coach behaviour takes place).

Rules

- 3-second rule
  o Wait three (3) seconds before coding ‘neutral’ (leadership tone) when changing from any actively communicative code. Code for this behaviour only if it continues past the three (3) second waiting period, at which point you would rewind the video three seconds and begin coding it at its true initiation point. If within three (3) seconds a different actively communicative behaviour occurs, do not wait to code that behaviour.

  o Wait three (3) seconds before coding ‘observation’ (content modifier) when changing from any actively communicative code. Code for this behaviour only if
it continues past the three (3) second waiting period, at which point you would
rewind the video three seconds and begin coding it at its true initiation point. If
within three (3) seconds a different actively communicative behaviour occurs, do
not wait to code that behaviour.

- Wait three (3) seconds before coding ‘uncodable’ when changing from any other
code. Code for this behaviour only if it continues past the three (3) second
waiting period, at which point you would rewind the video three seconds and
begin coding it at its true initiation point. If within three (3) seconds a different
behaviour visibly or audibly occurs, do not wait to code that behaviour.

- **Default codes**
  - For the coach leadership tone dimension, specific behaviour codes are to be
coded by default if criteria for any other behaviour within the dimension are not
met. That is, use the default codes in the absence of any other codable behaviour:
    - Leadership tone: 14 (Neutral)

  - However, priority is given to more extreme codes in the leadership tone
dimension. If deciding between the default code and an active code, always select
the more extreme code
    - E.g., if deciding between ‘neutral’ and ‘transactional’ leadership tone,
code ‘transactional’

  - For the content modifier dimension, the default code to be used in the absence of
any other codable behaviour is:
    - If the coach is not actively communicating with any of the athletes,
      Leadership tone + content modifier: 14 (Neutral), 4 (Observation)
    - If the coach is actively communicating with any of the athletes,
      Leadership tone + content modifier: 14 (Neutral), 3 (General
      Communication)

  - For the recipient modifier, the default code is:
    - Team (if behaviour is directed to two or more athletes)

  - No default categories exist for the context dimension as this must be directly
observed.

Subject – Initiator or Recipient (letters)

As there are multiple participants in all videos (i.e., individual athletes and the coach), the coder must specify which subject’s behaviour is being coded. Once assigned a subject ID, athletes must be coded as same subject for all videos. Note: Athletes could be coded individual (i.e., athlete A, athlete b, etc.) or could be coded as individual vs. team, depending on the research question or design. The subject codes can be used as follows:

CODE

z – Coach
a – Athlete A
b – Athlete B
c – Athlete C
d – Athlete D
e – Athlete E
f – Athlete F
g – Athlete G
h – Athlete H
i – Athlete I
j – Athlete J
etc.
Dimension – Leadership Behaviour

Overview

- The leadership behaviour dimension is comprised of (a) leadership tone and (b) a class of coach behaviour content modifiers.

- Each leadership behaviour code (i.e., all codes other than uncodable) is linked to the content modifier codes. For every observed leadership behaviour, a leadership tone code and a content modifier code MUST be scored. Thus, each observed behaviour is categorized by the combination of two (2) codes – a leadership tone code followed by modifier code(s) (e.g., “Discussing/modelling pro-social values or behaviours + General Communication” or “Eliciting athlete input + Instruction/Feedback, etc.)

- If there is a change in any of these codes (leadership tone OR content modifier), begin a new entry and code as new independent coach behaviour. Thus, if the coach begins with “Discussing/modelling pro-social values or behaviours + General Communication” and moves immediately to “Discussing/modelling pro-social values or behaviours + Instruction/Feedback” in the same continuous interaction, code as two (2) separate behaviours.

- Leadership tone behaviours and content modifier codes are intended to encompass BOTH verbal and non-verbal behavioural indicators. For instance, the leadership tone code “Recognizing athlete achievements/contributions” could include giving high-fives, a thumbs up, etc., whereas the content modifier code “Organization” could include whistle-blowing, etc. For non-verbal behaviours, they must be easily identifiable (i.e., there must be a definite behavioural cue).

- For the leadership tone behaviour dimension, please use theoretical constructs (i.e., the 4 I’s, transactional, etc.) as a general guide for interpreting the “general message” of the behaviour. For instance, when deciding whether a coach behaviour truly “fits” with a particular behavioural code, such as eliciting athlete input, it may be useful to assess whether this behaviour aligns with the general concept of intellectual stimulation.

LEADERSHIP TONE

Idealized Influence: Behaviours conveying the coach as (a) a positive role model, (b) an individual of high moral/ethical standing, or (c) trustworthy and respected.

Categories:
- 01- Discussing/modelling pro-social values or behaviours
Prosocial values/behaviours generally refer to values/behaviours that are intended to benefit others and that are prompted by empathy, morality, or a sense of social responsibility, rather than a desire for personal gain.

- Can include general social or moral topics (e.g., displaying respect, supporting others, empathy/understanding, etc.).
- Can include deliberate attempts to foster pro-social attitudes or skills among the athletes, etc. (e.g., teaching responsibility, highlighting the importance of assisting teammates, etc.).
- Can include humour-based behaviours (e.g., humor as an initial ice-breaking method, a stress-relieving method, or a means of motivation, team communication, energy, or enjoyment promotion). Note: humour that is mean-spirited, sarcastic, or at the expense of others should not be included here, but in modelling anti-social behaviours; self-deprecating humour should not be included here, but in showing vulnerability/humility.
- Can also include non-verbal behaviours (e.g., helping athletes gather their equipment).
- E.g., “It is really important that we stay friendly and respectful on the court.”

**02-Showing vulnerability/humility**

- Discussions where they recognize gaps in their knowledge, understanding, and may involve asking an athlete for help.
- Can include admitting to, or apologizing, for mistakes.
- Can include discussing personal information with athletes (e.g., telling stories where they felt discouraged, saying they’ve also had bad days, sharing that they get nervous too, etc.).
- E.g., “Sorry guys, I messed up and gave you the wrong set.”

**Inspirational Motivation:** Behaviours through which a coach demonstrates that they hold (a) high expectations for their athletes, or (b) a compelling vision of the future for either individual athletes or the team as a whole. Also includes behaviours through which a coach promotes team spirit, enthusiasm, and meaning/challenge.

**Categories:**

**03-Discussing goals/expectations**

- Expectations can be for a particular training session, a particular drill, or as a part of a larger picture, such as an upcoming game or goals for the season.
- Can include discussion of goal(s), goal setting, etc. (can be for a particular training session, a particular drill, or as a part of a larger picture, such as an upcoming game or goals for the season). Can also involve asking athletes to write down or vocalize their own goals.
- E.g., “For this drill, I want to see you guys giving 100 percent.”
- **04-Expressing confidence in athlete potential**
  - Talking optimistically/enthusiastically about what the athlete(s) can achieve.
  - Providing challenging task(s), etc. (E.g., “I think you guys can handle this higher intensity, so we’re going to go for it today.”)
  - E.g., “I know you guys can do this.”

- **05-Promoting team concept**
  - Encouraging team spirit/attitude towards team members.
  - E.g., team chants, discussing the importance of coming together as a team, teamwork, etc.
  - Can also include clarifying roles with team, discussing team issues
  - Note: This category involves behaviours that involve a collective goal/vision etc. If the behaviours involve a moral/ethical element (i.e., this is how we should behave towards others), it should be coded as 01-discussing/modelling pro-social values or behaviours.
  - E.g., “Come on everyone, it’s ‘let’s go Vikings’ on three.”

- **06-Providing rationales/explanations**
  - Behaviours through which the coach highlights the value/meaning of certain activities/drills (i.e., “This drill is important because…”).
  - Can include providing reasoning behind decisions (i.e., highlighting the method behind the madness).
  - Can include connecting activities to a larger picture (e.g., connecting particular activities to athlete/team goals; “This will help us reach finals”).
  - E.g., “It’s really important that we get this defensive drill right because you know our opponents on Saturday are defensive all-stars.”

**Intellectual stimulation:** Behaviours that convey a view of the athlete(s) as capable decision makers and contributing members of the situation. Also includes behaviours that encourage athletes to think and act in novel and creative ways.

Categories:

- **07-Eliciting athlete input**
  - Questioning. Must allow an answer reflecting athlete input. These questions should require a higher level of thinking. For instance, asking critical questions regarding practice activities or social issues.
  - Can involve encouraging athletes to (a) solve problems and to look for alternative solutions, (b) have open discussions, and (c) contribute new and alternative ideas.
  - Note: This category relates to coach-initiated athlete input. If the athlete offers input and the coach listens and/or incorporates their input, this
should be coded as 10-Showing interest in athletes’ feelings/needs/concerns. Questions that do not require a higher level of thinking should not be included (e.g., How many sets have you finished?), code as 14-Neutral rather than 07- Eliciting athlete input.

  o E.g., “How can we use what we have learned from this drill to make us more successful in our games?” or “What can we learn from a drill/game when things did not go as expected?”

  ▪ **08-Sharing decision making/leadership responsibilities**
    o Can involve providing athletes with choice(s) such as providing different drill/task options.
    o Can involve offering opportunities to show initiative, leadership, etc. (i.e., demonstrating skills for teammates, leading a warm-up, helping younger athletes etc.).
    o E.g., “Today, it’s Maddie’s turn to lead the warm-up set. She will decide the stroke and distance.”

  ▪ **09-Emphasizing the learning process**
    o Encouraging or recognizing athlete(s) who seek or engage in challenging tasks.
    o Can include encouraging athlete(s) after mistakes or discussing the value of mistakes.
    o Can involve behaviours that emphasize effort.
    o E.g., “That was a really great try Amy, mistakes like that only help us get better.”

**Individualized consideration:** Behaviours through which a coach recognizes an athlete’s individual needs, considers their unique abilities, and displays genuine care and concern.

Categories:

  ▪ **10-Showing interest in athlete feelings/needs/concerns**
    o Adapting activities to suit the needs of the athlete(s).
    o Listening to athlete(s) and considering/incorporating their opinions.
    o Can include discussing personal issues with the athlete(s).
    o Can include referencing to past events, interactions, etc.
    o E.g., “I know you weren’t feeling well yesterday, how are you today?”

  ▪ **11-Recognizing athlete achievements/contributions**
    o Can include thanking the athletes for their hard work, help, etc.
    o Note: Recognition should have some level of specificity (i.e., a particular performance or a particular athlete) and a higher degree of enthusiasm. For example, a passive “Good job” would not fit with this category and would be coded as 14-Neutral.
    o E.g., “That’s excellent, Jamie! Fantastic job on the turn!”
Transactional: Behaviours that reinforce standards/expectations through rewards or punishments.

Categories:

- **12-Discussing rewards/penalties**
  - Examples: If ___, then ___ statements.
  - Clarifying, negotiating, and tying specific rewards/penalties to performance.
  - E.g., “If you guys don’t complete this set properly, then everyone is going to run laps”; “If you try one more time, then we can have a scrimmage.”

- **13-Searching for/responding to deviations from rules or standards**
  - Focusing on errors/mistakes (could include negative reactions to undesirable athlete(s) behaviours).
  - E.g., “Stop blowing bubbles and get back on task.”

Neutral: Absence of leadership related tone.

Notes
- Only code if no criteria from any other category is met.
- If the behaviour seems to meet any of the other criteria, choose the more active category (i.e., categories other than neutral).

Laissez-Faire: Behaviours that convey coach’s disinterest in or ambivalence towards the athletes or practice activities.

Categories:

- **15-Showing Disinterest**
  - Not paying attention to the athlete(s) or practice (e.g., seeming distracted).
  - E.g., Playing with music, talking with others (assistant coaches, parents) about non-relevant (i.e., not sport related) matters.
  - Avoiding action.
  - Note: Leaving the coaching area (and consequently being out view/inaudible should be coded as x-Uncodable, NOT laissez-faire/showing disinterest.

Toxic Leadership: Behaviours that convey that a coach holds negative attitudes/feelings towards the athlete(s).
Categories:

- **16-Expressing anger/hostility**
  - Can include threats, intimidation (e.g., yelling).
  - Can involve both verbal (e.g., threats) or non-verbal (body language, shaking fists, etc.).
  - E.g., “Stop what you’re doing right now or you’ll be sorry!”

- **17-Modelling anti-social behaviours**
  - Examples: Being rude, sarcasm, swearing.
  - Can also include criticising, belittling, ridiculing, insulting, devaluing athlete(s) input, making negative comments about athlete(s) to others.
  - Can include verbal or non-verbal behaviours.
  - Note: These behaviours may not necessarily be delivered in an angry/hostile tone.
  - Can include excluding athlete(s) from particular drills/activities.
  - E.g., “Joey, that’s a terrible idea. No wonder you didn’t make the team last year.”
MODIFIERS

1-Instruction/Feedback: Technical and/or tactical and/or teaching instruction or feedback from coach, directed at athlete(s) motor performance or skill execution. Also includes communication from coach related to individual mental/psychological skills, characteristics, qualities, or aspects of performance.

Notes
- Includes prescriptive/corrective technical information in reference to the quality of the movement or skill execution (e.g., how it should be performed, what could be improved, etc.).
- Can be directed at general psychological topics related to performance (e.g., confidence, focus, mental toughness, etc.).

2-Organization: Communication from coach related to organization of practice tasks and athlete actions, NOT intended to directly influence performance.

Notes
- E.g., “Now we’re doing ___ drill”, “Go over there”, “Do 10 of these”, etc.
- Can include discipline, keeping control, etc.
- Can include timing or counting during skill execution/drills.
- Can include non-verbal behaviours (e.g.,
- CANNOT include any technical instruction related to movement quality (code 2). Code for each separately, even if these behaviours occur in immediate sequence.

3-General communication: Communication from coach not directly related to task, performance, or organization in the current team/training/performance context.

Notes
- Default code if coach is actively interacting with athlete(s) but criteria is not met for other conversational categories (i.e., Instruction/feedback or Organization codes).
- E.g., joking with athletes, talking about school, etc.

4-Observation: Coach engaged in observing/watching athletes during training/performance activities, though not directly communicating with athletes.

Notes
- Default code if coach is engaged in training/competition activities, but criteria is not met for any actively communicative code.
- 3-second rule in effect before coding for ‘observation’ from an active communication code.
MODIFIER – TARGET

- **Individual** athletes (ind or athlete a, b, c, etc.). Depending on the depth of coding, individual athletes can be coded broadly as ind or individually identified as athlete, b, c, d, etc.
- **Team**: Default code if coach behaviours are not targeted towards anyone in particular or if behaviours are targeted towards 2 or more athletes.
- **Other**: Only use for assistant coaches when discussing matters that are relevant to the sport. If discussing non-sport related matters with an assistant coach or any other person (e.g., ref, lifeguard, parents, friends, etc.), code as 15-Showing disinterest.

CONTEXT

- 1-Warm-up or cool-down
- 2-Structured drills/exercises
- 3-Instruction (if athlete(s) is stationary/listening to coach)
- 4-Scrimmage
- 5-Free play
- 6-Break – e.g., water
Appendix B

PYD Toolkit (Coach Version)

COACH : Questionnaire

Name: _________________  Birthdate: ______  Age: ____  Sex: ____

Sport: _________________  Level: ________  Years of coaching experience: ____

Years coaching the same athletes: ____

Each week, how many hours do you spend in formal practice with your athletes: _____

INSTRUCTIONS: Please complete each of the three parts of the survey.
This questionnaire is designed to assess the competence of your athlete as well as
your relationship with them. There are no right or wrong answers so please give
your immediate reaction. Some of the questions may seem similar but please
answer ALL questions. Your honest responses are very important to us.
Your responses will be kept in strictest confidence. (You have been asked to
provide your birthdate only in the event that we need to match two pieces of
information. If you have any questions, please ask for help.)
Athlete Sport Competence Inventory

Sport competence refers to one’s ability to successfully perform a certain task in sport. In this form you will be rating the sport competence of your athletes. Please answer each question based on how skilled or competent you perceive your athlete in each of the areas listed compared to all of the athletes that you know. Please answer truthfully, basing your rating solely on the specific area described in each question. Circle the number that best corresponds to your perceptions. A 5 represents the most competent athlete you know from a similar age/skill level, while a 1 represents the least competent athlete you know from a similar age/skill level. Your answers will be kept completely confidential.

In this section, you will be evaluating ___________________.

<table>
<thead>
<tr>
<th>Please rate this person’s sport competence in the following areas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical skills (e.g., shooting, passing, blocking, etc.)</td>
</tr>
<tr>
<td>Not at all competent</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>Tactical skills (e.g., decision-making, reading the play, strategy, etc.)</td>
</tr>
<tr>
<td>Not at all competent</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>Physical Skills (e.g., strength, speed, agility, endurance, etc.)</td>
</tr>
<tr>
<td>Not at all competent</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

*Repeated in accordance to the number of athletes

Thank You for Your Time!
Appendix C

PYD Toolkit (Athlete Version)

ATHLETE : Questionnaire

Name: ___________________ Birthdate: _______ Age: _____ Sex: _____

Sport: _______________ Level: _______ Age at which you started sport: _____

Each week, how many hours do you spend in formal practice with a coach: _____

How many seasons have you had the same coach as you do now: _____

What stage of the season is your team in (circle one):  

Beginning of season  
Middle of season  
End of season

INSTRUCTIONS: Please complete each of the four parts of the survey. 
This questionnaire is designed to assess your perceptions of your sport experiences. There are no right or wrong answers so please give your immediate reaction. Some of the questions may seem similar but please answer ALL questions. Your honest responses are very important to us.

Your responses will be kept in strictest confidence (Your coach, parents, and peers will not see your responses). You have been asked to provide your birthdate only in the event that we need to match two pieces of information. If you have any questions, please ask for help.
**Sport Confidence Inventory**

A number of statements that athletes have used to describe their feelings in sport are given below. Read each statement and then circle the appropriate number to indicate how you generally feel while participating in your sport.

<table>
<thead>
<tr>
<th>I feel self-confident.</th>
<th>Not at all</th>
<th>2</th>
<th>3</th>
<th>Very much so</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’m confident I can meet the challenge.</td>
<td>Not at all</td>
<td>2</td>
<td>3</td>
<td>Very much so</td>
</tr>
<tr>
<td>I’m confident about performing well.</td>
<td>Not at all</td>
<td>2</td>
<td>3</td>
<td>Very much so</td>
</tr>
<tr>
<td>I’m confident because I mentally picture myself reaching my goal.</td>
<td>Not at all</td>
<td>2</td>
<td>3</td>
<td>Very much so</td>
</tr>
<tr>
<td>I’m confident of coming through under pressure.</td>
<td>Not at all</td>
<td>2</td>
<td>3</td>
<td>Very much so</td>
</tr>
</tbody>
</table>
Coach-Athlete Relationship Questionnaire

This questionnaire is designed to assess your relationship with your coach. Please answer truthfully. All answers will be kept completely confidential.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel close to my coach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I feel committed to my coach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I feel that my sport career is promising with my coach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I like my coach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I trust my coach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I respect my coach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I feel appreciation for the sacrifices my coach has experienced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to improve his/her performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>When I am coached by my coach, I feel at ease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>When I am coached by my coach, I feel responsive to his/her efforts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>When I am coached by my coach, I am ready to do my best</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>When I am coached by my coach, I adopt a friendly stance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Athlete Behaviour Scale

Below is a list of behaviours likely to occur during matches/games. Please think about your experiences while playing your sport and indicate **how often** you engaged in these behaviours **this season** by circling the relevant **number**. Please response **honestly**.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Never</th>
<th>Rarely</th>
<th>Some times</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gave positive feedback to a team-mate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Criticized an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Argued with a team-mate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Helped an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Deliberately fouled an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Asked to stop play when an opponent was injured</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Verbally abused a team-mate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Encouraged a team-mate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Retaliated after a bad foul</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Helped an injured opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Criticized a team-mate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Gave constructive feedback to a team-mate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Tried to wind up an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Swore at a team-mate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Congratulated a team-mate for good play</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Tried to injure an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Intentionally distracted an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Showed frustration at a team-mate's poor play</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. Intentionally broke the rules of the game</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Physically intimidated an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Thank You for Your Time!**
Appendix D

Research Ethics Board (REB) Letter of Approval

June 09, 2015

Mr. Mathew McGeehan
Master’s Student
School of Kinesiology and Health Studies
Queen’s University
21 Division Street
Kingston, ON, K7L 3N6

GEHS Ref #: GEHE-189-15; Review #: 01/2015
Title: “GEHE-189-15: Examining Coach Behaviours and Youth Sport Outcomes Within Sport”

Dear Mr. McGeehan:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled “GEHE-189-15: Examining Coach Behaviours and Youth Sport Outcomes Within Sport” for ethical compliance with the Tri-Council Guidelines (TCG) and Queen’s ethics policies. As such, in accordance with the Tri-Council Guidelines (article 13 1 4) and Senate Terms of Reference (article 62), your project has been cleared for one year. At the end of each year, the GREB will review your project to ensure it has been completed and, if not, what changes have occurred or will occur in the next year.

You are reminded that your obligation to advise the GREB, with a copy to your unit REB, of any advance event(s) that occur during this one year period (access this form at https://research.queensu.ca/frm_research/ and click Events - GREB Advance Event Report). An advance event indicates, but is not limited to, a complaint, a change, or completed event that alters the level of risk for the researcher or participants or situations that requires a substantial change in approach to a participant(s). You are also advised that all advance events must be reported to the GREB within 48 hours.

You are also reminded that all changes that affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, participant characteristics, and implementation of new procedures. To do so, use the application at https://research.queensu.ca/frm_research/ and click Events - GREB Amendment to Approved Study Form. These changes will automatically be sent to the Ethics Coordinator, Geoff Harvey, at the Office of Research Services or ethibd@queensu.ca for further review and clearance by the GREB or GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Yours sincerely,

Jean Stevenson, Ph.D.
Chair
General Research Ethics Board

cc: Mr. Jordan LaFleur, Co-Principal Investigator
Dr. Mark Henry and Dr. Jean Cos, Supervisors
Dr. Mike F вне, Co-investigator
Mrs. Jennifer Finan, Mrs. Veronica Allen, and Mr. Matthew Vasiou, Graduate Students
Mrs. Michaela EdGalpin, Research Co-Cordinator
Dr. Brandon Gerl, Chair, Unit REB
Mrs. Joan Hitchcock, Dept. Admin
Appendix E

Participant Parental Letter of Information and Consent

PARTICIPANT PARENTAL LETTER OF INFORMATION AND CONSENT FORM

Title of the study: Examining Coach Behaviours and Youth Outcomes Within Sport

We would like to ask for your child’s assistance with a study that is being carried out by a team of researchers from Queen’s University. The purpose of this study is to examine coaches’ leadership behaviours in youth sport. The findings from this project will provide important information to coaches and educators with regards to creating positive sport environments and facilitating youth development in sport settings. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

If your child volunteers to participate in this study, they may be asked to participate in two parts of the study. In Part I, teams will be observed and video recorded multiple times. Coaches will wear a microphone to record any talking that takes place within the sport environment. The videotaped practices will then be watched by one of the principal investigators to understand the different leadership-based coach-athlete interactions (i.e., patterns and sequences of interactions) that occur within sport.

Part II of this study will involve asking the participants to complete a questionnaire. The questionnaire asks questions about your child’s sport environment and their sport experiences. The questionnaire should take about 20 minutes to complete. They have the right to not answer any questions that they are uncomfortable with and they are invited to contact Telehealth Ontario at 1-866-797-0000 if any of these questions trigger emotional upset. There will be no deception used in this study. Participation is completely voluntary and your child will be informed that they can withdraw at any time.

Part II of this study will involve asking the participants to complete a questionnaire. The questionnaire asks questions about your child’s sport environment and their sport experiences. The questionnaire should take about 20 minutes to complete. They have the right to not answer any questions that they are uncomfortable with and they are invited to contact Telehealth Ontario at 1-866-797-0000 if any of these questions trigger emotional upset. There will be no deception used in this study. Participation is completely voluntary and your child will be informed that they can withdraw at any time.

This is part of a research project for which Jordan Lefebvre and Matthew McGuckin are co-primary researchers. The results from this study will be published and presented at conferences; however, the identity of your child will be kept confidential. All the information provided through the questionnaires and observations will be confidential and will be stored by in a locked office at Queen’s University for a minimum of seven years after the completion of the study. As a reminder, participation is completely voluntary and should you (or your child) wish, they may withdraw from all or part of the study at any time, for any reason, without explanation or consequences by contacting either of the primary researchers, Jordan Lefebvre and Matthew McGuckin. Any information collected up to the time your child withdraws from the study will be destroyed.
With your permission and your child’s permission, the questionnaires and observations will be used to help improve coach behaviours within the youth sport environment. If you and your child decide that they would like to be a part of this study, please complete the attached form. Also, please ask your child to read their letter and indicate their consent as well. Any questions about study participation may be directed to Jordan Lefebvre or Matthew McGuckin at 613-533-6000, ext. 78207 or 14JL64@queensu.ca and 14MECM@queensu.ca respectively. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board, Joan Stevenson, at 613-533-6000, ext. 74025 or chair.GREB@queensu.ca.

**PARENTS/GUARDIANS PLEASE READ and SIGN YOUR CONSENT**

I have read and understood the purpose of this study and my child’s involvement in this study. I am aware that my child will remain anonymous throughout the study and in any written results of the data collection through participation in this project. I understand that my child’s participation in this research project is completely voluntary and that they have the right to not answer any question(s) that they feel comfortable with. I also recognize that my child has the right to withdraw from the study at any time without penalty and that any data collected to this point will be destroyed. Finally, any questions I have about this research project and my child’s participation have been answered to my satisfaction. I understand that I am invited to contact the primary researcher and/or the General Ethics Review Board should I have any further questions or concerns about this research project and my child’s participation.

I, ____________________________ give permission to allow ____________________

to participate in the study conducted by the School of Kinesiology and Health Studies at Queen’s University.

Signature_____________________________ Date ____________

Please indicate if you wish to receive a summary of the study findings: [ ] Yes [ ] No
PARTICIPANT CONSENT FORM-ATHLETE

You are invited to participate in a study entitled ‘Examining Coach Behaviours and Youth Outcomes Within Sport’. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen’s policies. Please read this form carefully and feel free to ask any questions you may have.

**Purpose and Procedures**

The purpose of this research study is to examine coaches’ leadership behaviours in youth sport.

If you volunteer to participate in this study, you will be asked to complete questionnaires evaluating your personal experiences in sport. You will also be asked to be videotaped during your sport sessions.

**Potential Risks**

You have the right to not answer any questions that you are uncomfortable with and are invited to contact Telehealth Ontario at 1-866-797-0000 if any of these questions trigger emotional upset.

**Potential Benefits**

As a participant, you may be making important contributions to the research literature. We cannot and do not guarantee or promise that you will receive any direct benefits from the study.

**Storage of Data**

The questionnaires and video recordings will be safeguarded and securely stored in a locked filing cabinet at Queen’s University for a minimum of seven years as per University requirements.

**Confidentiality**

The data from this study will be published and presented at conferences; however, your identity will be kept confidential.

**Right to Withdraw**

You may withdraw from the study for any reason, at any time, without penalty of any sort by contacting one of the principal investigators, Jordan Lefebvre or Matthew McGuckin (613-533-6000, ext. 78207). There will be no team related effects associated with withdrawal. You do not have to answer any questions that you do not feel comfortable answering. Any information collected up to the time you withdraw from the study will be destroyed.
Questions
Any questions about study participation may be directed to Jordan Lefebvre at 613-533-6000, ext. 78207 or 14JL64@queensu.ca or Matthew McGuckin at 613-533-6000, ext. 78207 or 14MECM@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board, Joan Stevenson, at 613-533-6000, ext. 74025 or chair.GREB@queensu.ca.

Consent to Participate
I have read and understood the description provided above. I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the study described above, understanding that I may withdraw this consent at any time. A copy of this consent form has been given to me for my records.

_________________________ _______________________
Signature of Participant

_________________________ _______________________
Signature of Researcher
Appendix F

Coach Letter of Information and Consent

COACH LETTER OF INFORMATION

Title of the study: Examining Coach Behaviours and Youth Outcomes Within Sport

The purpose of this study is to examine how different coach behaviours influence youth’s development in sport. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

The study will have each athlete complete a questionnaire related to their experience in a specific sport (i.e., on a specific team with a specific coach). During the course of your season, multiple practices and games will then be videotaped. As a coach, you will be wearing a microphone to record any talking. The videotaped practices will then be watched one of the principal investigators to understand the different coach-athlete interactions (i.e., patterns and sequences of coach/athlete interactions). There are no known or foreseeable risks involved by participating in this study.

This is part of a research study for which Jordan Lefebvre and Matthew McGuckin are co-primary researchers. Information collected from coaches will remain completely confidential. For the entire study, all information collected will be kept in a locked filing cabinet by the primary researchers. Items will be available to the primary researchers and their research team. As a reminder your participation in this study is completely voluntary and you can decide to stop participating at any point without explanation or consequences. Should you decide to withdraw from participation, information collected to that point will be destroyed. Although there is no financial compensation it is anticipated that your information will help us to better understand the positive developmental experiences of youth sport participation.

The study is only interested in the information collected for the entire group and so all participants’ individual responses will never be known, keeping individuals identity secure. While the information collected may be presented at academic conferences and published in relevant academic journals, anonymity and confidentiality of all participants will be maintained. Any questions about study participation may be directed to Jordan Lefebvre at 613-533-6000, ext. 78207 or 141JL64@queensu.ca or Matthew McGuckin at 613-533-6000, ext. 78207 or 14MECM@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board, Joan Stevenson, at 613-533-6000, ext. 74025 or chair.GREB@queensu.ca.
PARTICIPANT CONSENT FORM - COACH

I have read the information letter and understand that this study requires the athletes I coach to complete a survey regarding their experiences in our specific sport setting (i.e., on this specific team, with me as a coach). I also understand that the second part of this study involves the videotaping of multiple practices and games in order to examine interactions between coaches and athletes.

I have been informed that my confidentiality will be protected throughout the study, and that the information I provide will be available only to the primary researchers and their research team. While the results of this study may be presented at academic conferences and/or in academic journals, I am aware that any results will be presented for the group only (i.e., no individual data will ever be reported) – thereby maintaining my anonymity. Similarly, the videotaped practices will only be viewed by the primary researchers and/or their research team and only for the purpose of data analysis – they will never be shown at conferences or in any other presentation.

I understand that my participation in this research project is completely voluntary and that I reserve the right not to answer any question(s) I do not feel comfortable with. I also recognize that I may stop participating at any time without explanation or consequence. Finally, any questions I have about this research project and my participation have been answered to my satisfaction. I understand that any data collected up to that point will be destroyed.

I consent to participate in this research project.

Name of Participant                                        Signature                                        Date

Please indicate if you wish to receive a summary of the study findings: [] Yes  [] No