Abstract

There is an extensive body of literature suggesting that the full-range leadership model offers a valuable vantage point for examining leadership behaviours (Bass & Riggio, 2006). Few studies, however, have applied this model to investigate coaches’ behaviours within the youth sport context (Vella, Oades, & Crowe, 2013). To address this research gap, this dissertation presented three studies examining the leadership process, the manifestation of youth sport coaches’ leadership behaviours, and the influence of coaches’ leadership behaviours on athletes’ motivational outcomes.

Study 1 focused on the transformational leadership (TFL) component of the full-range leadership model. This study employed a systematic literature review approach to synthesize and integrate TFL research. Results indicated that TFL exerts its effects through processes at the intrapersonal (e.g., task perceptions, self perceptions, and emotions), interpersonal (e.g., relationship quality with leaders and peers), and environmental (e.g., climate and culture) levels. Findings from this study highlighted key methodological considerations for researchers and practitioners wishing to examine TFL in the youth sport context.

Building upon the recommendations of the first study, Study 2 focused on the development of a systematic observation instrument to capture the full-range of coaches’ leadership behaviours in sport. This instrument was developed through an iterative process of literature review, qualitative interviews, and video observation. The initial reliability and validity of the instrument was also assessed. The resulting instrument: the Coach Leadership Assessment System (CLAS; Turnnidge & Côté, 2016) consists of five higher-order leadership dimensions across 18 distinct behavioural categories.
Finally, Study 3 utilized the CLAS to explore coaches’ leadership behaviours in youth sport. Findings revealed that coaches most frequently displayed neutral coaching behaviours, followed by transformational and transactional coaching behaviours. Moreover, results indicated that transformational coaching behaviours were associated with specific motivational outcomes at the interpersonal and environmental levels.

Overall, the present dissertation highlighted that the full-range leadership model is a valuable framework for understanding coaches’ leadership behaviours. Further, it suggested that observational methods can be a viable tool for investigating coaches’ leadership behaviours. It is hoped that the results of this dissertation will encourage further exploration of coaches’ leadership behaviours in youth sport.
Co-Authorship Statement

The studies presented in this dissertation are the work of Jennifer Turnnidge. The co-authors included in this dissertation are Dr. Jean Côté (Studies 1-3) and Dr. Mark Bruner (Study 3). Research was supported by the Social Sciences and Humanities Research Council of Canada (SSHRC) Insight research grant (Côté) and SSHRC doctoral grant (Turnnidge). On all three manuscripts, Jennifer Turnnidge had primary responsibility for the conception and study design, data collection, analysis and interpretation of data, and the drafting and revision of the manuscript documents.

Study 1. Applying Transformational Leadership theory to coaching research in youth sport: A systematic literature review. This manuscript is currently published in the International Journal of Sport and Exercise Psychology and is presented according to the journal’s guidelines. Dr. Côté provided input regarding the study’s design, interpretation of data, and editorial feedback on the manuscript.

Study 2. Observing transformational coaching: The development of the Coach Leadership Assessment System (CLAS). This manuscript is under review in the Journal of Applied Sport Psychology and is presented according to the journal’s guidelines. Dr. Côté provided input regarding the study’s design, interpretation of data, and editorial feedback on the manuscript.

Study 3. Transformational coaching in action: An exploration of coaches’ real-time leadership behaviours in youth sport. This manuscript is currently in preparation. Dr. Côté and Dr. Bruner provided input regarding the study’s design, interpretation of data, and editorial feedback on the manuscript.
Acknowledgements

This dissertation represents the culmination of a long journey down the road. As a five-year-old enrolling in kindergarten, I never imagined that I would spend the next 25 years continuing my education on essentially the same street. As I travelled the 1.0-kilometer distance from Winston Churchill Public School, to my high school KCVI, and eventually to Queen’s for my undergraduate, master’s, and doctoral degrees, people often asked why I chose to stay in Kingston. The answer to this question in quite simple: Amazing people. I have had the opportunity to meet so many wonderful people who supported me throughout this journey and they showed me how one road can truly lead to a world of possibilities. While these pages cannot express the full extent of my gratitude, I would like to thank them for their kindness and support.

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# List of Abbreviations

<table>
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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>3 P’s:</td>
<td>Performance, Participation, and Personal Development</td>
</tr>
<tr>
<td>4 C’s:</td>
<td>Competence, Confidence, Connection, and Character</td>
</tr>
<tr>
<td>ACT:</td>
<td>Assessment of Coaching Tone</td>
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<tr>
<td>AGT:</td>
<td>Achievement Goal Theory</td>
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<tr>
<td>ASUOI:</td>
<td>Arizona State University Observation Instrument</td>
</tr>
<tr>
<td>BNSRS:</td>
<td>Basic Need Satisfaction in Relationships Scale</td>
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<tr>
<td>CAICS:</td>
<td>Coach-Athlete Interaction Coding System</td>
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<tr>
<td>CBAS:</td>
<td>Coach Behaviour Assessment System</td>
</tr>
<tr>
<td>CDP:</td>
<td>Coach Development Program</td>
</tr>
<tr>
<td>CET:</td>
<td>Coach Effectiveness Training</td>
</tr>
<tr>
<td>CLAS:</td>
<td>Coach Leadership Assessment System</td>
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<tr>
<td>DTLI:</td>
<td>Differentiated Transformational Leadership Inventory</td>
</tr>
<tr>
<td>DTLI-YS:</td>
<td>Differentiated Transformational Leadership Inventory- Youth Sport</td>
</tr>
<tr>
<td>DMSP:</td>
<td>Developmental Model of Sport Participation</td>
</tr>
<tr>
<td>HLM:</td>
<td>Hierarchical Linear Modelling</td>
</tr>
<tr>
<td>IC:</td>
<td>Individualized Consideration</td>
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<tr>
<td>II:</td>
<td>Idealized Influence</td>
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<tr>
<td>IM:</td>
<td>Inspirational Motivation</td>
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<tr>
<td>IS:</td>
<td>Intellectual Stimulation</td>
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<tr>
<td>LF:</td>
<td>Laissez-faire Leadership</td>
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<tr>
<td>LMX:</td>
<td>Leader-Member Exchange</td>
</tr>
<tr>
<td>LSS:</td>
<td>Leadership Scale for Sports</td>
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<tr>
<td>MAC:</td>
<td>Mastery Approach to Coaching</td>
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<td>MCSYS:</td>
<td>Motivational Climate Scale for Youth Sport</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>MLQ</td>
<td>Multifactor Leadership Questionnaire</td>
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<td>MMCOS</td>
<td>Multidimensional Motivational Climate Observation System</td>
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<tr>
<td>MML</td>
<td>Multidimensional Leadership Model</td>
</tr>
<tr>
<td>NEU</td>
<td>Neutral</td>
</tr>
<tr>
<td>PAF</td>
<td>Personal Assets Framework</td>
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<tr>
<td>PYD</td>
<td>Positive Youth Development</td>
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<td>SDT</td>
<td>Self-Determination Theory</td>
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<tr>
<td>SMS</td>
<td>Sport Motivation Scale</td>
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<tr>
<td>TC</td>
<td>Transactional Leadership</td>
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<tr>
<td>TFL</td>
<td>Transformational Leadership</td>
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<tr>
<td>TOX</td>
<td>Toxic Leadership</td>
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Chapter 1

General Introduction

1.1 Overview and Background Information

Sport programs have the potential to foster several important outcomes for youth, including performance, participation, and personal development (3 P’s; Côté, Turnnidge, & Vierimaa, 2016). One socializing agent that is critical to the realization of such outcomes is the coach. Consistent with this perspective, research highlights that coaches can exert a significant influence on athletes’ developmental outcomes through the leadership behaviors they display during their coach-athlete interactions (Vella, Oades, & Crowe, 2010). As such, coach leadership is an influential variable to consider when examining positive youth development through sport.

One leadership framework that may enhance our understanding of coaches’ potential influence on youth development is the full-range leadership model and specifically, transformational leadership (TFL). TFL involves behaviours that are intended to empower, inspire, and challenge others for the betterment of themselves, their team or their organization (Bass, 1998). TFL is comprised of four dimensions (Bass, 1985; Bass & Riggio, 2006):

- idealized influence (leaders foster trust and respect and are role models for their followers),
- inspirational motivation (leaders inspire followers through a compelling, collective vision),
- intellectual stimulation (leaders encourage their followers to engage in the learning process),
- individualized consideration (leaders display genuine care and concern for individual’s development and achievement). An extensive body of literature across various disciplines demonstrates that TFL is linked with positive follower outcomes (Bass & Riggio, 2006). It is
thus possible that coaches’ use of TFL behaviours may have important implications for youth development in sport.

In line with this assertion, evidence exists to suggest that coaches’ TFL behaviours are linked with both positive individual and group level outcomes, including athlete satisfaction, effort, psychological well-being, intrinsic motivation, performance, and group cohesion (Arthur, Woodman, Ong, Hardy, & Ntoumanis, 2011; Callow, Smith, Hardy, Arthur, & Hardy, 2009; Charbonneau, Barling, & Kelloway, 2001; Rowold, 2006; Stenling & Tafvelin, 2014). Further, a study conducted by Vella, Oades, and Crowe (2013) indicates that coaches’ TFL behaviours are associated with elements of personal development, including personal and social skills, goal setting, and initiative.

Collectively, previous studies in sport suggest that TFL behaviours have the potential to positively contribute to athlete development. However, while the existing literature offers valuable insight into the types of athlete outcomes that may be associated with TFL, studies evaluating how these outcomes can be acquired are limited. For instance, research is needed to understand the processes by which coaches’ TFL may influence athlete development. Further, there are questions surrounding how TFL behaviours are manifested during coach-athlete interactions in youth sport. The exploration of the real-time leadership behaviours that occur between coaches and athletes in youth sport may help to address these questions.

1.2 Objective of the Dissertation

The purpose of this dissertation was to investigate how the full-range leadership model, and specifically TFL, may be applied to the examination of coach-athlete interactions in youth sport. Further, this dissertation explored coaches’ real-time leadership behaviours and the influence of these behaviours on the quality of youth’s sport experiences. Overall, the
objective of this work was to enhance our understanding of the leadership process in youth sport and its implications for athlete development.

1.3 Overview of the Dissertation

This dissertation is structured in manuscript format and includes a literature review, three manuscripts, and a general discussion. The literature review presents a review of the current literature examining youth development and coach leadership and outlines important methodological considerations. In the first manuscript, a systematic literature review was conducted to synthesize and integrate research examining the processes by which TFL influences followers’ psychosocial development in various disciplines. A secondary aim of this literature review was to critically examine the knowledge base on TFL processes, including the assessment of the populations and contexts that were typically studied and the methodologies and study designs that were commonly employed. The second manuscript outlined the development of a systematic, observational instrument to capture coaches’ real-time leadership behaviours in youth sport: the Coach Leadership Assessment System (CLAS). The third manuscript employed the CLAS to provide an in-depth picture of coaches’ leadership-based interactions with their athletes. Moreover, the third manuscript examined the relations between coaches’ observed leadership behaviours and youth’s motivational outcomes. Following the three manuscripts is a general discussion which summarizes the dissertation’s key findings, discusses its strengths and limitations, presents practical implications, and outlines directions for future research.
References


Chapter 2

Literature Review

2.1 Introduction

This chapter reviews the current literature examining positive youth development (PYD) through sport and coaches’ leadership behaviours. Sections 2.2 and 2.3 describe the PYD approach to sport research and a recently developed framework for exploring PYD in sport. Section 2.4 focuses on the role that coaches play in promoting positive developmental outcomes for youth, with an emphasis on coaches’ leadership behaviours. The full-range leadership model, specifically its transformational leadership (TFL) component, is then introduced in section 2.5 as a valuable theoretical approach for understanding coaches’ influence on youth development. The next sections (2.6-2.8) highlight the application of this model to the sport context. Methodological considerations for examining coaches’ leadership behaviours are also discussed (2.9). This chapter concludes with a summary and a brief description of the context of this dissertation (2.10).

2.2 Positive Youth Development in Sport

The PYD approach contends that youth should be viewed as resources that can be developed, rather than as problems that should be resolved (Damon, 2004). An underlying tenet of this approach is that by engaging youth in activities that build upon their strengths and abilities, positive developmental experiences can be facilitated. Larson (2000) suggests that structured leisure activities, such as sport, provide an optimal level of challenge, concentration, and motivation for facilitating PYD in comparison to other contexts (i.e., school or non-voluntary leisure activities). As such, a key focus of PYD research in sport has
been to explore whether and how sport may serve as an avenue by which to foster positive developmental outcomes.

Consistent with this perspective, previous studies indicate that sport participation may have important implications for youth’s development. First, the health benefits of sport are well documented. For instance, participation in sport and physical activity is linked with improved quality of life and a reduced risk of a variety of diseases (e.g., Dencker et al., 2006; Sallis & Owen, 1999). Furthermore, sport can influence physical development by facilitating the development of important motor skills (e.g., Wankel & Berger, 1990). Positive cognitive outcomes related to sport participation have also been outlined, including enhanced academic achievement, adaptive attitudes towards school, and future career achievement (e.g., Eccles, Barber, Stone, & Hunt, 2003; Larson & Verma, 1999; Rees, Howell, & Miracle, 1990).

An extensive body of research has also explored the psychosocial outcomes associated with sport participation. Evidence exists to suggest that involvement in sport may be linked to improved teamwork and co-operation, as well as the development of respect, initiative, and leadership skills (e.g., Camiré, Trudel, & Forneris, 2009; Holt, Tamminen, Tink, & Black, 2009; Larson, 2000). Sport can also provide youth with opportunities to build close relationships with adults and peers (e.g., Vannatta, Garstein, Zeller, & Noll, 2009; Vella, Oades, & Crowe, 2013; Weiss & Smith, 2002).

Although there is evidence suggesting that positive outcomes can be fostered through sport participation, it is important to acknowledge that sport can also be linked with negative experiences. For instance, previous studies reveal associations between involvement in sport and negative outcomes such as increased aggression, the misuse of alcohol, and decreased moral reasoning (e.g., Gardner & Janelle, 2002; Lemmyre, Roberts, & Ommundsen, 2002;
Moreover, some researchers argue that sport’s emphasis on competition and achievement may undermine its potential for positive development (Brustad, Babkes, & Smith, 2001; Rudd, 2005). These conflicting findings highlight that participation in sport does not inevitably lead to positive development. There is consequently a need to understand the different features of sport programs that can influence PYD.

2.3 The Personal Assets Framework

A recent framework proposed by Côté and colleagues (Côté, Turnnidge, & Evans, 2014; Côté, Turnnidge, & Vierimaa, 2016), the Personal Assets Framework (PAF), suggests that the quality of youth’s sport experiences are influenced by three key elements: (a) the types of sport activities in which athletes engage (i.e., personal engagement in activities), (b) the social dynamics (i.e., quality relationships), and (c) the sport environment (i.e., appropriate settings). This framework suggests that the interaction of these three elements provides an immediate sport experience that can foster changes in an athlete’s short-term outcomes. These short-term outcomes can be conceptualized as competence, confidence, connection, and character (i.e., the 4 Cs). By promoting the development of the 4 Cs, sport experiences can foster young athletes’ long-term outcomes of performance, participation, and personal development (i.e., the 3 Ps).

2.3.1 Personal engagement in activities. Building upon Côté and colleagues’ (Côté, 1999; Côté & Fraser-Thomas, 2007; Côté & Hay, 2002) Developmental Model of Sport Participation (DMSP), the PAF suggests that personal engagement in activities is an important element for promoting positive development in sport. Previous studies consistently highlight that youth’s personal engagement in activities can be enhanced by a diversified approach to sport participation (Côté & Vierimaa, 2014). Indeed, evidence suggests that participating in a
A diversified range of activities before committing to a particular sport can be linked with the 3 Ps (e.g., Busseri, Rose-Krasnor, Willoughby, & Chalmers, 2006; Fredricks & Eccles, 2006). In addition to the benefits of participating in different sports during childhood, there is a growing body of literature demonstrating that a mixture of different play and practice activities can positively contribute to youth development (Côté, Erickson, & Abernethy, 2013). Côté and colleagues (2013) propose that sport activities can be categorized along a continuum according to both the value the activity holds for the participant (ranging from extrinsic to intrinsic) and the structure of the activity (ranging from adult-led to youth-led). Interestingly, youth’s experiences in organized sport can be designed to incorporate a mixture of these activities. Although organized sport is generally associated with adult-led activities resembling deliberate practice, it can also provide opportunities for youth-led, play-based activities. By creating sport environments that incorporate a mixture of practice and play activities, sport practitioners and coaches may help to foster the acquisition of short-term personal assets and the long-term outcomes of sport participation.

2.3.2 Appropriate settings. The PAF also highlights the importance of understanding the broader sport environment. Several studies have focused on identifying features of sport environments that are conducive to positive development (e.g., Côté, Macdonald, Baker, & Abernethy, 2006; Henriksen, Stambulova, & Roessler, 2011). Results suggest that settings that provide youth with less structured, spacious, and safe environments may promote youth engagement with adult-led and youth-led sport activities. Moreover, environments that support the development of psychosocial skills, sporting goals, and diversified training experiences can foster athlete development (e.g., Henriksen et al., 2011).
Another important area of research centres on the eight contextual setting features identified by the National Research Council and Institute of Medicine (NRCIM, 2002) that are believed to facilitate positive development in youth. These setting features include: (a) physical and psychological safety, (b) appropriate structure, (c) supportive relationships, (d) opportunities to belong, (e) positive social norms, (f) support of efficacy and mattering, (g) opportunities for skill building, and (h) integration of family, school, and community.

Strachan, Côté, and Deakin (2011) investigated coaches’ perceptions of the presence of these setting features within elite youth sport contexts. Results indicated that three features were central to the promotion of positive development: an appropriate training environment, opportunities for physical, personal, and social skill development, and supportive interactions. These findings illustrate the potential utility of incorporating these setting features into the design of sport programs. Overall, research exploring the features of appropriate settings lends support to the notion that PYD in sport is influenced by on-going interactions between athletes’ environment, their engagement in sport activities, and the relationships that occur within these environments.

2.3.3 Quality relationships. Lastly, the PAF highlights that the social dynamics of sport play a critical role in shaping youth development (e.g., Fraser-Thomas & Côté, 2009; Keegan, Harwood, Spray, & Lavallee, 2009). Previous research demonstrates that athletes’ interactions with social agents, including coaches, parents, sibling, and peers, can influence the outcomes that youth derive from their sport participation (e.g., Ullrich-French & Smith, 2006). One of the most dominant interpersonal relationships within the sport context is the coach-athlete relationship. An extensive body of literature highlights that coach-athlete interactions are a key driver in athletes’ developmental processes (e.g., Côté & Gilbert, 2009;
Fraser-Thomas, Côté, & Deakin, 2005). As such, the following sections of this review will focus on the relationships between coaches and their athletes.

2.3.3.1 Coach-athlete relationships. Since coaches design the structure and content of practice sessions, provide instruction, and offer feedback, they play an integral role in facilitating learning and skill acquisition (i.e., performance; Baker & Horton, 2004; Côté, Baker, & Abernethy, 2003). Several studies also suggest that coaches can affect youth’s decisions to continue in sport (i.e., participation). More specifically, studies indicate that coaches have the potential to influence several outcomes related to participation, including sport enjoyment and sport persistence (e.g., Álvarez, Balaguer, Castillo, & Duda, 2009; Pelletier, Fortier, Vallerand, & Brière, 2001). Finally, there is a growing body of research exploring coaches’ contributions to youth’s personal development (e.g., Côté, Bruner, Erickson, Strachan, & Fraser-Thomas, 2010; Vella, Oades, & Crowe, 2013). For example, previous work reveals associations between coaching strategies and the development of outcomes such as teamwork and initiative (e.g., Coatsworth & Conroy, 2009; Holt et al., 2009).

Within the coaching literature, several conceptual models have been developed to illustrate coaches’ potential influence on athlete development (e.g., Côté, Salmela, Trudel, Baria, & Russell, 1995; Horn, 2008; Mageau & Vallerand, 2003). Although these models have emerged from a wide variety of theoretical perspectives, the coaching literature has been heavily influenced by leadership theories (Vella, Oades, & Crowe, 2010). In their review of the coaching literature, Gilbert and Rangeon’s (2011) revealed that two of the most prominent coaching frameworks are leadership-based: the Multidimensional Model of Leadership
2.4 Coaches’ Leadership in Sport: Multidimensional and Mediation Models

2.4.1 Multidimensional Model of Leadership. The MML proposes that there are three interacting states of leadership behaviour: the required coach behaviour, the athlete’s preferred coach behaviour, and the actual coach behaviour (Chelladurai, 1993; 2007). A central tenet of the MML suggests that positive athlete outcomes will occur when there is congruence among the three states of coach behaviour (Chelladurai, 2007). The MML also postulates that these states of coach behaviour are influenced by three antecedent variables, including the characteristics of the situation, the athlete(s)’, and the coach. For instance, the required coach behaviours may differ based on the gender, age, or competitive level of the athletes they are coaching. Similarly, the athletes’ preferred coaching behaviours may be contingent on such athlete characteristics. The three states of coaching behaviours may also depend on various situational characteristics, such as the task type and the social and cultural context of the team.

Research employing the MML has typically used questionnaires to assess athletes’ perceptions and preferences of coach behaviours, in addition to coaches’ perceptions of their own behaviours. For instance, the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) measures a coach’s decision-making style (democratic and autocratic), motivational tendencies (social support and positive feedback), and instructional behaviours (training and instruction). Using this instrument, previous studies explored the influence of factors, such as gender and age, on preferred and perceived leadership behaviours (e.g., Dwyer & Fischer, 1988, 1990; Terry, 1984; Terry & Howe, 1984). Findings revealed associations between
coaches’ use of training and instruction, positive feedback, and social support behaviours and positive athlete outcomes, such as satisfaction and intrinsic motivation (e.g., Amorose & Horn, 2000).

While research employing the MML has provided a wealth of insight regarding coaches’ leadership behaviours and the influence of these behaviours on athlete development, this model has some limitations. For instance, researchers have raised important concerns with the MML relating to analytical issues with the congruence hypothesis, the reliability of measurement tools (i.e., the LSS; Chelladurai & Saleh, 1980), and the comprehensiveness of the behaviours captured within this model (Chelladurai, 2007). Moreover, studies have predominantly used self-report questionnaires to assess the influence of coaches’ leadership behaviours on adult athletes’ perceptions of outcomes such as performance and satisfaction. Research using a broader range of methodologies to examine the contribution of coaches’ leadership to a variety of athletes’ developmental outcomes would thus be beneficial, particularly within the youth sport context.

### 2.4.2 Cognitive-mediational model of leadership

One framework that has helped to address some existing gaps in the literature is the cognitive-mediational model of coach leadership put forth by Smith, Smoll, and colleagues (Smith & Smoll, 2007; Smoll et al., 1978). A key tenet of this model is that situational factors (e.g., practice sessions versus games, level of competition), cognitive processes, and player individual difference variables will mediate the associations between coach behaviours and athlete outcomes. In an effort to assess this model, Smith, Smoll, and colleagues (e.g., Smith & Smoll, 1990; Smith, Zane, Smoll, & Coppel, 1983; Smoll et al., 1978) employed observational techniques to investigate the associations between specific coaching behaviours and the quality of youth’s sport.
experiences. To this end, Smith, Smoll, and colleagues developed the Coaching Behaviour Assessment System (CBAS; Smith, Smoll, & Hunt, 1977) that consists of 12 behavioural categories (eight reactive to athlete behaviour (e.g., responding to a mistake) and four spontaneous (e.g., general encouragement)). The measurement of coaches’ leadership behaviours using this instrument was combined with questionnaires and interviews assessing youth’s perceptions of their coaches and their sport experiences. In general, results demonstrated that coaches’ supportive and instructive coaching behaviours were associated with positive outcomes, such as higher levels of fun and enhanced peer relationships. Conversely, punitive behaviours were associated with less positive outcomes, such as lower levels of liking the coach (e.g., Smith et al., 1983; Smoll et al., 1978).

Smith, Smoll, and colleagues integrated their findings into the development of the Coach Effectiveness Training program (CET: Smith & Smoll, 1997; Smith & Smoll, 2002; Smith, Smoll, & Curtis, 1979), which subsequently evolved into the Mastery Approach to Coaching program (MAC; Smith, Smoll, & Cumming, 2007). This coach development program focuses on the importance of a mastery-oriented approach to coaching and educates coaches on the behavioural strategies (e.g., providing encouragement and instruction and minimizing the use of punishment) that can be used to enhance the quality of youth’s sport experiences. Studies revealed that this program effectively changed coaches’ leadership behaviours and that these changes were linked with positive athlete outcomes (Smith & Smoll, 1997; Smith, Smoll, & Barnett, 1995; Smoll, Smith, Barnett, & Everett, 1993). Results indicated that the athletes of trained coaches evaluated their coaches, teammates, and sport experiences more positively in comparison to athletes of untrained coaches. For instance, the athletes of trained coaches reported higher levels of fun and lower levels of attrition. This line
of research demonstrates that leadership theories can be effectively incorporated in coach development programs and that such programs can influence the quality of youth’s sport experiences.

The cognitive-mediational model of coach leadership has significantly contributed to our understanding of coaches’ leadership behaviours, particularly within the youth sport environment. Nonetheless, this model may be limited by its emphasis on coaches’ teaching behaviours (e.g., instruction, feedback, etc.), and more specifically, on what teaching behaviours coaches use, rather than how they are delivered. While teaching behaviours are an integral component of the coaching process, they do not necessarily capture the full range of behaviours exhibited by effective coaches. For instance, Côté and Gilbert (2009) propose that a key aspect of coaching effectiveness relates to a coach’s ability to build and maintain positive interpersonal relationships. Numerous questions thus remain regarding the types of leadership behaviours coaches can use to foster high quality interpersonal relationships with their athletes. In order to gain a deeper understanding of these more nuanced aspects of coaches’ leadership behaviours, the adoption of new theoretical frameworks may be warranted. Indeed, there is growing recognition that the coaching literature may benefit from the adoption of novel approaches to leadership (Rowold, 2006).

2.5 A New Approach to Coaches’ Leadership in Sport: The Full-Range Leadership Model

One framework that may positively contribute to the coaching literature is the full-range leadership model (Bass, 1985; Bass & Riggio, 2006), and more specifically, its TFL dimension. Indeed, this model may help to enhance the comprehensiveness of existing
models of coach leadership (Chelladurai, 2007). The following section will review this model and its potential value for exploring coaches’ leadership behaviours in youth sport.

Drawing upon Burns’ (1978) seminal book on political leadership, Bass (1985) proposed the full-range leadership model. According to this model, leadership behaviours can be understood along two axes: One axis ranging from passive to active, and the other axis ranging from least effective to most effective. This model encompasses laissez-faire, transactional, and TFL behaviours.

**2.5.1 Laissez-faire leadership.** Laissez-faire leadership reflects the least effective and most passive form of leadership. Often referred to as *non-leadership*, laissez-faire behaviours involve ignoring one’s responsibilities or avoiding decision-making (Bass & Riggio, 2006). Moreover, laissez-faire leaders tend to be unresponsive to followers’ needs (e.g., withholding feedback or ignoring requests for help). Previous research suggests that this form of leadership has potentially negative implications for follower development (Kelloway, Sivanathan, Francis, & Barling, 2005). For example, in their examination of 2647 workers in the United States, Barling and Frone (2016) demonstrated that role stressors and psychological work fatigue partially mediated the negative relation between perceptions of passive leadership and employee well-being.

**2.5.2 Transactional leadership.** Transactional leadership represents behaviours that are contingent on followers’ abilities to execute specific standards or tasks (Barling, 2014; Bass & Riggio, 2006). This may include assigning or discussing consequences for certain types of behaviours or monitoring followers to detect errors or failures to meet specific standards. Although there is some evidence to suggest that these behaviours can be associated with positive outcomes, it is proposed that these behaviours are insufficient for optimal
follower development (Judge & Piccolo, 2004). This finding relates to the augmentation hypothesis, which suggests that transactional behaviours represent the necessary foundation for effective leadership and that TFL can build upon this foundation to promote higher levels of positive development (Bass, 1998).

2.5.3 Transformational leadership. TFL represents a follower-centered conceptualization of leadership since it focuses on understanding followers’ perceptions of effective leaders’ characteristics. Bass and Riggio (2006) propose that TFL is comprised of four dimensions, commonly referred to as the 4 I’s: (a) idealized influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individualized consideration. Idealized influence occurs when leaders gain their followers’ trust and respect by doing what is right, rather than what is convenient (Zacharatos, Barling, & Kelloway, 2000). It also involves leaders setting good examples by modelling pro-social behaviours through the demonstration of personal beliefs (Bass & Riggio, 2006). Inspirational motivation relates to leaders who hold high expectations and communicate a compelling vision of the future, thereby enhancing their followers’ perceptions of their capabilities (Beauchamp, Barling, & Morton, 2011). Intellectual stimulation involves leaders empowering followers to contribute new and alternative ideas (Barling, 2014). Finally, transformational leaders engage in individualized consideration by recognizing their followers’ individual needs, considering their abilities, and displaying genuine care and concern (Bass & Riggio, 2006).

2.6 Contrasting the Full-Range Leadership Model with Comparable Coaching Styles

The TFL component of the full-range leadership model may be well-suited for the sport context because it complements existing coaching theories in several ways. Indeed, TFL shares similarities with relationship-centred models of coaching that focus on enhancing the
quality of coach-athlete relationships, including the 3+1 Cs model, autonomy-supportive coaching, mastery-oriented coaching, and empowering coaching. The following section will explore the links between TFL and each of these models.

2.6.1 The 3 + 1 Cs model. Within Jowett and colleagues’ 3 + 1 Cs model (Jowett, 2007; Jowett & Meek, 2000; Jowett & Ntoumanis, 2004), coach-athlete relationship quality is defined in terms of three constructs: closeness (a coach-athlete dyad’s mutual trust and respect), commitment (a coach-athlete dyad’s intention to maintain the relationship), and complementarity (a coach-athlete dyad’s degree of reciprocity and affiliation). The +1 component of the model refers to co-orientation, which reflects the degree to which the coach’s and athlete’s perceptions are interconnected. Research employing the 3+1 Cs model indicates that coach-athlete relationship quality is linked with several important outcomes, including athletes’ perceptions of satisfaction with training and performance (Jowett & Nezlek, 2011), intrinsic motivation (Adie & Jowett, 2010), and passion for sport (Lafrenière, Jowett, Vallerand, Donahue, & Lorimer, 2008).

The constructs of Jowett’s 3+1 Cs model mirror several aspects of TFL. For instance, closeness reflects the dimension of idealized influence in that coaches are perceived to be more transformational when they gain their athletes’ trust and respect. Interestingly, Lavoi (2007) suggests that athletes are more likely to experience subjective feelings of closeness because of certain coach behaviours. Coaching researchers may therefore wish to explore how coaches’ use of TFL behaviours may foster perceptions of closeness. In addition, the affiliation component of complementarity links to aspects of individualized consideration (e.g., supportive, caring behaviours; Thijs Kooman, Roorda, & ten Hagen, 2011). Interactions that are characterized by high levels of complementarity are associated with satisfaction,
positive feelings, and positive evaluations of one’s dyadic partners (e.g., Locke & Sadler, 2007; Tracy, 2004). Moreover, studies indicate complementary behaviours may have implications for task performance (Markey, Lowmaster, & Eichler, 2010). It may thus be worthwhile to explore whether coaches’ use of TFL behaviours may similarly promote such positive outcomes.

2.6.2 Autonomy-supportive coaching. Grounded in self-determination theory (SDT), Mageau and Vallerand’s (2003) coach-athlete relationship model highlights how coaches’ interpersonal behaviours can shape the quality of athletes’ sport motivation. This model proposes that coaches who use autonomy-supportive coaching behaviours can positively influence the satisfaction of athletes’ needs for autonomy, competence, and relatedness. In turn, the fulfilment of these psychological needs can lead to adaptive forms of self-determined motivation. An autonomy-supportive coaching style includes behaviours such as providing athletes with choice and acknowledging athletes’ feelings and input. These behaviours align with certain elements of TFL, specifically intellectual stimulation and individualized consideration. Previous research demonstrates consistent links between this coaching style and positive athlete outcomes, such as higher levels of performance (e.g., Gillet, Vallerand, Amoura, & Baldes, 2010) and psychological well-being (e.g., Reinboth, Duda, & Ntoumanis, 2004).

Whereas an autonomy-supportive coaching style has been associated with positive outcomes, a controlling style of coaching can hinder the satisfaction of athletes’ psychological needs and undermine their self-determined forms of motivation (e.g., Blanchard, Amiot, Perreault, Vallerand, & Provencher, 2009). A controlling style of coaching is characterized by highly directive interaction patterns and may involve using reward contingencies or evoking
athletes’ sense of obligation (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2009). Interestingly, this construct shares some resemblance with a transactional style of leadership. The full-range leadership model, specifically TFL, may help to build upon and extend the motivational model of coach-athlete relationships by providing a framework which encompasses elements of both autonomy-supportive and controlling coaching styles, and introduces unique dimensions (e.g., idealized influence, inspirational motivation, and laissez-faire leadership).

2.6.3 Mastery-oriented coaching. Smith, Smoll, and colleagues (see Smith and Smoll (2007) for a review) propose that coaches can foster positive developmental outcomes by employing a mastery-oriented approach to coaching. Informed by achievement goal theory (AGT; Nicholls, 1989), this approach is characterized by the creation of a mastery-oriented motivational climate through the coach’s focus on personal improvement, the learning process, and effort. Coach-created mastery climates are associated with a range of positive athlete outcomes, including adaptive goal orientations, sport enjoyment, and the development of life skills (Cumming, Smoll, Smith, & Grossbard, 2007; Gould, Flett, & Lauer, 2012; Smith, Smoll, & Cumming, 2009). Conversely, ego-oriented climates that emphasize demonstrating superiority over others are linked with lower levels of positive development (Gould et al., 2012).

Interestingly, research within organizational settings indicates that transformational leaders value learning from challenging situations (Bass & Bass, 2008). As such, they may be more likely to adopt a learning orientation, which focuses on learning from the task, in comparison to a performance orientation, which emphasizes demonstrating competence to gain external rewards (Sosik, Godshalk, & Yammarino, 2004). Given the parallels between
the constructs of mastery-oriented coaching and a learning orientation, it is possible that TFL may contribute to youth’s positive development through the creation of a mastery-oriented motivational climates. For example, employing intellectual stimulation may create an environment in which followers are willing to learn, adopt new approaches, and view mistakes as a fundamental part of the learning process (Bass & Riggio, 2006). Similarly, in using a mastery-oriented approach, athletes are encouraged to select challenging tasks and to view mistakes as valuable sources of feedback (Smith, Cumming, & Smoll, 2008). This emphasis on athletes’ active engagement in the learning process may facilitate feelings of autonomy and competence, which in turn may positively affect athletes’ outcomes. Since the links between TFL and mastery-oriented coaching remain relatively unexplored, research in this area would be beneficial.

2.6.4 Empowering coaching. Integrating the tenets of SDT-informed autonomy-supportive coaching, AGT-informed mastery-oriented coaching, and other empirical evidence, Duda (2013) put forth the concept of empowering coaching environments. Such environments are characterized by high levels of autonomy support, relatedness support, and task involvement and are more likely to positively contribute to athletes’ perceptions of autonomy, relatedness, and task-referenced competence. For instance, Quested and Duda (2010) demonstrated links between empowering climates and dancers’ psychological need satisfaction. It is noteworthy that marked commonalities exist between the elements of empowering coaching environments and TFL. For instance, autonomy-supportive behaviours, such as providing meaningful choices and encouraging initiative taking, resonate with the concept of intellectual stimulation. Similarly, the constructs of relatedness-support (e.g., showing care for athletes) and task-involvement (e.g., explaining athletes’ role importance)
are reflected in the elements of individualized consideration and inspirational motivation. Given the conceptual parallels that exist between transformational coaching and empowering coaching, it is possible that coaches who exhibit TFL behaviours may similarly promote high quality sport experiences.

Collectively, it is evident that the full-range leadership model, including TFL, offers a valuable vantage point from which to study coaches’ abilities to foster PYD in sport since it complements several elements of other influential coaching styles. Indeed, the TFL component of the model similarly emphasizes the importance of behaviours such as providing athletes with meaningful choices, offering athletes support, and acknowledging athletes’ feelings and concerns. Nevertheless, the full-range leadership model represents a novel approach to coach leadership because it integrates these elements into a salient leadership model and it encompasses components that are not explicitly addressed in existing coaching styles (e.g., the moral and ethical components represented in the idealized influence dimension and the critical thinking and creativity aspects of the intellectual stimulation dimension, and the passive leadership behaviours reflected in the laissez-faire dimension).

2.7 The Application of the Full-Range Leadership Model to the Sport Context

While the full-range leadership model may hold significant potential for enhancing our understanding of coaches’ influence on youth development, it is important to acknowledge that there are other important examples of interpersonal approaches to leadership, including authentic, spiritual, and servant leadership (Mills, Fleck, & Kozikowski, 2013). Authentic leadership relates to a style of leadership that emphasizes a leader’s self-awareness of their moral values and their willingness to behave in line with those values, whereas spiritual leadership focuses on cultivating a culture of values by creating an inspirational vision for
followers. Similar to TFL, servant leadership is highly focused on follower development and is comprised of five dimensions, including altruism, emotion, wisdom, persuasive mapping, and organizational stewardship (Barbuto & Wheeler, 2006). Although each of these theories offer valuable insight into the interpersonal aspect of leadership, TFL may be particularly relevant for examining coaches’ influence on youth development in sport for several reasons.

First, TFL is broadly concerned with enabling followers to reach their full potential and by helping transform followers into future leaders (Avolio, 1999). TFL thus complements a PYD approach to sport, which aims to build on youth’s strengths and abilities to enable them to effectively contribute to society as youth and ultimately, as adults. Furthermore, previous research indicates that leadership is often viewed as a critical life skill that can be fostered through sport (e.g., Gould, Voekler, & Griffes, 2013). If leadership skills can indeed be developed through sport, it is likely that youth can learn these behaviours both experientially and vicariously through their interactions with influential social agents, such as coaches. In line with this assertion, previous studies suggest that followers may learn to use TFL behaviours through the behavioural imitation of role models (Barling, 2014; Lehmann-Willenbrock, Meinecke, Rowold, & Kauffeld, 2015). As such, the TFL component of the full-range leadership model may be eminently useful in exploring how sport may help to cultivate youth’s leadership skills.

Second, previous research indicates that TFL can be developed through training interventions and that such training can be effectively applied in a variety of settings (e.g., Barling, Weber, & Kelloway, 1996; Beauchamp, Barling, & Morton, 2011). The potential to effectively teach and develop TFL behaviours represents a key distinction between TFL and other influential theories of leadership, as there is limited existing evidence to suggest that
such leadership styles can be developed through training interventions. The lessons learned regarding TFL can consequently help shape the design, implementation, and evaluation of Coach Development Programs (CDPs) that extend their focus beyond practice planning and skill acquisition to the promotion of positive interpersonal behaviours. This may be particularly important given that recent reviews of CDPs reveal that there is a need for evidence-informed CDPs that focus on coaches’ interpersonal knowledge and behaviours (Allan, Vierimaa, Gainforth, & Côté, 2017; Evans, McGuckin, Gainforth, Bruner, & Côté, 2015; Lefebvre, Evans, Turnnidge, Gainforth, & Côté, 2016).

Lastly, an extensive body of literature demonstrates consistent associations between TFL and positive outcomes, even across different contexts and cultures (Walumbwa, Orwa, Wang, & Lawler, 2005). Conversely, researchers caution that paradigms such as authentic, servant, and spiritual leadership may benefit from further empirical support (Mills et al., 2013). Coaching researchers can therefore build upon and extend this line of TFL research. Further, given the need for evidence-informed interpersonal CDPs, it is beneficial for researchers and practitioners to be able to draw upon such an existing evidence base.

One body of literature that may shed some light on the potential value of TFL for youth sport research relates to Beauchamp and colleagues’ (Beauchamp et al., 2010; Beauchamp et al., 2011) work examining TFL within the physical education context. Results from this line of research revealed that transformational teaching behaviours were positively linked with several student outcomes, such as enjoyment, teacher satisfaction, and motivation towards physical education. For instance, Wilson and colleagues (2012) illustrated that psychological needs satisfaction partially mediated the relationships between physical education students’ perceptions of transformational teaching and their self-determined
motivation and engagement behaviours. Furthermore, Beauchamp and colleagues (2011) demonstrated that the implementation of a transformational teaching intervention led to significantly higher levels of intrinsic motivation. This finding corroborates Barling et al.’s (1996) proposition that TFL behaviours can be successfully developed through training. Moreover, these studies suggest that TFL behaviours can shape youth’s motivational outcomes.

Similarly, evidence exists to suggest that young athletes can be influenced by adults’ use of TFL behaviours. Zacharatos and colleagues (2000) demonstrated that adolescents who perceived their parents, particularly their fathers, exhibiting TFL behaviours in turn manifested TFL behaviours themselves when interacting with their teammates in sport. Furthermore, adolescents who used these behaviours were rated as more effective, satisfying, and effort-evoking leaders by their coaches and peers. Accordingly, these findings lend support to the cascade effect (Bass, 1985), which asserts that transformational leaders serve as role models who can encourage their followers to use more TFL behaviours themselves. Zacharatos and colleagues also propose that TFL behaviours can be manifested by youth, which may have important implications for youth’s leadership development.

Tucker, Turner, Barling, and McEvoy (2010) further examined the influence of parents’ and coaches’ use of TFL behaviours in their exploration of aggression among adolescent ice hockey players. Results demonstrated that parents’ TFL behaviours did not significantly influence athlete aggression when coaches’ TFL behaviours were considered. In addition, the team’s aggression mediated the association between coach’s TFL behaviours and athlete aggression, thereby suggesting the coaches may indirectly influence athlete aggression by discouraging aggressive team norms. Taken together, the findings of Zacharatos et al.
(2000) and Tucker et al. (2010) illustrate that coaches have the potential to influence youth’s positive development through their use of TFL behaviours.

2.7.1 TFL sport research. Previous studies have explored the utility of the TFL model in the sport environment with promising results. In their qualitative examination of how five expert Canadian female university coaches built their sport programs, Vallée and Bloom (2005) found four key elements for developing successful programs, including coaches’ attributes, individual growth, organizational skills, and vision. Interestingly, the authors noted that these characteristics shared similarities with the four dimensions of TFL. For example, the individual growth element clearly resonates with the concept of individualized consideration. Since this finding emerged unexpectedly from the study’s analysis, Vallée and Bloom (2005) proposed that future research examining the applicability of TFL in the field of sport coaching would be worthwhile.

Building upon these findings, quantitative studies suggest that transformational coaching behaviours are associated with a range of athlete outcomes, including performance (Charbonneau, Barling, & Kelloway, 2001), well-being (Stenling & Tafvelin, 2014), group cohesion (Callow, Smith, Hardy, Arthur, & Hardy, 2009), and leader-inspired extra effort (Arthur, Woodman, Ong, Hardy, & Ntoumanis, 2011). Rowold (2006) also found support for the augmentation hypothesis of the full-range leadership model in sport. Indeed, Rowold’s (2006) examination of the relationships between coaches’ leadership behaviours and athletes’ perceptions of coach effectiveness in a martial arts setting revealed that TFL added unique variance to the prediction of coach effectiveness, as characterized by leader effectiveness, satisfaction, extra effort, and frequency of training per month.
Of particular relevance to youth sport research, Vella, Oades, and Crowe (2013a) demonstrated that TFL may foster youth’s personal development since higher ratings of coach TFL behaviours were associated with the development of personal and social skills, cognitive skills, goal setting skills, and initiative. Further, Vella and colleagues (2013b) demonstrated that CDPs can be used to enhance coaches’ use of TFL behaviours and that these changes were associated with significantly higher reports of athletes’ developmental outcomes. Collectively, these sport specific studies reinforce the notion that transformational coaching behaviours may be salient avenue for promoting PYD in the sport context and that the full-range leadership model may provide a solid foundation for evidence-informed CDPs.

2.8 Possible Mechanisms Linking TFL and Athlete Development

Although the existing literature offers some preliminary insight into the types of athlete outcomes that may be associated with coaches’ use of TFL behaviours, studies evaluating how these outcomes can be acquired are limited. This is a particularly important limitation to acknowledge given that TFL behaviours primarily influence follower outcomes indirectly (Avolio, 1999; Barling, 2014). A key question for coaching researchers moving forward is not solely whether TFL works, but also how and why it works. In order to fully illustrate how the full-range leadership model can be employed as an effective framework for investigating and potentially fostering positive coaching behaviours, it is crucial for researchers to have a thorough understanding of the processes by which TFL exerts its influence on follower outcomes.

One possible avenue through which transformational leaders may influence youth development is through the promotion of positive motivational outcomes. TFL behaviours may create opportunities for followers to experience self-determined motivation (Sheldon,
Turban, Brown, Barrick, & Judge, 2003). For example, rather than emphasizing the exchange between activities and extrinsic rewards, transformational leaders encourage their followers to discover meaning and value in the activities themselves (Avolio, Zhu, Koh, & Bhatia, 2004). Spark and Schenk (2001) found empirical support for this claim. Indeed, their results indicated that transformational leaders helped their followers find a higher purpose in their work tasks, which subsequently led to enhanced job satisfaction, team cohesion, and effort.

Arnold, Turner, Barling, Kelloway, and McKee (2007) similarly demonstrated that the followers of transformational leaders perceive their work to be more meaningful relative to the followers of non-transformational leaders. By enhancing the meaning and value of their follower’s tasks and activities, transformational leaders may be able to facilitate the internalization of these activities (Sheldon et al., 2003). It is thus possible that coaches who exhibit transformational behaviours may increase the likelihood that their athletes’ motivations for engaging in activities may be internally driven (Shamir, House, & Arthur, 1993). Moreover, the athletes of transformational coaches may be less likely to have their motivations thwarted by external forces over time, such as external awards or achievements (Sheldon et al., 2003).

Charbonneau and colleagues (2001) explored the possible influence of TFL on athletes’ motivation in their investigation of coaches’ use of TFL behaviours within the university sport context. Results indicated that intrinsic motivation mediated the relationship between coaches’ TFL and sports performance, thus suggesting that transformational coaches may enhance their athletes’ self-determined forms of motivation. More specifically, Charbonneau et al. (2001) proposed that intellectual stimulation may heighten followers’ feelings of competence and their intrinsic motivation to know, learn, and understand.
Beauchamp and colleagues (Beauchamp et al., 2010; Beauchamp et al., 2011) extended these findings within the physical education setting. Their results suggested that youth who experience inspirational motivation and individualized consideration may feel a greater sense of relatedness to their leader and may thus report higher levels of intrinsic motivation.

The practical importance of the role of motivation-based mechanisms is underscored by the fact that motivations which are more self-determined in nature are associated with a wide range of positive outcomes. In line with this assertion, previous research consistently demonstrates that self-determined forms of motivation can foster adaptive outcomes for athletes, such as enhanced performance (e.g., Gillet et al., 2010), continued sport participation (e.g., Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002), and a variety of personal development outcomes, such as sportspersonship (e.g., Ntoumanis & Standage, 2009). As such, coaches may positively contribute to youth development by promoting more self-determined forms of motivation among their athletes. Accordingly, research examining the links between coaches’ TFL behaviour and athletes’ motivational outcomes would be worthwhile.

2.9 Methodological Considerations

While evidence suggests that the interactions between transformational leaders (i.e., coaches) and athletes may facilitate positive sport experiences, the behaviours which make up these interactions have not been fully defined and evaluated. It is thus unclear what observable behaviours might help a coach to be perceived as transformational by their athletes. The exploration of the interactive behaviours that occur between transformational leaders and their followers in sport is therefore warranted.
Van der Weide and Wilderom (2004) echo this sentiment as they propose that direct observations of effective leaders’ behaviours are needed to demystify the leadership process. Researchers have critiqued the leadership literature for the paucity of studies exploring the moment-to-moment dynamics of how leadership behaviours are manifested in different contexts (Lehmann-Willenbrock et al., 2015). One methodology that may help to address these issues is behavioural observation. For instance, observation may offer a unique behavioural account of leader-follower interactions in a field that is dominated by the assessment of aggregated individual perceptions of leadership behaviours (e.g., Arthur et al., 2011; Callow et al., 2009). Observing leadership behaviours may also enable researchers to evaluate the real-time sequencing of behavioural events and behavioural patterns that characterize effective leader-follower interactions (Lehmann-Willenbrock et al., 2015). Further, observational methods may be instrumental in guiding leadership training design, implementation, and evaluation by offering an in-depth analysis of the behavioural processes underlying leadership within the sport setting. Overall, it is evident that the coaching literature may benefit from studies exploring a more dynamic, process-based conceptualization of leadership.

2.10 Context of the Dissertation

Despite the potential utility of the full-range leadership model, including TFL, to inform youth sport and coaching research, there is presently a dearth of studies in this area. In an effort to address this gap in the literature, the purpose of this line of research was to explore coaches’ leadership behaviours in a youth sport setting and to investigate the influence of these behaviours on youth development in sport. To this end, three studies were conducted, each addressing a different aspect of the larger purpose. The first study involved a systematic
review of the TFL literature across several domains, with a specific emphasis on exploring the processes by which TFL behaviours influence follower outcomes. The second study focused on developing an observational coding system that effectively captures coaches’ leadership behaviours in sport. Finally, the third study employed the coding system developed in Study 2 to provide an in-depth examination of coaches’ leadership-based interactions in organized youth sport contexts. Moreover, the third study investigated the relations between coaches’ leadership behaviours and youth’s motivational outcomes. Overall, the aim of this dissertation was to enrich our understanding of coaches’ leadership behaviours in youth sport.
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Chapter 3

Applying Transformational Leadership theory to coaching research in youth sport: A systematic literature review

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Abstract

There is growing recognition that Transformational Leadership (TFL) theory holds significant potential for coaching research in youth sport. While the existing literature offers insight into the types of athlete outcomes that are associated with TFL, studies evaluating how these outcomes can be acquired are limited. The purpose of the present study was to synthesize and integrate research across a variety of disciplines (e.g., organizational psychology, health care and promotion, education, and sport and exercise psychology) examining the processes by which TFL influences followers’ (e.g., employees, students, patients, athletes) psychosocial development. A systematic search was conducted of six electronic databases covering a wide range of disciplines. Peer-reviewed, original studies published in English were included in this review. The initial search yielded 2077 papers, of which 151 met the selection criteria and were retained for analysis. A descriptive, content analysis-based approach was used to assess emerging patterns in research design and study findings. Results revealed numerous processes at the intrapersonal, interpersonal, and environmental levels that contributed to the relationships between TFL and follower development. A conceptual model of these processes is proposed, along with recommendations for future coaching research in youth sport.

Keywords: Transformational leadership; coaching; youth sport; positive youth development; leadership
**Introduction**

Sport provides a fertile context for facilitating Positive Youth Development (PYD; Fraser-Thomas, Côté, & Deakin, 2005). Proponents of this perspective contend that engagement in quality sport programs that build on youth’s strengths and abilities can foster the acquisition of a wide range of positive developmental outcomes (Holt & Neely, 2011). Previous research consistently highlights that sport does not automatically translate to positive development; rather, the outcomes of sport participation are dependent upon the complex interaction of several social and contextual factors. One aspect of the sport environment that is critical to the realization of positive developmental outcomes is the coach (Petitpas, Cornelius, & Van Raalte, 2008). There is consequently a need for researchers and practitioners to continue investigating how coaches can most effectively foster positive sport experiences for youth.

A central tenet for coaches adopting a PYD approach is that the desired outcomes of youth sport participation encompass not only higher levels of performance (i.e., sport expertise) and participation (i.e., lifelong participation), but also enhanced personal development (i.e., psychosocial outcomes, such as initiative and leadership skills). Researchers have expressed concern, however, that the processes by which coaches can cultivate personal development in sport are not fully understood (Côté, Bruner, Erickson, Strachan, & Fraser-Thomas, 2010). Additionally, since the majority of youth sport coaches are volunteers, coaches have received very little training relating to athlete development (Holt & Neely, 2011). Furthermore, the training received by youth sport coaches tends to focus on practice design and skill development, rather than on the promotion of PYD-based outcomes (Evans, McGuckin, Gainforth, Bruner, & Côté 2015). In an effort to enhance our
understanding of how coaches can positively contribute to PYD, the coaching literature may benefit from the adoption of novel theoretical approaches that emphasize the importance of fostering personal growth and development.

One framework that has the potential to aid researchers in their exploration of how coaches can influence PYD is Transformational Leadership theory (TFL; Bass, 1998). TFL involves behaviours that are designed to empower, inspire, and challenge followers to enable them to reach their full potential (Bass & Riggio, 2006). The term follower is intended to be used as a broad term to capture those individuals whom a transformational leader is trying to develop. As such, this term may refer to employees, recruits, patients, students, or athletes, depending on the context in which the research is conducted. TFL theory is well established within the organizational psychology literature as research within organizational settings has consistently found positive links between TFL and follower outcomes, including well-being (e.g., Arnold, Turner, Barling, Kelloway, & McKee, 2007) and motivation (e.g., Piccolo & Colquitt, 2006). Despite being successfully applied in contexts such as healthcare, the military, and education, studies investigating the applicability of TFL theory within sport are limited (Vella, Oades, & Crowe, 2013). Nonetheless, there is increasing recognition that the TFL framework holds significant potential for coaching research (Rowold, 2006).

One of the most commonly used conceptualizations of TFL suggests that it is comprised of four dimensions, known as the 4 I’s: (a) idealized influence (leaders behave as role models and gain their followers’ trust and respect), (b) inspirational motivation (leaders hold high expectations and communicate a compelling vision of the future), (c) intellectual stimulation (leaders encourage their followers to consider different perspectives and empower them to contribute novel ideas), and (d) individualized consideration (leaders display genuine
care and concern for their followers by recognizing their individual needs; Bass & Riggio, 2006). A key tenet of TFL theory is the distinction between transformational and transactional leadership behaviours. Transactional behaviours include offering rewards or punishments for followers’ task execution and monitoring follower behaviours (Bass & Riggio, 2006). According to the augmentation hypothesis, transactional behaviours represent the necessary foundation for effective leadership, but are insufficient for optimal follower development (Bass, 1998). TFL can thus build upon this foundation to achieve superior levels of achievement and well-being.

While the TFL framework represents one of the most prominent positive leadership theories, it is important to recognize that there are other examples of strength-based approaches to leadership, including authentic, spiritual, and servant leadership (Mills, Fleck, & Kozikowski, 2013). Authentic leadership refers to a style of leadership that is centred on a leader’s self-awareness of their moral values and their devotion to behaving in line with those values, whereas spiritual leadership emphasizes the cultivation of a culture of values by creating inspirational visions for followers. Servant leadership is highly focused on follower development and is comprised of five dimensions, including altruism, emotion, wisdom, persuasive mapping, and organizational stewardship (Barbuto & Wheeler, 2006).

Although each of these theories offers valid, yet distinct paradigms for contemporary leadership, TFL may be particularly relevant for examining coaches’ influence on PYD in sport for several reasons. First, TFL is broadly concerned with empowering followers to reach their full potential and helping to transform followers into future leaders (Avolio, 1999). TFL thus complements a PYD approach to sport, which aims to build on youth’s strengths and abilities to enable them to effectively contribute to society as youth and ultimately, as adults.
Furthermore, previous research indicates that leadership is often viewed as a critical life skill that should be fostered through sport (e.g., Gould, Voelker, & Griffes, 2013). If leadership skills can indeed be fostered through sport, it is likely that youth can learn these behaviours both experientially and vicariously through their interactions with influential social agents, namely coaches. As such, TFL theory may be eminently useful in exploring how sport can serve as a fertile context for developing youth’s leadership skills.

Second, previous research indicates that TFL can be developed through training interventions and that such training can be effectively applied in a variety of settings (e.g., Barling, Weber, & Kelloway, 1996; Beauchamp, Barling, & Morton, 2011). The lessons learnt regarding TFL can consequently help to shape the design, implementation, and evaluation of coach development programs that extend their focus beyond practice planning and skill acquisition to the promotion of interpersonal behaviours that emphasize youth development. The potential to effectively teach and develop TFL behaviours represents a key distinction between TFL and other influential theories of leadership since there is limited evidence to suggest that such leadership styles can be developed through training interventions.

Additionally, TFL offers a unique vantage point from which to study coaches’ abilities to foster PYD in sport since it complements several elements of other influential coaching models. For instance, similar to the Motivational (Mageau & Vallerand, 2003) and cognitive-mediational (Smith & Smoll, 2007) models of coaching, TFL involves behaviours such as providing athletes with meaningful choices, offering athletes support, and acknowledging athletes’ feelings and concerns. TFL nevertheless represents a novel approach because it both integrates these elements into a single leadership style and encompasses components that are
not explicitly addressed in existing coaching models (e.g., the moral and ethical components represented in the idealized influence dimension of TFL).

Lastly, an extensive body of literature demonstrates consistent associations between TFL and positive outcomes, even across different contexts and cultures. Conversely, researchers caution that paradigms such as authentic, servant, and spiritual leadership may benefit from further empirical support (Mills et al., 2013). Coaching researchers can therefore build upon and extend the line of TFL research.

Consistent with this contention, previous studies have explored the utility of the TFL model in the sport environment with promising results. Evidence exists to suggest that coaches’ use of TFL behaviours is linked with positive psychosocial outcomes, including athlete satisfaction, effort, motivation, and group cohesion (Arthur, Woodman, Ong, Hardy, & Ntoumanis, 2011; Callow, Smith, Hardy, Arthur, & Hardy, 2009; Charbonneau, Barling, & Kelloway, 2001; Rowold, 2006). Furthermore, Vella and colleagues (2013) demonstrated that TFL may foster youth’s personal development as higher ratings of coaches’ TFL behaviours were associated with the development of personal and social skills, cognitive skills, goal setting skills, and initiative. The effectiveness of TFL within sport thus appears to parallel its influence in other contexts.

Although the existing literature offers some preliminary insight into the types of athlete outcomes that may be associated with coaches’ use of TFL behaviours, there is a paucity of studies evaluating how these outcomes can be acquired. This is a particularly important limitation to acknowledge given that TFL behaviours primarily influence follower outcomes indirectly (Avolio, 1999). As such, an important question for coaching researchers moving forward is not necessarily whether transformational coaching works, but rather how
and why it works. In order to fully illustrate how TFL theory can be employed as an effective framework for exploring and potentially facilitating positive coaching behaviours, it is crucial for researchers to have a thorough understanding of the processes by which TFL influences followers’ outcomes.

Accordingly, the overall aim of this paper is to illustrate how TFL theory may be a salient framework for understanding coaches’ influence on youth’s development in sport. To this end, this paper synthesizes TFL literature from several fields and disciplines closely allied with sport and exercise psychology, such as organizational psychology, health care and promotion, and education. Although synthesizing research across multiple fields may appear to be a daunting task, it is an important step for researchers hoping to apply TFL theory in youth sport. Indeed, an understanding of the interdisciplinary connections in the TFL literature may enable scholars to better situate their research agendas and to understand their work within the broader context of leadership research. On a more practical level, an awareness of the overlaps between different disciplines may encourage coaching researchers to engage in interdisciplinary projects. Such endeavours can offer coaching researchers a unique opportunity both to share knowledge and resources and to meaningfully promote positive outcomes for youth, whose development is shaped by experiences across several contexts.

A secondary aim of this review is to provide concrete recommendations for researchers and practitioners wishing to apply TFL theory in the youth sport context. Drawing upon the results of the review, this paper seeks to identify future research opportunities for investigating how transformational coaching behaviours may be linked with youth’s development. It is hoped that this paper will help guide researchers interested in uncovering
how TFL can most effectively be used by coaches to promote positive development. Overall, this review will provide a critical assessment of the nature and extent of knowledge on TFL to examine how TFL theory can be potentially applied within the youth sport context. Furthermore, this review will present a conceptual model that can be used to guide and understand TFL research in youth sport.

Method

Eligibility Criteria

The general inclusion criteria for this review required that studies were: (a) published in English, (b) original research or reports published in peer-reviewed journals, (c) evaluations of direct leader-follower relationships (i.e., studies where leaders had direct, frequent contact with their followers), and (d) conducted with field-based samples (i.e., relationships were not hypothetical or artificial, such as vignette studies). Criteria (c) and (d) were included since the findings from laboratory based or indirect leadership studies may not be applicable to the realities of the coach-athlete relationship. Further inclusion criteria stipulated that studies: (e) presented data that addressed the mechanisms or processes by which TFL may influence followers’ psychosocial outcomes, and (f) examined mechanisms and/or outcomes which would be relevant to the youth sport context.

Identification of Papers

A systematic search of six electronic databases was conducted, including ABI Inform/Global, ERIC, MEDLINE, PsycINFO, SPORTDiscus, and Web of Science. These databases were selected since they covered a wide range of disciplines that have employed TFL theory, such as organizational psychology, health, education, and sport and exercise psychology. To search these databases, a combination of keywords and search terms was
employed. These keywords and search terms constituted two groups: (a) “transformational leadership” AND (b) process OR mechanism OR mediation OR moderation, with each database search combining the keywords from both groups. The truncation symbol was added to the most basic word stem for each keyword to ensure that all associated terms were included in the search. To supplement the database searches, the reference lists of all extracted articles were scanned to identify any additional relevant studies.

**Study Screening and Selection**

Screening of the potential studies was conducted in three phases. Citations and abstracts were screened in Phase I, with studies unrelated to TFL being excluded immediately. In Phase II, the remaining citations and abstracts were screened against the full set of inclusion and exclusion criteria. Phase III consisted of obtaining and reviewing the full text of articles of potentially relevant studies and scanning them to ensure that they adhered to the selection criteria. The review and selection of articles was constantly audited throughout the search process. The authors met on multiple occasions to review the search criteria, discuss the articles retrieved, and examine the inclusion/exclusion of variables related to leadership processes and youth sport. Any debates regarding the selection of studies were resolved through discussions between the authors.

**Data Extraction**

Data were extracted from the selected studies using a standardized form. The extracted data included: (a) sample size, (b) sample characteristics (e.g., gender, age range), (c) study design, (d) study context (i.e., education, etc.), (e) country, (f) interpretation of TFL, (g) measures of TFL, (h) psychosocial processes and outcomes under investigation, and (i) key results in relation to the processes by which TFL influences followers’ psychosocial
outcomes. Collectively, these variables enabled the researchers to assess the state of the current evidence base and to provide directions for future research.

**Quality Review**

Each selected study was reviewed for methodological quality using an adapted quality assessment tool that has previously been used in systematic reviews of leadership literature (Cummings et al., 2008; Cummings et al., 2010), as well as criteria that were based on the systematic review guidelines proposed by Downs and Black (1998). This tool assessed four key elements of each study: Research design, sampling, measurement, and statistical analysis. The tool was comprised of 15 items and a total of 16 points could be assigned to each study. Fourteen items were scored as either zero (not met, unable to determine, or not applicable) or one (met) and one item that indicated leadership measurement was scored as zero (not met), one (self-report) or two (observed). A total quality score was computed for each study ranging from Low (0–5 points), to medium (6–10 points), or high (11–16 points).

**Analysis**

Using a descriptive approach, the leadership studies were analyzed in two ways. In order to synthesize the literature regarding the mechanisms by which TFL influences followers’ psychosocial outcomes, the processes were sorted into thematic categories based on their common characteristics. The methodological patterns within the literature were also explored, such as sample characteristics, research designs, and measures employed.

**Results and Discussion**

The results of the literature search are depicted in Figure 1. Overall, the initial search yielded 2077 papers. Several studies were retrieved from more than one of the six search engines and after removing such duplicates, 1290 studies remained. Based on the preliminary
review of the article abstracts and titles, 381 papers were identified as potentially relevant for review and the full-text copies of these studies were subsequently obtained and reviewed.

Following the rigorous application of the inclusion/exclusion criteria, 144 unique studies were included in the systematic review. Primary reasons for exclusion were: (a) examining a leadership framework other than TFL (e.g., authentic leadership), (b) solely investigating the relationship between TFL and a particular outcome, (c) targeting a process or outcome that was not relevant to youth sport (e.g., processes such as HR practices or outcomes such as financial gains), and (d) not containing original data (i.e., review papers, theoretical models).

After scanning the reference lists of the 144 included studies, an additional seven papers were included, leading to a total of 151 studies retained for review.

Figure 1. Stages of study selection.
Content Analysis: Process Variables

The 151 reviewed studies investigated 122 different mechanisms through which TFL may indirectly exert its influence on followers’ outcomes. Broadly, the review revealed that the processes through which TFL affects follower development occurred at three different levels: the (a) intrapersonal, (b) interpersonal, and (c) environmental levels (see Figure 2 for a conceptual model of these results). The results presented below focus first on the key mechanisms at each of these levels that may help to explain how TFL behaviours can promote positive psychosocial development.

Intrapersonal level mechanisms: Results. Twenty-eight different variables, examined in 71 ($n = 47\%$) studies, were found to be situated at the intrapersonal level. At this level, TFL appeared to be linked with positive psychosocial outcomes by changing followers’ perceptions of their tasks, themselves, and their emotions.

Task perceptions. Firstly, 25 ($n = 17\%$) studies found that TFL exerted its influence on development by changing followers’ perceptions of or attitudes towards their tasks. This theme related to how TFL indirectly contributed to followers’ psychosocial outcomes by enhancing followers’ engagement, and satisfaction with their tasks. Rather than emphasizing the exchange of between tasks and extrinsic rewards, results indicated that TFL leaders encouraged their followers to discover meaning and value in the activities themselves.

For instance, studies reported that the relationships between TFL and follower outcomes could be partially or fully accounted for by changes in followers’ commitment, motivation, engagement, and satisfaction in relation to their tasks, as well as by changes in
Transformational Leadership Behaviours

Intrapersonal Level
Changes in:
- Task Perceptions
- Self Perceptions
- Emotions

Interpersonal Level
Changes in:
- Leader-Follower Relationship Quality
- Group Processes

Environmental Level
Changes in:
- Climate
- Culture

Psychosocial Outcomes

-Follower Characteristics
- Relationship Characteristics
- Contextual Characteristics

Figure 2. A proposed conceptual model linking transformational leadership behaviours to follower outcomes.
followers’ perceptions of their job characteristics (e.g., Piccolo & Colquitt, 2006). One of the most commonly explored mechanisms with regards to task perceptions was the meaning of work ($n = 13, 9\%$). Results indicated that TFL enhanced followers’ enthusiasm for their tasks and inspired them to view their tasks as more significant, important, and rewarding. Studies suggested that the meaning of work was an important mechanism linking TFL and several outcomes, such as satisfaction and well-being (e.g., Arnold et al., 2007).

Several studies ($n = 24, 16\%$) also examined how TFL exerted its influence on follower development through motivation-based mechanisms. Findings revealed that TFL positively shaped psychosocial development by facilitating followers’ perceptions of empowerment, motivation, flow, psychological capital, and autonomy. For example, results indicated that follower empowerment acted as a key mechanism in the relations between TFL and various outcomes, such as innovativeness, organizational citizenship behaviours, and well-being (e.g., Krishnan, 2012).

**Self perceptions.** A second category at the intrapersonal level related to how TFL influenced followers’ perceptions of themselves. Specifically, 18 studies (12\%) explored how TFL contributed to psychosocial development by enhancing followers’ sense of self and perceptions of their abilities. The most commonly examined mechanism in this category was followers’ self-efficacy ($n = 12, 8\%$). Results indicated that changes in one’s self-efficacy was a significant pathway by which TFL influenced a variety of outcomes, such as followers’ well-being and commitment (e.g., Nielsen, Randall, Yarker, & Brenner, 2008). Collectively, findings suggested that TFL may help followers develop and strengthen their sense of self, which may ultimately lead to positive outcomes.
**Emotions.** A third category at the intrapersonal level focused on the role that followers’ emotions play in the relationships between TFL and psychosocial development. This category was comprised of three variables, including followers’ positive and negative emotions/affect/moods, emotional intelligence, and emotional (affective) commitment, that were explored in seven (5%) separate studies. For instance, Tsai, Chen, and Cheng (2009) revealed that changes in followers’ positive moods was a key mediating factor in the association between TFL and followers’ helping behaviours. Conversely, Rowold and Rohmann (2009) found that TFL indirectly influenced followers’ satisfaction and extra effort by preventing the experience of negative emotions, such as sadness, jealousy, anger, and contempt. Collectively, these results suggested that promoting positive and reducing negative emotions among one’s followers may be one underlying mechanism by which TFL can positively shape development. While such studies provide some initial insight into the potential role followers’ emotions may play in the association between TFL and psychosocial development, it is important to recognize that this category is based on a small body of evidence and further research in this area would thus be beneficial.

**Intrapersonal level: Discussion.** There are several ways in which youth sport researchers can build upon and extend the research on these intrapersonal processes. While task perceptions for various sport activities tend to be quite positive, there are aspects that may not be inherently rewarding (e.g., conditioning, repetitive drills, bench player positions). Athletes’ motivations for such activities are thus more likely to be externally driven. By enhancing their athletes’ perceptions of the meaning and value of such tasks and roles, transformational coaches may help to facilitate positive development. Indeed, coaches who exhibit TFL behaviours may increase the likelihood that their athletes’ motivations for
engaging in sport are internally driven and reduce the likelihood that their motivations are undermined by external forces (Shamir, House, & Arthur, 1993; Sheldon, Turban, Brown, Barrick, & Judge, 2003). The practical importance of this process is underscored by previous research demonstrating that meaningful and intrinsically motivating sport experiences are associated with a variety of psychosocial outcomes, such as enjoyment and commitment (e.g., Garcia-Mas et al., 2010). As such, researchers may wish to explore how self-determined task perceptions are fostered through the application of transformational coaching behaviours.

Second, the findings suggest that a key means by which TFL shapes development is by enhancing followers’ perceptions of their own abilities. For instance, by encouraging their followers to solve problems and take initiative, transformational leaders convey a sense of trust in their followers’ abilities, which positively shapes their perceptions of competence. Accordingly, transformational coaches may positively shape athletes’ self-efficacy by fostering factors such as vicarious experiences, personal mastery experiences, and verbal persuasion. Transformational coaches who engage in idealized influence serve as role models for their followers and may thus indirectly affect athletes’ beliefs that they too can engage in such behaviours. Transformational coaches may also foster perceptions of self-efficacy by providing opportunities for athletes to experience success and by providing intellectually stimulating, inspiring, and individualized feedback (Shamir et al., 1993).

Given that relatively few studies have explored the role that coaches play in promoting self-efficacy or the influence of increased self-efficacy on personal development outcomes (Feltz & Lirgg, 2001), the study of how TFL behaviours may enhance athletes’ positive self-perceptions may be a worthwhile direction for future research. For instance, researchers could explore how transformational leaders’ use of instructional and feedback behaviours may foster
positive self-efficacy beliefs. Lastly, the examination of emotion-based variables as possible mediators between TFL behaviours and athletes’ development represents an exciting new avenue for coaching research. Specifically, researchers may wish to investigate how transformational coaching behaviours may influence athletes’ affective states, such as contentment or disappointment, and how such affective responses may in turn shape athletes’ positive developmental outcomes.

**Interpersonal level: Results.** With regards to the interpersonal level, the literature indicated that TFL appears to work through two key mechanisms, by changing followers’ perceptions of their relationships with (a) their leader or (b) their group.

**Leader–follower relationship quality.** This category was comprised of processes related to the quality of followers’ relationships with their leader, including trust, Leader–Member Exchange (LMX), identification, and value congruence ($n = 35, 23\%$). The most commonly studied process in this category was trust in one’s leader ($n = 14, 9\%$). Trust reflects the degree to which followers are willing to be vulnerable to their leaders, with the expectation that the leaders will behave in a manner that is valued by the followers. Results highlighted the significant role that trust played in the association between TFL and various follower outcomes, including satisfaction, commitment, and well-being (e.g., Kelloway, Turner, Barling, & Loughlin, 2012).

Another frequently examined process variable in this category was LMX. While LMX is often treated as a leadership theory in its own right, several studies ($n = 10, 7\%$) explored the possibility that the quality of a leader-follower dyad’s exchanges might actually mediate the effects of TFL. Findings demonstrated that LMX may be an important mechanism by which TFL can influence followers’ organizational citizenship behaviours (e.g., Wang, Law,
Hackett, Wang, & Chen, 2005). There was mixed support for the notion that TFL indirectly influences followers’ innovative behaviours through LMX (e.g., Lee, 2008; Shunlong & Weiming, 2012).

**Group processes.** Several studies ($n = 31, 21\%$) also posited that the effectiveness of TFL may lie in its influence on followers’ relationships with their peers, workgroup, or team. Indeed, studies explored how TFL can shape psychosocial development by promoting group processes such as team cohesion, team learning, communication, and a sense of community. The most commonly examined mechanism in this category was identification with the group ($n = 6, 4\%$), which refers to the extent to which an individual perceives the team as an extension of themselves. Findings revealed that TFL may be successful in promoting positive developmental outcomes such as organizational citizenship behaviours (e.g., Tse & Chiu, 2014) because it enhanced followers’ level of identification with the team.

Another variable in this category was collective efficacy ($n = 4, 3\%$). Results indicated that collective efficacy significantly contributed to the relationships between TFL and various outcomes, such as creativity and self-efficacy (e.g., Kurt, Duyar, & Çalik, 2012). As such, these studies revealed that TFL may enhance followers’ confidence in their group’s abilities, their expectations for the group’s performance, and their willingness to contribute to the group’s mission.

Collectively, the results highlighted that TFL can foster positive outcomes by giving followers the opportunity to feel a stronger connection to their team. By emphasizing shared goals and a collective mission, TFL enabled members to believe in their group’s potential and to build stronger relationships with their teammates. This enhanced sense of connection is mirrored by other variables in this category, including a willingness to share knowledge,
increased similarity among followers’ teamwork-based cognitions, and the adoption of favourable interpersonal norms.

**Interpersonal level: Discussion.** Findings from this section revealed that an important avenue by which transformational leaders gain their influence on follower development is through enhancing the quality of their interpersonal relationships (Wang et al., 2005). For instance, results highlighted that a key mechanism by which TFL positively shaped follower development was by fostering followers’ trust in their leader (e.g., Gilstrap & Collins, 2012). While the role of trust has been investigated within the organizational domain (e.g., Bartram & Casimir, 2007), the influence of trust on the quality of coach–athlete relationships has received relatively little empirical attention and may be a beneficial avenue for future research.

By adopting a TFL style, results suggest that coaches may also foster athletes’ personal identification with the coach. Identification with a leader relates to the extent to which one’s followers respect and emulate their leader, as well as the degree to which they embrace similar attitudes and beliefs as their leader. Coaches who embody the dimension of idealized influence by discussing their values and modelling prosocial behaviours may facilitate athletes’ identification with their coach, which may then lead to positive psychosocial outcomes. Furthermore, this identification process may encourage athletes to manifest TFL behaviours themselves when interacting with their peers. Consequently, identification may be a significant mediator to explore with regards to the development of youth’s leadership skills.

The results of this section also highlighted that TFL may exert its influence by enhancing the quality of one’s relationships with their peers or group. Findings revealed that
variables such as team norms, group identification, cohesion, and communication were all processes by which transformational leaders appeared to foster positive outcomes. As such, TFL theory may hold significant potential for understanding how coaches can positively contribute to team dynamics and facilitate psychosocial development at the group level. For example, previous research suggests that the social identities youth form through their membership on sport teams may significantly contribute to youth’s participation and personal development outcomes (Bruner, Boardley, & Côté, 2014). Further research exploring the relations between TFL and group-based variables, such as youth’s social identities in sport, may be worthwhile.

Environmental level: Results. Finally, several studies ($n = 23, 15\%$) suggested that TFL contributes to follower’s psychosocial development by influencing the overall environment. In examining different environment-based constructs, including the degree to which the environment fostered perceptions of fairness, justice, innovation, goal clarity, and safety (both physical and psychological), some common elements emerged. Studies highlighted that transformational leaders positively influenced followers’ psychosocial outcomes by creating environments which: (a) encourage followers’ autonomy and initiative, (b) state clear goals or expectations, (c) support new ideas, (d) recognize followers’ contributions and achievements, (e) enable open communication, and (f) facilitate supporting, trusting, or honest relationships among team members. By cultivating such environments, results indicated that transformational leaders positively influenced followers’ work engagement, quality of life, and organizational commitment, and reduced negative outcomes such as bullying (e.g., Nielsen, 2013).
Environmental level: Discussion. Findings indicated that transformational leaders may influence development by altering followers’ perceptions of their environment. Interestingly, several of the common elements that emerged (e.g., encouraging autonomy and recognizing followers’ achievements) share similarities with the concept of motivational climate (Duda & Hall, 2001). Previous research suggests that transformational leaders value learning from challenging situations and are more likely to adopt a learning orientation, which focuses on learning from the task, rather than a performance orientation, which emphasizes demonstrating competence to gain positive reviews (Bass & Bass, 2008). Considering the commonalities between the constructs of a mastery climate and a learning orientation, researchers could explore whether transformational leaders are more likely to foster a mastery-focused motivational climate, and how this may influence youth’s psychosocial development.

Boundary Conditions

In addition to exploring the processes of TFL, several studies focused on understanding the conditions under which the effects of TFL can be enhanced or inhibited. These variables shaped the relations between TFL and followers’ psychosocial development and thus created boundary conditions for the effects of TFL. In line with the results of the process variables, these moderating variables could be divided into three categories: follower characteristics/perceptions, relationship characteristics, and contextual characteristics. First, follower characteristics/perceptions were sub-divided into five categories: (a) self perceptions (e.g., self-efficacy), (b) task perceptions (e.g., significance), (c) motivational factors (e.g., autonomy), (d) values/beliefs (e.g., cultural values), and (e) emotions (e.g., affect). Second, relationship-based characteristics related to either leader–follower relationship variables (e.g.,
LMX, identification, or humour) or group processes (e.g., team identification, collective efficacy, and cohesion). Lastly, contextual variables referred to features of the environment (e.g., change frequency) that either strengthened or weakened the influence of TFL on psychosocial development.

It is important to note that several variables were investigated as both process variables and boundary conditions. There is consequently significant overlap between the contents of the process categories and the moderator categories. The existence of this overlap suggests that it would be crucial for further research to clarify the role of these variables in the relations between TFL and follower development. Moreover, given that several conflicting findings were reported in relation to these boundary conditions, more research is needed to understand the role that moderators may play in the association between TFL and psychosocial development.

As indicated above, the review revealed numerous follower-, relationship-, and contextual-based characteristics that moderated the influence of TFL on follower development. Extending the exploration of these variables into the sport context may involve investigating the role of followers’ personality or cultural values, relationship duration, or the number of athletes per team. For instance, this review highlighted that leaders’ use of humour enhanced the effectiveness of transformational leaders’ behaviours (Hughes & Avey, 2009). Similarly, humour has been proposed as an effective method to promote positive relationships and athlete outcomes (e.g., Cushion & Jones, 2001). Researchers can build upon these findings by examining how certain behavioural aspects of coach–athlete relationships may moderate the association between TFL and followers’ psychosocial development. Given the current paucity of research in this area, there are numerous fruitful avenues for future study.
Methodological Considerations

Study characteristics. Most of the studies in this review were cross-sectional in nature \((n = 135, 89\%)\). The sample sizes of the studies reviewed ranged considerably from 42 to over 3000 participants. In general, participants in these studies were adult volunteers recruited from workplaces; however, three studies investigated TFL processes among participants under 18 years of age. Two of these studies were conducted in the sport context and one was conducted within the physical education environment.

The studies used a variety of interpretations of TFL to guide the research (e.g., Bass, 1998; Callow et al., 2009; Podsakoff, MacKenzie, Moorman, & Fetter, 1990), and these interpretations often informed the measurement instruments that were used in the research. All of the included articles utilized quantitative questionnaires to explore the processes by which TFL influenced followers’ psychosocial development. The most commonly used questionnaire was the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1990), which was used in 65\% of the studies \((n = 98)\). It is important to note that several studies employed modified versions of this instrument or had the instrument translated into other languages.

Future directions. Results from this review revealed that the current literature has predominantly assessed the influence of TFL on adults’ psychosocial development. As such, there is a significant need for research examining how transformational leaders may facilitate positive development among youth. Followers who are at different ages may have different expectations or preferences for particular types of leadership behaviours as a result of their individual stage of development. This is consistent with Côté and Gilbert’s (2009) proposition that coaching practices should be aligned with the changing needs of athletes.
across the developmental spectrum. Examining possible differences with regards to age or stage of development might help practitioners to appropriately tailor their leadership behaviours to suit the evolving needs of their athletes as they progress through the various stages of athlete development.

There are several avenues for future research that would enhance the quality of the TFL literature in sport. First, longitudinal studies may help shed light on the dynamic and evolving nature of interpersonal processes over time. Youth sport may provide a unique and valuable context in which to conduct such longitudinal studies. Given the relatively short nature of the sport season (as compared to the work-year), sport may provide an ideal environment to explore the development of transformational leaders’ relationships with their followers over time.

Another worthwhile avenue for future research relates to the prominent use of questionnaires to measure TFL. For instance, despite its extensive use within the literature, several concerns have been raised regarding the validity and reliability of the MLQ (Barling, Christie, & Hoption, 2010). The development and refinement of sport-specific evaluation tools may thus be a beneficial avenue for future research. Moreover, while such questionnaire-based methods can offer several advantages to researchers, it is important to acknowledge that the overreliance on this particular method may restrict the ability of researchers to fully capture the complex and dynamic nature of TFL’s association with follower outcomes. There is thus a need for researchers to expand their methodological repertoires. Indeed, qualitative and observational methods may serve to complement questionnaire-based research. For example, the development of observational tools to evaluate coaches’ real-time TFL behaviours may help to demystify the leadership process.
Lastly, there is a need for intervention studies investigating how TFL-based education and training may shape the relationships between leaders’ behaviours and followers’ psychosocial development. This may be particularly valuable as there is currently a dearth of research testing and evaluating theoretically driven, interpersonal-focused, coaching interventions in youth sport. Researchers should carefully construct and implement coach development interventions to assess the extent to which TFL training may lead to changes in coaches’ behaviours, key mediating and/or moderating variables, and ultimately, athletes’ outcomes.

**Limitations and Conclusions**

It is important to recognize the limitations of the present review. First, this review did not include grey literature, such as conference proceedings. Consequently, this review could be limited by a potential reporting bias since the published literature has been criticized for over-reporting positive and significant findings. The exclusion of non-English language articles may have led to the under-appreciation of specific, culturally based factors that influence the association between TFL and followers’ psychosocial development. In addition, the reviewed studies included a wide range of aims, measurement tools, process variables, and boundary conditions. This diversity of focus thus precluded the use of meta-analysis techniques and required the present paper to focus on broader themes. Future research can build upon these findings by examining sub-sets of process variables, boundary conditions, or follower outcomes. Moreover, future research could examine the links between specific dimensions of TFL and positive outcomes to shed light on the specific TFL behaviours that are responsible for facilitating youth development.
Considerable efforts have been made to understand the black box of TFL. The present paper provides an overview of some of the key mechanisms and boundary conditions through which TFL influences followers’ psychosocial development. Overall, results suggested that TFL indirectly exerts its influence by helping followers to think more positively about themselves and their tasks, by enhancing the quality of their relationships, and by creating environments that are fair, respectful, and supportive. TFL theory offers an exciting framework for investigating how coaches can facilitate positive development in youth sport. It is hoped that this paper will spark increased research interest in this important topic.
References


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*1 *Indicates that reference was a part of the literature review.


Chapter 4

Observing transformational coaching: The development of the Coach Leadership Assessment System (CLAS)

Abstract

The purpose of the present study was to develop and validate an observational coding system that captures coaches’ leadership behaviours in sport. Drawing from an integration of the dimensions emphasized within the full-range leadership model, and particularly, transformational leadership (TFL; Bass & Riggio, 2006), the Coach Leadership Assessment System (CLAS) was designed to provide an objective assessment of coaches’ leadership behaviours. Behavioural categories were developed through an iterative combination of literature review, qualitative interviews, and video observation. The CLAS consists of five higher-order leadership dimensions: Transformational, transactional, neutral, laissez-faire, and toxic leadership tones, which assess coaches’ leadership across 18 distinct behavioural categories. The coding system also analyses coaches’ leadership behaviours in relation to the content (instruction/feedback, organization, and general communication), recipient, and context. A coder training protocol was implemented to ensure that coders consistently met a minimum standard of 75% for both inter- and intra-rater reliability. Several strategies were also employed to assess the validity of the CLAS. Overall, results provided preliminary support for the reliability and validity of this instrument. Findings also demonstrated that the CLAS can provide a detailed and contextualized account of coaches’ leadership behaviours in sport and that this tool may have important implications for theory development and applied practice.

Keywords: Transformational leadership, systematic observation, youth sport coaching
Introduction

There is growing recognition that the transformational leadership (TFL; Bass, 1985) dimension of the full-range leadership model may be a valuable lens for exploring coach-athlete interactions in sport (Gomes, 2014). Consistent with this contention, previous studies suggest that coaches’ TFL behaviours can positively influence athletes’ performance, participation, and personal development outcomes (e.g., Charbonneau, Barling, & Kelloway, 2001; Vella, Oades, & Crowe, 2013). Despite the potential contribution of the full-range leadership model to inform sport research, studies in this area remain relatively limited. One possible explanation for this may be the lack of reliable, sport-specific measures of coaches’ leadership behaviours. Consequently, the aim of the present paper is to outline the development of an observational coding system that can be applied to the study of coaches’ leadership behaviours in sport. Specifically, this paper will (a) introduce the full-range leadership model, (b) highlight the limitations of the existing leadership literature in sport, (c) illustrate how behavioural observation may be useful in addressing these limitations, (d) outline the development process of an observational system designed to assess coaches’ leadership behaviours: the CLAS, and (e) provide practical strategies for the application of this observational instrument for examining coaches’ leadership behaviours in sport.

Full-Range Leadership Model

Before delving into the specifics of TFL, it is important to recognize that TFL is situated within the broader full-range leadership model (Bass & Riggio, 2006). According to this model, leadership behaviours can be understood along two axes: One axis ranging from passive to active and the other axis ranging from least effective to most effective. This framework encompasses laissez-faire and transactional, as well as TFL behaviours.
**Laissez-faire leadership.** Laissez-faire behaviours reflect the least effective and most passive form of leadership. Often referred to as *non-leadership*, laissez-faire behaviours may involve ignoring one’s responsibilities or avoiding decision-making (Bass & Riggio, 2006). Previous studies suggest that this form of leadership has potentially negative implications for follower development (e.g., Barling & Frone, 2016; Kelloway, Sivanathan, Francis, & Barling, 2005) since it may foster perceptions of role ambiguity and low relationship quality.

**Transactional leadership.** Moving along the continuums, transactional leadership represents a more active and effective form of leadership. Transactional leadership involves behaviours that are contingent on followers’ abilities to execute specific standards or tasks (Barling, 2014; Bass & Riggio, 2006). This may include establishing positive or negative consequences or monitoring followers for errors. Although there is some evidence to suggest that these behaviours can be linked with positive outcomes, they may be insufficient for optimal follower development (Judge & Piccolo, 2004). This relates to the *augmentation hypothesis* (Bass, 1985), which suggests that transactional behaviours represent the necessary foundation for effective leadership and that TFL behaviours build upon this foundation to promote higher levels of positive development.

**Transformational Leadership (TFL).** Finally, TFL involves empowering, inspiring, and challenging one’s followers to facilitate individual, team, and organizational outcomes (Bass & Riggio, 2006). This type of leadership is comprised of four dimensions, collectively referred to as the 4 I’s: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. First, *idealized influence* refers to leaders who foster trust and respect and serve as role models for their followers. Second, *inspirational motivation* relates to leaders who motivate and challenge their followers by displaying enthusiasm,
articulating a compelling vision, and providing meaning to their followers’ tasks. Third, *intellectual stimulation* involves leaders’ efforts to facilitate creativity and innovation by encouraging their followers to engage in the learning process. Lastly, *individualized consideration* refers to leaders who display genuine care and concern for their followers’ development and achievement. This may include recognizing and supporting individual needs and abilities, as well as promoting two-way communication.

There is a large body of evidence demonstrating that leaders’ application of TFL behaviours can promote positive follower outcomes within a variety of contexts including business, health care, military, and physical education (e.g., Barling, Weber, & Kelloway, 1996; Beauchamp, Barling, & Morton, 2011). While the body of literature on TFL in sport is not as extensive as the evidence base outside sport, previous studies suggest that TFL can have an important influence on athlete outcomes, including athletes’ motivation, performance, and personal development outcomes (e.g., Charbonneau et al., 2001; Vella et al., 2013). Rather than replicate existing reviews of the leadership literature (e.g., Gomes, 2014), the aim of this section is to provide a clear picture of some key limitations that exist in the current literature.

**Limitations**

First, while studies suggest that the interactions between transformational leaders (i.e., coaches) and athletes may facilitate positive sport experiences, the behaviours which make up these interactions have not been empirically advanced and evaluated. Such assessments may help to illuminate how real-time leadership behaviours may influence athletes’ developmental outcomes. The importance of investigating coaches’ moment-to-moment leadership behaviours is underscored by the fact that these social dynamics may influence the quality of
leader-follower relationships. For instance, Lehmann-Willenbrock, Meinecke, Rowold, and Kauffeld (2015) revealed that leaders’ real-time TFL behaviours were positively linked with functional problem-solving communication by team members. It may thus be beneficial for researchers to examine whether similar associations exist within the sport setting, such as whether transformational coaching behaviours may be associated with adaptive team communication patterns.

Second, there is a need for research exploring how leadership behaviours can be integrated with more traditional conceptualizations of coaching behaviours, including teaching new skills or providing technical feedback. Indeed, Gomes (2014) posits that the examination of the relations between TFL and the teaching and training aspects of coaching may help coaches apply TFL behaviours in the sport context. For example, researchers could investigate how technical feedback could be delivered in an inspirationally motivating manner by connecting the feedback to the team’s collective vision. Similarly, it may be worthwhile to examine how intellectually stimulating behaviours, such as asking questions, may help to enhance the quality of coaches’ tactical instructions.

A third limitation relates to the dearth of studies examining how time shapes the quality of leader-follower interactions. The adoption of a time-based perspective may be useful in understanding how coaches’ leadership behaviours evolve over time and how leadership-based interactions may change during different stages of athlete development. Furthermore, the examination of the temporal dynamics of coaches’ leadership behaviours, such as behavioural sequences or patterns, may foster a richer understanding of the complex and dynamic nature of coaches’ leadership-based interactions with their athletes.
Finally, the existing leadership literature has predominantly examined followers’ perceptions of their leader’s behaviours using self-report measures. While such measures have provided a wealth of insight into how leadership may be linked with followers’ development, few studies have explored how these perceptions of leaders’ behaviours align with more objective measures. As such, the adoption of novel methodological approaches may be needed to explore perception-behaviour consistency. By examining potential similarities or discrepancies between measurement tools, future studies may yield new insights into researchers’ and practitioners’ understandings of the leadership process. One methodology that may help to address some of these gaps that exist in the current literature is behavioural observation.

**Behavioural Observation**

Behavioural observation may play an important role in enhancing our understanding of coaches’ leadership behaviours in sport. Over the last four decades, behavioural observation has been an integral component of the coaching literature. Indeed, work such as Tharp and Gallimore’s (1976) seminal observational study of John Wooden, as well as Smith, Smoll, and colleagues’ (e.g., Smith, Smoll, & Hunt, 1977) influential line of observational studies with youth sport coaches have greatly contributed to our understanding of coaching behaviours and their influence on athlete development (see Erickson & Gilbert, 2013; Smith, Quested, Appleton, & Duda, 2016; Vierimaa, Evans, Turnnidge, & Côté, 2016 for reviews). Building upon this foundation, behavioural observational studies have evolved to provide a more detailed picture of coaches’ behaviours by focusing not only the content of behaviours, but also characteristics such as the temporal patterning (e.g., timing) or recipient (e.g., individual)
of these behaviors (e.g., Cushion, Harvey, Muir, & Nelson, 2012; Erickson, Côté, Hollenstein, & Deakin, 2011).

More recently, observational tools grounded in prominent psychological theories have been developed to capture interpersonal qualities of coach-athlete interactions, such as autonomy-support, mastery-orientation, and empowering climate (Erickson & Côté, 2015; Smith et al., 2015; Webster et al., 2013). Research employing such tools highlights that effective coaching is not only contingent on what coaches do, but how they do it (e.g., Erickson & Côté, 2016). Moreover, these studies illustrate that behavioural observation can be an effective methodology for exploring the interpersonal aspects of the coaching process. Drawing upon this literature, it is possible that behavioural observation may similarly provide a valuable approach for exploring coaches’ leadership behaviours, including TFL, in sport.

There are several potential benefits of using behavioural observation to study coaches’ leadership behaviours. First, behavioural observation may offer a unique account of coaches’ leadership behaviours in that it is less likely to be affected by biases resulting from existing relationships between coaches and their athletes. For instance, evidence exists to suggest that followers’ ratings may be susceptible to such biases as sympathy for one’s leaders or selective memory of certain behavioural patterns (Graen, Rowold, & Heinitz, 2010; Rowold & Borgmann, 2013). Consequently, it may be worthwhile to examine how observational measures of coaches’ leadership behaviours may align with athletes’ perceptions of their coaches’ behaviours.

Another strength of observation is that it enables researchers to define and operationalize behaviours (Coie, Dodge, & Kupersmidt, 1990). Observational methods may therefore help to uncover the behaviours that characterize transformational coach-athlete
interactions. For instance, knowing that a coach asks for an athlete’s input at a rate of four times that of other coaches may provide more detailed information than knowing a coach is *intellectually stimulating*. Observing coaches’ leadership behaviours may also contribute to our understanding of how contextual factors may influence coaches’ real-time behavioural patterns. This understanding may be critical for both researchers and practitioners who wish to optimize the quality of youth’s sport experiences.

The importance of understanding how coaches’ leadership styles are manifested behaviourally is underscored by the fact that this information may aid in the design, implementation, and evaluation of leadership-based coach development programs. This may be particularly beneficial since previous research indicates that TFL behaviors can be fostered through training interventions, and that such training can effectively promote positive follower outcomes, such as performance and motivation, with both adult and youth populations (e.g., Barling et al., 1996; Beauchamp et al., 2011). For example, behavioural observation may help to identify coaches with either adaptive or maladaptive leadership behavioural patterns or offer an assessment of the degree to which an intervention has produced behavioural change. The potential utility of such tools is further highlighted by Michie, Atkins, and West’s (2014) recommendations for designing effective behaviour change interventions, which suggest that researchers and practitioners must have a clear understanding of what the behaviour is, how it occurs, and who is involved in performing the behaviour.

In an effort to address the gaps that exist in the current literature, it is evident that novel measurement tools may be required. The overall aim of the present paper thus focuses on the development and initial validation of a systematic observation instrument, the Coach Leadership Assessment System (CLAS), that can be applied to the examination of coaches’
leadership behaviours in sport. This instrument was designed to capture the full-range of coaches’ leadership behaviours, with an emphasis on coaches’ TFL behaviours. The present paper focuses on the instrument’s development process, which was informed by Brewer and Jones’ (2002) guidelines for the creation of contextually valid observation instruments for sport research. The following sections of this paper describe the phases of system development, present an overview of the full coding system, and then discuss the phases of system testing in relation to the establishment of the instrument’s initial reliability and validity.

**Method and Results**

Brewer and Jones’ (2002) proposed a five-stage process for developing observational instruments, including amending an existing observation instrument, establishing validity within the instrument, coder training, and establishing inter- and intra-rater reliability. Informed by their recommendations, the CLAS was developed and tested through several stages that were adapted for the purposes of the present paper. The methods and results of each stage is briefly described below. First, the two stages of system development are outlined, followed by an overview of the CLAS, and then by the three stages of system testing.

**System Development: Stages 1-2**

**Stage 1: Amending existing observation instruments.** Due to the lack of existing observational instruments specifically targeting the full-range leadership model (including TFL behaviours), the first stage of the coding system’s development began with a review of the literature, including existing measurement tools, followed by qualitative interviews with coaches’ regarding their perceptions of TFL behaviours, and then by preliminary observation
of videos. These phases involved an iterative process of viewing and test coding videotaped coaching sessions and re-reviewing qualitative transcripts and relevant literature to ensure that the evolving coding system reflected current theoretical knowledge, as well as the practical realities of coaching. In an effort to outline the development process, the methods employed for each of these phases are described in the following sections. An outline of the evolution of the categories contained within the coding system is also provided (see Table 1 for a summary).

**Literature review: Methods.** A literature review was conducted to explore the range of leadership behaviours that coaches exhibit within the youth sport context. The first aim of this review was to investigate the various conceptualizations of leadership behaviours within the literature and to assess existing instruments designed to measure leadership behaviours. Accordingly, a central focus of this review was to identify examples of leadership behaviours from these instruments that may be relevant for the sport context. Examples of such instruments include the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1990), the Differentiated Transformational Leadership Inventory (DTLI; Callow, Smith, Hardy, Arthur, & Hardy 2009), the Differentiated Transformational Leadership Inventory-Youth Sport (DTLI-YS; Vella, Oades, & Crowe, 2012), and the Transformational Teaching Questionnaire (TTQ: Beauchamp et al., 2010).

A second aim of the literature review was to ensure that the behaviours within this new instrument would be relevant for the sport context. Accordingly, a review was also conducted of existing observational instruments that have been used in coaching research, such as the Coach Behaviour Assessment System (CBAS; Smith et al., 1977), Arizona State University Observation Instrument (ASUOI; Lacy & Darst, 1984), Coach-Athlete Interaction Coding
System (CAICS; Erickson et al., 2011), MPOWER (Webster et al., 2013), Multidimensional Motivational Climate Observation System (MMCOS; Smith et al., 2015), and Assessment of Coaching Tone (ACT; Erickson & Côté, 2015). These instruments were reviewed to identify examples of behaviours that may share conceptual overlap with the dimensions of the full-range leadership model, and particularly, TFL.

**Literature review: Results.** Drawing upon conceptual papers, leadership questionnaires, and coach behaviour observation instruments, the literature review phase resulted in an initial list of 13 behavioural codes across three higher order dimensions: transformational coaching (10 codes), transactional coaching (2 codes), and laissez-faire (1 code) coaching. The literature review process revealed several existing instruments which included clear examples of leadership behaviours that were transactional or laissez-faire in nature. For instance, the transactional codes of *discussing rewards/penalties* and *searching for/responding to errors* were primarily informed by existing questionnaires (e.g., the MLQ) and coaching observation instruments (e.g., CBAS, ASUOI). Similarly, the laissez-faire code of *showing disinterest* was informed by both existing questionnaires (e.g., the MLQ) and observation systems. In particular, this category shared conceptual overlap with the *not engaged* behavioural category from the CAICS, which reflects coaching behaviours where the coach is not actively engaged with or paying attention to the athletes. Although the literature review uncovered numerous potential categories of coaches’ TFL behaviours, it was still unclear how TFL behaviours could be manifested in the sport context. This was underscored by the fact that there was a tendency for the behavioural items contained in TFL questionnaires to be abstract and unspecific. The next phase of the coding system
development process thus involved qualitative interviews with coaches to gain a deeper understanding of how TFL behaviours can be applied in coach-athlete interactions.

**Qualitative interviews: Methods.** Following institutional ethics approval, semi-structured interviews were conducted with seven youth sport coaches. The coaches’ experience ranged between 1.5 to 30 years and they coached a variety of sports, including badminton, basketball, cheerleading, gymnastics, soccer, swimming, and volleyball. Drawing from qualitative and questionnaire-based examples of the 4 I’s of TFL, coaches were asked to reflect on different ways they manifest TFL behaviours in their interactions with their athletes. Sample questions included: “How do you try to gain your athletes’ trust?” (idealized influence); “What do you say, or do, to motivate your athletes?” (inspirational motivation) “How do you encourage your athletes to look at issues from different sides?” (intellectual stimulation); and “What do you do, or say to your athletes to show that you care about them?” (individualized consideration).

All interviews were transcribed verbatim and a thematic analysis was conducted (Braun & Clarke, 2006). Interviews lasted between 40 and 75 minutes. First, transcripts were systematically reviewed and initial codes were assigned to meaningful units of data. The initial coding employed an inductive approach such that codes were designed to reflect the essence of the data. Second, the initial codes were grouped into common themes. Third, an inductive and deductive approach was used to review the themes and to create a thematic map based upon the 4 I’s of TFL (Bass & Riggio, 2006) and their associated behavioural categories generated from the literature review process. This process was intended to help map the generated themes onto the TFL framework, while remaining sensitive to themes that could not be adequately captured by this framework. The thematic map was continually refined by both
members of the research team until agreement was reached. Lastly, these themes were transformed into behavioural categories, each with a distinct name and clear definition. This inductive-deductive approach was employed to gain a deeper understanding of coaches’ perceptions of how TFL behaviours can be integrated into the sport context and to help assess the applicability of TFL to real-life coaching behaviours.

**Qualitative interviews: Results.** The qualitative interviews uncovered several behaviours through which coaches apply TFL in the sport context. Following this stage, the coding system consisted of 12 behavioural categories across three higher order dimensions: transformational coaching (9 codes), transactional coaching (2 codes), and laissez-faire (1 code) coaching. An important contribution of this stage was the refinement of the initial categories and a richer understanding of the boundaries of each behavioural category. For example, the category of *expressing confidence* was revised to *expressing confidence in athlete(s)’ capabilities* in order to more accurately reflect this category’s emphasis on the coach communicating high expectations and strong belief in their athletes. The category of *discussing team concept* was also revised to *implementing a collective vision* to capture a variety of behaviours that coaches used which were not explicitly discussion based, but may enhance perceptions of team unity (e.g., leading team cheers). Further, the category of *providing choice* evolved into the category of *sharing decision making/leadership responsibilities* to account for behaviours through which a coach enables their athletes to have a voice in the decision-making process or to assume leadership roles (e.g., leading drills, demonstrating skills to others, etc.).
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<th>Initial Categories of the CLAS</th>
<th>Final Categories of the CLAS</th>
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<td><strong>Literature Review</strong></td>
<td><strong>Qualitative Interviews</strong></td>
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<td>Idealized Influence</td>
<td>Discussing values/beliefs</td>
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<td>Acting in a positive manner</td>
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<td>Inspirational Motivation</td>
<td>Discussing goals/expectations</td>
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<td>Expressing confidence in athlete(s)’ capabilities</td>
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<td>Discussing team concept</td>
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<td>Intellectual Stimulation</td>
<td>Eliciting athlete input</td>
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<td>Individualized Consideration</td>
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<td>Laissez-Faire</td>
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<td>Toxic</td>
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The findings from the qualitative interviews were particularly helpful in the refinement of the idealized influence component of TFL. Building from the literature review, the initial categories for this dimension included: (a) discussing values/beliefs and (b) acting in a positive manner. Examining these categories in light of the qualitative findings, it was felt that these categories shared significant conceptual overlap and they were thus collapsed into one category: discussing/modelling pro-social values or behaviours. The pro-social element was also added to ensure that this category captured instances where the values being discussed or modelled by the coach were prompted by empathy, morality, or a sense of social responsibility, rather than a desire for personal gain. A second category was also added from the qualitative findings: showing vulnerability/humility. This category was included to reflect behaviours where coaches were open about their weaknesses or struggles, such as apologizing for mistakes, recognizing gaps in their knowledge, or sharing personal experiences.

**Preliminary observations: Methods.** The literature review and qualitative interviews resulted in a working list of 12 potential behavioural categories for the observational system. Using this working version of the system, the primary researcher and three female undergraduate students observed coach-athlete interactions from 41 different sport groups or teams with youth aged 9 to 19. Multiple sport contexts, including both team and individual sports (basketball, beach volleyball, hockey, soccer, swimming, synchronized swimming, volleyball), recreational (e.g., sports camps) and competitive (e.g., high performance clubs) settings, able-bodied and disability sport settings, with male and female coaches of both single gender and mixed gender groups, were included in these videos to examine coaches’ leadership behaviours in a wide range of contexts. The aim of this preliminary observation process was to assess the validity of the categories and evaluate the comprehensiveness of the
instrument. This process of preliminary observation continued until no more additional
categories or modification of categories were deemed necessary.

Preliminary observation: Results. The preliminary observation process led to further
refinements of several categories from the transformational coaching dimension. First, a
category was added to the inspirational motivation dimension: providing meaningful and
challenging tasks and roles. This category was added to capture behaviours through which
the coach highlights the value or meaning of sport activities or roles, such as providing
reasoning behind coaching decisions or connecting practice activities to team goals. Second,
the category of emphasizing the learning process was added to the intellectual stimulation
dimension. During the observation process, coders observed several behaviours through
which coaches encouraged their athletes to engage in, and learn from, challenging tasks. For
instance, coaches emphasized effort over outcome or discussed the importance of learning
from mistakes. Third, coders noted significant overlap between two of the individualized
consideration categories (acknowledging feelings and adapting to individual needs) and thus
these behaviours were collapsed into one category: showing interest in athlete(s)’ needs. This
category encompassed behaviours such as listening to athletes’ opinions, adapting activities to
suit athletes’ needs, and discussing personal issues with the athletes.

Three further modifications of the working list of behaviours were necessary to more
accurately reflect the sport context and to enable continuous, duration-based coding for the
full-range of coaches’ leadership behaviours. The neutral dimension was included to ensure
that the CLAS would be compatible with continuous-coding procedures. As such, this
category is used for any coaching behaviours which do not fit the criteria of any of the other
dimensions. This category relates to instances where coaches engage in the mechanics of
coaching (e.g., providing instruction or feedback) with no identifiable leadership behaviour. An uncodable category was also added to capture instances where the coach was neither visible nor audible.

During the preliminary observation process, it also became apparent that there was a body of coaching behaviours that was not accurately reflected by the dimensions of the full-range leadership model, but that could have significant implications for coaches’ perceived leadership behaviours and ultimately, on athlete outcomes. Specifically, this aspect of the coaching process relates to behaviours that are hostile or anti-social in nature. Building from the observations of the coaching videos, in conjunction with a re-review of the leadership and coaching literature, another higher-order dimension was developed: toxic leadership. This dimension consisted of two behavioural categories: (a) expressing anger/hostility (e.g., threats), and (b) discussing and modelling anti-social values or behaviours (e.g., sarcasm, personal insults, condoning cheating).

**Stage 1 system development: Overall results.** Collectively, the combination of the literature review, qualitative interviews, and preliminary observations resulted in an observational system designed to describe the full and exhaustive range of coaches’ leadership behaviours. This system consisted of 17 behavioural categories across five higher order dimensions: transformational (11 codes), transactional (2 codes), neutral (1 code), laissez-faire (1 code), and toxic (2 codes) coaching, as well as an uncodable category. Each behaviour was categorized with a unique code, standard definition, and specific observable criteria necessary to activate that code (including both inclusion and exclusion criteria where possible). Each category was exclusive and thus each behaviour corresponded to a single code.
Stage 2 system development: Establishing validity within the instrument. The second stage of system development, *establishing validity within the instrument*, involved a combination of pilot testing and consultations with an expert review panel.

**Pilot testing.** First, the coding system underwent a pilot testing process in order to: (a) examine the validity and exhaustiveness of the categories and (b) assess the behavioural criteria that defined each category. A team of three female undergraduate students, along with the primary researcher, employed the instrument to code videos from several different youth sport settings, including basketball, beach volleyball, hockey, soccer, swimming, synchronized swimming, and volleyball. Coders identified any instances where a behaviour was not represented within the current coding system or where there was any ambiguity as to which code accurately captured a given behaviour. Coders and members of the research team met regularly to discuss these issues and to modify the coding system until no new issues were reported.

**Expert review.** Throughout the preliminary development of the coding system in Stage 1, researchers with expertise in several key areas, including observational methods, coaching, youth sport, and leadership theories, were consulted regarding the emerging categories of the coding system. Once the system had undergone several rounds of pilot testing in Stage 2, an expert panel of five researchers were asked to evaluate the system’s face validity. The reviewers were e-mailed a package containing a cover letter explaining the procedure and expectations, a detailed description of the researchers’ interpretation of the behavioural categories, and a complete list of the behavioural categories. Members of the expert panel were asked to review the observational coding system (including behavioural classification, descriptions, and examples) and rate each behavioural category on a scale from
1-5 in relation to both the clarity of the categories and the degree to which the categories accurately captured coaches’ leadership behaviours. The panel was provided with open-ended questions for additional suggestions or feedback.

The panelists’ comments were reviewed by the research team to identify any discrepancies or issues. In general, there was a high degree of agreement from the panel. Issues that were identified related to refining behaviours that could be potentially related (e.g., implementing a collective vision and discussing/modelling pro-social values or behaviours) to ensure that they could be clearly distinguished by coders. The coding system was modified and revised to adhere to the panelists’ suggestions and feedback, such as enhancing the clarity of both the exclusion criteria for the behavioural categories and the decision-making rules for coders. The overall structure of the behavioural dimensions and their respective categories, however, were generally supported by the expert panel.

**Final Coding System**

Upon completion of the two stages of system development, the design and structure of the CLAS was outlined. The following section thus describes both the design and coding process of using the CLAS. The finalized instrument and corresponding examples are also presented in Table 2.

**General overview.** The CLAS is designed to capture each coach behaviour with a three-category sequence: a leadership behaviour code, followed by a content modifier, and finally, by a recipient modifier (e.g., Eliciting athlete input + Instruction/feedback + Team). The context in which these behaviours are occurring is coded as a separate dimension. The CLAS is intended to be both exhaustive and exclusive, such that all possible behaviours can be appropriately classified within the existing categories and that any particular behaviour can
only be appropriately classified by one specific coding sequence. The complete coding manual is available upon request from the corresponding author.

**Leadership behaviour codes.** The coding sequence for any coach behaviour is initiated with a leadership behaviour code. As discussed previously, the leadership behaviour dimension consists of five higher order categories: TFL, transactional, neutral, laissez-faire, and toxic, which are further sub-divided into 17 more specific behavioural categories (See Table 2). An *uncodable* category is also included for continuous based coding, which is designed to capture instances where the coach’s behaviour is either not visible or audible.

**Content modifiers.** The second component of the coding sequence relates to the content modifier dimension, generally consisting of three categories: (a) instruction/feedback (technical and/or tactical instruction/feedback from the coach, directed at athlete(s)’ physical or psychological skill execution, (b) organization (communication related to the organization of tasks and athlete actions that are not intended to directly influence performance), and (c) general communication (communication not directly related to task performance or organization). These categories were primarily derived from previous coach behaviour coding systems, including the CBAS, CAICS, and ACT (e.g., Erickson & Côté, 2015; Erickson et al., 2011; Smith et al., 1977).

It is important to note that the content modifiers were not the primary focus of this coding system, but were rather intended to provide context to the leadership behaviour dimension. Accordingly, several categories were collapsed to simplify the coding process. The neutral category is associated with an additional content modifier: observation. This modifier is intended to capture coaches’ behaviours when they are not directly engaged in an interpersonal interaction.
Recipient modifiers. For any behaviour, a recipient subject code must also be assigned in sequence with the corresponding leadership behaviour code and associated content modifier. Depending on the researchers’ preferences, the recipient subject codes could include: team (i.e., the whole team), small groups (i.e., sub-sections of the team), or others (i.e., parents, assistant coaches, etc.). Individual athletes could be coded using either one broad code (i.e., individual athlete) or specific identifiers (i.e., athlete a).

Considerations. It is important to acknowledge that the CLAS requires a moderate level of content meaning and coder inference (Alexander, Newell, Robbins, & Turner, 1995). To this end, coders can decide whether each coding sequence is best represented by a part of a sentence, a single sentence, or several sentences. There is thus a degree of interpretation with respect to the execution of coding decisions using the CLAS.

System Testing (Stages 3-5)

Stage 3 system testing: Coder training. To enhance the reliability of the CLAS, a coder training protocol was implemented. This protocol was informed by the recommendations of Erickson and colleagues (Erickson & Côté, 2015; Erickson et al., 2011). Preliminary training consisted of several introductory procedures to familiarize the coders with leadership theories, the coding software (Noldus Observer XT, Version 9; Noldus, Trienes, Hendricksen, Jansen, & Jansen, 2000), and the CLAS coding system manual. Coders were provided with lectures and group discussions, as well as a series of readings and the full coding manual for independent study. Coders were asked to independently review video segments and identify behaviours that aligned with the categories of the CLAS. Coders then proceeded to participate in group-based coding session guided by the primary researcher, in
which the coding team watched several videotaped coaching sessions and discussed their reasoning for coding decisions.

The next training stage consisted of coders independently coding 10-min video segments, followed by group review. An inter-rater reliability score was calculated for each of these segments, with the segment coded by the primary researcher serving as the gold standard. Agreements and disagreements were collectively reviewed to ensure that the behavioural categories were being accurately and consistently interpreted and employed. This process of independent coding and group review continued until the coders reached minimum standard of reliability on two 10-min coding assignments. During this stage, coders were also asked to complete a pen-and-paper test, which required them to code hypothetical coaching statements according to the categories of the CLAS. Lastly, once the coders began coding videos to be used for analysis, coders periodically participated in group coding sessions to both reduce observer drift and ensure that the coding system was being implemented as intended.

**Stage 4 system testing: Inter- and intra-rater reliability.** The coding system was tested for reliability and consistency both across and within coders. For the inter-rater reliability procedure, the primary researcher served as the gold standard with respect to the intended interpretation and use of the coding system. Three female, undergraduate coders coded the same 10-min video segments. Each of the other coder’s data were then compared to the gold standard coding of that segment. Any discrepancies were noted and discussed by the coding team, leading to modification or clarification of the coding system as needed.
Table 4-2. Description and examples of the behavioural categories of the CLAS

<table>
<thead>
<tr>
<th>Higher Order Dimension</th>
<th>Leadership Behaviour</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idealized Influence</td>
<td>1- Discussing and modelling pro-social values or behaviours</td>
<td>Discussion or modelling of behaviours that are intended to benefit others and that are often prompted by empathy, morality, or a sense of social responsibility, rather than a desire for personal gain (e.g., showing respect, helping others).</td>
<td>“It is really important that we stay friendly and respectful on the court”</td>
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<tr>
<td></td>
<td>2- Showing vulnerability and humility</td>
<td>Behaviours through which the coach recognizes gaps in their knowledge or understanding. May involve asking for help or apologizing for mistakes.</td>
<td>“It looks like Adam is having a rough day, it’d be great if everyone can help him out today.”</td>
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<tr>
<td></td>
<td>3- Discussing goals and expectations</td>
<td>Behaviours through which the coach expresses expectations for a particular practice, a particular drill, or future events such as an upcoming game or goals for the season. Can also include discussion of goal(s), goal setting, etc.</td>
<td>“For this drill, I want to see everyone giving 100 percent.”</td>
</tr>
<tr>
<td>Inspirational Motivation</td>
<td>4- Expressing confidence in athlete(s)’ capabilities</td>
<td>Behaviours through which the coach conveys an optimistic or enthusiastic attitude regarding what the athlete(s) can achieve.</td>
<td>“I know that you can reach a personal best this weekend.”</td>
</tr>
<tr>
<td></td>
<td>5- Implementing a collective vision</td>
<td>Behaviours through which the coach encourages team spirit and collaborative attitudes among team members.</td>
<td>“Come on everyone, it’s ‘let’s go Vikings’ on three.”</td>
</tr>
<tr>
<td></td>
<td>6- Providing meaningful and challenging tasks and roles</td>
<td>Behaviours through which the coach highlights the value or meaning of certain activities and role or provides rationales for decisions.</td>
<td>“It’s really important that we get this defensive drill right because you know our opponents on Saturday are defensive all-stars.”</td>
</tr>
<tr>
<td>Intellectual Stimulation</td>
<td>7- Eliciting athlete input</td>
<td>Behaviours that convey a view of the athlete(s) as contributing members of the situation and which encourage athlete(s) to solve problems and to look for alternative solutions, have open discussions, or contribute new and alternative ideas.</td>
<td>“How can we use what we have learned from this drill to make us more successful in our games?”</td>
</tr>
<tr>
<td></td>
<td>8- Sharing decision making and leadership responsibilities</td>
<td>Behaviours through which the coach provides opportunities for the athlete(s) to make decisions, show initiative, leadership (e.g., demonstrating skills, leading a warm-up).</td>
<td>“Today, it is Maddie’s turn to lead the warm-up. She will decide the stroke and distance.”</td>
</tr>
<tr>
<td></td>
<td>9- Emphasizing the learning process</td>
<td>Behaviours through the coach encourages athlete(s) to value effort, learn from mistakes, or engage in challenging tasks.</td>
<td>“That was a great try Amy! Mistakes like only help us get better.”</td>
</tr>
<tr>
<td>Individualized Consideration</td>
<td>10- Showing interest in athletes’ needs</td>
<td>Behaviours through which the coach recognizes and/or adapts to an athlete’s individual needs or considers their unique abilities. Behaviours through the coach shows an appreciation for athlete(s) efforts (e.g., recognizing proper execution of skills, thanking athlete(s) for their help). “I know you weren’t feeling well yesterday, how are you today?” “That’s excellent, Jamie! Fantastic job on that pass!” “Thanks everyone for helping to set-up the equipment for this drill.”</td>
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<tr>
<td>11- Recognizing individual roles and contributions</td>
<td><strong>Transactional</strong></td>
<td>Behaviours through which the coach reinforces standards and expectations through the use of rewards or punishments. “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.” “Stop playing with the pucks and let’s get back on task.”</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>14- Neutral</td>
<td>Absence of leadership behaviours (i.e., if no criteria from any other category is met). “Go over there.” “Break time.”</td>
<td></td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>15- Showing disinterest</td>
<td>Behaviours that convey the coach’s disinterest in or ambivalence towards the athletes or practice activities. Coach playing on their phone. Talking with others (assistant coaches, parents) about irrelevant (i.e., not sport related) matters</td>
<td></td>
</tr>
<tr>
<td>Toxic</td>
<td>16- Expressing anger/hostility</td>
<td>Behaviours that convey that the coach holds negative attitudes/feelings towards the athlete(s) (i.e., threatening, yelling, intimidating athlete(s)). “I really don’t understand why you guys can’t get this right, this is ridiculous!”</td>
<td></td>
</tr>
<tr>
<td>17- Discussing and modelling anti-social values or behaviours</td>
<td>Behaviours include criticizing, belittling, ridiculing, insulting devaluing athlete(s) input, or making negative or sarcastic comments about athlete(s) to others “That’s a terrible idea.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>X-Uncodable</td>
<td>Coach is neither visible nor audible.</td>
<td></td>
</tr>
</tbody>
</table>
This process continued until all coders reached a minimum standard of 75% agreement with the gold standard for two distinct video segments. For both inter- and intra-rater reliability, a minimum standard of agreement was set at 75% (Erickson et al., 2011). Agreement required the activation of the same complete three sequence code (i.e., leadership behaviour + content modifier + recipient) within a three second window, as well as the subsequent deactivation of this coding sequence within a three second window. Agreement therefore represented concurrence on five separate coding decisions: (a) time of behaviour initiation, (b) leadership behaviour, (c) content modifier, (d) recipient, and (e) time of behaviour discontinuation.

For the intra-rater reliability procedure, three coders coded a 10-min video segment and then recoded that same segment after a one-week period. Data from the initial coding and delayed recoding were compared with regards to the percentage agreement. Disagreements were again noted and used to clarify the coding system as necessary. As with the inter-rater analysis, coders were required to reach a minimum of 75% code-recode agreement.

Three female coders were trained to the minimum reliability standard of 75% agreement on two consecutive 10-min segments. Re-tests of inter-rater reliability were completed approximately two months following the completion of coder training and the minimum standard was again reached on a 20-min segment (range: 78-84%, $M = 80$, $SD = 2.62$; kappa range: 75%-82%, $M = 78$, $SD = 3.09$). All coders also reached at least the minimum 75% agreement standard on intra-rater reliability tests (range: 75-77%, $M = 76$, $SD = .82$; kappa range: 75-76%, $M = 75$, $SD = .47$). Taken together, the inter- and intra-rater reliability results provide some preliminary support for the initial reliability of the instrument.
**Stage 5 system testing: Validity.** Several strategies were used to validate the coding system. To strengthen the face and theoretical validity of the instrument, the development and testing of the coding system was conducted with videos from a wide range of youth sport settings. The coding system was also reviewed by researchers with expertise in coaching, behavioural observation, and leadership theories. Additionally, stimulated recall interviews were conducted to gain a deeper understanding of coaches’ perceptions of the behavioural categories contained within the CLAS (please see McGuckin, Bruner, Turnnidge, & Côté, 2016 for more details). Although these findings provide some initial insight, more research is needed to assess the validity of this instrument.

**Discussion**

The overall purpose of the present study was to develop and test a novel observational tool for capturing coaches’ leadership behaviours in sport. The development of the CLAS addresses researchers’ calls for the creation of measurement tools that can help to demystify the leadership process by providing an instrument that can assess coaches’ moment-to-moment application of leadership behaviours in sport. It is hoped that this coding system will offer researchers and practitioners a unique behavioural account of coaches’ leadership that is currently lacking in a field dominated by the assessment of subjective experiences. In particular, it is believed that the CLAS will contribute to the coaching literature by enabling researchers to differentiate and classify a myriad of coaches’ leadership behaviours in sport. The findings of the present study provide preliminary support for the reliability and validity of the CLAS. Nonetheless, it is important to note that instrument development is an on-going process and thus prospective and experimental research will be vital in further establishing the utility of this instrument.
A key feature of the CLAS is that it provides a tool to explore how coaches integrate teaching coaching behaviours (e.g., instruction, feedback) with the dimensions of the full-range leadership model, and especially TFL. It is therefore hoped that the examination of coaches’ leadership behaviours will extend, rather than replace, investigations of coaches’ teaching behaviours. For instance, the CLAS enables the examination of how instruction/feedback could be delivered in an intellectually stimulating manner (e.g., You seem to keep locking your knees, how do you think that’s changing your performance?), in a transactional manner (e.g., If you don’t stop locking your knees, I’m going to make you run 10 laps), or in a toxic manner (It’s like your ears don’t work, stop locking your knees!). Accordingly, studies employing the CLAS may provide a more nuanced picture of both the what and how of coaches’ behaviours. This instrument may also help to educate coaches on how they can change the leadership tone of their teaching behaviours.

Previous research suggests that coaches’ leadership behaviours can have important implications for athletes’ performance, continued participation, and personal development (e.g., Charbonneau et al., 2001; Vella et al., 2013). As such, there is a growing need for tools that allow researchers and practitioners to effectively evaluate and describe coaches’ leadership behaviours. To this end, the CLAS may help uncover unique aspects of coaches’ leadership that have been relatively overlooked by existing methodologies. Given that this tool permits the study of leadership from a behavioural perspective, the CLAS may offer researchers and practitioners the opportunity to gain new insight into the intricacies of coach leadership. For instance, employing the CLAS may enable the exploration of effective and ineffective leadership behavioural patterns, contextual influences on coaches’ leadership
behaviours (e.g., coach/athlete characteristics), and the behavioural processes underpinning the associations between leadership behaviours and athlete development.

By facilitating the examination of the moment-to-moment leadership behaviours associated with youth development in sport, the CLAS may also enable researchers to better design and evaluate effective and practical interventions to promote transformational coaching. Michie and colleagues (2014) suggest that a crucial step in designing effective behaviour change interventions is to first define and understand the issue in behavioural terms. Specifically, it is important to understand what the behaviour is, how the behaviour occurs, and who is involved in performing the behaviour. With regards to changing coaches’ leadership behaviours, the CLAS can help to address these questions.

The CLAS may therefore be employed in intervention research in several ways, including: (a) screening and identifying coaches with more or less effective leadership behavioural patterns, (b) tailoring intervention content to specific areas of behavioural change, and (c) providing an objective assessment of the degree to which an educational intervention has resulted in changes in coaches’ leadership behaviours. Since the CLAS offers a real-time account of leadership behaviours, this tool may also help to highlight the contextual variables that can either promote or inhibit behavioural change. Lastly, by providing an in-depth description of coaches’ behaviours, this instrument may help to facilitate coaches’ self-awareness of their leadership behaviours. The importance of this potential application of the CLAS is underscored by the fact that previous research from organizational and physical education contexts demonstrates that TFL behaviours can be developed through training interventions (e.g., Barling et al., 1996).
In assessing transformational coaching behaviours using the CLAS, it is important to acknowledge two key points. First, transformational leaders can influence followers’ development by employing one or more of the four components of TFL (Bass & Riggio, 2006). Further, effective leaders may not exhibit all TFL behaviours to the same degree, and may not necessarily employ every behaviour. Accordingly, the CLAS provides a unique method by which to examine this contention as researchers can assess and compare the frequency and duration of the four components of transformational coaching. As such, it may be possible to examine whether specific dimensions of transformational coaching are more salient for fostering positive developmental outcomes among youth sport participants.

Second, in addition to not necessarily using every TFL behaviour, coaches many not employ only TFL behaviours. It would be unrealistic and unfair to expect coaches to display TFL behaviours for every second of a practice session or competition. Consistent with this perspective, previous research suggests that transactional leadership behaviours can form the base of effective leadership and that these behaviours are an important component of leader-follower interactions (Judge & Piccolo, 2004). Furthermore, it is possible that even the most transformational of coaches may sometimes display behaviours that are more laissez-faire or toxic in nature. It may thus be interesting to employ the CLAS to examine the sequences in which leadership behaviours occur, particularly following the use of less positive leadership behaviours. Overall, it is possible that what differentiates transformational coaches from non-transformational coaches may not simply be whether they use TFL behaviours, but how they balance TFL behaviours with other leadership behaviours. By capturing transactional, laissez-faire, and toxic coaching behaviours in addition to transformational coaching behaviours, the CLAS provides a unique opportunity to assess the full-range of coaches’
leadership behaviours. This is important since existing questionnaire measures primarily focus on transformational coaching behaviours and thus do not provide a clear picture of the behaviours coaches employ when they are not being transformational.

Although the CLAS offers several advantages to researchers investigating coach leadership in sport, it is important to acknowledge that this tool also entails some limitations. The process of gathering and coding observational data can be demanding in terms of both time and resources and thus researchers interested in using this tool must be willing to devote the necessary efforts (Frick, Barry, & Kamphaus 2010). For instance, this tool requires rigorous training for coders, particularly for those inexperienced with systematic observation. Practical and ethical considerations may also limit the observation of coaches’ leadership behaviours outside of practices or games, such as in dressing rooms. Moreover, this instrument is focused on the assessment of observable behaviours and does not uncover participants’ perceptions of these behaviours. This tool may thus be most valuable when supplemented with other methodological techniques, such as questionnaires and interviews. By combining multiple approaches, researchers may gain a deeper understanding of coaches’ leadership in sport and its potential influence on athlete development. Finally, while the development of this instrument was primarily focused on the youth sport context, it may be beneficial for future research to investigate the utility of this instrument in other sport contexts (e.g., elite sport) or in other physical-activity related settings (e.g., physical education). Future research can build on the results of the present study by assessing the reliability and validity of the CLAS with a variety of observational data collection procedures (e.g., live coding).

Overall, this paper presents the CLAS as an observational tool that holds significant potential for the advancement of coaching knowledge and practice. Ideally, continued use and
adoption of the CLAS may provide a novel base of empirical evidence regarding coaches’ leadership and its potential influence on athlete development. Further, these findings may be used to educate researchers and practitioners on the leadership behaviours linked to positive development and provide practical strategies for applying these behaviours in real-world sport programs.
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Chapter 5

Transformational coaching in action: An exploration of coaches’ real-time leadership behaviours in youth sport

Citation: Turnnidge, J., Bruner, M. W., & Côté, J. (In preparation). Transformational coaching in action: An exploration of coaches’ real-time leadership behaviours in youth sport.
Abstract

Coaches’ leadership behaviours are an integral component of the youth sport environment (Vella, Oades, & Crowe, 2013). Research examining coaches’ real-time leadership behaviours in youth sport is, however, limited. The aim of the present study was to explore the leadership behaviours that coaches exhibit during their interactions with young athletes and to investigate the association between coaches’ leadership behaviours and athletes’ motivational outcomes. Twenty-one male coaches and 291 male and female adolescent athletes from competitive youth ice hockey teams were observed over multiple practice sessions and completed measures of self-determined motivation, psychological need satisfaction, and motivational climate. Coaches’ leadership behaviours were assessed using the Coach Leadership Assessment System (Turnnidge & Côté, 2016). Results revealed that coaches used a range of behaviours, with a predominant use of neutral coaching behaviours, followed by transformational, and transactional coaching behaviours. Coaches exhibited low levels of both laissez-faire and toxic coaching behaviours. Multilevel analyses demonstrated that at the team level, coaches’ observed leadership behaviours accounted for some of the variance of athletes’ motivational outcomes. The findings extend past research by investigating a detailed picture of coaches’ moment-to-moment leadership behaviours and the hierarchical effects of leadership behaviours on youth’s motivational outcomes in sport.

Keywords: transformational leadership, systematic observation, youth sport coaching, motivation
Introduction

Coaches’ leadership behaviours play a central role in shaping the quality of athletes’ sport experiences (Chelladurai, 2007). Over the last decade, there has been growing recognition that the full-range leadership model (Bass, 1985), and specifically its transformational leadership (TFL) dimension, may be a valuable framework for investigating the range and effectiveness of coaches’ leadership behaviours (Vella, Oades, & Crowe, 2010). Indeed, studies employing this model illustrate that coaches’ leadership behaviours can have important implications for the outcomes that athletes derive from their sport participation (e.g., Rowold, 2006). Research examining the applicability of this model within the youth sport context, however, remains relatively limited (Vella, Oades, & Crowe, 2013).

The full-range leadership model suggests that leadership behaviours can be conceptualized along two continuums, with one continuum ranging from passive to active and the other continuum ranging from ineffective to effective (Bass & Riggio, 2006). The full-range leadership model is comprised of laissez-faire, transactional, and TFL (Bass & Riggio, 2006). In applying the full-range leadership model to examine coaches’ behaviours in sport, another form of leadership can be included: toxic leadership (Turnmidge & Côté, 2016). Broadly speaking, toxic leadership refers to an active, but ineffective, form of leadership in which leaders express negative attitudes towards their followers. Alternatively, laissez-faire leadership relates to a more passive form of leadership that involves behaviours such as avoiding decision making. Both toxic and laissez-faire leadership behaviours have been linked with negative follower outcomes (e.g., Barling, Akers, & Beiko, 2017; Barling & Frone, 2016). Moving along the continuums, transactional leadership represents a more active and effective form of leadership that focuses on behaviours such as offering rewards and
punishments or responding to errors. While transactional behaviours can be associated with some positive outcomes, the augmentation hypothesis (Bass, 1985) suggests that the effects of TFL can extend beyond those of transactional leadership (e.g., Mackenzie, Podsakoff, & Rich, 2001).

TFL can be characterized by four dimensions, commonly referred to as the 4 I’s (Bass & Riggio, 2006): (a) idealized influence (leaders gain trust and respect by modelling a consistent set of pro-social values and behaviours), (b) inspirational motivation (leaders inspire followers by holding high expectations and creating a collective vision), (c) intellectual stimulation (leaders engage followers in the learning process and challenge them to use critical thinking), and (d) individualized consideration (leaders demonstrate genuine care and concern for each follower’s unique needs and skills). Previous research highlights that TFL behaviours can be associated with a wide range of positive follower outcomes (Bass & Riggio, 2006).

The full-range leadership model, and specifically the TFL dimension, provides a salient framework for exploring coaches’ leadership behaviours and their influence on athlete development. Indeed, studies employing this model provide valuable insight into the types of outcomes that are associated with different behaviours, as well as the potential mechanisms by which leadership behaviours may exert these effects (e.g., Charbonneau, Barling, & Kelloway, 2001). Moreover, previous research indicates that the adoption of more effective leadership behaviours (i.e., TFL) can be enhanced through training interventions and that such training can be effectively applied in a variety of settings (e.g., Barling, Weber, & Kelloway, 1996; Beauchamp, Barling, & Morton, 2011). A deeper understanding of coaches’ leadership
behaviours in youth sport may consequently help shape the content of future coach development programs.

Lastly, given that the aim of TFL behaviours is to enhance followers’ personal growth, TFL may be particularly well-suited to facilitating positive development in the youth sport context. In line with this assertion, Vella and colleagues (2013) revealed that higher perceptions of TFL behaviours within the youth sport setting were associated with the development of personal and social skills, cognitive skills, goal setting skills, and initiative. Considering this potential link between TFL and PYD, further studies are needed to examine how youth sport coaches are employing leadership behaviours in their coach-athlete interactions, as well as the relations between these interactive behaviours and athletes’ outcomes.

Although studies examining leadership in sport indicate that transformational coaching behaviours may have significant implications for athlete outcomes, it is important to recognize some key limitations of the current leadership literature. The first limitation relates to the methods that are commonly employed to assess leadership. In general, leadership is measured by followers’ retrospective, aggregate ratings of their leaders’ behaviours. This approach often requires followers to consider their leader’s behaviours globally, rather than in specific situations (Brown & Keeping, 2005). Previous studies further suggest that followers’ ratings of leaders’ behaviour can be prone to several biases, such as selective memory or sympathy for one’s leader (Graen, Rowold, & Heinitz, 2010; Rowold & Borgmann, 2013). As such, it may be beneficial for researchers to expand their methodological repertoires to gain a deeper understanding of how coaches display leadership behaviours in their coach-athlete interactions. For instance, van der Weide and Wilderom (2004) suggest that the adoption of
observational methods may shed new light on the behavioural underpinnings of TFL and its potential influence on followers’ outcomes.

Second, studies are needed to examine the broader range of leadership behaviours that coaches may exhibit during the coach-athlete interactions. Previous studies have typically focused on assessing coaches’ TFL or transactional behaviours (e.g., Callow et al., 2009; Vella et al., 2013). Therefore, in comparison with TFL and transactional leadership, the roles that laissez-faire or toxic coaching behaviours may play in shaping youth’s sport experiences remain relatively unexplored areas of research. Studies examining a broader range of coaches’ leadership behaviours may thus provide researchers and practitioners with a more complete picture of coaches’ leadership-based interactions in youth sport.

The importance of understanding the real-time leadership behaviours of youth sport coaches is underscored by the fact that improving coaches’ behaviours is often the focus of coach development programs. Michie, Atkins, and West (2014) suggest that a crucial step in designing effective training interventions is to first define and understand the issue in behavioural terms. More specifically, researchers and practitioners need to understand what the behaviour is, how the behaviour occurs, and who is involved in performing the behaviour. Accordingly, detailed investigations of how leadership, and specifically, TFL behaviours are employed by coaches would be particularly valuable for informing the design, implementation, and evaluation of leadership-based coach development programs.

Third, although previous studies have explored the types of developmental outcomes that might be fostered by coaches’ leadership behaviours, more research is needed. Drawing from work both within and out of sport, one possible avenue through which transformational coaches may influence athlete development is through the promotion of positive motivational
outcomes. Consistent with this contention, research within both sport (Charbonneau et al., 2001) and physical education (Beauchamp et al., 2011) settings indicates that TFL behaviours are linked with more self-determined forms of motivation. Moreover, studies suggest that TFL may exert its positive influence on follower outcomes by fostering perceptions of psychological need satisfaction (e.g., Stenling & Tafvelin, 2014; Wilson et al., 2012). Although studies have examined TFL in relation to adults’ motivational outcomes in sport settings and youths’ motivational outcomes in physical education setting, more research exploring the associations between TFL and motivational outcomes within the youth sport setting would be worthwhile.

Another motivational variable that could be influenced by coaches’ use of TFL behaviours is motivational climate. Smith, Cumming, and Smoll (2008) suggest that a mastery climate is created when the primary focus is on personal achievement whereas an ego climate is formed when the emphasis is on demonstrating superior performance over others. Research within organizational settings indicates that transformational leaders are more likely to adopt a learning orientation, that focuses on the learning process, relative to a performance orientation, which emphasizes the acquisition of positive reviews through demonstrations of competence (Sosik, Godshalk, & Yammarino, 2004). By examining the similarities between the constructs of a mastery climate and a learning orientation, it is possible that transformational leaders may be more likely to foster a mastery-focused motivational climate. Studies examining this possibility within the youth sport setting would be beneficial.

**Purpose**

The purpose of this study was to address the current gaps in the coach leadership literature by employing systematic observation methods to capture the leadership behaviours
that occur during real-time, coach-athlete interactions in youth sport. To this end, this study aimed to address the four following research questions: (a) What types of leadership behaviours do youth sport coaches exhibit in their interactions with their athletes, (b) how are youth sport coaches using different types of leadership behaviours, (c) are youth sport coaches’ leadership behaviours characterized by specific content patterns, and (d) to whom are youth sport coaches’ leadership behaviours directed?

A secondary aim of this study was to investigate the potential relations between real-time coaches’ leadership behaviours on athletes’ motivational outcomes, namely their perceptions of self-determined motivation, psychological need satisfaction, and motivational climate. It was hypothesized that the teams whose coaches exhibited higher levels of desirable leadership behaviours (i.e., TFL-based behaviours) would report more favourable motivational outcomes.

**Method**

**Participants**

Twenty-one coaches and 291 athletes ($M_{age} = 14.15$ years; $SD = 1.27$, 73% male) from 21 competitive ice hockey teams across Ontario ($k = 3$, $n = 43$ peewee; $k = 11$, $n = 148$ bantam; $k = 7$, $n = 100$ midget) volunteered to participate in this study. Fifteen of the teams were male and six were female. The teams ranged in size between 10 and 16 athletes ($M = 13$, $SD = 2.07$). The athletes had an average of 9.05 ($SD = 1.93$) years of experience in hockey. Eight athletes did not report their years of experience. Coaches were all male and ranged in age between 35 and 59. In accordance with league policies, coaches had completed certification training programs relating to topics such as instructive strategies, communication,
and ethical decision making. The coaches’ years of experience ranged between 5 and 25 years. Nine of the coaches did not report their years of experience.

**Procedure**

Ethical approval from the researchers’ institutional review board was obtained prior to commencing the present study. Participants were recruited through initial contact with league organizers and coaches. Once teams had elected to participate in the study, active informed consent was obtained from the coaches, the athletes, and the athletes’ parents. Data collection took place midway through the season (December-February) to allow the athletes sufficient experiences from which to evaluate their interactions with their respective coaches and the quality of their sport experiences. The timing of this data collection also helped to minimize *honeymoon biases* that might result from athletes providing higher ratings to new coaches.

Two practices for each team were videotaped during the middle of the competitive season. In an effort to minimize participant reactivity, a trial session was used to acclimatize the coaches and athletes to both the presence of the research team and the video equipment. During the recorded sessions, the coaches wore an omni-directional wireless microphone to capture both their own and the athletes’ verbalizations. Three 15-min segments were selected for analysis from the two practices, resulting in a total of 45-min of observation time for each coach. Segments were selected to ensure that each coach’s observational sessions included a warm-up, a main drill or scrimmage section, and a cool-down period. This standardization allowed for the consistent opportunity to record coaches’ leadership behaviours in multiple naturally-occurring practice contexts. It is important to note that the videos only captured coaches’ practice-based interactions with their athletes and thus did not include those interactions that may have occurred in other contexts (e.g., dressing rooms). The coaches’
leadership behaviours were coded continuously for each participant using duration-based coding.

At the end of the last recorded practice, the athletes were asked to complete demographic measures as well as an adapted version of the Sport Motivation Scale (SMS: Pelletier, Fortier, Vallerand, & Brière, 1995; Ullrich-French & Smith, 2009), the Basic Need Satisfaction in Relationships Scale (BNSRS; LaGuardia, Ryan, Couchman, & Deci, 2000), and the Motivational Climate Scale for Youth Sport (MCSYS; Smith, Cumming, & Smoll, 2008). The time needed for participants to complete the questionnaires was approximately 40-min.

Measures

Coaches’ observed leadership behaviours. Data for the coaches’ leadership behaviours were collected via systematic observation of the video-recorded practice sessions. The observational coding was conducted in a continuous manner, such that the activation of a behavioural code indicated the end of the previous behavioural code, which resulted in a continuous stream of time series data. All coding was conducted with Noldus Observer XT Software (Noldus, Trienes, Hendrickson, Jansen, & Jansen, 2000). Observational coding typically required between two and three hours of coding per 45-min practice session (approximately 53 hours total).

Coding was conducted using the Coach Leadership Assessment System (CLAS; Turnnidge & Côté, 2016). Designed to objectively capture coaches’ leadership behaviours, the CLAS has undergone both reliability testing (i.e., inter- and intra-rater reliability) and initial validation (Turnnidge & Côté, 2016). Coding was conducted by three independent coders who had undergone a minimum of two months of structured coder training and were
not involved in the study design or formulation of study hypotheses. Coders progressed through the standardized training protocol and met the reliability standards (consistently reached at least a 75% agreement with a gold standard coder with regards to timing, frequency, and duration of the behavioural codes) prior to coding video for analysis. All coders maintained these standards in subsequent reliability checks during the coding process (inter-rater reliability: $M = 76\%, SD = 1.25$; kappa $M = 75\%, SD = 0.47$; intra-rater reliability: $M = 79\%, SD = 3.40$; kappa $M = 76\%, SD = 0.82$). Please see Turnnidge and Côté (2016) for full details regarding coder training, as well as the reliability and validity testing of the CLAS.

The CLAS is comprised of a leadership behaviour dimension, content modifier, recipient, and context code. Each coach behaviour was classified by a combination of a leadership behaviour dimension and the corresponding content modifier and recipient codes. Each behaviour could only be appropriately classified by a single code combination (i.e., all codes within each dimension are mutually exclusive). While a brief description of the dimensions of the CLAS is presented below, please see the CLAS coding manual for more details, including coding decision rules and specific examples (available upon request from the corresponding authors; see also Turnnidge & Côté, 2016).

The primary focus of the CLAS was to code coaches’ leadership behaviours across five higher-order leadership dimensions: transformational (TFL), transactional (TC), neutral (NEU), laissez-faire (LF), toxic (TOX) coaching. Across the five high-order dimensions, the CLAS consisted of 17 mutually exclusive behavioural categories, with an emphasis on TFL behaviours. The TFL category was further sub-divided into the 4 I’s: idealized influence (II), inspirational motivation (IM), intellectual stimulation (IS), and individualized consideration (IC). Accordingly, the TFL dimension was comprised of: II: (a) discussing and modelling
pro-social values or behaviours, (b) showing vulnerability and humility; IM: (c) discussing goals and expectations, (d) expressing confidence in athletes’ capabilities, (e) implementing a collective vision; (f) providing meaningful and challenging tasks and roles; IS: (g) eliciting athlete input, (h) sharing decision making and leadership responsibilities, (i) emphasizing the learning process; and IC: (j) showing interest in athlete(s)’ needs, and (k) recognizing individual roles and contributions. The TC dimension encompassed two categories: (l) discussing rewards and penalties and (m) searching for and responding to deviations from rules or standards. The NEU and LF dimensions were represented by one category each: (n) neutral and (o) showing disinterest, respectively. Lastly, the TOX dimension consisted of two behavioural categories: (p) expressing anger and hostility, and (q) discussing and modelling anti-social behaviours or values. An uncodable category was also included to account for times where a coach was neither visible nor audible. Once the initial leadership behaviour dimension had been selected, each coach behaviour was then coded for its content modifier (instruction/feedback, organization, or general communication) and recipient (team or individual) codes.

**Athlete outcomes.**

**Self-determined motivation.** The athletes’ motivation towards their sport was assessed using a subset of 12 items from the 28-item SMS (Pelletier et al., 1995). The shortened version was used as it reduced the overall questionnaire length and included youth-friendly items of simple wording (Ullrich-French & Smith, 2009). This instrument measured a wide range of motivation categories that are situated along the self-determination continuum, including amotivation (absence of motivation; four items), external regulation (behaviour motivated by external sources/reasons; two items), identified regulation (behaviour motivated...
by external reasons, but includes elements of personal choice; two items), and intrinsic motivation (behaviour performed for its pleasure or satisfaction; four items). For each item, athletes responded to the stem question: “Why do you participate in sport?” on a 7-point Likert scale, with anchors of 1 (Does not correspond at all) and 7 (Corresponds exactly). Example items included: “For the excitement I feel when I am really involved in the sport” and “To show others how good I am at sport.” Consistent with previous studies (Ullrich-French & Smith, 2006), an index of self-determined motivation was calculated using the formula: (2 x intrinsic) + (1 x identified) - (1 x introjected) - (2 x external). Higher index scores reflected relatively more self-determined sport motivation. The reliability of the index was assessed and found to be acceptable (α = .71). Support for the reliability and validity of the original SMS (e.g., Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002) and the shortened version (Smith, Ullrich-French, Walker, & Hurley, 2006) have been demonstrated with youth sport participants.

_**Psychological need satisfaction.**_ The athletes’ psychological need satisfaction was assessed with an adapted version of the BNSRS (LaGuardia et al., 2000). This instrument consisted of nine items and assessed need satisfaction in athletes’ relationships with their coach. Athletes responded to each item on a 7-point scale with anchors of 1 (Not at all true) and 7 (Very true). Mean scores on this measure reflected the extent to which athletes’ perceived their psychological needs for autonomy (three items; e.g., “When I am with my coach, I have a say in what happens and can voice my opinion”), competence (three items; e.g., “When I am with my coach, I feel very capable and effective”), and relatedness (three items; e.g., “When I am with my coach, I feel loved and cared about”) were satisfied in their interactions with their coach. In line with previous work (LaGuardia et al., 2000), the nine
items were averaged to produce an overall need satisfaction score. The reliability of this overall score was found to be acceptable ($\alpha = .83$). This measure has previously been found to be a reliable tool among youth sport participants ranging in age between 10-18 years (Coatsworth & Conroy, 2009).

**Motivational climate.** Finally, the MCSYS (Smith et al., 2008) was used to determine athletes’ perceptions of the motivational climate. The MCSYS is comprised of 12 items, six of which related to a mastery climate (E.g., “The coach told us trying our best was the most important thing”) and six of which reflected an ego climate (E.g., “Winning games is the most important thing for the coach”). Athletes responded to these items on a 5-point Likert scale, ranging from 1 (Not at all true) to 5 (Very true). Smith and colleagues (2008) found support for the factor structure of the MCSYS in a sample of athletes between 9 and 14 years of age. Cronbach alpha scores for mastery and ego climates were between .78 and .81 respectively. In the current study, the reliability of the mastery and ego subscales were assessed and found to be acceptable ($\alpha = .82$ and $\alpha = .75$ respectively).

**Data Analysis**

Prior to analysis, data were inspected for indications of missing data, non-normality, and heterogeneity of variance. While no potential univariate outliers were identified (i.e., falling outside of 3.29 standard deviations from the mean), ten multivariate outliers were identified based on the calculation of Mahalanobis distances. These outliers were therefore removed, resulting in a total of 281 athlete participants in the final analysis.

**Coaches’ observed leadership behaviours.** Raw means and percentages of the frequency and duration of each coach’s observed behaviours were assessed regarding: (a) the higher order dimensions of the coaches’ leadership behaviours (i.e., TFL, TC, NEU, LF, and
TOX), (b) the content modifiers of these leadership behaviours (i.e., instruction/feedback, organization, and general communication), and (c) the recipient (i.e., individual athlete, team) of these leadership behaviours.

**Coaches’ observed leadership behaviours and athletes’ motivational outcomes.**

Internal consistency measures (i.e., Cronbach’s alpha), as well as descriptive statistics and bivariate correlations were computed for the self-determined motivation index, the overall psychological need satisfaction score, and the mastery and ego subscales of the MCSYS. Multilevel analysis using hierarchical linear modelling software (HLM7; Raudenbush, Bryk, Cheong, Congdon, & du Tolt, 2011) was employed to enable the researchers to account for the fact that athletes were nested within their teams. A separate model was fit for the four key outcomes: (a) self-determined motivation index, (b) overall psychological need satisfaction, (c) the mastery dimension of motivational climate, and (d) the ego dimension of motivational climate. Using restricted maximum likelihood, a null model was first computed for each of the four outcomes to assess the level of independence. Second, a model was specified with the coach’s raw observed durations of the leadership behaviours (TFL, TC, LF, and TOX) entered at the team level (i.e., Level 2). Neutral coaching behaviours were not included since these do not represent distinct leadership behaviours. Given that the observational data for the coaches’ leadership behaviours had a meaningful zero point, the means for the active leadership behaviours were uncentred (Enders & Tofighi, 2007). It is important to acknowledge that this model did not include level 1 predictor variables. As such, the main analyses only involved the examination of team level variability with regards to the motivational outcomes and an assessment of the assumptions for multilevel models, including multivariate normality, misspecification, and homogeneity of variance.
Results

Coaches’ Observed Leadership Behaviours

Question 1: What types of leadership behaviours do coaches exhibit? The first research question of this study involved the examination of the types of leadership behaviours occurring during youth sport coaches’ interactions with their athletes. Overall, the coaches exhibited a range of leadership behaviours during their practice sessions. All coaches employed a combination of neutral, transformational, and transactional coaching behaviours. With regards to transformational coaching behaviours, 20 coaches displayed all four components of transformational leadership and one coach used only three of the dimensions (excluding intellectual stimulation). Thirteen coaches exhibited laissez-faire coaching behaviours and 10 coaches employed toxic leadership behaviours in their interactions with their athletes.

Question 2: How are coaches using leadership behaviours? Coaches were observed for a total of 945 minutes (56,700s). Of the approximately 45 minutes (2700s) that each coach was observed, coaches spent a large proportion of their practice time silently observing their athletes ($M = 1260$ s; 46.67%). On average, the coaches spent nearly 1440s (53.33%) interacting with their athletes. The leadership behaviours coaches exhibited during these interactions will be the focus of the following sections.

Table 1 displays the mean durations and frequencies of coaches’ leadership behaviours while interacting with their athletes. All durations and frequencies represent the average calculations expressed in seconds for a 45-min practice session. With regards to duration percentages while interacting with athletes, coaches spent much of their interactive time displaying neutral coaching behaviours ($M = 68.30\%, SD = 13.19$), followed by
transformational coaching behaviours ($M = 25.12\%, SD = 11.54$), and then by transactional coaching behaviours ($M = 4.25\%, SD = 2.82$). The coaches spent relatively little time exhibiting laissez-faire ($M = 1.74\%, SD = 4.50$) or toxic ($M = 0.4\%, SD = 0.85$) coaching behaviours. With regards to TFL, coaches spent the most time displaying inspirational motivation behaviours ($M = 195.29$ s, $SD = 25.67$; $13.65\%$), followed by individualized consideration behaviours ($M = 98.47$ s, $SD = 61.67$; $6.85\%$). Conversely, coaches spent less time exhibiting idealized influence ($M = 33.83$ s, $SD = 25.67$; $2.35\%$) and intellectual stimulation ($M = 33.73$ s, $SD = 26.08$; $2.35\%$) behaviours.

**Question 3: Are leadership-based interactions characterized by specific content patterns?** When employing a neutral coaching style, coaches spent sixty percent of that time organizing ($M = 595.48$ s, $SD = 200.90$), thirty-six percent of that time providing instruction/feedback ($M = 355.89$ s, $SD = 191.67$), and four percent of that time engaging in general communication ($M = 33.33$ s, $SD = 40.76$). Alternatively, when using a transformational coaching style, coaches displayed higher levels of instruction/feedback ($M = 272.52$ s, $SD = 205.06$; $75.42\%$), followed by general communication ($M = 47.06$ s, $SD = 140$
42.05; 13.02%), and then by organization (\(M = 41.75\) s, \(SD = 32.50\); 11.55%). When coaches’
behaviours aligned with a transactional coaching style, they spent most of that time providing
instruction/feedback (\(M = 50.43\) s, \(SD = 45.86\); 80.92%), followed by organization (\(M = 9.11\)
s, \(SD = 8.64\); 14.62%), and general communication (\(M = 2.78\) s, \(SD = 9.47\), 4.46%). Overall,
coaches spent relatively little time exhibiting toxic coaching behaviours (\(M = 5.33\) s, \(SD =
10.12\)). When they did use a toxic coaching style, coaches spent most of this time displaying
instruction/feedback (\(M = 3.32\) s, \(SD = 8.23\); 62.43%), followed by general communication (\(M =1.64\) s, \(SD = 2.84\); 30.90%), and organization (\(M = 0.35\) s, \(SD = 0.81\); 6.67%).

**Question 4: To whom are these leadership behaviours directed?** In addition to
investigating the content of coaches’ behaviours, the recipient of these behaviours was also
examined. Overall, coaches employed a team-based approach in that they spent much of their
time interacting with the team as a whole (\(M = 926.27\) s, \(SD = 271.86\); 64.44%), rather than
interacting with individual athletes (\(M = 343.43\) s, \(SD = 133.19\); 23.88%). On average,
coaches spent 168.41 s (\(SD =91.41\); 11.71%) interacting with individuals other than athletes
(e.g., assistant coaches, parents, athletes not on their team). When employing a
transformational coaching style, coaches spent more time interacting with the whole team (\(M = 244.17\) s, \(SD =170.69\); 65.14%), followed by individual athletes (\(M = 116.07\) s, \(SD = 57.29\);
34.51%), and others (\(M = 1.09\) s, \(SD = 2.16\), 0.35%). This pattern was similar for neutral,
transactional, and toxic coaching behaviours as well. All laissez-faire behaviours were
directed towards the whole team.

**Coaches’ Leadership Behaviours and Athletes’ Motivational Outcomes**

In line with the secondary purpose of this study, associations between coaches’
leadership behaviours and motivational outcomes were examined. Assumptions of multilevel
analysis were evaluated and the assumptions were met for self-determined motivation, psychological need satisfaction, transformational coaching, transactional coaching, and neutral coaching. There was evidence of skewness for the mastery and ego climate scales, as well as for coaches’ durations of laissez-faire and toxic coaching. The analyses were conducted with both the transformed and untransformed variables and the pattern of results was similar. The untransformed findings are therefore presented for ease of interpretation.

Descriptive and bivariate statistics of the mean scores of the motivational variables are presented in Table 2. Mean scores for self-determined motivation and psychological need satisfaction were 8.70 (out of 18) and 4.69 (out of 7) respectively. Athletes’ self-reported perceptions of mastery-climate were higher (4.13 out of 5) than ego-climate (2.22 out of 5). Correlations among the self-determined motivation, psychological need satisfaction, and mastery-oriented motivational climate were all moderate and positive (see Table 2). Ego-
predictors (i.e., coaches’ leadership behaviours). The resulting intra-class correlations were 0.10 (self-determined motivation), 0.19 (psychological need satisfaction), 0.17 (mastery climate), and 0.33 (ego climate). Findings indicated that between 10% and 33% of the variability in the athletes’ scores could be attributed to team level variability. Consequently, these results suggest that athletes on the same team shared some similarity in their perceptions of the motivational variables.

Across most of the motivational variables, the results suggest that teams whose coaches exhibited higher durations of positive leadership behaviours, such as transformational coaching behaviours, tended to report higher levels of adaptive motivational outcomes. Table 3 highlights the results for the HLM analysis. The model includes coaches’ raw observed durations of the four active higher order leadership dimensions (TFL, TC, LF, and TOX) while they were directly interacting with their athletes as Level 2 variables.

At the team level, transformational coaching behaviours positively predicted perceptions of psychological need satisfaction \((b = .001, p < .05)\), mastery climate \((b = .001, p < .05)\) and negatively predicted perceptions of ego climate \((b = -.001, p < .05)\). Second, transactional coaching behaviours positively predicted perceptions of ego climate \((b = 0.005, p < .05)\). Third, laissez-faire coaching behaviours were negatively associated with perceptions of psychological need satisfaction \((b = -.002, p < .05)\) and mastery climate \((b = -.001, p < .05)\), as well as positively associated with ego climate \((b = 0.002, p < .05)\). Lastly, toxic coaching behaviours negatively predicted perceptions of ego climate \((b = -0.016, p < .05)\). Coaches’ leadership behaviours did not predict athletes’ perceptions of self-determined motivation. However, coaches’ leadership behaviours accounted for variance at the team level for the
other motivational variables, accounting for 2% (psychological need satisfaction), 3% (mastery climate), and 16% (ego climate) of the overall variance.

Table 5-3. *Coefficients for coaches’ leadership behaviours predicting motivational variables.*

<table>
<thead>
<tr>
<th></th>
<th>Self-Determination Index</th>
<th>Psychological Need Satisfaction</th>
<th>Mastery Climate</th>
<th>Ego Climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random effects</td>
<td>Coefficient (SE)</td>
<td>Coefficient (SE)</td>
<td>Coefficient (SE)</td>
<td>Coefficient (SE)</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>8.448(.472)**</td>
<td>4.479(.211)**</td>
<td>3.981(.139)**</td>
<td>2.354(.016)**</td>
</tr>
<tr>
<td>TFL DUR</td>
<td>0.002(.001)</td>
<td>0.001(.0003)*</td>
<td>0.001(.0002)*</td>
<td>-0.001(.000)*</td>
</tr>
<tr>
<td>TC DUR</td>
<td>-0.011(.010)</td>
<td>-0.002(.002)</td>
<td>-0.002(.001)</td>
<td>0.005(.002)*</td>
</tr>
<tr>
<td>LF DUR</td>
<td>0.000(.003)</td>
<td>-0.002(.001)*</td>
<td>-0.001(.0005)*</td>
<td>0.002(.001)*</td>
</tr>
<tr>
<td>TOX DUR</td>
<td>0.021(.016)</td>
<td>0.003(.004)</td>
<td>0.002 (.003)</td>
<td>-0.016(.004)*</td>
</tr>
<tr>
<td><strong>Random Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 1 (r)</td>
<td>12.01</td>
<td>0.80</td>
<td>0.35</td>
<td>0.40</td>
</tr>
<tr>
<td>Level 2 (u0)</td>
<td>1.34</td>
<td>0.17</td>
<td>0.06</td>
<td>0.10</td>
</tr>
<tr>
<td>Overall</td>
<td>0.63%</td>
<td>2.00%</td>
<td>3.00%</td>
<td>16.00%</td>
</tr>
<tr>
<td>ICC</td>
<td>0.10</td>
<td>0.19</td>
<td>0.17</td>
<td>0.33</td>
</tr>
<tr>
<td>-2*log likelihood</td>
<td>1542.79</td>
<td>801.70</td>
<td>573.59</td>
<td>612.12</td>
</tr>
</tbody>
</table>

*Note: ** *p<.001; *p<.05*

Level 2: \( \beta_0 = \gamma_{00} + \gamma_{01} (TFL\ DUR) + \gamma_{02} (TC\ DUR) + \gamma_{03} (LF\ DUR) + \gamma_{04} (TOX\ DUR) + \mu_0 \) (uncentered are underlined).

**Discussion**

The purpose of the current study was to describe coaches’ real-time leadership behaviours in youth sport and to investigate potential associations between coaches’ leadership behaviours and athletes’ motivational outcomes. The study’s findings provide a
unique perspective on the real-time leadership behaviours that coaches employ in their interactions with young athletes. The findings also lend some support for the assertion that transformational coaching behaviours have the potential to foster positive athlete outcomes (e.g., Vella et al., 2013) and highlight the need for future work to help coaches enhance both the quantity and quality of their leadership behaviours.

Coaches’ Leadership Behaviours

The first two research questions of this study related to what types of leadership behaviours the youth sport coaches exhibited and how they displayed these behaviours. The coaches used several different leadership behaviours throughout their practice sessions, with all coaches exhibiting a combination of neutral, transformational, and transactional coaching behaviours. Sixty-two percent of the sample also exhibited laissez-faire coaching behaviours and 48% also displayed toxic coaching behaviours. These findings lend support to the notion that leadership is a complex and nuanced process and coaches are likely to display a range of leadership behaviours in their interactions with their athletes. It is therefore possible that a coach who is generally perceived as transformational may also engage in neutral and transactional coaching behaviours, and perhaps even laissez-faire and toxic coaching behaviours from time to time. Consistent with this contention, Bass and Avolio (1994) suggested that the profile of effective leadership consisted of higher frequencies of TFL behaviours, some frequencies of transactional behaviours, and lower frequencies of laissez-faire behaviours whereas poor leadership profiles involved higher frequencies of laissez-faire and transactional behaviours and lower levels of TFL behaviours. Building upon the results of the current study, it may be beneficial for researchers to further explore how effective coaches balance the frequency and duration of different types of leadership behaviours.
It is also interesting to note that nearly half of the coaches in the present study spent some time exhibiting laissez-faire and toxic leadership behaviours. While the durations of these behaviours tended to be relatively short (i.e., less than 60 seconds), it may be worthwhile to explore how even rare instances of laissez-faire and toxic coaching behaviours may influence athlete development. Indeed, previous research within the broader leadership literature suggests that followers are more likely to pay attention to negative interactions with their leader (e.g., Pratto & John, 1991). As such, future research examining coaches’ behaviours would help shed light on how different types of coaches’ leadership behaviours may shape athletes’ perceptions of their coaches and the quality of their sport experiences.

In addition to using a variety of different leadership styles, the findings also indicate that coaches used varying levels of the four different elements of transformational coaching. Specially, coaches spent more time displaying behaviours related to inspirational motivation and individualized consideration in comparison to idealized influence and intellectual stimulation behaviours. This is consistent with Barling and colleagues’ (1996) study with bank managers, which similarly found that leaders scored lowest on the intellectual stimulation dimension of TFL. This result is worth noting since intellectually stimulating behaviours, such as questioning, can foster athlete development through critical thinking, problem-solving, and awareness (Chambers & Vickers, 2006).

One possible explanation for this finding may be that the behaviours associated with inspirational motivation and individualized consideration resonate more with traditional conceptualizations of effective coaching behaviours than idealized influence and intellectual stimulation. For instance, the recognizing individual roles and contributions category of individualized consideration is reflected in dominant coaching behaviours such as feedback...
and praise. Moreover, the *discussing goals and expectations* category of inspirational motivation shares some overlap with the more traditional approach to instruction and feedback.

Interestingly, coaches’ limited use of intellectual stimulation parallels Partington and Cushion’s (2013) work with professional youth soccer coaches, which revealed that coaches encountered difficulties employing behaviours that align with intellectual stimulation, such as providing athletes with opportunities for decision making and encouraging critical thinking by asking questions. Indeed, although coaches expressed a desire to integrate such behaviours into their coaching practice, behavioural analysis revealed that they employed more traditional, prescriptive coaching styles. Interpreting the results of the present study in light of Partington and Cushion’s (2013) work, it is possible that coaches may find it more difficult to display intellectual stimulation behaviours. It may thus be worthwhile for researchers to examine coaches’ perceptions of the various facilitators and barriers to implementing TFL behaviours in the sport context, particularly those behaviours associated with intellectual stimulation and idealized influence.

Given that inspirational motivation and individualized consideration more closely resemble traditional coaching behaviours, it is also possible that coaches may not have enough exposure to the concepts of idealized influence and intellectual stimulation to effectively integrate them into their coaching practice. In line with this assertion, a limitation of existing coach development programs has been its predominant emphasis on professional knowledge behaviours, such as instruction, rather than interpersonal behaviours, such as role-modelling (Lefebvre, Evans, Turnnidge, Gainforth, & Côté, 2016). This may be further exacerbated by coaches’ perceptions that coach development programs are often not applicable within the
realities of coaching practice and are thus more likely to rely on experiential learning and trial-
and-error to inform their behaviours, rather than evidence-informed coaching practices
(Cushion, Armour, & Jones, 2003). A possible solution may thus be to develop theory-based
and evidence-informed coach education programs (Allan, Vierimaa, Gainforth, & Côté, 2017;
Partington & Cushion, 2013) that enhance coaches’ understanding of how to apply
transformational coaching behaviours in real world, youth sport settings. Fortunately,
evidence exists to suggest that TFL behaviours, and particularly intellectual stimulation, can
be developed through training programs (Barling et al., 1996).

An unexpected finding that emerged from this study relates to the predominant use of
neutral coaching behaviours. The neutral category reflects instances where coaches are
engaging in the mechanics of coaching (providing instruction, organization, etc.) with no
discernable leadership tone. For instance, coaches may provide athletes with a description of
the drill they are about to do, without discussing expectations for that drill (inspirational
motivation), adapting the drill to individual needs (individualized consideration), or offering
rewards/punishments for the execution of the drill (transactional). This category also
encompasses common coaching behaviours such as simple organizational instructions (e.g.,
“Move over here”), vague cues (e.g., “Go, go go”) or passive praise (e.g., “Good job” without
an identifiable rationale or recipient). Previous research has expressed concern regarding such
nonspecific instruction, feedback, or organizational coaching behaviours because it offers
limited information or meaning to athletes and may lessen the potential influence of coaches’
more relevant and constructive behaviours (Cushion & Jones, 2001). A fruitful avenue for
future research may thus be to investigate ways to encourage coaches to adopt more active and
effective leadership behaviours.
Coaches’ Leadership Behaviours and Athletes’ Motivational Outcomes

A secondary aim of this study was to examine the potential links between coaches’ observed leadership behaviours and athletes’ motivational outcomes. It is important to acknowledge that the model used in this study only assessed team variability and accounted for a small amount of variance for three of the four key outcomes. Although these results can provide some preliminary insight into the potential relations between coaches’ observed leadership behaviours and athletes’ team-level motivational outcomes, these findings should be interpreted with caution. Results indicated that coaches’ use of transformational coaching behaviours were associated with perceptions of psychological need satisfaction. This finding is supported by research in both sport (Stenling & Tafvelin, 2014) and physical education (Wilson et al., 2012). Additionally, results suggested that coaches’ leadership behaviours are linked to athletes’ perceptions of motivational climate. Specifically, observed transformational coaching behaviours were positively associated with mastery-oriented climate, while negatively associated with ego climate. These findings shed some light on how coaches’ real-time leadership behaviours may influence the motivational climate of sport settings.

Contrary to expectations, the results found no association between coaches’ leadership behaviours and athletes’ perceptions of self-determined motivation. Conversely, previous studies demonstrate relations between athletes’ perceptions of their coaches’ leadership behaviours and self-determined motivation (Charbonneau et al., 2001). One possible explanation for this finding may be that the observational measures could only be inputted at Level 2 in the HLM model. Such team-level assessments may not be as relevant for intrapersonal outcomes such as self-determined motivation. Future studies examining
observed leadership behaviours at both Level 1 and Level 2 are needed to unpack these relations. For instance, researchers could employ State Space Grid analysis (Erickson, Côté, Hollenstein, & Deakin, 2011) to uncover how the content and structure of dyadic interactions may affect the associations between coaches’ leadership behaviours and athletes’ motivational outcomes.

Although the results revealed that transformational coaching behaviours were associated with athletes’ perceptions of motivational outcomes, these associations explained a small amount of the variance and should be cautiously interpreted. There are several factors which may have contributed to these small effects or the lack thereof in the case of self-determined motivation. First, it is important to recognize the exploratory nature of the current study. Given the lack of observational work in this area, it is unclear whether the level or dose of TFL behaviours exhibited by the coaches in this sample was sufficient to influence athletes’ motivational outcomes. As such, further research is needed to explore if a certain threshold of TFL behaviours is necessary for positive development to occur.

Second, while the coaches in this study did employ varying levels of TFL behaviours, there are two aspects of coaches’ TFL-based interactions that may have limited the quality of their transformational coaching behaviours and their potential influence on athletes’ motivational outcomes: the (a) content and (b) target of these behaviours. With regards to content, coaches spent relatively less time exhibiting TFL behaviours in conjunction with general communication. General communication refers to behaviours that are not specifically tied to sport and includes behaviours such as joking around with athletes or discussions about school, family, or interests outside of sport. Previous studies indicate that such behaviours can have important implications for the quality of athletes’ sport experiences. For instance, Stuntz
and Spearance (2010) demonstrated that coaches’ communication with their athletes about outside-sport topics was linked with higher levels of sport enjoyment and commitment. Similarly, Erickson and Côté (2016) found that athletes who experienced positive changes in their personal development outcomes over the course of a season received significantly higher levels of interaction with their coaches about non-sport related matters. Taken together, it is thus possible that coaches may improve their quality of TFL behaviours by exhibiting TFL in combination with general communication behaviours. For example, coaches could pair showing interest category of individualized consideration with general communication by asking their athletes about their school or family life.

Another key element to consider was the target of coaches’ leadership behaviours. Results indicated that coaches tended to direct their transformational coaching behaviours towards the whole team, rather than towards individual athletes. This is an important finding to recognize since previous research suggests that individualized coaching behaviours are a component of effective coaching (Becker, 2013). For instance, qualitative (e.g., Keegan, Harwood, Spray, & Lavallee, 2009) and observational (e.g., Erickson et al., 2011) studies suggest that individualized coaching may positively influence athletes’ motivation and personal development. It is thus possible that the use of individualized transformational coaching behaviours may foster more positive motivational outcomes.

**Practical Implications**

Overall, this study advanced our understanding of coaches’ leadership behaviours in sport. The findings contributed to the coaching and leadership literature by exploring youth sport coaches’ leadership behaviours with a method that captures novel aspects of coaches’ leadership-based interactions and by examining the potential links between coaches’ observed
leadership behaviours and athletes’ motivational outcomes. This study also had important applied applications. First, findings suggested that researchers and practitioners should examine ways of helping coaches to adopt transformational coaching behaviours in their everyday practice, especially idealized influence and intellectual stimulation behaviours. For example, coaches may wish to model pro-social behaviours to their athletes, recognize and apologize for their mistakes, and provide opportunities for their athletes to make decisions. Additionally, coaches can consider ways of enhancing the quality of their transformational coaching behaviours by using transformational coaching behaviours while discussing their athletes’ lives outside of sport and by individualizing their transformational coaching behaviours. Such suggestions may also be incorporated into the design of future TFL-based coach development programs that can educate coaches on how they can apply TFL behaviours in youth sport.

Limitations and Future Directions

The potential implications of this study should be considered in light of its limitations. First, the cross-sectional nature of this study precluded the examination of causality or the influence of time on coaches’ leadership behaviours (e.g., practice effects, seasonal effects). As such, longitudinal designs investigating how coaches’ leadership behaviours may develop over the course of a season would be highly beneficial. Moreover, such studies may shed light on how factors such as a team’s competition schedule or performance record could shape coaches’ leadership-based interactions with their athletes.

It is also important to note that this study was conducted in one sport context (i.e., competitive ice hockey). As such, future studies can build upon the results of this study by assessing how generalizable the present findings are to other sports or competitive contexts.
For instance, researchers may wish to examine how coaches employ leadership behaviours in individual or inter-dependent team environments (Evans, Eys, & Bruner, 2012). Further examination of the contextual variables that may influence the relations between transformational coaching behaviours and athletes’ outcomes would be worthwhile. Such studies may uncover possible confounding variables (e.g., gender, age) that could influence these associations. For example, future research may wish to conduct gender comparisons with samples that include both male and female coaches.

Moreover, the HLM analysis employed in the present study was limited by the relatively small sample size and lack of individual level predictors. Future studies including level 1 predictors with a larger and more diverse sample may permit more complex statistical analyses, such as the exploration of potential moderator or mediator variables. Such research may provide a more detailed understanding of the leadership process as it may be better able to account for possible individual and team level effects.

Finally, the observational approach of this study did not allow for the exploration of coaches’ leadership behaviours outside of practice (e.g., dressing rooms, team buses) or for coaches’ and athletes’ perceptions of these leadership behaviours. Future qualitative studies may be particularly useful in these limitations. For example, researchers may use stimulated-recall interviews to explore coaches’ rationales for employing different leadership behaviours. Researchers may also use qualitative approaches to investigate athletes’ perceptions of leadership behaviours in a variety of non-practice contexts. Qualitative work may also help to uncover youth sport coaches’ perceptions of the various barriers and facilitators that influence their use of different leadership behaviours and may reveal areas of intervention for future TFL-based coach development programs. Overall, by gaining a deeper understanding of
coaches’ leadership behaviours in sport, researchers and practitioners can enhance the quality of youth’s sport experiences, which may ultimately facilitate youth’s positive development.
References


Barling, J., & Frone, M. R., (2016). If only my leader would just do something! Passive leadership undermines employee wellbeing through role stressors… *Stress and Health*. Advanced online publication.


http://dx.doi.org/10.1016/j.leaqua.2005.01.003.


https://doi.org/10.1108/01437731311289956


Chapter 6

General Discussion
The objective of this dissertation was to develop a better understanding of coaches’ leadership behaviours in sport and the potential role that leadership behaviours play in facilitating athlete development. The aim of the following section is to: (a) present a summary of the findings of the dissertation, (b) highlight the strengths and limitations of the dissertation, (c) discuss practical implications for sport researchers and practitioners, and (d) outline avenues for future research.

6.1 Summary of Results

Study 1. The first study focused on how the TFL dimension of the full-range leadership model may provide a valuable lens for exploring coaches’ leadership behaviours in sport. Further, Study 1 provided a comprehensive synthesis and integration of TFL research across a variety of disciplines (e.g., organizational psychology, health care and promotion, education, and sport and exercise psychology) that examined the processes by which TFL can influence followers’ psychosocial outcomes. Results shed light on the multiple layers through which TFL may exert its effects on follower development at the intrapersonal, interpersonal, and environmental levels. Findings also revealed several methodological considerations regarding TFL research, such as the need for studies employing qualitative or observational approaches.

Study 2. Based on the first study’s methodological recommendations, the objective of Study 2 was to develop a systematic observation instrument to capture coaches’ leadership behaviours in sport. Given the predominance of self-report questionnaires within the TFL literature, the observational instrument was designed to provide researchers and practitioners with an alternative method of assessing coaches’ TFL behaviours. Drawing upon reviews of the literature, qualitative interviews with youth sport coaches, and video observation, the
Coach Leadership Assessment System (CLAS) was developed. The CLAS consists of five higher-order dimensions: transformational, transactional, neutral, laissez-faire, and toxic coaching, which assess coaches’ leadership across 18 distinct behavioural categories. The coding system also analyses coaches’ leadership behaviours in relation to their content (instruction/feedback, organization, and general communication), recipient, and context.

In developing the CLAS, Study 2 helped to operationalize the theoretical constructs of the full-range leadership model, with an emphasis on TFL, within the context of coach-athlete interactions in sport. Future research employing the CLAS may help to bridge the gap between the extensive body of literature examining followers’ perceptions of leadership (e.g., Bass & Avolio, 1990; Beauchamp et al., 2010) and observational research examining effective coaching behaviours (e.g., Cushion, Harvey, Muir, & Nelson, 2012; Erickson & Côté, 2016). Moreover, the CLAS may be used to guide the design, implementation, and evaluation of future TFL-based interventions with coaches.

**Study 3.** The third study employed the observational instrument developed in Study 2 to examine youth sport coaches’ real-time leadership behaviours and their influence on athletes’ motivational outcomes. Study 3 provided a description of the leadership behaviours that coaches display in their interactions with their athletes. For example, coaches spent the most time displaying neutral coaching behaviours, followed by transformational coaching behaviours, and transactional coaching behaviours. The coaches spent relatively little time exhibiting laissez-faire or toxic coaching behaviours. Results highlighted the complex nature of coaches’ leadership behaviours, in that coaches employed a range of leadership behaviours in their interactions with their athletes. Moreover, findings indicated that future research is
needed to examine how coaches can enhance both the overall quantity (duration and frequency) and quality of transformational coaching behaviours.

Study 3 also built upon the findings of the first manuscript by examining the associations between coaches’ leadership behaviours and athletes’ motivational outcomes at the: (a) intrapersonal level (i.e., self-determined motivation), interpersonal level (i.e., psychological need satisfaction in the coach-athlete relationship), and environmental level (i.e., motivational climate). For instance, results indicated that transformational coaching behaviours was positively linked with perceptions of psychological need satisfaction, and mastery climate, as well as negatively associated with perceptions of ego climate. In doing so, this study offered an in-depth examination of the real-time leadership behaviours of youth sport coaches and provided an initial exploration of how these behaviours may influence their athletes’ motivational outcomes. Finally, Study 3 complemented the results of the previous studies by illustrating how observational methods can be used explore the real-time behaviours underpinning the leadership process in sport.

Studies 1-3. Overall, this dissertation unpacked the concept of coaching leadership by exploring the leadership process, leadership-based interactions, and the influence of these interactions on athletes’ development. This dissertation adds to the coaching literature by highlighting the potential utility of the full-range leadership model, and particularly TFL, for examining coaches’ leadership behaviours in sport. The findings of this dissertation also offer unique insight into the characteristics of leadership-based interactions with an understudied population: youth athletes. By examining the dynamic and complex nature of coaches’ leadership-based interactions, the results of this dissertation enhanced our understanding of the leadership process in youth sport.
6.2 Strengths and Limitations

One strength of this dissertation was its foundation in theory, including the full-range leadership model, with an emphasis on TFL. First, this theoretical approach enabled the selection of the study variables and the appropriate methods for evaluating coaches’ leadership in sport. Second, the leadership approach provided a valuable guide for examining various aspects of the leadership process at the intrapersonal, interpersonal, and environmental levels. Third, the full-range leadership model offered a valuable framework for informing future descriptive and intervention research. By employing the full-range leadership model, it is possible to examine the relevant coaching behaviours that may contribute to, or detract from, athlete development. This information is essential for researchers and sport practitioners who wish to target coach behaviours through coach development programs and to cultivate positive sport environments.

It is believed that the findings of this dissertation may have important theoretical implications. For instance, Study 1 outlined a model that may enable researchers to situate their research within the broader literature and to test the role of various mechanisms in the leadership process. Moreover, Studies 2 and 3 offered some initial insight into how the full-range leadership model may be contextualized within a youth sport environment. Specifically, these studies highlight how the dimensions of neutral and toxic coaching may contribute to a more detailed understanding of coaches’ leadership behaviours in sport. In addition, these studies illustrate how coaches’ transformational, transactional, and laissez-faire behaviours may be operationalized and employed within youth sport. These studies may consequently help to illustrate how the theoretical constructs within the full-range leadership model may be manifested within the sport context.
The observational approach used in this dissertation is also unique and valuable. To date, the majority of TFL research has employed self-report questionnaires to assess leadership behaviours. The present dissertation addressed this limitation by developing an evidence-informed observational instrument to capture coaches’ leadership behaviours in sport and by testing this instrument within the youth sport context. By using observational methods to explore the leadership process, this dissertation shed new light on how leadership behaviours can be applied in the sport context. This observational approach also provided a more detailed picture of the nuances of the employing leadership behaviours in real-world, youth sport settings.

While there are several strengths to this dissertation, it is important to acknowledge its limitations. First, the research designs employed in this dissertation provided only a snapshot of coaches’ leadership behaviours in sport. For instance, the cross-sectional nature of the third study does not address how coaches’ leadership behaviours may change over time, what factors may produce these changes, and how these changes may ultimately influence athlete development. Accordingly, studies employing a longitudinal approach would greatly contribute to our understanding of the leadership process.

A second potential limitation relates to how generalizable the present findings are to other sport contexts. Further exploration of coaches’ leadership-based interactions across a wide range of contexts (e.g., high performance, recreational sport) may be beneficial. Finally, it was beyond the scope of the dissertation to examine coaches’ and athletes’ perceptions of transformational coaching behaviours and their potential influence on athlete development. Qualitative studies may therefore be eminently useful in enhancing our understanding of coaches’ and athletes’ experiences of coaching leadership.
6.3 Practical Implications

The overarching findings of this dissertation have important implications for researchers and practitioners wishing to enhance the quality of coaches’ leadership behaviours in youth sport, and ultimately facilitate athletes’ positive development. While there are numerous ways through which coaches may improve their coaching knowledge/behaviours, such as first-hand experience and peer mentoring, formal Coach Development Programs (CDPs) represent as important cornerstone of coaches’ professional development (Lefebvre, Evans, Turnnidge, Gainforth, & Côté, 2016). According to Evans, McGuckin, Gainforth, Bruner, and Côté (2015), interpersonal CDPs refer to “learning activities applied systematically through education, social interaction, and/or personal reflection with the goal of changing interpersonal coach behaviours (pg. 871).

Recent systematic reviews of the CDP literature revealed that the uptake and relevance of CDPs may be enhanced by placing a greater emphasis on (a) coaches’ interpersonal knowledge/behaviours (Lefebvre et al., 2016), (b) integrating behaviour change theories into the design and implementation of CDPs (Allan, Vierimaa, Gainforth, & Côté, 2017), and (c) systematic evaluation of interpersonal CDPs (Evans et al., 2015). The findings from this dissertation may help to address these gaps in the existing literature. Indeed, Studies 1-3 highlight the value of the full-range leadership model to serve as a guiding theoretical framework for CDPs focused on coaches’ interpersonal knowledge/behaviours. For instance, Study 1 synthesized and integrated research across a variety of domains regarding the mechanisms by which TFL behaviours may positively contribute to followers’ development. Future work can draw upon the findings of this dissertation to create evidence-informed, interpersonal CDPs.
With regards to the integration of behaviour change theories into interpersonal CDPs, Michie, Atkins, and West (2014) recommend that a key step in designing effective behaviour change interventions is to first define and understand the issue in behavioural terms. As such, researchers and practitioners require an understanding of (a) what the behaviour is, (b) where the behaviour occurs, (c) who is involved in performing the behaviour, and (d) what aspects of the behaviour need to change. The observational instrument developed in Study 2 offers a viable means by which to address these important questions. For instance, the CLAS enables researchers and practitioners to assess which leadership behaviours coaches exhibit during their interactions (e.g., TFL, transactional, neutral, laissez-faire, and toxic), in what context these behaviours occur (e.g., the content of the leadership behaviours and the practice activities), and to whom these behaviours are directed (e.g., team and individual athletes). By employing this instrument before and after coaches participate in a CDP, researchers and practitioners may garner a better understanding of how CDPs may influence coaches’ leadership behaviours. Moreover, this instrument offers a novel approach for systematically evaluating the effectiveness and sustainability of leadership-based CDPs.

By employing the CLAS, Study 3 provided an initial description of the behavioural characteristics of coaches’ leadership-based interactions in youth sport and offered some insight into what aspects of coaches’ leadership behaviours may need to be changed. First, results indicated that the quantity of coaches’ positive and active leadership behaviours may need to be improved, while reducing the quantity of neutral coaching behaviours. Second, the findings suggested that the quality of coaches’ leadership behaviours may be enhanced by pairing them with instruction and general communication and by targeting their leadership behaviours towards individual athletes. Researchers and practitioners wishing to change
coaches’ leadership behaviour through CDPs can draw upon these findings to design more effective coach development initiatives.

6.4 Future Directions

As highlighted in the previous section, the findings from the present dissertation may be eminently useful in informing the design, implementation, and evaluation of a transformational coaching-based CDP. A worthwhile direction of future research may thus be to examine the development process of such an initiative. Some possible avenues for exploration may include further observational studies of coaches’ leadership behaviours in other contexts, qualitative studies with coaches’ and athletes’ regarding their perceptions of coaches’ leadership behaviours, and an examination of the facilitators and barriers for implementing transformational coaching behaviours in the youth sport context. Research investigating the recommendations of coaches, athletes, sport organizations, and other community stakeholders for designing a transformational coaching-based CDP may also be beneficial.

In addition to incorporating the findings of this dissertation into evidence-informed CDPs, future research should explore how leadership behaviours develop over time. While Study 3 provided an initial profile of youth sport coaches’ leadership behaviours, studies examining how these coaches’ leadership profiles may evolve over the short (i.e., a season) or long term (i.e., a career) would be worthwhile. Another fruitful avenue for future studies may be to explore how coaches’ leadership behaviours may influence the development of young athletes’ leadership skills. Research in this area would enhance our understanding of how sport programs may serve as a fertile context for developing future leaders.
Collectively, the three studies of this dissertation supported the contention that coaches’ leadership behaviours represent a key component of the youth sport environment (Vella, Oades, & Crowe, 2010). The goal of this dissertation was to gain a deeper understanding of coaches’ leadership behaviours in sport and the processes by which coaches’ leadership behaviours may influence athlete development. It is hoped that this work provides a foundation for future research on coaches’ leadership behaviours and offers insight into how research on coach leadership can be translated into real-world, youth sport settings. By enhancing coaches’ use of effective leadership behaviours, researchers and practitioners may be able to positively contribute to young athletes’ performance, continued participation, and personal development through sport.
References


Appendix A

Study 2 Letter of Information and Consent Form
COACH LETTER OF INFORMATION AND CONSENT FORM

Title of the study: Exploring Leadership in Youth Sport

The purpose of this study is to examine how different coach behaviours influence youth’s development in sport. Specifically, the goal is to understand how the different ways coaches interact with their athletes during practices shapes athletes’ experiences in sport. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

If you volunteer to participate in this study, you will be asked to participate in a one-on-one interview with the primary researcher. During the course of the interview, you will be asked to reflect on your leadership behaviours. The interview should take about 1 hour to complete. The interview will take place at either (a) over the phone (b) over SKYPE or (c) in person at the location of your choice, either at the interviewer’s office or in a private room at your practice facility (while other co-workers are present in the building).

There are no known or foreseeable risks involved for participating in this study. There will be no deception used in this study. Participation is completely voluntary and you can withdraw at any time.

This is part of a research project for which Jennifer Turnnidge is the primary researcher. The results from this study will be published and presented at conferences; however, your identity will be kept confidential. Although we will report direct quotations from the interviews, each interview participant will be given a pseudonym (false name), and all identifying information will be removed. All the information provided through the interviews will be confidential and will be stored by in a locked office in the School of Kinesiology and Health Studies 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 wish, you may withdraw from the study at any time, for any reason, without explanation or consequences by contacting the primary researcher, Jennifer Turnnidge. Any information collected up to the time you withdraw from the study will be destroyed.

With your permission, the interviews will be used to help improve coach behaviours within the youth sport environment. If you decide that you would like to be a part of this study, please complete the attached form. Any questions about study participation may be directed to Jennifer Turnnidge at 613-539-2592 or 5jm14@queensu.ca. Any ethical concerns about the study may be directed to the General Research Ethics Board 613-533-6081.
PARTICIPANT CONSENT FORM – COACH

I have read the information letter and understand the purpose of this study and my involvement in this study.

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 researcher and her 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 using pseudonyms—thereby maintaining my anonymity.

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. I understand that any data collected up to that point will be destroyed.

Finally, any questions I have about this research project and my 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 any further questions or concerns about this research project or my participation.

I consent to participate in this research project conducted by the School of Kinesiology and Health Studies at Queen’s University.

<table>
<thead>
<tr>
<th>Name of Participant</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer Turnnidge</td>
<td>Joan Stevenson, PhD</td>
<td></td>
</tr>
<tr>
<td><em>Primary Investigator</em></td>
<td><em>Chair</em></td>
<td></td>
</tr>
<tr>
<td>PhD Candidate</td>
<td>General Ethics Review Board</td>
<td></td>
</tr>
<tr>
<td>School of Kinesiology &amp; Health Studies</td>
<td>Queen’s University</td>
<td></td>
</tr>
<tr>
<td>Queen’s University</td>
<td>Kingston, ON</td>
<td></td>
</tr>
<tr>
<td>Kingston, ON</td>
<td>(613)533-6000, ext. 78207</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:5jm14@queensu.ca">5jm14@queensu.ca</a></td>
<td><a href="mailto:chair.GREB@queensu.ca">chair.GREB@queensu.ca</a></td>
<td></td>
</tr>
</tbody>
</table>

Please indicate if you wish to receive a summary of the study findings: [ ] Yes  [ ] No
Appendix B
Study 2: Interview Guide
Interview Guide

1. I’d like to begin today by first getting a sense of your coaching background and how you got started in coaching.
   - How long have you been coaching?
   - How did you get involved in coaching?
   - If any, can you tell me about what coaching credentials you have?
   - How would you describe your coaching philosophy?
   - Have you had any life experiences that have contributed to your coaching style?

2. Suppose I was an athlete who was thinking about joining your team, what would you tell me about your leadership style?

3. Please tell me about what a practice/session is like for you.
   - Please describe what kinds of things you do in training.
   - I’d like to hear some examples of some difficult situations in training? Describe what happened and what you did.

4. One of our key interests is to explore different examples of your leadership behaviours.

   Idealized Influence
   - What have you done, or said, to make your athletes look up to you?
   - How do you gain your athletes’ respect?
   - What things have you done, or said, to gain your athletes’ trust?
   - Extra: How do you try to act like a good role model?

   Inspirational Motivation
   - How have you tried to bring your team together?
   - What have you done, or said, to show your athletes that you believe in them?
   - How have you made your athletes want to try their hardest in sport?
   - Extra: How have you shown that you are optimistic about what your athletes can achieve?

   Intellectual Stimulation
   - How have you encouraged your athletes to look at issues from different sides?
   - What have you done, or said, to get your athletes to question their own or others’ ideas?
   - How have you coach challenged your athletes to think in new ways?
   - Extra: How do you create practices that encourage your athletes to think?

   Individualized Consideration
   - How do you show that you care about your athletes?
   - What have you done, or said, to recognize each of your athlete’s needs and abilities?
How have you tried to get to know each athlete on your team?
Extra: How have you helped your athletes to build on their strengths?

5. Now, looking at your experiences, how have your leadership behaviours influenced your…
   - Athletes’ abilities?
   - Athletes’ motivation to continue participating in sport?
   - Relationships with your athletes? Relationships among your athletes?

6. If you could change something about your leadership style, what would it be?

7. If you were mentoring a new coach, what advice would you give them about leadership?

8. How has your leadership style contributed to your athletes’ development?

9. Is there anything I’ve missed or anything that you think is important about your leadership style that we haven’t talked about?
Appendix C

Study 3: Letter of Information and Consent Forms
COACH LETTER OF INFORMATION

Title of the study: Exploring leadership in Youth 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 will then be videotaped. As a coach, you will be wearing a microphone to record any talking. The videotaped practices will then be watched by the principal investigator 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 Jennifer Turnnidge is the primary researcher. 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 researcher. Items will be available to the primary researcher and his 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 Jennifer Turnnidge at 613-533-6000, ext. 78207 or 5jm14@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.
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 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 researcher and his 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 researcher and/or his 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. I understand that any data collected up to that point will be destroyed. Finally, any questions I have about this research project and my 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 any further questions or concerns about this research project or my participation.

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
PARTICIPANT PARENTAL LETTER OF INFORMATION AND CONSENT FORM

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 the principal investigator 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.

This is part of a research project for which Jennifer Turnnidge is the primary researcher. 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 the principal researcher, Jennifer Turnnidge. 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 Jennifer Turnnidge at 613-533-6000, ext. 78207 or 5jm14@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.
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
You are invited to participate in a study entitled ‘Exploring leadership in Youth 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 the principal investigator, Jennifer Turnnidge (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 Jennifer Turnnidge at 613-533-6000, ext. 78207 or 5jm14@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.

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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     Date

_________________________  _______________________
Signature of Researcher
Appendix D
Study 3: CLAS Coding Structure
# CLAS Coding System Structure

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<th>Lower Order Dimension</th>
<th>Leadership Behaviours</th>
<th>Content Modifiers</th>
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<td>CLAS Coding System Structure</td>
<td>1- Discussing and modelling pro-social values or behaviours</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2- Showing vulnerability and humility</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>3- Discussing goals and expectations</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>4- Expressing confidence in athletes’ capabilities</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>5- Implementing a collective vision</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td>6- Providing meaningful and challenging tasks and roles</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</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 and 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 athletes’ needs</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>11- Recognizing individual roles and contributions</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>12- Discussing rewards and penalties</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>13- Searching for and responding to deviations from rules or standards</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
<td></td>
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<td></td>
<td>14- Neutral</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication 4-Observation</td>
<td></td>
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<td></td>
<td>15- Showing disinterest</td>
<td>N/A</td>
<td></td>
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<td></td>
<td>16- Expressing anger and hostility</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>17- Discussing and modelling anti-social values or behaviours</td>
<td>1-Instruction/Feedback 2-Organization 3-General Communication</td>
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<td></td>
<td>X- Uncodable</td>
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Appendix E
Study 3: Questionnaire
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: ____

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 three 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.
**PART A**

The following items are about why you play sport. Please read each of the statements listed below and indicate how strongly you agree with each by circling the appropriate response to the right of the statement.

*Why do you participate in sport?*

<table>
<thead>
<tr>
<th></th>
<th>Do Not Agree</th>
<th>Moderately Agree</th>
<th>Completely Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I used to have good reasons for playing sport, but now I wonder if I should continue doing it</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>2. For the “status” of being an athlete</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>3. For the satisfaction of improving my abilities</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>4. I don’t know anymore; I have the feeling that I’m unable to succeed in sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>5. To show others how good I am at sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. For the excitement I feel when I am really involved in sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>7. It is not clear to me anymore; I don’t really think my place is in sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>8. Because, in my opinion, it is one of the best ways to meet people</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. For the intense emotions that I feel while I am doing a sport that I like</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>10. I often ask myself; I can’t seem to achieve the goals that I set for myself</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>11. Because it is one of the best ways to maintain good relationships with my friends</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>12. Because I like the feeling of being totally immersed in sport</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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</table>
The following questions ask about your feelings about your relationship with your coach. Please respond to each statement by indicating how true it is for you. Use the following scale.

<table>
<thead>
<tr>
<th></th>
<th>Not At All True</th>
<th>Somewhat True</th>
<th>Very True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When I am with my coach, I feel free to be who I am.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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</tr>
<tr>
<td>2. When I am with my coach, I feel like a competent person.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. When I am with my coach, I feel loved and cared about.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. When I am with my coach, I often feel inadequate or incompetent.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>5. When I am with my coach, I have a say in what happens, and I can voice my opinion.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>6. When I am with my coach, I often feel a lot of distance in our relationship.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>7. When I am with my coach, I feel very capable and effective.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>8. When I am with my coach, I feel a lot of closeness.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>9. When I am with my coach, I feel controlled and pressured to be certain ways.</td>
<td>1 2 3 4 5 6 7</td>
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**PART C**

Here are some statements about what your current team is like. Please read each one and circle the number that is most correct. If there was more than one coach on your team, the questions are about the coach that you spend most of your time with.

1. Winning games is the most important thing for the coach.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

2. The coach made players feel good when they improved a skill.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

3. The coach spent less time with the players that weren’t as good.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

4. The coach encouraged us to learn new skills.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

5. The coach told us which players on the team were the best.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

6. The coach told players to help each other get better.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

7. The coach told us that trying our best was the most important thing.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

8. The coach paid most attention to the best players.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

9. Coach said that teammates should help each other improve their skills.
   - 1: Not at all true
   - 2: Somewhat True
   - 3: Very True

10. Players were taken out of the game if they made a mistake.
    - 1: Not at all true
    - 2: Somewhat True
    - 3: Very True

11. The coach said that all of us were important to the team’s success.
    - 1: Not at all true
    - 2: Somewhat True
    - 3: Very True

12. Coach told us to try to be better than our teammates.
    - 1: Not at all true
    - 2: Somewhat True
    - 3: Very True
Thank You for Your Time!