Moving the Field of Athlete Leadership Forward: Five Key Questions

Todd M. Loughead, Krista J. Munroe-Chandler, Matthieu M. Boisvert, and Katherine E. Hirsch

Department of Kinesiology, University of Windsor, Canada

To appear in Filho, E., & Basevitch, I., *The Unknown in Sport, Exercise and Performance Psychology: Research Questions to Move the Field Forward.* Oxford University Press USA.

State of the Art

To those involved in sport, leadership is viewed as a key element to achieving team success. Coaches are often seen as *the leader* of their respective teams. This is not surprising since an important role of coaches as leaders is to assist their athletes in improving performance levels. Coaches have a plethora of duties to perform and may not be able to attend to all of their players' needs. Consequently, athletes also seek leadership from their teammates to help ensure that their needs are being satisfied. This source of leadership has been termed *athlete leadership*. Consequently, athlete leadership is defined as an athlete who occupies a formal or informal leadership role within the team and influences team members to achieve a common goal (Loughead, Hardy, & Eys, 2006). To some extent, this definition challenged the traditional characterization of leadership as a unidirectional, hierarchical system and replaced it with a fluid, inclusive, and interactive form of leadership. As such, the definition implies that multiple athletes can perform leadership. This is evidenced by the fact that athletes can occupy formal leadership roles (i.e., designated to a leadership position within a team such as a team captain) or an informal leadership role that emerges based on athletes' interactions and communications with their teammates. Therefore, athlete leadership can be viewed as a form of shared or distributed leadership amongst teammates. The terms shared and distributed leadership have been used interchangeably and refer to leadership emanating from those holding formal leadership roles but also enacted by multiple individuals on the team. For instance, team members can deliver leadership when they feel it is appropriate and warranted and then step back in other moments to allow others to lead. In doing so, athlete leadership becomes a shared dynamic team process comprised of mutual influence and shared responsibility amongst team

members, who lead each other toward the achievement of team goals (Loughead, Duguay, & Hoffmann, 2019).

In the last 15 years, there has been a steady increase of research in the area of athlete leadership utilizing both qualitative and quantitative research designs (see Table 1 for key readings in this field). From a qualitative research perspective, a central research theme has been the characteristics required for effective athlete leadership. For instance, through the use of semi-structured interviews, Bucci, Bloom, Loughead, and Caron (2012) found coaches viewed effective athlete leaders as those players who possessed a strong work ethic, were a positive role model for their teammates, and were able to follow the coaching staff's instructions. Other characteristics of effective athlete leaders were being generous, honest, and showing a concern for teammates' well-being. Similarly, Dupuis, Bloom, and Loughead (2006) conducted semi-structured interviews with six former intercollegiate male hockey captains that were viewed by their coaches as being exceptional athlete leaders. They showed that effective leaders needed to have emotional control, be strong communicators, remain positive in front of teammates, and be respectful toward both teammates and the coaching staff. Additional characteristics of effective athlete leaders include being trustworthy, generous, selfless, respectful, and having good interpersonal skills. In addition to these characteristics, Camiré (2016) interviewed a professional hockey captain who believed that being an effective leader required him to be open to learning, be a positive role model, lead by example, have a strong work ethic, and work collectively with the other team leaders. In their examination of shared mental models, Filho, Gershgoren, Basevitch, Schinke, and Tenenbaum (2014) used a case study approach to investigate a volleyball captain's perceived leadership role at the individual and team levels. The captain noted that at the individual level communicating both on and off the court, being a motivator to

her teammates, and coordinating defensive roles were critical responsibilities for her to fulfill. At the team level, the captain believed that having team routine behaviors (pre-game, after each point) mentally helped them be prepared. Further, the captain also felt that the team shared a similar match philosophy towards volleyball that included being committed to the team's game plan, having common team goals, and supporting each other during the game. Taken together, these studies highlight the numerous characteristics that are required for effective leadership.

When applying a quantitative research perspective, researchers have utilized two general approaches. The first approach has been the use of traditional self-report questionnaires such as the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) and the Differentiated Transformational Leadership Inventory (DTLI; Callow, Smith, Hardy, Arthur, & Hardy, 2009) to measure the frequency of athlete leadership behaviors. The LSS measures five leadership behaviors that include *training and instruction* (teaches the skills and tactics of the sport), *democratic behavior* (encourages participation in the decision-making process), *autocratic behavior* (stresses personal authority), *social support* (shows concern for the welfare of teammates), and *positive feedback* (recognizes and rewards good performance). The DTLI assesses seven dimensions that include six transformational and one transactional leadership behavior. The six transformational leadership dimensions are *inspirational motivation* (provides meaning and challenge to teammates), *individual consideration* (demonstrates acceptance of teammate differences, needs, and goals), *intellectual stimulation* (finds new ways to old problems), *appropriate role modelling* (leads by example), *fostering acceptance of group goals and promoting teamwork* (encourages cooperation among teammates towards a common goal), and *high performance expectations* (creates an atmosphere by encouraging high performance

standards). The lone transactional leadership behavior is *contingent reward* (rewards teammates for performing well).

To date, numerous outcomes, at both the individual and team levels, have been examined in relation to athlete leadership behaviors. At the individual level, athlete transformational leadership behavior was positively related to the outcomes of sport enjoyment and intrinsic motivation (Price & Weiss, 2013). That is, athlete leaders who frequently used the leadership behaviors of inspiration, motivation, enhanced creativity, and problem solving had teammates that enjoyed their sporting experience and were motivated to pursue challenging tasks and learn skills. At the team level, cohesion (i.e., teams sticking together and remaining united) is arguably the most studied construct. In their examination of intercollegiate athletes, Vincer and Loughead (2010) found the athlete leadership behaviors of social support and positive feedback (measured via the LSS) were associated to both task and social cohesion, while democratic behavior was positively related to task cohesion and autocratic behavior was negatively related to both task and social cohesion. Similarly, Callow et al. (2009), using the DTLI to measure athlete leadership behaviors, found the fostering acceptance of group goals and promoting teamwork, individual consideration, and high-performance expectations were positively related to task cohesion, while fostering acceptance of group goals and promoting teamwork was associated with social cohesion.

The second quantitative approach has been the use of Social Network Analysis (SNA). The advantage of SNA, compared to questionnaires such as the LSS and DTLI, is that it assesses athlete leadership between team members. That is, SNA is a research method that aims to examine the relationships that individuals and teams form with each other. While there is a small number of studies that have used this quantitative approach, it can be said that (1) over the course

of a season there were increases in the overall amount of task and social leadership (Duguay, Hoffmann, Guerrero, & Loughead, in press), (2) the leadership responsibilities on a team are shared by numerous athletes (Fransen et al., 2015a), (3) with teammates feeling more socially connected to their team when high quality leadership is available (Fransen et al., 2015b), (4) and having high quality athlete leadership was positively associated with stronger feelings of team cohesion (Loughead et al., 2016).

Questions to Move the Field Forward

Theoretical Question: Is there a need to advance an athlete leadership framework?

To help answer this question, it is important to examine the frameworks that have been previously used to study athlete leadership. The two primary models emanate from sport coaching and organizational psychology. Chelladurai's (2007) Multidimensional Model of Leadership (MML), from sport coaching, is a linear model composed of antecedent variables that influence the throughput of leadership behaviors which in turn influence the consequences. The antecedents are categorized into three factors that include situational characteristics, leader characteristics, and member characteristics. The situational characteristics refer to factors such as group goals, task type (e.g., individual versus team, closed versus open tasks), and the social context of the team. The leader characteristics include personal characteristics of the leader such as age, gender, or experience. Lastly, member characteristics include factors such as personality (e.g., need for achievement, need for affiliation, cognitive structure) and ability to perform the specific task. According to Chelladurai, the throughput refers to leadership behaviors and are viewed along three types: required (leadership behaviors needed to meet the situational demands), actual (leadership behaviors that are displayed), and preferred (leadership behaviors favored by team members). The final component in the model is the consequences. Originally,

Chelladurai identified two outcomes: satisfaction and performance. However, Chelladurai noted that the consequences could encapsulate more than these two identified outcomes.

Avolio's (1999) Full Range Leadership Model (FRLM) is another framework that has been used to study athlete leadership. Similar to the MML, this model encapsulates a broad range of leadership behaviors that can be classified from least to most effective: laissez-faire, transactional, and transformational forms of leadership. Laissez-faire is a form of leadership that is described as non-leadership or an absence of leadership (Avolio, 1999). Transactional leadership is characterized by an exchange relationship between leader (e.g., athlete leader) and follower (e.g., teammates) to meet their own self-interests through the use of reward and recognition. While transactional leadership is an effective form of leadership through the use of positive and corrective forms of feedback, to evaluate followers to achieve more, leaders need to supplement these transactional behaviors with transformational leadership behaviors. Transformational leadership is about inducing the follower past their own self-interests, make followers more aware of the importance and values of task outcomes, and engage them in thinking about the higher-order needs for the good of the team. Augmenting these two theoretical frameworks (MML and FRLM), another useful paradigm that has been alluded to in several athlete leadership studies and in the definition of athlete leadership is the notion of shared leadership. Zhu, Liao, Yam, and Johnson (2018) noted three key characteristics of shared leadership: (a) lateral influence amongst peers, i.e., teammates, (b) emergent team phenomenon (leadership roles are distributed among teammates), and (c) leadership roles and influence are distributed amongst team members (i.e., teammates). Based on these three characteristics, the sport team is a natural context for shared leadership to occur. Consequently, there is no unified theoretical model that explains the emergence and consequences of shared athlete leadership.

In order to help guide researchers in the field of athlete leadership, we advance a working framework drawing from the extant literature (see Figure 1). At the heart of the model is *shared athlete leadership,* wherein numerous athletes exhibit leadership and do so using a wide variety of behaviors (Duguay, Loughead, & Munroe-Chandler, 2018). Similar to other sport leadership models (Beauchamp, Jackson, & Loughead, 2019; Chelladurai, 2007; Horn, 2008; Smoll & Smith, 1989), athlete leadership is also shaped by antecedent factors that include *characteristics of athlete leaders, teammates, and/or coaches* (e.g., age, experience, personality) as well as *situational characteristics* (e.g., task type, level of competition, practice, competition), *team characteristics* (e.g., team size, ability, maturity, diversity), and *team culture* (e.g., values, beliefs). Further, the relationship between *characteristics of athlete leaders, teammates and/or coaches* and *shared athlete leadership* will be moderated by the *psychological factors of athlete leaders, teammates, and/or coaches* (e.g., motivational orientation, efficacy beliefs, self-esteem, behavioral intentions). The *situational factors, team characteristics,* and *team culture* will directly impact shared athlete leadership. Shared athlete leadership will impact both individual (e.g., athlete satisfaction, motivational orientation, self-efficacy, individual performance) and team (e.g., cohesion, collective efficacy, intra-team communication, team performance) level outcomes. There is a feedback loop from individual and team level outcomes to shared athlete leadership. Athlete leaders are likely to alter their behaviors based on the relative achievement of the outcome variables.

Methodological Question: Is there a need for an athlete leadership behaviors specific questionnaire?

As noted above, the LSS (Chelladurai & Saleh, 1980) and the DTLI (Callow et al., 2009) have been primarily used to measure athlete leadership behaviors. Both of these inventories were

originally developed to assess sport coaching and military contexts, respectively. A comment that we have received from reviewers when publishing our research findings is whether these two inventories are appropriate when measuring athlete leadership behaviors. Confirmatory Factor Analysis of the LSS and DTLI have shown both inventories to be valid and reliable (see Callow et al., 2009; Vincer & Loughead, 2010). Further evidence supports the usefulness of measuring the athlete leadership behaviors contained in these two inventories. Specifically, Duguay et al. (2018) asked athletes to rate on a 5-point scale how important (higher scores reflect greater importance) it was for their athlete leaders to exhibit these leadership behaviors. For eight of the 11 leadership behaviors, scores were above four, and the other three were above three on the 5-point scale. Taken together, the results showed that the leadership behaviors contained within the LSS and DTLI are important for athlete leaders to exhibit. However, two caveats should be noted. First, if the LSS and DTLI are retained as inventories, an analysis of the items should be conducted to determine whether they are appropriate for measuring athlete leadership. For instance, the LSS item "Encourages team members to make suggestions for ways of conducting practices" may be attributed more to coaches than athlete leaders since the latter may not have the ability or authority to dictate practices or training sessions. Second, Avolio (1999) noted that it is possible that other aspects of leadership have not yet been discovered. In fact, we have conducted in-depth interviews with athletes asking them about what behaviors would constitute effective athlete leadership. While these preliminary results have shown that the leadership behaviors from both the LSS and DTLI are present, we have found that other leadership behaviors unique to athlete leadership have emerged such as fostering cohesion and team norms (Loughead & Munroe-Chandler, 2020). Thus, in order to capture the full extent of athlete leadership behaviors, a specific questionnaire should be developed by researchers.

Methodological Question: How can the field of athlete leadership be advanced in terms of research methodology?

In order to answer this question, we must first look to the type of research published most often in the area. To say that most of the research has been cross-sectional in nature would be an understatement. A survey of the research conducted for this chapter showed that approximately 70% of the articles published in the area of athlete leadership have employed a cross-sectional design, thus allowing for adequate description and generalization. Through survey (e.g., Callow et al., 2009; Loughead & Hardy, 2005;) and SNA methodologies (e.g., Fransen et al., 2015a; Loughead et al., 2016), various samples have been recruited with respect to sport, age, and gender (e.g., intercollegiate athletes, youth athletes, soccer players, frisbee players). However, these studies have provided a mere snapshot of athlete leadership at one moment in time. Granted cross-sectional designs allow for many variables to be examined simultaneously (e.g., athlete leadership, cohesion, and athlete satisfaction) and are often times more convenient to implement than longitudinal or experimental designs. Consequently, they fail to account for changes over time at the group and/or individual level, and it is difficult to determine causation.

Researchers (Duguay et al., in press; Fransen et al., 2018) have used SNA to examine athlete leadership over time (longitudinal). Using this type of analysis, answers can be sought to such questions as: (1) Does leadership change over the course of an athletic season? (2) What are the antecedents and consequences of these changes over time? (3) How do these changes over time impact team processes and outcomes such as cohesion and performance? Answers to these questions not only advance the literature on athlete leadership, but also provide coaches and sport psychology practitioners with information leading to a better understanding of the leadership processes in teams.

To date (and to the authors' knowledge) there has been no studies in the area of athlete leadership that has used an experimental design. Several studies (e.g., Duguay, Loughead, Munroe-Chandler, 2016; Voight, 2012) have delivered athlete leadership interventions with one team over the course of a season, but none have included a control group. Notwithstanding the time and the cost required to conduct experimental studies, it is often difficult to find coaches and athletes who are open to participating in a no-treatment control group. A researcher may consider using a matched experimental and control repeated measures design wherein the control group will receive the intervention (e.g., leadership training) at the end of the study (wait list control). Experimental studies are desperately needed in order to generate causal knowledge that will inform policy and applied practice.

Theoretical Question: What can we do to disentangle the use of "leader" and "leadership"?

As noted above, researchers have examined the characteristics of athlete leaders (e.g., ideal number of athlete leaders present on a team) and determinants of effective and ineffective leadership (e.g., being a positive role model). While the main responsibility of a leader is to provide effective leadership, a leader and leadership do not inherently produce the same behaviors and outcomes. Given the incongruence in behaviors and outcomes, researchers should be careful to use "leader" and "leadership" as distinct, non-interchangeable terms.

The distinction in verbiage may sound minor at first glance but making the distinction between leader and leadership is necessary because a leader is a person whereas leadership is a process. Leadership has been identified as a shared process among team members (Duguay, Loughead, & Cook, 2019) wherein it is exhibited by athletes who are informal or formal leaders. However, athlete leaders can behave in ways that are not characteristic of good leadership (e.g., being selfish) thereby demonstrating that mere presence of athlete leaders does not quantify the

amount of effective leadership that is shown or present on a team. By disentangling "leader" and "leadership" terminology, we can better understand how leaders operate as individuals and how leadership functions as a process without confusing the person and the process.

As researchers and practitioners, we can take a number of steps to resolve this issue. First, be attentive of our own understanding and use of the terms "leader" and "leadership". Second, be mindful of articles, studies, and questionnaires on leaders and leadership. It is important that the objective of the study (e.g., to analyze leadership) match the survey tools to measure that objective (e.g., leadership behavior questionnaire) and that the language remains consistent throughout the manuscript such that *leader* language is used to describe a person exhibiting leadership or given the title as athlete leader. In contrast, *leadership* language should be used to describe the process of leaders' actions and thoughts as they affect the team. Third, improve the congruence between leaders and leadership on the team by developing leadership skills of all team members. When all team members possess effective leadership skills, the outcomes of having a high number of leaders who are doing leadership on a team will be similar.

Applied Question: What must be addressed in the field of athlete leadership development?

Coaches and athletes alike have frequently identified a lack of leadership as a problem among athletes. For example, Voelker, Gould, and Crawford (2011) found high school captains did not receive any type of leadership training, did not feel prepared to be a leader, and could not clearly articulate how they developed their leadership capabilities. This lack of focus on leadership can be attributed to the erroneous belief that sport participation automatically fosters leadership development (Extejt & Smith, 2009). While coaches recognize the importance of athlete leadership (Bucci et al., 2012), many coaches do not have the knowledge nor the resources necessary to develop leadership in their athletes. In fact, Trottier and Robitaille (2014)

interviewed 24 high school and community coaches and asked which life skills they felt comfortable teaching their athletes. Interestingly, only three coaches mentioned leadership. Given the importance attributed to leadership, there is a need to create additional learning opportunities that directly and explicitly target the development of leadership among athletes.

The research dedicated to the study of athlete leadership development is limited. To our knowledge, only eight published articles have reported on the development of athlete leadership behaviors. This lack of evaluation is surprising given the proliferation of empirical evidence (e.g., meta-analyses) on the effectiveness of leadership development in several general leadership studies (e.g., Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009; Collins & Holton, 2004). Leadership interventions were found to have moderately positive effects regardless of organization type (i.e., profit, not for profit, military) and were beneficial regardless of the theories used in the leadership development intervention (i.e., operationalized as newer and traditional leadership theories). While the results from the general leadership literature are promising, research in sport should address the lack of knowledge and exposure to athlete leadership development.

Research examining leadership theories and models best suited for the study of athlete leadership development is currently lacking. Many of these articles simply stated that the program was grounded in leadership research without any insight or information into which theories were used to develop the leadership development program. The lack of studies on athlete leadership development is partly due to the fact that many of the athlete leadership development programs have been conducted face-to-face (i.e., researcher physically present). While this method of delivery has been effective (e.g., Cotterill, 2017; Gould & Voelker, 2010; Voight, 2012), it is limited in the number of athletes it can reach. When we have presented our

research findings at conferences, the main recommendation from administrators, coaches, and athletes is to expand the access of leadership development programs to more athletes.

One way that we can expand accessibility is through the use of internet-based platforms. There are two types of communication for online learning, synchronous and asynchronous. Synchronous learning refers to real-time online communication that includes the use of technology (e.g., videoconferencing). Synchronous communication can enhance peoples' sense of social presence so that communication feels real, even though it is mediated by technology (McInnerney & Roberts, 2004). In contrast, asynchronous learning is commonly facilitated through media such as online learning modules when participants cannot be online at the same time. Asynchronous learning provides many benefits for learners (e.g., convenience and flexibility) but also has drawbacks (e.g., impersonal, lack of interaction with others such as the facilitator). Whether it is synchronous or asynchronous, these technologies offer significant advantages in terms of reach, convenience, cost-saving, and eco-friendliness.

Conclusion

Although the field of athlete leadership is still in its infancy, researchers, over the last 15 years, have been steadily publishing research findings utilizing both qualitative and quantitative methodologies. The five questions forwarded in this chapter are important for advancing our knowledge in this field and are important for establishing athlete leadership as an emerging field of inquiry. The use of different methodologies has allowed for the examination of various research questions. We see this as a strength and encourage researchers to continue using a combination of methodologies in a quest to further understand the complexities of athlete leadership. In order to grow the field of athlete leadership, it will be important to use fundamentally sound theoretical frameworks. We have advanced a working framework to

encourage researchers to examine the components of our model but more importantly stimulate thoughts and ideas on conceptualizing a framework that is unique to athlete leadership. To assist in the examination of the relationships contained within our working framework, the development of an athlete leadership specific inventory is required. Further, we have distinguished between a leader and leadership, which can be used to assist researchers in clarifying the focus of their research questions. Is the focus of a particular study concerned with the leader or with elements of the leadership process? Finally, there are relatively few studies examining the development of athlete leadership. Typically, most interventions have used face-to-face methods of delivery, which can be limiting in terms of reach. To provide universal access, the use of online technologies should be examined to determine their effectiveness. By highlighting questions that require investigation, we hope this will encourage researchers to critically examine those questions with the goal of expanding knowledge and application.

References

Avolio, B. J. (1999). *Full leadership development: Building the vital forces in organizations*. Thousand Oaks, CA: Sage.

Avolio, B. J., Reichard, R. J., Hannah, S. T., Walumbwa, F. O., & Chan, A. (2009). A meta-analytic review of leadership impact research: Experimental and quasi-experimental studies. *The Leadership Quarterly*, *20*, 764-784.

Beauchamp, M. R., Jackson, B., & Loughead, T. M. (2019). Leadership in physical activity contexts. In T. S. Horn & A. L. Smith (Eds.), *Advances in sport and exercise psychology* (4th ed., pp. 151-170). Champaign, IL: Human Kinetics.

Bucci, J., Bloom, G. A., Loughead, T. M., & Caron, J. (2012). Ice hockey perceptions of athlete leadership. *Journal of Applied Sport Psychology, 24*, 243-259.

Callow, N., Smith, M., Hardy, L., Arthur, C., & Hardy, J. (2009). Measurement of transformational leadership and its relationship with team cohesion and performance level. *Journal of Applied Sport Psychology, 21*, 395-412.

Camiré, M. (2016). Benefits, pressures, and challenges of leadership and captaincy in the National Hockey League. *Journal of Clinical Sport Psychology*, *10*, 118-136.

Chelladurai, P. (2007). Leadership in sports. In G. Tenenbaum, & R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 111-135). New York, NY: John Wiley and Sons.

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2*, 34-45.

Cotterill, S. T. (2017). Developing leadership skills in sport: A case study of elite cricketers. *Case Studies in Sport and Exercise Psychology, 1,* 16-25.

Duguay, A. M., Hoffmann, M. D., Guerrero, M. D., & Loughead, T. M. (in press). An examination of the temporal nature of shared athlete leadership: A longitudinal case study of a competitive youth male ice hockey team. *International Journal of Sport and Exercise Psychology.*

Duguay, A. M., Loughead, T. M., & Cook, J. M. (2019). Athlete leadership as a shared process: Using a social network approach to examine athlete leadership in competitive female youth soccer teams. *The Sport Psychologist*, *33*, 1-43.

Duguay, A. M., Loughead, T. M., & Munroe-Chandler, K. J. (2016). The development, implementation, and evaluation of an athlete leadership development program with female varsity athletes. *The Sport Psychologist*, *30*, 154-166.

Duguay, A. M., Loughead, T. M., & Munroe-Chandler, K. J. (2018). Investigating the importance of athlete leadership behaviors and the impact of leader tenure. *Journal of Sport Behavior, 41,* 129-147.

Dupuis, M., Bloom, G. A., & Loughead, T. M. (2006). Team captains' perceptions of athlete leadership. *Journal of Sport Behavior, 29*, 60–78.

Extejt, M. M., & Smith, J. E. (2009). Leadership development through sports team participation. *Journal of Leadership Education*, *8*, 224–237.

Filho, E., Gershgoren, L., Basevitch, I., Schinke, R., & Tenenbaum, G. (2014). Peer leadership and shared mental models in a college volleyball team: A season long case study. *Journal of Clinical Sport Psychology*, *8*, 184-203.

Fransen, K., Delvaux, E., Mesquita, B., & Van Puyenbroeck, S. (2018). The emergence of shared leadership in newly formed teams with an initial structure of vertical leadership: A longitudinal analysis. *The Journal of Applied Behavioral Science*, *54*, 140-170.

Fransen, K., Van Puyenbroeck, S., Loughead, T. M., Vanbeselaere, N., De Cuyper, B., Broek, G. V., & Boen, F. (2015a). Who takes the lead? Social network analysis as a pioneering tool to investigate shared leadership within sports teams. *Social Networks*, *43*, 28-38.

Fransen, K., Van Puyenbroeck, S., Loughead, T. M., Vanbeselaere, N., De Cuyper, B., Broek, G. V., & Boen, F. (2015b). The art of athlete leadership: Identifying high-quality athlete leadership at the individual and team level through social network analysis. *Journal of Sport and Exercise Psychology*, *37*, 274-290.

Gould, D., & Voelker, D. K. (2010). Youth sport leadership development: Leveraging the sports captaincy experience. *Journal of Sport Psychology in Action*, *1*, 1-14.

Horn, T. S. (2008). Coaching effectiveness in the sport domain. In T. S. Horn (Ed.), *Advances in sport psychology* (3rd ed., pp. 239-267). Champaign, IL: Human Kinetics.

Loughead, T. M., Duguay, A. M., & Hoffmann, M. D. (2019). Athlete leadership in football. In E. Konter, J. Beckmann & T. M. Loughead (Eds.), *Football psychology: From theory to practice* (pp. 91-100). New York, NY: Routledge.

Loughead, T. M., Fransen, K., Van Puyenbroeck, S., Hoffmann, M. D., De Cuyper, B., Vanbeselaere, N., & Boen, F. (2016). An examination of the relationship between athlete leadership and cohesion using social network analysis. *Journal of Sports Sciences*, *34*, 2063-2073.

Loughead, T. M., & Hardy, J. (2005). An examination of coach and peer leader behaviors in sport. *Psychology of Sport and Exercise, 6*, 303-312.

Loughead, T. M., Hardy, J., & Eys, M. A. (2006). The nature of athlete leadership. *Journal of Sport Behavior*, 29, 142–159.

Loughead, T. M., & Munroe-Chandler, K. J. (2020). [Leadership behaviors used by athlete leaders]. Unpublished raw data.

McInnerney, J. M., & Roberts, T. S. (2004). Online learning: Social interaction and the creation of a sense of community. *Educational Technology and Society, 7,* 73-81.

Price, M. S., & Weiss, M. E. (2013). Relationships among coach leadership, peer leadership, and adolescent athletes' psychosocial and team outcomes: A test of transformational leadership theory. *Journal of Applied Sport Psychology, 25*, 265-279.

Smoll, F. L., & Smith, R. E. (1989). Leadership behaviors in sport: A theoretical model and research paradigm. *Journal of Applied Social Psychology, 19,* 1522-1551.

Trottier, C., & Robitaille, S. (2014). Fostering life skills development in high school and community sport: A comparative analysis of the coach's role. *The Sport Psychologist, 28,* 10-21.

Vincer, D. J. E., & Loughead, T. M. (2010). The relationship among athlete leadership behaviors and cohesion in team sports. *The Sport Psychologist, 24,* 448-467.

Voelker, D. K., Gould, D., & Crawford, M. J. (2011). Understanding the experience of high school sport captains. *The Sport Psychologist*, *25*, 47-66.

Voight, M. (2012). A leadership development intervention program: A case study with two elite teams. *The Sport Psychologist, 26,* 604-623.

Zhu, J., Liao, Z., Yam, K. C., & Johnson, R. E. (2018). Shared leadership: A state-of-the-art review and future research agenda. *Journal of Organizational Behavior, 39,* 834-852.

Table 1

Five Key Readings in the Field of Athlete Leadership

Authors	Methodological Design	Key Findings
Callow et al., 2009	Cross-Sectional	Use of a transformational leadership inventory to measure athlete leadership behaviors. Found a positive relationship with task and social cohesion.
Duguay et al., 2016	Intervention	A theoretically grounded, season long athlete leadership development program that enhanced leadership behaviors, athlete satisfaction, and peer-motivational climate from pre- to post-intervention.
Fransen et al., 2015	Social Network Analysis	This study highlighted the presence of shared athlete leadership. The shared nature of athlete leadership was distributed amongst formal and informal leaders.
Loughead & Hardy, 2005	Cross-Sectional	One of the first studies to show that coaches and athlete leaders display varying amounts of leadership behaviors. Specifically, coaches and athlete leaders used differing amounts of the five leadership behaviors assessed by the LSS.
Loughead et al., 2006	Cross-Sectional	This study advanced a defintion of athlete leadership. Found that athlete leaders performed task, social, and external leadership functions.

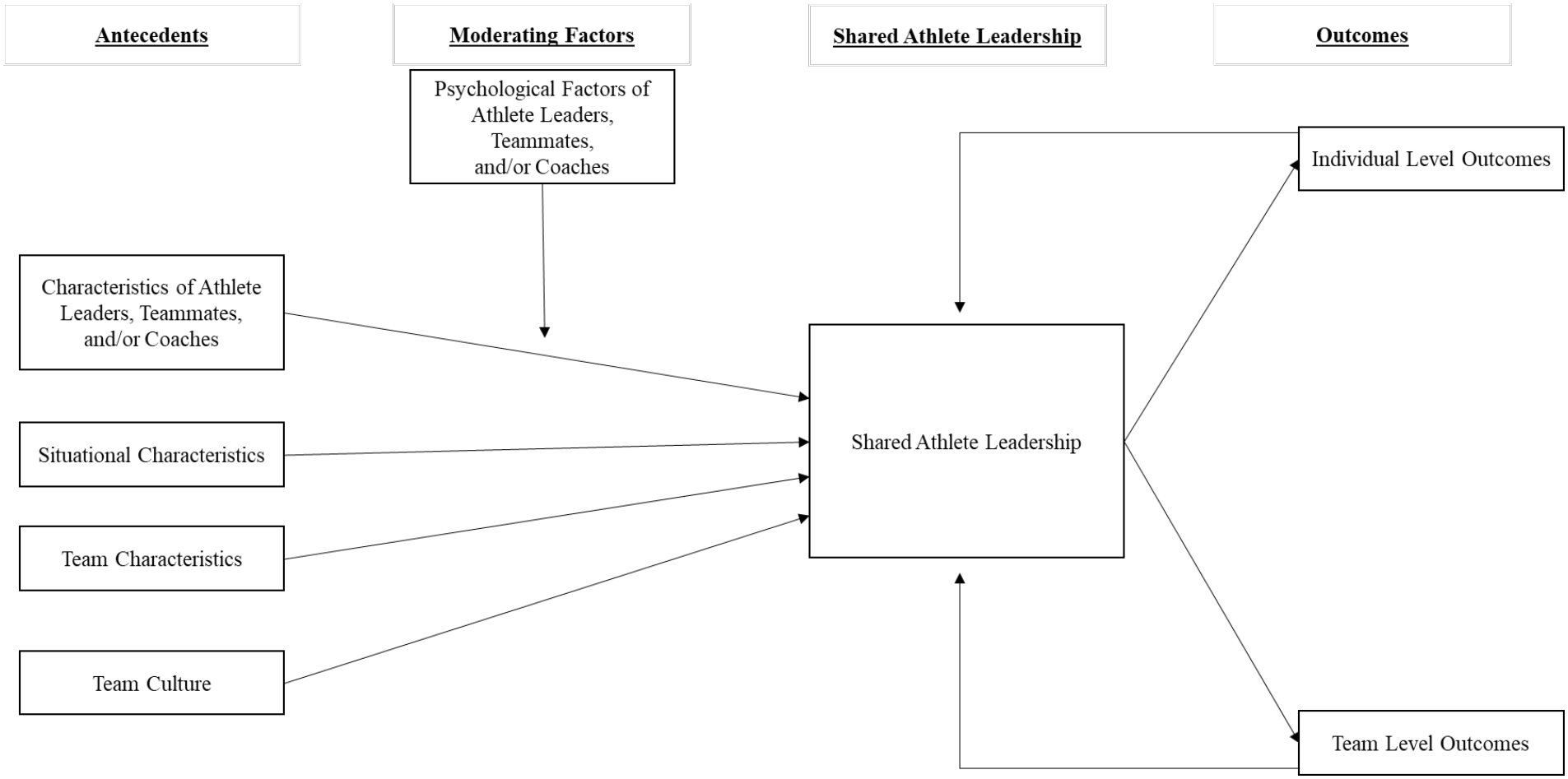

Figure 1. A working model for the study of athlete leadership.