Investigating the Relationships Among Athlete Leadership Behaviors, Athlete Leader Fairness, Cohesion, and Athlete Satisfaction

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INVESTIGATING THE RELATIONSHIPS AMONG ATHLETE LEADERSHIP BEHAVIORS, ATHLETE LEADER FAIRNESS, COHESION, AND ATHLETE SATISFACTION

by

Katherine E. Hirsch

A Thesis
Submitted to the Faculty of Graduate Studies through the Department of Kinesiology in Partial Fulfillment of the Requirements for the Degree of Master of Human Kinetics at the University of Windsor

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INVESTIGATING THE RELATIONSHIPS AMONG ATHLETE LEADERSHIP BEHAVIORS, ATHLETE LEADER FAIRNESS, COHESION, AND ATHLETE SATISFACTION

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DECLARATION OF ORIGINALITY

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ABSTRACT

The purpose of the study was to examine athlete leader fairness in relation to athlete leadership behaviors, cohesion, and athlete satisfaction. Participants were 203 intercollegiate team sport athletes. Participants completed the Leadership Scale for Sports (Chelladurai & Saleh, 1980), Differentiated Transformational Leadership Inventory (Callow, Smith, Hardy, Arthur, & Hardy, 2009), Group Environment Questionnaire (Carron, Widmeyer, & Brawley, 1985), Athlete Satisfaction Questionnaire (Riemer & Chelladurai, 1998), and a leader fairness inventory (Colquitt, 2001). Task-oriented, transformational, and transactional athlete leadership behaviors were positively associated with perceptions of athlete leader procedural and distributive fairness. In turn, these perceptions of fairness were positively associated with task cohesion and satisfaction with performance and the team. Findings from the present study provide support for athlete leaders as a source of leader fairness perceptions in team sport. Additionally, perceptions of athlete leader fairness are identified as an antecedent of cohesion and athlete satisfaction.
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Introduction

While the majority of research has investigated coach leaders in the sport context (e.g., Vella, Oades, & Crowe, 2013), another source of leadership within sport teams emerges from the athletes (Loughead, 2017). Athlete leadership is defined as “the process of an athlete occupying a formal or informal role within a team who influences a group of team members to achieve a common goal” (Loughead, Hardy, & Eys, 2006, p. 144). There are two types of leadership roles highlighted within this definition. First, formal athlete leaders are team members who are elected or prescribed to their leadership position by teammates or coaches (e.g., captain). Second, informal athlete leaders are team members who acquire status as a leader following interactions with their teammates (e.g., veteran member of the team). When athlete leadership is defined in this manner, all athletes within a team are able to occupy leadership positions.

One model that is useful for examining athlete leadership is the Integrated Model of Leadership in Physical Activity Settings (Beauchamp, Jackson, & Loughead, 2019). This model is a linear model comprised of antecedents, throughputs, and outputs (see Figure 1). The inputs of the model are the leaders’ personal characteristics (box 1; e.g., athlete leaders’ personality traits, leadership experience, age, gender) and contextual factors (box 2; e.g., competition level, time of year within the season) are identified as antecedents. The model highlights three types of throughputs that consist of leader behaviors, teammate psychological mediators, and a moderating variable of teammate personal characteristics. More specifically, leader behaviors (box 3; e.g., athlete leaders providing training and instruction to teammates, social support, and positive feedback to teammates) are hypothesized to have a direct effect on teammate psychological mediators (box 4; e.g., perceptions of leader fairness, relationship quality). This
relationship is moderated by teammate personal characteristics (e.g., age, maturity level, competitive level). Finally, the model highlights two types of outputs: team- (e.g., cohesion) and individual-level (e.g., athlete satisfaction) behavioral achievement outcomes (box 6) (see Figure 2 for the athlete leader-modified version of this model).

Researchers have shown that athlete leadership behaviors are positively related to several team- (e.g., collective efficacy, Price & Weiss, 2011; team identity, Rees, Haslam, Coffee, & Lavallee, 2015) and individual-level outcomes (e.g., competence, Price & Weiss, 2013; friendship quality, Moran & Weiss, 2006; intrinsic motivation, Price & Weiss, 2013). In relation to the proposed study, one of the most frequently examined team-level outcomes associated with athlete leadership is cohesion (e.g., Vincer & Loughead, 2010). Historically, cohesion is viewed as the most important small group variable (Lott & Lott, 1965; Spink, 2016), and is defined as “the dynamic process which is reflected in the tendency for a group to stick together and remain united in pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron, Brawley, & Widmeyer, 1998, p. 213). Callow, Smith, Hardy, Arthur, and Hardy (2009) examined the relationship between athlete leadership behaviors and cohesion in their study of 309 male and female ultimate frisbee players. Transformational leadership behaviors of fostering acceptance of group goals, high performance expectations, and individual consideration were positively related to task cohesion (i.e., orientation towards achieving the team’s objectives and goals; Carron, Widmeyer, & Brawley, 1985), while fostering acceptance of group goals was positively related to social cohesion (i.e., orientation toward developing and maintaining social relationships with teammates; Carron et al., 1985). Moreover, the athlete leadership behaviors of training and instruction and social support were positively associated with task and social
cohesion, while democratic behavior was positively associated with task cohesion and autocratic behavior was negatively associated with task and social cohesion (Vincer & Loughead, 2010).

In connection to the current study, one of the most commonly examined individual-level outcomes of athlete leadership behaviors is athlete satisfaction (Aoyagi, Cox, & McGuire, 2008; Eys, Loughead, & Hardy, 2007). Chelladurai and Riemer (1997) defined athlete satisfaction as “a positive affective state resulting from a complex evaluation of the structures, processes, and outcomes associated with the athletic experience” (p. 135). Athlete satisfaction is generally examined as an outcome variable of leader behaviors as it is associated with numerous variables such as lower levels of burnout (Hodge, Lonsdale, & Ng, 2008), higher levels of athletic engagement (Hodge, Lonsdale, & Jackson, 2009), athlete identity (Burns, Jasinski, Dunn, & Fletcher, 2012), and better performance (Williams & Hacker, 1982). The researchers examining athlete leadership and athlete satisfaction have shown that the athlete leadership behaviors of training and instruction, positive feedback, social support, and democratic behavior are positively associated with athlete satisfaction (Paradis & Loughead, 2012).

While athlete leadership behaviors have been investigated in relation to cohesion and athlete satisfaction, there is a dearth of research examining the role of teammate psychological mediators from the Integrated Model of Leadership in Physical Activity Settings (Beauchamp et al., 2019) in conjunction to athlete leader behaviors and the outcomes of cohesion and athlete satisfaction. This is unfortunate because it leaves researchers uncertain of the specific underlying psychological factors that impact an athlete’s perception of cohesion and athlete satisfaction, thereby making it difficult for those psychological factors to be targeted for enhancement. A psychological factor that may be associated with all three of the variables above is a teammate’s perception of their athlete leaders’ fairness. *Fairness* is defined as an individualized perception
of an action or statement as appropriate and just according to group rules and standards (Blanchard, 1986; Mallard, Lamont, & Guetzkow, 2009). The most recent conceptualization operationalizes the construct as being composed of four dimensions of fairness: distributive fairness, procedural fairness, informational fairness, and interpersonal fairness (Colquitt, 2001). 

*Distributive fairness* is demonstrated when an athlete’s contribution (e.g., effort) to a behavior (e.g., game performance) is proportionate to the allocations of the outcome (e.g., verbal praise from the athlete leader; Deutsch, 1975). *Procedural fairness* is defined as justice in the process that lead to an outcome (e.g., team rules are upheld; Leventhal, 1980). *Interpersonal fairness* is defined as individuals being treated in a manner that is consistent with accepted group standards (Greenberg, 1993). *Informational fairness* is demonstrated by leaders adequately explaining information to the team with honesty and candidness (Greenberg, 1993).

The majority of research examining fairness has stemmed from organizational psychology. Researchers examining private sector and bank employees have shown that workplace fairness was related to cohesion in the workplace and job satisfaction (i.e., satisfaction with the tasks and roles of the job), respectively (Bettencourt & Brown, 1997; Ronen & Mikulincer, 2009). In sport, the role of fairness research is beginning to appear in the literature. Jordan, Gillentine, and Hunt (2004) were the first to emphasize the potential role of fairness in sport. Specifically, they suggested that fairness should be examined due to its potential effect on individual and team attitudes (e.g., commitment, satisfaction, unity) and behaviors (e.g., performance). Despite research being in its infancy, the findings have highlighted the importance of fairness in sport. In an examination of youth athletes’ perceptions of coach fairness, Whisenant and Jordan (2008) found that athletes were more likely to continue participating in sport if their coaches’ behaviors were perceived as fair. This finding is consistent with research
demonstrating a positive relationship between perceptions of coach fairness and sport experience satisfaction (Nikbin, Sean, Albooyeh, & Foroughi, 2014). Cohesion is empirically supported as a correlate of coach fairness from a study examining adult volleyball and handball players (De Backer et al., 2011), wherein a positive correlation between perceptions of coach fairness behaviors and cohesion was found. Other group dynamics variables found to be associated with coach fairness include athletes’ effort and trust in their coaches (Nikbin, Hyun, Iranmanesh, & Foroughi, 2014), and commitment to their team (Ben-Ari, Tsur, & Har-Even, 2006; Ha & Ha, 2015). Taken together, it is clear that perceptions of leader fairness can play a key role in an athlete’s sport experience.

In light of the limited research concerning leader fairness in sport, there are some noteworthy limitations that need to be addressed. To date, the majority of research concerning fairness in sport has focused on coach fairness. In only examining perceptions of coach fairness, researchers are ignoring athlete leaders as an important source of leadership that has repeatedly been shown to have an impact on teams (e.g., Crozier, Loughead, & Munroe-Chandler, 2013). Moreover, there are numerous instances when athlete leaders influence their teammates in the absence of a coach being present such as informal practice sessions and interactions outside of sport (Bucci, Bloom, Loughead, & Caron, 2012). Another limitation is that fairness perceptions using the four-factor model have typically not been examined in sport studies (Colquitt, 2001). That is, researchers either use a one-factor model measuring general leader fairness (e.g., Ben-Ari et al., 2006) or utilize a three-factor approach in which interpersonal fairness and informational fairness are combined into one factor termed interactional fairness (e.g., Nikbin, Hyun, et al., 2014). A key limitation of these approaches is that the full scope of fairness is not examined. For example, a leader may be very candid and honest with a teammate (i.e.,
informational fairness), but also exhibit behaviors that go against team standards (i.e., interpersonal fairness). By examining interpersonal fairness and informational fairness as one construct, the nuances in which leaders interact with their athletes is minimized. Moreover, examining one factor, as opposed to all four factors, of fairness leaves gaps in empirical knowledge of how different dimensions of fairness behaviors relate to various outcomes.

In an effort to address these limitations, the purpose of the present study was to examine athlete leader fairness in relation to athlete leadership behaviors, cohesion, and athlete satisfaction. Consequently, the following hypotheses were made: (1) athlete leader behaviors would be positively related to perceptions of athlete leader fairness, (2) perceptions of athlete leader fairness would be positively associated with cohesion, and (3) perceptions of athlete leader fairness would indirectly and positively affect athlete satisfaction by impacting cohesion.

Method

Participants

The participants were 203 athletes (male \( n = 113 \); female \( n = 90 \); \( M_{age} = 19.85 \) years, \( SD = 1.51 \)) competing on interdependent team sports at the intercollegiate university level. Participants were recruited from Canadian \( (n = 151) \) and American \( (n = 52) \) institutions. All Canadian participants were from U Sports programs, whereas American participants competed in National Junior College Athletic Association or NCAA Division I, II, or III programs.

To enhance the generalizability of the findings, the athletes represented a variety of interdependent team sports including baseball \( (n = 32) \), basketball \( (n = 16) \), curling \( (n = 9) \), field hockey \( (n = 3) \), football \( (n = 47) \), ice hockey \( (n = 20) \), lacrosse \( (n = 10) \), rugby \( (n = 4) \), soccer \( (n = 34) \), softball \( (n = 10) \), and volleyball \( (n = 18) \). The participants competed in their respective sport for 10.77 years \( (SD = 4.37) \). As for tenure on their current team, there were 80 first-year
players, 57 second-year players, 41 third-year players, 19 fourth-year players, and six fifth-year players. The participants were provided with athlete leader definitions where formal athlete leader was defined as “an athlete that is selected by the team or coach to be in a leadership position, such as a captain, co-captain, or assistant captain,” and informal athlete leader was defined as “a leader established through interactions with team members, not formally appointed by coach or team selection”. The participants were subsequently asked to report whether they self-identified as a formal athlete leader, informal athlete leader, or an athlete non-leader. Thirty-five participants (17.2%) self-identified as a formal leader, 134 (66.0%) as an informal leader, and 34 (16.7%) as an athlete non-leader. As for starting status, there were 105 starters and 98 non-starters.

Measures

Demographics. Participants completed demographic items including gender, age, academic year, type of sport currently playing, number of years competing in sport, number of years competing with their current team, starting status, and leadership status (see Appendix A).

Athlete leadership. Athlete leadership behaviors were assessed using two inventories in order to comprehensively examine various athlete leadership behaviors (Loughead, 2017). The first was the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980; see Appendix B). The LSS is a 40-item inventory measuring five leadership behaviors, categorized into three sub-order dimensions (Chelladurai, 2007): (1) task-oriented leadership which consists of training and instruction and positive feedback, (2) decision-making leadership which consists of democratic behavior and autocratic behavior, and (3) group climate which consists of social support. Training and instruction contains thirteen items that assess behaviors designed to help teammates perform well. A sample item is “Point out each athlete’s strengths and weaknesses.”
Positive feedback contains five items that assess behaviors that reinforce teammates by recognizing and rewarding good performance. A sample item is “Express appreciation when an athlete performs well.” Democratic behavior contains nine items examining behaviors that involve including teammates in the decision-making processes. A sample item is “Let the group set its own goals.” Autocratic behavior contains five items that examine behaviors that demonstrate the leader using his/her authority to make decisions that teammates will strictly comply with. A sample item is “Speak in a manner not to be questioned.” Social support contains eight items that assess behaviors that satisfy the interpersonal needs of teammates. A sample item is “Help members of the group settle their conflicts.” Each of the 40 items is preceded with the stem “My athlete leaders”. Items are scored on a 5-point Likert scale anchored from 1 (never) to 5 (always). Items from each of the five dimensions are summed and averaged to yield a mean frequency score with higher scores reflecting a greater frequency of leadership behaviors.

The second measure used to assess athlete leadership behaviors was the Differentiated Transformational Leadership Inventory (DTLI; Callow et al., 2009; see Appendix C). The DTLI is a 27-item inventory that assesses six transformational behaviors and one transactional behavior. Among the transformational behavior dimensions, individual consideration contains four items assessing behaviors that demonstrate respect for teammates, and concern for their feelings and needs. A sample item is “Considers that I have different strengths and abilities than others.” Inspirational motivation contains four items measuring behaviors that demonstrate the leader is developing, articulating, and inspiring teammates with a vision. A sample item is “Talks enthusiastically.” Intellectual stimulation contains four items assessing behaviors that challenge followers to question current assumptions and perspectives of others, and re-examines how tasks
can be performed. A sample item is “Challenges me to think about problems in new ways.”

*Fostering acceptance of group goals* and promoting teamwork contains three items measuring behaviors that encourage teammates to cooperate in achieving a common goal. A sample item is “Encourages athletes to be team players.” *High performance expectations* contains four items assessing behaviors related to striving for quality, excellence, and/or higher performance from teammates. A sample item is “Always expects us to do our best.” *Appropriate role modelling* contains four items measuring behaviors that set examples for teammates aligning with the appropriate values that all team members should emulate. A sample item is “Leads by example.”

Transactional athlete leader behaviors are assessed through the contingent reward dimension. *Contingent reward* contains four items that assess behaviors that provide teammates with positive reinforcement following appropriate behavior. A sample item is “Gives me special recognition when I do very good work.” Each item is preceded with the stem “My athlete leader(s)”. All items are scored on a 5-point Likert scale anchored from 1 (not at all) to 5 (all the time). Items from each of the seven dimensions are summed and averaged to yield a mean frequency score with higher scores reflecting a greater frequency of leadership behaviors.

**Athlete leader fairness.** Perceptions of athlete leader fairness were assessed using an athlete-modified version of Colquitt’s (2001) Fairness Inventory (see Appendix D). The inventory is a 20-item measure examining four dimensions of fairness. Distributive fairness contains four items assessing behaviors that demonstrate a leader allocating rewards or costs to an athlete that are proportionate to the athlete’s contribution. Distributive fairness items were modified with the stem reading: “The following items refer to situations in which you were rewarded or disciplined by your athlete leaders during or after a practice or game. To what extent:” A sample item is “Do your rewards or punishments reflect the effort you have put into
your work?” Procedural fairness contains seven items measuring behaviors that demonstrate a just process that leads to an outcome. Procedural fairness items were modified with the stem reading: “The following items refer to the procedures used by your athlete leaders to achieve outcomes. To what extent?” A sample item is “Have those procedures been applied consistently?” Informational fairness contains five items measuring behaviors of adequately explaining information to team members with candidness and honesty. A sample item is “Have your athlete leaders explained procedures thoroughly?” Interpersonal fairness contains four items that assess behaviors in which a leader treats athletes in a manner that is consistent with the team’s standards. A sample item is “Have your athlete leaders treated you in a polite manner?” Each informational fairness and interpersonal fairness item was modified with the stem reading: “The following items refer to your athlete leaders. To what extent:” All items are scored on a 5-point Likert scale anchored at 1 (to a small extent) and 5 (to a large extent). Responses from each dimension of fairness are summed and averaged to yield a mean score with higher scores reflecting stronger perceptions of fairness.

Cohesion. Cohesion was measured using the positively worded version of the Group Environment Questionnaire (GEQ; Eys, Carron, Bray, & Brawley, 2007; see Appendix E). The GEQ is an 18-item inventory that measures four dimensions of cohesion, categorized into task and social suborder dimensions. Individual attractions to the group-task (ATG-T) contains four items assessing one’s feelings about his/her personal involvement with the group’s productivity, tasks, and goals. A sample item is “I do not like the style of play on this time.” Individual attractions to the group-social (ATG-S) consists of five items measuring an athlete’s feelings about his/her social interactions and acceptance with the team. A sample item is “Some of my best friends are on this team.” Group integration-task (GIT) contains five items assessing an
individual’s perception of team members’ similarity and closeness in regard to the team’s tasks. A sample item is “Our team is united in trying to reach its goals for performance.” *Group integration-social* (GIS) contains four items measuring an athlete’s perception of team members’ similarity and closeness in regard to the team’s social matters. A sample item is “Our team would like to spend time together in the off season.” All responses are scored on a 9-point Likert scale anchored at 1 (*strongly disagree*) to 9 (*strongly agree*). Responses within each dimension are summed and averaged to yield a mean score in which higher scores reflect higher perceptions of cohesion.

**Athlete satisfaction.** Athlete satisfaction was measured using the Athlete Satisfaction Questionnaire (ASQ; Riemer & Chelladurai, 1998; see Appendix F). The ASQ contains 56 items measuring 15 dimensions of satisfaction: individual performance, team performance, ability utilization, strategy, training and instruction, ethics, personal treatment, personal dedication, team task contribution, team social contribution, team integration, external agents, medical personnel, academic support services, and budget. The current study examined seven dimensions with the exception of ability utilization, strategy, training and instruction, and personal treatment, external agents, medical personnel, academic support services, and budget due to the lack of influence an athlete leader has on these aspects of the sport experience (Eys, Loughead et al., 2007). The seven dimensions examined can be categorized into three higher-order dimensions: (1) satisfaction with performance which consists of individual performance and team performance, (2) satisfaction with the team which consists of team integration, team social contribution, team task contribution, and ethics, and (3) satisfaction with dedication which is determined by ratings of personal dedication.
Individual performance contains three items that assess the degree of satisfaction with personal task performance. A sample item is “The improvement in my performance over the previous season.” Team performance contains three items that measure the degree of satisfaction with the team’s performance. A sample item is “The team’s overall performance this season.” Team task contribution contains three items that assess satisfaction with teammates actions that serve as a substitute for leadership. A sample item is “The extent to which teammates provide me with instruction.” Team social contribution contains three items that assess satisfaction with how teammates contribute to the athlete as a person. A sample item is “My social status on the team.” Team integration contains four items that assess satisfaction with teammates’ contributions and coordination of their efforts toward the team’s task. A sample item is “How the team works to be the best.” Ethics contains three items that assess satisfaction with teammates’ ethical stances. A sample item is “My teammates’ sense of fair play.” Personal dedication contains four items that assess satisfaction with one’s contribution to the team. A sample item is “The degree to which I do my best for the team.” Each item is preceded with the stem “I am satisfied with”. All items are scored on a 7-point Likert scale anchored at 1 (not at all satisfied) and 7 (extremely satisfied) with a midpoint of 4 (moderately satisfied). Responses for each dimension are summed and averaged to yield a mean score in which higher mean scores reflect greater satisfaction.

Procedure

Prior to the start of the research project, ethical approval was obtained from the University of Windsor’s Research Ethics Board. Once approval was received, coaches and athletic directors of intercollegiate university sport teams were contacted via email to request permission to survey their athletes (see Appendix F). Upon approval from the coach and/or athletic director, athletes were sent an email containing a description of the research study and
asked to complete the survey pack online \((n = 52)\) via Qualtrics survey software or in person \((n = 151)\) if they choose to participate (see Appendix G). Given the descriptive, cross-sectional design of the study, participants completed the survey pack at one time point. For those completing the survey pack online, a website link was included in the email containing the study description. The survey began with a letter of information regarding the purpose of the study (see Appendix H), followed by a demographics survey and the five inventories previous discussed. The survey took approximately 15 minutes to complete. Following completion of the survey, athletes were able to enter into a draw for one of four $50.00 Visa gift cards as a compensation for their time.

**Data Analysis**

The first phase of data analysis comprised of computing descriptive statistics using SPSS 25.0 software (IBM Corp., 2017a). This involved calculating means and standard deviations for the following demographic variables: age, number of years competing in sport, and number of years competing with current team. Frequencies were calculated for the following demographic variables: gender of participants, academic year, type of sport played, starting status, and leadership status. Means, standard deviations, and Cronbach’s alpha values were calculated for the five leadership dimensions, four fairness dimensions, two cohesion dimensions, and three athlete satisfaction dimensions. Data screening showed that 1.02% of total data points were missing. Tabachnick and Fidell (2013) recommend estimating missing values when less than 5% of the data set is missing. Therefore, missing values were estimated using a case mean substitution. Fox-Wasylyshyn and El-Masri (2005) advocate for the use of case mean substitution when estimating missing data from self-report measures as items from the same construct are believed to be highly and positively correlated. All data were screened for outliers.
and violations of the assumptions of normality. All assumptions of normality were met. Outliers were identified; however, they remained in the sample upon reviewing the individual data sets.

The second phase of analysis involved conducting a path analysis to examine the following relationships: athlete leadership behaviors to athlete leader fairness, athlete leader fairness to cohesion, and athlete leader fairness to athlete satisfaction. Path analysis is a statistical method for determining the logical, linear sequences of related variables (Kaplan, 2000). In other words, it is a method for examining relationships between variables by examining direct and indirect effects of exogenous variables (i.e., independent variables) to endogenous variables (i.e., dependent variables) (Alwin & Hauser 1975; Wright, 1921). The proposed path diagram (see Figure 3) was created with the theoretical guidance of the athlete leader-modified Integrated Model of Leadership in Physical Activity Settings (see Figure 2).

The path analysis was conducted using AMOS 25.0 (IBM Corp., 2017b) using the maximum-likelihood method of parameter estimation. The maximum-likelihood method allows for examination of multiple direct and indirect predicted paths, and provides modification indices for the theoretical model according to the data (Holmbeck, 1997). The following variables were included in the path diagram: task-oriented leadership (training and instruction and positive feedback), decision-making (democratic behavior and autocratic behavior), group climate (social support), transformational leadership (individual consideration, inspirational motivation, intellectual stimulation, acceptance of group goals, high performance expectations, and appropriate role modeling), transactional leadership (contingent reward), perceptions of athlete leader fairness (procedural fairness, distributive fairness, interpersonal fairness, informational fairness), task cohesion (individual attractions to the group-task and group integration-task), social cohesion (individual attractions to the group-social and group integration-social),
satisfaction with performance (individual performance and team performance), satisfaction with
the team (team integration, team social contribution, team task contribution, and ethics), and
satisfaction with dedication (personal dedication).

In order to conduct the path analysis, theoretical and statistical assumptions needed to be
considered. From a theoretical perspective, the relationships under examination must have been
based on prior knowledge about the variables of interest. Specifically, a rationale was needed for
the sequential order of the variables being examined together, and the use of a directional arrow
(i.e., causal relationship) versus a double-sided arrow (i.e., noncausal relationship). The rationale
of the sequencing of variables was developed using the Integrated Model of Leadership in
Physical Activity Settings (Beauchamp et al., 2019). From a statistical perspective, the following
assumptions needed to be confirmed: variables are measured without error, all variables must be
interval or continuous in nature, residuals are normally distributed, residuals are uncorrelated
with one another and with predictor variables in the equation, and relationships are additive and
linear. All assumptions were met.

Results
Descriptive Statistics

Means, standard deviations, and internal consistencies for athlete leadership behaviors,
perceptions of athlete leader fairness, cohesion, and athlete satisfaction are reported in Table 1. A
summary of the bivariate correlations between all of the variables is displayed in Table 2. With
the exception of the relationships between the athlete leadership factor of decision-making and
task and social cohesion, all bivariate correlations were statistically significant. In particular, the
fairness construct most strongly associated with task-oriented athlete leadership was distributive
fairness whereas group climate most strongly correlated with informational fairness, and
decision-making most strongly correlated with informational fairness and procedural fairness. As for cohesion, task cohesion was most strongly correlated to distributive fairness and social cohesion was most strongly related to procedural fairness. As for athlete satisfaction, task and social cohesion most strongly correlated with satisfaction with the team.

**Path Analyses**

The overall fit of the hypothesized model (see Figure 3) was $\chi^2 (47, N = 203) = 473.24, p < .001; \text{CFI} = .78, \text{and RMSEA} = .21$. A number of modifications were made to the model based on the modification indices provided by AMOS (IBM Corp., 2017). Modifications were only made if they were theoretically sound, as the modification indices provided by AMOS are empirically-based recommendations. In the revised model, modifications were made to add paths from all satisfaction variables to both cohesion variables (see Figure 4). The revised model provided a better fit $\chi^2 (41, N = 203) = 284.33, p < .001; \text{CFI} = .87, \text{and RMSEA} = .17$; however, the significant $\chi^2$ and RMSEA value greater than .05 suggest that the model had some misfit. A summary of path coefficients for the revised model can be found in Table 3. A diagram of all significant paths is included to highlight the specific relationships amongst the variables (see Figure 5).

**Discussion**

The purpose of the present study was to examine the relationships among athlete leadership behaviors, athlete leader fairness, cohesion, and athlete satisfaction. First, it was hypothesized that athlete leadership behaviors would be positively associated with athlete leader fairness. Second, it was hypothesized that perceptions of athlete leader fairness would be positively associated with cohesion. Third, it was hypothesized that perceptions of athlete leader fairness would be indirectly and positively related to athlete satisfaction through cohesion.
In general, the results of the present study partially support the three hypotheses. As for the first partially supported hypothesis, task-oriented, transformational, and transactional athlete leadership behaviors each demonstrated significant paths to multiple dimensions of athlete leader fairness. Specifically, athlete leaders who encouraged teammates to act beyond their own self-interests and develop into leaders (i.e., transformational leadership) were more likely to be viewed by their teammates as exhibiting interpersonal, informational, and distributive fairness. Given that Avolio (1999) encouraged leaders to exhibit transformational leadership behaviors frequently in order to be effective, it is encouraging that our findings support these behaviors having strong, positive relationships with perceptions of fairness. Theoretically, athlete leaders who utilized transformational leadership offer special consideration to each teammate and behave in ways that lead to the admiration and trust from their teammates (Avolio, 1999); therefore, it is unsurprising that teammates have favorable interactions with these types of athlete leaders (i.e., interpersonal and informational fairness) while also finding that they give appropriate consequences (i.e., distributive fairness). Researchers found that employees who perceive their manager as using the transformational leadership behavior of individual consideration were more likely to perceive higher levels of interpersonal fairness from their managers (Cho & Dansereau, 2010). Moreover, the present findings are consistent with findings that organizations who are viewed as caring for and valuing their employees are more likely to elicit perceptions of informational fairness (Cheung, 2013), and that head nurses who exhibit transformational leadership behaviors were more likely to elicit perceptions of interactional fairness and distributive fairness by fellow nurses (Gillet, Fouquereau, Bonnaud-Antignac, Mokounkolo, & Colombat, 2013). Contrary to the present findings, Pillai, Schrisheim, and Williams (1999) reported that transformational leadership was positively associated with
procedural fairness in business students and automobile company employees. These discrepancies in the current findings may be due to the nature of the leader-follower relationships (i.e., academic and organizational leader-follower dynamics may differ from athlete leader-teammate dynamics) and due to differences in how transformational leadership was measured. Pillai and colleagues utilized the Multifactor Leadership Questionnaire (Bass & Avolio, 1991), which has demonstrated high inter-correlations among leadership behaviors and a poor model fit when used to examine athlete leaders (Price & Weiss, 2013).

Similar to athletes who exhibit transformational leadership, athlete leaders who provided their teammates with transactional leadership were more likely to exhibit procedural, interpersonal, and informational fairness. The procedural nature of transactional leadership behaviors (i.e., leaders may implement contingencies as a method to encourage certain behaviors) can elicit perceptions of procedural fairness if done consistently (e.g., good behavior resulting in positive rewards). Kelloway and Barling (2000) argued that employees are more likely to trust and respect their leaders if their leaders behave in a consistent manner. In sport, it has been suggested that stronger perceptions of trust in coaches can facilitate heightened perceptions of interactional fairness (Jordan et al., 2004). It is possible that athlete leaders who are perceived to display transactional leadership behaviors consistently could elicit trust from their teammates and, in turn, enhance perceptions of interactional fairness.

Task-oriented athlete leadership behaviors were positively associated with procedural and distributive fairness, whereas no significant relationships were established between decision-making and group climate athlete leadership behaviors and perceptions of fairness. As task-oriented leadership falls in line with the role of a task leader (i.e., greater focus on skill-specific qualities than interpersonal qualities such as friendliness; Bales & Slater; Loughead et al., 2006),
task-related fairness perceptions (i.e., procedural fairness and distributive fairness), as opposed to socially-focused fairness perceptions (i.e., interpersonal fairness and informational fairness), were likely to be affected by task-oriented leadership behaviors. Procedural fairness highlights the decisions an athlete leader makes in regard to the rules of a task where fairness is operationalized as following the rules (Leventhal, 1980). Therefore, athlete leaders who provide appropriate training and instruction and positive feedback (i.e., task-oriented leadership) are likely to elicit perceptions of procedural fairness. Similarly, distributive fairness is perceived when athlete leaders justly praise or discipline teammates (Deutsch, 1975). Given that task-oriented leadership behaviors include instances in which feedback is given about performance, there are ample opportunities within these situations that teammates are able to derive perceptions of distributive fairness.

In contrast to the hypothesis, neither group climate nor decision-making athlete leadership behaviors were related to any of the four dimensions of athlete leader fairness. These findings were particularly surprising as supportive leadership behaviors (i.e., group climate) such as showing concern for and valuing teammates are thought to be predictors of interpersonal fairness and informational fairness (Jordan et al., 2004). These findings may be due to participants not placing a high value on group climate, operationalized as the social support dimension from the LSS, from their athlete leaders as a means of demonstrating fair treatment. In other words, athletes may not view group climate leadership behaviors (i.e., social support) as an expected leadership behavior that aligns with the team’s standards. Therefore, athlete leaders’ group climate behaviors would not impact perceptions of leader fairness. Similarly, the absence of significant paths from decision-making to fairness was unexpected. In particular, the lack of significant relationships between decision-making and procedural fairness and distributive
fairness was particularly surprising as the types of leader’s decisions and the outcomes of those decisions are likely to elicit perceptions about the quality and fairness of those decisions. For instance, researchers note that including non-leader teammates to have decision influence and/or decision control can elicit perceptions of fairness (Jordan et al., 2004). A possible explanation for the lack of significant paths from decision-making to perceptions of fairness may be due to the operationalization of the decision-making factor, which is comprised of both autocratic and democratic leadership behaviors. Autocratic leadership behavior consists of a more authoritative style of leadership, while democratic leadership behavior is a form of leadership characterized by a propensity for consensus building. Consequently, these two leadership behaviors reflect a contrasting type of leadership behavior. In fact, the bivariate correlations from the current study showed very different associations with fairness (i.e., autocratic behavior was negatively related to fairness and democratic behavior was positively related to fairness). The differing nature of autocratic behavior and democratic behavior has been found with other group dynamics variables such as cohesion in which autocratic behavior was negatively related to task and social cohesion, while democratic behavior was positively related to task cohesion (Vincer & Loughead, 2010). Moreover, autocratic behavior in athlete leaders has been shown to be non-significantly related to athlete satisfaction and cohesion (Paradis & Loughead, 2012). Therefore, in the current study, autocratic athlete leadership behaviors may have affected the strength and direction between decision-making athlete leadership and perceptions of fairness.

In the second hypothesis, it was predicted that perceptions of athlete leader fairness would be positively related to task and social cohesion. This hypothesis was partially supported as procedural and distributive leader fairness was related to task cohesion. As previously mentioned, procedural and distributive fairness are more task-related in nature, thereby
explaining the stronger relationship to task cohesion. The present findings are somewhat similar to De Backer and colleagues (2011) who found a relationship between procedural fairness of coaches and both task and social cohesion. Tyler and Blader (2003) argue that procedural fairness establishes group-focused identities that may include constructs such as cohesion. As such, it is surprising that athlete leader procedural fairness was not found to be positively related to social cohesion. Likewise, the absence of significant paths in the current study between perceptions of interpersonal and informational fairness in relation to social cohesion was particularly surprising when considering that interpersonal and informational fairness are rooted in social interactions between athlete leaders and their teammates. In fact, this relationship has been supported in a sample of intercollegiate athletes when reporting perceptions of coach interactional fairness (Ha & Ha, 2015). However, the contrary has also been found. Researchers examining fairness and cohesion in university students have shown that interpersonal fairness was negatively related to the cohesiveness of student groups (Stoverink, Umphress, Gardner, & Miner, 2014). Stoverink and colleagues suggest that unfair treatment has the potential to unite group members by alleviating their feelings of discomfort as a result of their unfair treatment. Therefore, a possible explanation for the current findings is that social cohesion is dependent upon developing and maintaining social relationships within the entire team, not just with a select few team members (Carron, Widmeyer, & Brawley, 1985).

It was hypothesized that perceptions of athlete leader fairness would have an indirect effect on athlete satisfaction. This third hypothesis was partially supported as the paths between procedural and distributive fairness was associated with two dimensions of athlete satisfaction (i.e., satisfaction with performance and the team) were significant by working indirectly through task cohesion. In turn, the path from satisfaction with the team to social cohesion was significant,
demonstrating an indirect means by which procedural and distributive fairness could impact satisfaction with dedication and the team. The lack of significant findings between interpersonal fairness and informational fairness to athlete satisfaction is directly a result of the lack of paths between interpersonal fairness and informational fairness to either dimension of cohesion. However, there is some evidence of athlete leader fairness being positively related to athlete satisfaction when examining the bivariate correlations. Interestingly, the significant paths from social cohesion to satisfaction with the team and satisfaction with dedication to social cohesion were both negative. While these findings are surprising given the theoretical and empirical support for positive relationships among cohesion and satisfaction constructs (Aoyogi et al., 2008; Carron & Chelladurai, 1981), the findings can be explained by the potential negative consequences that can occur in teams that have high levels of social cohesion (Hardy, Eys, & Carron, 2005). Using a sample of intercollegiate athletes, Hardy and colleagues (2005) found that athletes who perceived their team to have high levels of social cohesion felt that it resulted in both personal problems (e.g., social isolation and attachment problems, reduced task commitment, and decreased focus) and team problems (e.g., wasting time and communication issues). These personal and team difficulties are likely to impact athletes’ feelings of satisfaction with their teams. In regard to the negative relationship between satisfaction with dedication and social cohesion, it is important to note that the satisfaction with dedication items measure aspects of dedication that appear to be more task-related in nature (Riener & Chelladurai, 1998). Therefore, athletes who reported high levels of satisfaction with dedication may have such high levels of dedication to task-related aspects of the team that they neglect to involve or dedicate themselves to the social components of the team.
While this is the first study, to our knowledge, to examine fairness as an indirect contributor to satisfaction, researchers have shown the direct relationships between coach fairness and athlete satisfaction (e.g., Nikbin, Sean, et al., 2014; Whisenant & Jordan, 2008). For example, when examining the direct relationships between procedural fairness, distributive fairness, and interactional fairness of coaches in volleyball and futsal athletes, all forms of fairness significantly and positively contributed to athlete satisfaction (Nikbin, Sean, et al., 2014). It is important to note that the satisfaction measure used by Nikbin, Sean, et al. was a four-item measure not commonly used in sport. The measure used was adapted from organizational settings to include one item measuring satisfaction each of the following: playing time, responsibilities, interpersonal relationships, and overall team experience. These one-item factors may not appropriately examine the nuances of satisfaction, and this may contribute to the discrepancies between their findings and those in the present study. Furthermore, these discrepancies highlight that athletes may differ in how they form perceptions of fairness of their coaches in comparison to their athlete leaders. One such difference between coach and athlete leaders can be the presence of these individuals on a team. Given that any team member can exhibit leadership (Bednarek, Benson, & Mustafa, 1976), there are many athletes who can be identified as athlete leaders (Loughead, 2017). These athlete leaders may vary in how they treat their teammates, thereby skewing perceptions of leader fairness. Another difference is that team members may engage with their athlete leaders more often than with their coaches at the intercollegiate level. This gives the athlete leaders more opportunities, especially outside of training contexts, for team members to develop perceptions of fairness. Moreover, coaches and athlete leaders exhibit leadership behaviors at different frequencies (Loughead & Hardy, 2005). These varying behaviors (e.g., athlete leaders exhibiting more positive feedback than coaches)
demonstrate that athlete leaders engage with their teammates differently than coaches. It is likely that the manner in which athlete leaders engage with their teammates can elicit different types of perceptions of fairness than coaches.

From a theoretical perspective, the present study was the first to utilize the Integrated Model of Leadership in Physical Activity Settings (Beauchamp et al., 2019) as a model for examining athlete leadership. While the hypothesized and modified models did not exhibit a good fit, there were numerous relationships established between perceptions of athlete leader fairness and leadership behaviors, cohesion, and athlete satisfaction. As such, the present study has extended our theoretical understanding of leadership by identifying a potential mediator (i.e., athlete leader fairness) between athlete leadership behaviors and individual- and team-level outcomes. The Integrated Model of Leadership in Physical Activity Settings may show a stronger fit if antecedents of athlete leadership behaviors are examined. Nonetheless, the current findings lend preliminary support for the use of this linear model as a foundation for the examination of outcomes of athlete leadership, mediators between athlete leadership and behavioral achievement outcomes, and moderators of each of these relationships.

From an applied perspective, the present study has identified athlete leaders as a source of fairness perceptions for their teammates. In turn, these perceptions of athlete leader fairness have been identified as an antecedent that may influence cohesion and athlete satisfaction through the use of appropriate athlete leadership behaviors. Given the importance of fairness, strategies can be developed and implemented to enhance perceptions of leader fairness so that athletes and teammates can reap the positive benefits of fairness treatment. Jordan and colleagues (2004) put forth several recommendations for how coaches can be viewed as being fair by their athletes. The authors note that strategies such as demonstrating consideration towards each
athlete, providing athletes with input concerning some of the team’s decision-making, and by coaches justifying and explaining their decisions are some ways coaches can be viewed as fair. Athlete leaders can adopt these practices when engaging with their teammates by having open channels of communication. Within these channels of communication, athlete leaders can provide support and adequate information to their teammates, but they can also be open to receiving feedback and information from their teammates.

Although this study is the first to examine athlete leader fairness, there are a few limitations that warrant consideration. First, the cross-sectional research design does not allow for assumptions of causality to be met. Therefore, all relationships established are correlational. Second, path analysis does not allow for the examination of moderating effects, reciprocal relationships, or latent variables. All of these factors may improve the model fit and lend further support to the use of the Integrated Model of Leadership in Physical Activity Settings (Beauchamp et al., 2019). Future researchers should address these limitations by collecting data on moderating variables proposed in Beauchamp and colleagues’ (2019) model (e.g., athlete leader demographic variables) and collecting data across multiple time points. To further strengthen the methodology, it is recommended that structural equation modeling be employed to examine the full scope of the model using latent variables and account for potential reciprocal relationships that may be occurring. A third limitation concerns the use of the fairness inventory. It is possible that certain items were not as applicable and relevant to athlete leaders as they would be for leaders in the organizational domain that the inventory was created to examine (Colquitt, 2001). As a result, it is possible that more or other types of relationships would have been identified if items were specific to athlete leaders. Furthermore, a mixed-methods approach would foster a deeper understanding of how specific leadership behaviors affect perceptions of
fairness which, in turn, impact athlete satisfaction and cohesion. Therefore, future research is needed on athlete leader fairness using a qualitative or mixed-methods approach. The results of these findings would be useful in establishing the items needed in developing a psychometrically sound inventory that measures perceptions of athlete leader fairness.

It can be concluded that athlete leaders are a source of fairness perceptions. Consequently several contributions to athlete leadership literature can be made. The first contribution is that the present study lends empirical support to the use of the Integrated Model of Leadership in Physical Activity Settings (Beauchamp et al., 2019) as a theoretical foundation for examining athlete leaders. The second contribution is that the impact of athlete leaders on their teammates has been extended to include perceptions of fairness. Additionally, these perceptions of fairness are positively related to athletes’ perceptions of cohesion and satisfaction. As a result, an antecedent of cohesion and athlete satisfaction that can be enhanced through leadership development interventions has been identified. Based on these findings, researchers should continue to investigate behaviors associated with perceptions of athlete leader fairness and outcomes of leader fairness using the Integrated Model of Leadership in Physical Activity Settings (Beauchamp et al., 2019). Further examining the impact of athlete leader fairness will help determine methods for improving fairness and behaviors to target in interventions.
References


De Backer, M., Boen, F., Ceux, T., De Cuypere, B., Hoigard, R., Callens, F., ... & Broek, G. V. (2011). Do perceived justice and need support of the coach predict team identification
and cohesion? Testing their relative importance among top volleyball and handball players in Belgium and Norway. *Psychology of Sport and Exercise, 12*, 192-201.


### TABLES

Table 1

*Descriptive Statistics for Athlete Leadership Behaviors, Athlete Leader Fairness, Cohesion, and Satisfaction*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>α</th>
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</thead>
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<tr>
<td><strong>Leadership</strong></td>
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<tr>
<td>Task-Oriented</td>
<td>3.89</td>
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<td>0.92</td>
</tr>
<tr>
<td>Decision Making</td>
<td>2.96</td>
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<td>Transformational</td>
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<td>Procedural</td>
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<td>Distributive</td>
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<td>Social</td>
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<td>4.39</td>
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<tr>
<td>Team</td>
<td>5.41</td>
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<td>0.92</td>
</tr>
<tr>
<td>Dedication</td>
<td>5.97</td>
<td>0.92</td>
<td>0.81</td>
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</table>

*Note.*  

\(^a^\)Scores for athlete leadership behaviors can range from 1-5.  

\(^b^\)Scores for athlete leader fairness can range from 1-5.  

\(^c^\)Scores for cohesion can range from 1-9.  

\(^d^\)Scores for satisfaction can range from 1-7.
## Table 2

*Bivariate Correlations Between Leadership Behaviors, Perceptions of Fairness, Cohesion, and Satisfaction*

<table>
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<td>2. DM</td>
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<td>3. GC</td>
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<td>4. Transform</td>
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<td>0.72**</td>
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<td>5. Transact</td>
<td>0.72**</td>
<td>0.30**</td>
<td>0.57**</td>
<td>0.77**</td>
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<td>Fairness</td>
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<td>7. Dist</td>
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*Note.* TO = Task Oriented; DM = Decision Making; GC = Group Climate; Transform = Transformational Leadership; Transact = Transactional Leadership; Proc = Procedural Fairness; Dist = Distributive Fairness; Inter = Interpersonal Fairness; Inform = Informational Fairness; Perform = Performance.

*p < .05, **p < .01.
### Revised Model Path Coefficients

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*p < .05, **p < .01, ***p < .001.
Figure 1. Integrated Model of Leadership in Physical Activity Settings.

Adapted from:

Figure 2. Athlete Leader-Modified Integrated Model of Leadership in Physical Activity Settings.

Adapted from:

Figure 3. Path Diagram of Hypothesized Model.
Figure 4. Path Diagram of Modified Model.
Figure 5. Modified Path Diagram with Significant Path Coefficients.
LITERATURE REVIEW

Athlete Leadership

The literature review will begin by defining the concept of athlete leadership. Following this, three models for the study of athlete leadership will be discussed. Next, sources of athlete leadership in sport will be identified, followed by an examination of the current measurements used to assess athlete leadership behaviors. To conclude this section, a review of literature examining athlete leader behaviors, roles, attributes, and traits will be presented.

Athlete Leadership Defined

Athlete leadership is defined as “the process of an athlete occupying a formal or informal role within a team who influences a group of team members to achieve a common goal” (Loughead, Hardy, & Eys, 2006, p. 144). Formal leaders are prescribed to their leadership role (e.g., captain), whereas informal leaders acquire their leadership status through interactions with team members (e.g., veteran members of the team). In using this definition, athlete leadership is characterized by four defining components: (1) it is a process, (2) it involves influence, (3) it occurs in groups, and (4) it involves common goals. The first component of conceptualizing athlete leadership as a process is that it becomes available to everyone whereby there is an interaction between athlete leader and teammates, as opposed to a trait within a person. The second component, influence, is viewed as the athlete leader effecting the follower (i.e., teammates). The third component is that athlete leadership occurs within the context of a sport team. Lastly, when athlete leadership is exerted in groups it is to drive the team towards a common purpose or goal. Working towards a common goal allows athlete leaders and teammates to work together more easily, thereby engaging in a two-way interaction of athlete leaders and teammates mutually influencing one another.
Models of Athlete Leadership

As a relatively new field of research, athlete leadership has been guided by models and frameworks from organizational psychology and sport coaching research. The following section will highlight two theories that have primarily guided athlete leadership research, followed by a newly developed model that will be used in the current study.

**A full range model for leadership.** Advanced by Avolio (1999), a full range model for leadership describes a continuum of leadership styles. Along this continuum are five leadership styles that range from a minimally involved leadership style to a hands-on, continuously involved leadership style. Avolio (1999) proposed a model to display the optimal leadership profile to explain the activeness, effectiveness, and frequency of each leadership style (see Figure 6).

The style of leadership that is suggested to be the least active and effective is a nontransactional style known as *laissez-faire leadership* (Avolio, 1999; Burns 1978). At its most extreme form, laissez-faire leadership is characterized by waiting to see if others will take initiative to complete tasks, avoiding taking responsibility, and displaying difficulty making up one’s mind. In turn, this form of leadership is likely to be viewed by followers as an absence of leadership, but Avolio (1999) acknowledges that laissez-faire leadership is appropriate and necessary in certain situations (e.g., situations where the followers are experts and self-motivated to complete the task at hand).

The second leadership style along the continuum is known as *transactional leadership.* Transactional leadership is characterized by less avoidance of responsibility, more involvement in decision making processes, and involvement in creating and maintaining agreements and contingencies with followers. This leadership style is typified by agreements that satisfy the self-
interests of the followers instead of encouraging them to act beyond their self-interests. Transactional leadership is demonstrated by an individual using corrective or constructive behaviors. The corrective approach is commonly referred to as *management by exception* and is characterized by an exchange between the leader desiring change in the followers (e.g., behavioral change) in return for being reprimanded to some degree. Management by exception can be either active (i.e., leader is continuously monitoring for errors in order to take action immediately) or passive in nature (i.e., the leader waits for errors and takes action later). While both forms of management by exception leadership are viewed as ineffective in most conditions, especially when used in excess, the active approach is required and successful in conditions of high risk and/or emergencies. The constructive approach to transactional leadership involves leaders rewarding positive behavior in order to encourage followers to behave according to standards. Constructive transactional relationships are viewed as the most effective form of transactional leadership.

The leadership styles mentioned above are considered foundational in the development of *transformational leadership* (Avolio, 1999). When a leader upholds the agreements and transactions made with his or her followers, the leader gains trust in the followers; and it is through this trusting relationship between the leader and follower that transformational leadership is grounded. A key characteristic differentiating transformational leadership from transactional leadership is the focus on encouraging followers to achieve greater goals and objectives beyond their own self-interests. Transformational leadership is defined as the process of a leader viewing each follower as an individual with unique traits and behaviors so the leader can develop each of his or her followers into leaders (Burns, 1978). The goals of
transformational leadership are to enhance the level of identification, moral maturity, and perspective of followers.

As advanced by Avolio (1999), transformational leadership is characterized by the following four behaviors: idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. **Idealized influence** is demonstrated when the leader behaves in ways that result in the followers respecting, admiring, and trusting their leader. When those perceptions are present, the leader is viewed as a role model and the followers act to emulate them over time. **Inspirational motivation** is demonstrated when leaders act in ways that inspire and motivate their followers by providing meaning to the work of the followers. The result will be enhanced team spirit as followers begin to identify more with the vision of the group. **Intellectual stimulation** involves the leader promoting norms that encourage followers to gain knowledge and the ability to question their own perspectives and the perspectives of others. As the leader and followers develop the skills of questioning assumptions and perspectives, they will form a relationship in which the leader and followers mutually stimulate each other to reconsider his or her own perspective. In achieving this, the group as a whole will develop. **Individual consideration** is demonstrated when a leader views each follower as an individual with unique needs for achievement. The individuals’ differences in needs and desires are continuously and regularly recognized and evaluated in order to maintain or change leadership behaviors (Avolio, 1999). In providing the support for their followers, individuals providing transformational leadership may act as a mentor, coach, teacher, confidant and/or counselor to aid the followers’ development (Avolio, 1999).

According to this full range model for leadership, individuals in leadership positions will lead using the various leadership styles throughout their leadership tenure (Avolio,
Leaders will vary in how often they exhibit certain sets of behaviors along the continuum, and the frequency of each leadership style will depend on the leader’s perspective of what it is important. The areas that are viewed in high importance will have a greater influence over the leader’s actions and behaviors and will ultimately determine how effective the leader will be over time (Avolio, 1999).

**Multidimensional model of leadership.** The multidimensional model of leadership advanced by Chelladurai (1993, 2007) is a framework explaining the antecedents for certain leadership behaviors to occur and the impact that those leadership behaviors have on athlete outcomes. The model (see Figure 7) posits that **leader characteristics** (e.g., personality, expertise, experience), **follower characteristics** (i.e., characteristics of individuals within the group, such as ability or needs, and the characteristics of the group as a whole, such as gender), and **situational characteristics** (i.e., parameters of the organization and environment, such as the goals of the group) serve as antecedents to three states of leader behaviors: required, actual, and preferred. The three states of leader behaviors have a direct impact on followers’ outcomes such as performance and satisfaction (Chelladurai, 1993, 2007). The level of congruence between the required, actual, and preferred behavior will determine the level of follower performance and satisfaction with higher degrees of congruence resulting in higher levels of follower performance and satisfaction (Chelladurai, 1993, 2007).

**Integrated Model of Leadership in Physical Activity Settings.** The Integrated Model of Leadership in Physical Activity Settings is a linear model comprised of inputs, throughputs, and outputs (see Figure 8; Beauchamp, Jackson, & Loughead, 2019). A common physical activity setting in which leadership is vital and frequently examined is the sport context (Caspersen, Powell, & Christenson, 1985; Loughead, 2017). Therefore, the Integrated Model of
Leadership in Physical Activity Settings may be applicable when examining athlete leaders of sport teams (see Figure 9).

Within the model, the antecedents of leader behaviors are leaders’ personal characteristics (box 1; e.g., athlete leaders’ age, gender, personality traits) and contextual factors (box 2; e.g., competition level, time of year within the season) which are identified as inputs. Three types of throughputs are highlighted in the model: leader behaviors, teammate psychological mediators, and a moderating variable of teammate personal characteristics. Leader behaviors (box 3; e.g., athlete leaders providing social support, positive feedback, and training and instruction to teammates) are hypothesized to have a direct effect on teammate psychological mediators (box 4; e.g., perceptions of athlete leader fairness, quality of leader-teammate relationship). This relationship is moderated by teammate personal characteristics (box 5; e.g., age, gender, maturity level, competitive level). Finally, the model highlights two types of outputs: team-level outcomes (e.g., cohesion) and individual-level outcomes (e.g., athlete satisfaction). Current psychological mediators supported in the literature are perceptions of team identification (Fransen et al., 2015) and team cohesion (Callow, Smith, Hardy, Arthur, & Hardy, 2009); however, further research is warranted to better understand mechanisms that can improve an athlete’s or a team’s behavioral achievements. Moreover, research examining the strength of the model as a method of explaining athlete leadership inputs, throughputs, and outputs is merited.

**Measuring Athlete Leadership Behaviors**

Primarily two inventories have been used to measure athlete leadership behaviors in sport – the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) and the Differentiated Transformational Leadership Inventory (DTLI; Callow et al., 2009). In a review conducted by
Loughead (2017), it is suggested that the LSS and DTLI be used concurrently in order to encompass a wider range of effective leadership behaviors that athletes perform. Both of these inventories will be reviewed below.

**Leadership Scale for Sports.** The LSS is a 40-item inventory that was originally developed for coaches, but has been used to examine the leadership behaviors of athletes (Loughead & Hardy, 2005). The LSS measures five leadership behaviors. *Training and instruction* encompasses behaviors designed to improve the performance level of the followers (i.e., athletes), such as instructing athletes how to acquire necessary skills and teaching athletes sport tactics. *Autocratic behavior* is the extent to which leaders stress their authority. In doing so, leaders will keep themselves separate from their athletes and demand that they strictly comply to directions. *Democratic behavior* is the extent to which leaders allow their athletes to participate in the decision-making process. *Positive feedback* is characterized as a leader expressing appreciation for the athletes and complimenting them for their contribution and performance. *Social support* is characterized by a leader satisfying the interpersonal needs of the athletes.

**Differentiated Transformational Leadership Inventory.** The DTLI was originally designed to assess leaders from military populations (Hardy et al., 2010) and has been used successfully to examine athlete leaders (e.g., Duguay, Loughead, & Munroe-Chandler, 2016). The DTLI measures six transformational and one transactional leadership behaviors. *Individual consideration* measures behaviors in which a leader shows respect for the followers, and concern for their personal feelings and needs. *Inspirational motivation* measures behaviors in which the leader is developing, articulating, and inspiring his/her followers with a vision. *Intellectual stimulation* measures behavior in which the leader challenges followers to question the assumptions and perspectives of others and to re-think how work can be performed. *Fostering*
acceptance of group goals measures behaviors in which the leader encourages followers to cooperate to achieve a common goal. High performance expectations measures behaviors in which the leader expresses expectations for excellence, quality, and/or high performance from his/her followers. Appropriate role modelling measures behaviors in which the leader sets examples that align with appropriate values for the followers to emulate. The transactional dimension of contingent reward measures behaviors of a leader providing positive reinforcement following appropriate follower behavior (Callow et al., 2009).

Research on Athlete Leadership

Identifying athlete leaders in sport is a topic of interest for coaches and members of sport organizations so that their team can perform more effectively (Fransen et al., 2017). Typically, athlete leaders are harder to identify than a coach because of the similarities they share with their nonleader teammates (i.e., similar appearance). This section will examine the behaviors, roles, traits (i.e., more stable personality characteristics), and attributes (i.e., personality characteristics that may change over time of coaches and athlete leaders) associated with effective athlete leadership.

Behaviors. Sport psychology researchers have commonly characterized athlete leaders by the behaviors they engage in (see Cotterill & Fransen, 2016 for a review), largely in part because these characteristics are readily recognizable. While coaches and athlete leaders provide team members with leadership behaviors, these behaviors vary depending on the source of leadership. For instance, athletes perceive their coaches to exhibit more autocratic and training and instruction compared to their athlete leader counterparts, whereas athlete leaders are perceived to exhibit more social support, positive feedback, and democratic decision making than their coaches (Loughead & Hardy, 2005). Moreover, training and instruction, social
support, positive feedback, and democratic behavior were positively related to individual-level outcomes (e.g., athlete satisfaction; Paradis & Loughead, 2012), while training and instruction, social support, positive feedback, and democratic behavior were positively related to team-level outcomes (e.g., cohesion; Vincer & Loughead, 2010). Autocratic behaviors have been reported to negatively relate to cohesion (Vincer & Loughead, 2010). Transformational leadership behaviors of fostering acceptance of group goals, individual consideration, and high performance expectations have been shown to positively relate to task cohesion, and fostering acceptance of group goals has been shown to positively relate to social cohesion (Callow et al., 2009).

**Roles.** Athlete leaders perform many leadership roles within their team which typically have been operationalized as task, social, external, and motivational. Task leaders are individuals who are leading their team on the field to help the group achieve its task goals (Bales & Slater, 1955, Loughead et al., 2006; Fransen, Vanbeselaere, De Cuyper, Vande Broek, & Boen, 2014). The leaders occupying this role will give tactical advice to teammates. Social leaders are individuals who promote positive team relationships and help to create and maintain a positive team atmosphere (Bales & Slater, 1955, Loughead et al., 2006; Fransen et al., 2014). External leaders represent the team’s interests when communicating with an external source or environment (e.g., media and sponsors; Loughead et al., 2006). Motivational leaders are on-field motivators who are responsible for steering emotions on the field in the right direction (Fransen et al., 2014). Research has demonstrated that both formal and informal leaders can occupy these roles (e.g., Fransen et al., 2014; Loughead et al., 2006). Athletes who occupy task leadership roles are more likely to be identified by coaches as effective leaders (Bucci, Bloom, & Loughead, 2012; Moran & Weiss, 2006). Moreover, social roles are positively associated with teammate sportsmanship and cohesion (Gould, Hodge, Peterson, & Petlichkoff, 1987) and
motivational roles are positively associated with being an effective communicator (Fransen et al., 2014).

Attributes. Attributes have been identified as important indicators of effective athlete leadership by coaches (Bucci et al., 2012) and athletes (Loughead et al., 2006). The main leadership attributes associated to athlete leaders compared to their non-leader counterparts have been age (i.e., leaders are more likely to be older athletes; Bucci et al., 2012), starting status (i.e., leaders are more likely to be starters), and tenure (i.e., leaders are more likely to be veteran members of a team; Loughead et al., 2006).

Traits. Most literature examining athlete leader traits has explored different factors that coaches and athletes consider when selecting an athlete leader (e.g., Bucci et al., 2012). Coaches perceive effective athlete leaders as those who exhibit ambition, dominance, competitiveness, honesty, generosity, and responsibility (Bucci et al., 2012; Klonsky, 1991). Moreover, coaches and athletes note the importance of independence, self-confidence, having an understanding of others, and maintaining relationships with others (Moran & Weiss, 2006). Lastly, feeling close to an athlete leader has been reported to be the strongest determinant of task, social, external, motivational, and overall leadership effectiveness (Fransen et al., 2015).

Cohesion

The following section of the literature review will begin by defining cohesion. A conceptual framework will then be outlined to describe how cohesion is assessed followed by a description of the measurement tool to assess cohesion in sport. Next, a review of the literature on cohesion in sport teams will be presented following Carron’s (1982) model that explains inputs, throughputs, and outputs of cohesive teams.
**Definition**

Cohesion has been described as *the* most important small group variable in team sport (Lott & Lott, 1965; Spink, 2016). Initially, cohesion was described as uniformity in thought and behavior (Festinger, 1950) before being defined as the forces that keep members within a group (Festinger, Schachter, & Back, 1963). However, these definitions limited the scope of cohesion by only explaining it as a unidimensional construct in which individuals were attracted to their group. Carron, Widmeyer, and Brawley (1985) argued that cohesion was a multidimensional construct. One of the first definitions to view cohesion as a multidimensional construct viewed it as “a dynamic process which is reflected in the tendency for a group to stick together and remain united in pursuit of its goals and objectives” (Carron, 1982, p. 124). This definition was later refined by Carron, Brawley, and Widmeyer (1998) to describe cohesion as “the dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (p. 213). This updated definition highlighted the fact that cohesion contains an affective component.

**Conceptual Framework and Measurement of Cohesion**

The Carron et al. (1998) definition highlights the multidimensional nature of cohesion. The multidimensional nature of cohesion is also expressed in a conceptual model of cohesion advanced by Carron and colleagues (1985), wherein cohesion is portrayed based on individual and group aspects which are further divided into task and social aspects (see Figure 10). The individual aspect of cohesion describes an individual’s feelings or motives to remain in a group and act towards common goals, whereas the group aspect describes an individual’s perceptions of his or her group as a whole. In other words, cohesion can be seen as how an individual is attracted to the group while also considering how the individual perceives the group as a
collective. The task aspect of cohesion is described as the orientation toward achieving the team’s goals and objectives, whereas the social aspect is described as the orientation toward developing and maintaining social relationships within the team. Consequently, there are four dimensions of cohesion: (a) Group Integration-Task (GI-T; i.e., how athletes perceive the group to be unified on task objectives), (b) Group Integration-Social (GI-S; i.e., how athletes perceive the group to be unified on social objectives), (c) Individual Attractions to the Group-Task (ATG-T; i.e., how athletes are personally attracted to the task components of the group), and (d) Individual Attractions to the Group-Social (ATG-S; i.e., how athletes are personally attracted to the social components of the group).

This conceptual model was used to guide the development of the Group Environment Questionnaire (GEQ; Carron et al., 1985). The GEQ is an 18-item inventory that assesses cohesion in sport teams. GI-T contains five items (e.g., “If members of our team have problems in practice, everyone wants to help them so we can get back together again.”), GI-S contains four items (e.g., “Our team would like to spend time together in the offseason.”), ATG-T contains four items (e.g., “I’m not happy with the amount of playing time I get.”), and ATG-S contains five items (e.g., “Some of my best friends are on this team.”). Twelve of the 18 items in the GEQ are negatively worded. The internal reliability is supported by Cronbach’s alpha scores of each dimension as the following: GI-T = .72, GI-S = .70, ATG-T = .80, and ATG-S = .76 (Senécal, Loughead, & Bloom, 2008). Further, concurrent, predictive, and construct validity have been reported by Brawley, Carron, and Widmeyer (1987). Due to low to moderate internal reliability values, a positively worded version of the GEQ was advanced by Eys, Carron, Bray, and Brawley (2007). Spector (1992) suggested that the use of negations (e.g., “I am not happy with the amount of playing time I get”) leads to respondents misreading the item and/or becoming
confused in choosing their level of agreement with the statements. Therefore, the original GEQ (Carron et al., 1985) was modified to use only positively worded items as a means of reducing confusion and improving the internal reliability of the questionnaire (Eys et al., 2007). The internal reliability of the positively worded GEQ is supported by the following Cronbach’s alpha values: GI-T = .84, GI-S = .86, ATG-T = .83, and ATG-S = .74 (Eys et al., 2007).

**Framework for the Study of Cohesion in Sport**

Carron (1982) advanced a linear model of cohesion for the study of sport teams that describes the inputs, throughputs, and outputs as they relate to cohesion (see Figure 11). Specifically, the inputs are the antecedents that affect the throughput of cohesion that, in turn, impact the outputs or outcomes related to team effectiveness. The inputs or antecedents of the model fall into four categories: environmental, personal, leadership, and team. Within the model, these factors are portrayed in order from general to more specific in terms of influencing the throughput of cohesion.

**Inputs.** Environmental factors are the most general antecedent of cohesion. These factors include organizational orientation (i.e., attributes such as goals, age, maturity, and sex of the team) and contractual responsibility (i.e., eligibility and/or transfer rules, geographical restrictions, and contractual obligations). Literature has supported many orientation factors such as gender (Cronin, Arthur, Hardy, & Callow, 2015; Eys et al., 2015), age and maturity (Eys, Loughead, Bray, & Carron, 2009), and team goals (Bruner, Eys, Wilson, & Côté, 2014) as significant correlates with cohesion. However, research on contractual responsibility has yet to be examined in relation to cohesion.

Personal factors include individual orientation (i.e., how an individual is motivated within the group), satisfaction, and differences. Orientation has been shown to positively relate to
cohesion in individuals who are task-motivated (i.e., motivated by improving skill and effort), and negatively related for individuals who are ego-motivated (i.e., motivated by being better than others; García-Calvo et al., 2014; McLaren, Newland, Eys, & Newton, 2017). Individual satisfaction has been shown to positively associate directly to cohesion (Onağ & Tepeci, 2014), while also having an indirect impact on cohesion by influencing team factors such as organizational citizenship behaviors (Aoyagi, Cox, & McGuire, 2008). Individual differences such as ethnic diversity and gender (Filho, Dobersek, Gershoren Becker, & Tenenbaum, 2014; Shapcott, Carron, Burke, Bradshaw, & Estabrooks, 2006) have been positively associated with cohesion, despite claims that greater differences are likely to negatively impact cohesion due to clique formation (Eitzen, 1975; Eys et al., 2015).

Coaches and athletes have been examined based on their leadership style, behaviors, and relationships with their followers as it related to their followers’ perceptions of cohesion. For instance, transformational leadership positively relates to task cohesion, with all behaviors measured in the DTLI (Callow et al., 2009) positively correlating with task cohesion (Cronin et al., 2015). Additionally, LSS (Chelladurai & Saleh, 1980) dimensions of training and instruction, positive feedback, social support, and democratic behavior have been positively associated with cohesion, while autocratic behavior is negatively associated with cohesion (Aoyagi et al., 2008, Jowett & Chaundy, 2004; Vincer & Loughead, 2010). Moreover, athlete leadership external, social, task, and motivational roles are all positively associated with all dimensions of cohesion (Loughead et al., 2016). Literature on coach leadership has demonstrated that behaviors such as those that encourage a task-motivational climate (De Backer, Boen, De Cuyper, Høigaard, & Vande Broek, 2015) and display immediacy behaviors (Turman, 2008) are more likely to have
athletes who are more cohesiveness with their team. Furthermore, coach-athlete relationship strength is positively predictive of task and social cohesion (Jowett & Chaundy, 2004).

The most specific antecedents are those that are characterized as team factors. These factors include group orientation (i.e., degree of task and social behavior present), norm of productivity, team ability, nature of task, desired group success, and team stability (i.e., duration together). Group orientation behaviors such as high levels of communication and prosocial behaviors have been reported to positively impact task cohesion (Al-Yaaribi & Kavussanu, 2017; McLaren & Spink, 2018), while jealousy, ego-motivated climates, and antisocial behaviors negatively impact task and social cohesion (Al-Yaaribi & Kavussanu, 2017; García-Calvo et al., 2014; Kamphoff, Gill, & Huddleston, 2005; McLaren et al., 2017). Literature examining norms of productivity and team ability reveal mixed findings. For example, literature examining the performance-cohesion relationship has reported that youth sport performance is a positive predictor of cohesion (Benson, Šiška, Eys, Priklerova, & Slepička, 2016), and higher-level sports (e.g., professional teams) might not need cohesion as much as younger teams (Filho et al., 2014). Other authors (e.g., Carron, Colman, Wheeler, & Stevens, 2002) have examined the performance-cohesion relationship and found that ability or skill level do not moderate the relationship. When task is operationalized as sport type, research has revealed that the task moderates the performance relationship (Carron, Bray, & Eys, 2002; Carron, Colman et al., 2002), and tasks in which athletes report higher levels of self-efficacy are associated with higher levels of cohesion (Leo-Marcos, Sánchez-Miguel, Sánchez-Oliva, & García-Calvo, 2010).

Desired group success has been measured by levels of team sacrifice which positively correlates with levels of team cohesion (Cronin et al., 2015), and specifically with group integration cohesion dimensions (Prapavessis & Carron, 1997). The final factor, team stability,
has been supported by literature as an influential component in cohesion development because cohesion takes time to develop (Eys et al., 2015). Athletes have reported that efforts to increase teammate familiarity through spending more time together will enhance cohesion (Eys et al., 2015).

**Throughputs.** The throughputs of the model include task and social cohesion. As indicated in Carron and colleagues’ (1985) conceptualization of cohesion, cohesion is measured according to individual attractions to the group and group integration perspectives. For adults in sport, it is recommended that the positively worded version of the GEQ (Carron et al., 1985; Eys et al., 2007) be used to quantitatively assess cohesion, and the YSEQ for youth in sport (Eys et al., 2009).

**Outputs.** The outputs within the framework describe various team- and individual-level consequences and outcomes of cohesion in team sport. Many of the variables described in previous sections have a circular relationship with cohesion. Team stability, for example, is a variable that impacts cohesion and is impacted by cohesion. Specifically, task and social cohesion has been reported to predict individuals’ intention to return and their choice to return to specific teams in subsequent seasons (Onağ & Tepeci, 2014; Spink, McLaren, & Ulvick, 2017; Spink, Wilson, & Odnokon, 2010).

The performance-cohesion relationship is supported by literature to be circular in nature, as well (see Carron, Colman et al., 2002 and Filho et al., 2014 for meta-analyses). Literature assessing performance as it relates to cohesion has largely used absolute performance measurements (e.g., season win-loss record) as opposed to relative performance measurements (e.g., barely losing to a team that was projected to win by a large margin). Operationalizing performance based on absolute outcomes has led to mixed findings, as some authors report
cohesion as a positive predictor of performance (Filho et al., 2014), and others do not (Benson et al., 2016). It is important to note that the performance-cohesion relationship varies depending on which cohesion dimension is measured, and the relationship is moderated by several variables (e.g., gender, type of measure).

At the individual level, Carron (1982) suggested that cohesion would impact absolute and relative performance effectiveness, behavioral consequences, and satisfaction. Researchers who have examined individual performance as an outcome of cohesion have found that individual absolute performance is partially mediated by levels of cohesion within the team for high school basketball players (Bray & Whaley, 2001), with similar findings being reported at the collegiate basketball level (Bird, Foster, & Maruyama, 1980). In regard to relative performance outcomes, individuals who report high task cohesion are more likely to have high levels of collective efficacy and self-efficacy (Leo-Marcos, González-Ponce, Sánchez-Miguel, Ivarsson, & García-Calvo, 2015; Leo-Marcos et al., 2010). Additionally, higher attraction to the group (i.e., ATG-T and ATG-S) is a predictor for positive coping demands for competition (Wolf, Eys, Sadler, & Kleinert, 2015).

Behavior consequences of cohesion include greater affective commitment (Ha & Ha, 2015), lower levels of social loafing (De Backer et al., 2015), stronger conformity to team norms (Prapavessis & Carron, 1997), and more developed skills associated with positive youth development (Bruner et al., 2014). Satisfaction outcomes of cohesion have been reported in several settings such as runners and youth athletes who report high levels of task cohesion express greater enjoyment (Carnes & Mahoney, 2016) and less negative experiences (Bruner et al., 2014), respectively. Furthermore, more socially cohesive teams are less likely to report conflict and adversity (Eys et al., 2015).
Athlete Satisfaction

In the following section of the literature review, athlete satisfaction will be defined. This will be followed by a description of the measurement tool used to assess athlete satisfaction. The section will conclude with a review of the literature.

Conceptual Framework and Definition of Athlete Satisfaction

The importance of athlete satisfaction has been reflected with its inclusion in various theoretical models such as the Multidimensional Model of Leadership (Chelladurai, 1993) and Framework for the Study of Cohesion in Sport (Carron, 1982). In both of these models, athlete satisfaction is an outcome variable, thereby hypothesizing that athlete satisfaction is an important outcome. Chelladurai and Riemer (1997) defined athlete satisfaction as “a positive affective state resulting from a complex evaluation of the structures, processes, and outcomes associated with the athletic experience” (p. 135). From this definition, athlete satisfaction is operationalized as being composed of processes and outcomes that effect the individual or team (Chelladurai & Riemer, 1994). Perceptions of process and outcome athlete satisfaction are further categorized in as social or task in nature, thereby explaining athlete satisfaction as a three-dimensional construct (individual vs. team, processes vs. outcomes, and task vs. social; Chelladurai & Riemer, 1997).

Measurement

Given the importance of athlete satisfaction as an outcome, Riemer and Chelladurai (1998) developed a questionnaire to measure athlete satisfaction entitled the Athlete Satisfaction Questionnaire (ASQ). The three-dimensional nature of athlete satisfaction was used as a guide in the development of the 56-item inventory. The ASQ measures 15 dimensions of athlete satisfaction. All items are preceded with the stem “I am satisfied with…” and scored on a 7-point Likert scale ranging from 1 (not at all satisfied) to 7 (extremely satisfied). The inventory
comprises of the following 15 dimensions: individual performance, team performance, ability utilization, strategy, training and instruction, ethics, personal treatment, personal dedication, team task contribution, team social contribution, team integration, external agents, medical personnel, budget, and academic support services.

*Individual performance* assesses the degree to which the athlete is satisfied with his/her task performance. *Team performance* assesses the degree to which the athlete is satisfied with his/her team’s task performance. *Ability utilization* assesses the degree to which the athlete is satisfied with his/her abilities or talents being utilized by the coach in performance settings. *Strategy* assesses the degree to which the athlete is satisfied with the coach’s tactics and strategies. *Training and instruction* assesses the degree to which an athlete is satisfied with the coach’s instruction and training behaviors. *Ethics* assesses the degree to which the athlete is satisfied with his/her teammates’ ethical stances. *Personal treatment* assesses the degree to which the athlete is satisfied with his/her coach’s behaviors that directly affect the individual, and indirectly affect team development. *Personal dedication* assesses the degree to which the athlete is satisfied with his/her own contribution to the team. *Team task contribution* assesses the degree to which the athlete is satisfied with the actions of teammates that serve as a substitute for leadership. *Team social contribution* assesses the degree to which the athlete is satisfied with how teammates contribute to the athlete as a person. *Team integration* assesses the degree to which the athlete is satisfied with team members’ contributions and coordination of their efforts toward the team’s task. *External agents* assesses the degree to which the athlete is satisfied with outsiders (e.g., fans, media) that may contribute to the team. *Medical personnel* assesses the degree to which the athlete is satisfied with the team’s medical personnel. *Budget* assesses the degree to which the athlete is satisfied with the amount of money provided by the athletic
department to the team. *Academic support services* assesses the degree to which the athlete is satisfied with the academic support services provided to the athletes on the team. The ASQ has been shown to demonstrate adequate content, convergent, criterion, and factorial validity and test-retest reliability (Riemer & Chelladurai, 1998). Moreover, all 15 dimensions demonstrate adequate internal consistency values with Cronbach’s alpha values between .79 and .92 (Riemer & Chelladurai, 1998).

**Research Using the ASQ**

The following section will highlight research that has measured athlete satisfaction using the ASQ (Riemer & Chelladurai, 1998). In particular, a review of literature examining leadership, cohesion, and other group dynamics variables will be highlighted.

**Leadership.** From the early beginnings of athlete satisfaction research, leadership has been a focal point of interest (e.g., Chelladurai, 1984). In relation to research that has operationalized leadership using the LSS (Chelladurai & Saleh, 1980), athlete satisfaction has been positively correlated with three dimensions of coaching leadership behaviors: training and instruction, positive feedback, and social support (Ignacio III, Moncalbo-Ignacio, & Cardenas, 2017). Paradis and Loughead (2012) examined athlete leadership behaviors in association with eight satisfaction dimensions (i.e., individual performance, team performance, personal treatment, training and instruction, team task contribution, team social contribution, team integration, and personal dedication) from the ASQ (Riemer & Chelladurai, 1998). All eight of the dimensions were reported to positively associate with athlete leadership behaviors of positive feedback, training and instruction, social support, and democratic behavior.

The coach-athlete relationship has also been examined in relation to athlete satisfaction. For instance, perceptions of coach-athlete interdependence (i.e., level of agreement on how
committed, complementary, and close each other are to one another) was found to be positively associated with satisfaction with individual performance, personal treatment, and training and instruction (Jowett & Nezlek, 2012). As demonstrated by literature examining athlete satisfaction as it relates to leader behaviors, leaders have a strong influence on the sport experience for athletes. Riemer and Chelladurai (1998) suggest that athletes may feel more or less satisfied based on comparisons between their own treatment and the treatment that their teammates receive from their leaders. Therefore, it is reasonable to assume that athlete leaders should treat their teammates fairly in order to create the most satisfying sport environment.

**Cohesion.** Research examining the relationship between cohesion and athlete satisfaction has shown that the nature of this relationship is positive and circular in which higher levels of satisfaction promote stronger perceptions of cohesion which, in turn, promotes higher levels of satisfaction (Aoyagi et al., 2008). Additionally, task cohesion has been reported to mediate the relationship between athlete leadership behaviors and task-related satisfaction outcomes (i.e., team performance), whereas social cohesion mediated the relationship between athlete leadership behaviors and social-related satisfaction outcomes (e.g., personal treatment; Paradis & Loughead, 2012).

**Other group dynamics variables.** Athlete satisfaction has been shown to correlate with several group dynamics variables. For example, all 15 dimensions of the ASQ (Riemer & Chelladurai, 1998) were examined in association to communication (Sullivan & Gee, 2007), where communication was operationalized as being composed of acceptance, distinctiveness, negative conflict, and positive conflict. The results showed that the communication dimension of negative conflict was negatively related to all athlete satisfaction dimensions except for budget and academic support, while the communication dimension of acceptance was positively
associated with all athlete satisfaction except for training and instruction, budget, academic support, medical personnel, and external agents. Research has also shown that athlete satisfaction is positively associated with athlete identity (Burns, Jasinski, Dunn, & Fletcher, 2012). Specifically, social identity and negative affectivity dimensions of athlete identity were positively related to overall satisfaction and the exclusivity facet of athletic identity was negatively related to overall satisfaction. Furthermore, Tamminen, Sabiston, and Crocker (2019) examined intercollegiate athletes’ perceptions of social support and competition appraisals in relation to the individual performance facet of athlete satisfaction. The results showed that the social support dimension of esteem support and competition appraisals were positively associated with individual performance satisfaction. The relationship between competition appraisals and individual performance satisfaction was moderated by organizational stressors, indicating that the team environment can impact levels of athlete satisfaction.

**Fairness**

This section of the literature review will begin by defining the construct of fairness. Fairness will then be explained using the Fairness Heuristic Theory (Lind, 2001). Next, an examination of the current measurement tool used to assess fairness behaviors will be detailed. To conclude this section, a review of literature examining fairness in group settings, followed by literature examining fairness in the sport domain will be presented.

**Definition of Fairness**

Fairness has been examined in sport from the perspective of fair play (Boixados, Torregrosa, & Valiente, 2004), fair officiating (Anderson & Pierce, 2009), and more recently, perceptions of coach fairness (De Backer et al., 2015). The construct of fairness in sport originated from organizational psychology. Early literature on fairness from organizational
psychology viewed fairness from a two-factor procedural and distributive model. *Procedural fairness* is demonstrated when there is justice in the processes that lead to the outcomes (e.g., the athlete leader abides by team rules; Leventhal, 1980). *Distributive fairness* is defined as appropriate proportionality between an individual’s contribution and the allocations of the outcome’s costs and rewards received by the individual (e.g., the athlete leader congratulates a teammate after a strong effort in a game; Deutsch, 1975). A third factor was added pertaining to the personal involvement with the leader termed *interactional fairness* (Bies & Moag, 1986).

Despite the majority of literature examining fairness from either this two- or three-factor perspective, fairness has been supported to be strongest when examined as a four-factor model (Colquitt, 2001). The four factors consist of procedural fairness, distributive fairness, and two dimensions of interactional fairness (informational and interpersonal). *Informational fairness* is demonstrated when decisions are explained adequately (e.g., the athlete leader tells a teammate what to do to improve and make it into the starting lineup), and information is shared with the group in a candid and honest manner, and *interpersonal fairness* is demonstrated when individuals are treated according to the accepted standards of the group (e.g., the athlete leader encourages their teammates to do well while not in the game; Greenberg, 1993).

**Theories of Fairness**

As a new area of research in sport, the construct of fairness in sport has been primarily influenced by the Fairness Heuristic Theory (Lind, 2001). This theory, derived from organizational psychology, helps to explain the aspects that contribute to an individual’s perception of fair treatment and how one’s perception of fair treatment can lead to various outcomes. The theory is based on the four dimensions of fairness (i.e., distributive, procedural, informational, interpersonal), while including elements from Group Value Theory (i.e.,...
individuals develop procedural and distributive justice perceptions which impact their willingness to act in their own self-interests or in the interests of the group; Lind & Tyler, 1988) and the Relational Model of Authority (i.e., individuals develop procedural justice perceptions of their leaders or individuals of authority which impacts their willingness to comply to the leaders’ requests; Tyler & Lind, 1992).

As shown in the model of the Fairness Heuristic Theory (see Figure 12; Lind & Tyler, 2001), an individual creates a judgment on the “general fairness” of a person, group, or situation by consolidating experiences of procedural fairness, distributive fairness, informational fairness, and interpersonal fairness. This process is known as the judgment phase. The degree of perceived general fairness will determine the manner in which the individual involves himself/herself with the other person or group which is demonstrated in the use phase. The model proposes that individuals use perceptions of fairness as a way to determine whether to sacrifice personal desires for the needs of the organization or team. By doing so, a person who perceives fair treatment will respond cooperatively (e.g., pro-social behavior), while a person who perceives unfair treatment will act in favor of his/her self-interests (e.g., less effort).

At the basis of the Fairness Heuristic Theory is what Lind (2001) terms the “fundamental social dilemma”. The fundamental social dilemma occurs frequently within social and organizational settings in which an individual experiences tension in the decision to act on individual interests or social impulses. Lind describes two aspects of the fundamental social dilemma. The first aspect is the individual’s concern with the material side of choosing to invest time, resources, and effort into a social or organizational relationship. Within this aspect, the individual must decide whether the other person or organization will give rewards or possibly exploit the individual for his/her time, resources, and effort. This can be a difficult decision for
the individual because they must rely on the actions and choices of others to determine the outcomes of the relationship. The second aspect is the individual's concern with linking his/her identity with others or an organization. This aspect involves the risk of rejection, thereby threatening the identity of the individual and diminishing this aspect of himself/herself. Exploitation and identity are often linked together in that individuals are more likely to make investments for the greater benefit of the group if the individual shares a social identity with the group members, which suggests that identity can moderate concerns of exploitation (Brewer & Kramer, 1986).

**Measurement of Fairness**

In an effort to create a measure to examine fairness in various settings, Colquitt (2001) developed a four-factor 20-item fairness questionnaire. Colquitt (2001) argued that many previous studies utilized measures that did not examine the full scope of fairness (i.e., did not measure all four factors) and/or utilized measures with unclear, overlapping subscales (e.g., an item simultaneously measuring procedural fairness and distributive fairness). Moreover, Colquitt’s (2001) fairness inventory uses indirect items to assess fairness (i.e., items that do not directly ask how fair something is, but rather ask about fairness criteria) following the suggestion made by Lind and Tyler (1988) that indirect items are more valid than direct items for assessing fairness perceptions.

Colquitt (2001) drew upon seminal works in fairness literature to construct a versatile four-factor measure of fairness. Distributive fairness and procedural fairness items are dependent on an outcome which is chosen by the researcher to refer to an outcome in which the participants experience in their appropriate setting (e.g., an outcome of playing time for a sample of athletes). All interpersonal fairness and informational fairness items are dependent on the authority figure
of the team (i.e., the athlete leader). All items are scored on a 5-point Likert scale with anchors at 1 (To a small extent) and 5 (To a large extent).

Procedural fairness contains seven items that begin with the stem “The following items refer to the procedures used by your athlete leaders to achieve outcomes. To what extent…” Procedural Fairness items were created from Leventhal’s rules (Leventhal, 1980) mentioned above and Thibaut and Walker’s (1975) criteria for procedural fairness. Thibaut and Walker’s (1975) criteria included as process control (i.e., one’s ability to voice his/her views and arguments during a procedure) and decision control (i.e., one’s ability to influence the outcome itself). A sample item of process control is “Have you been able to express your views and feelings during those procedures?” A sample item of decision control is “Have you had influence over the outcomes arrived at by those procedures?”).

Distributive fairness contains four items that begin with the stem “The following items refer to situations in which you were rewarded or disciplined by your athlete leaders during or after a practice or game. To what extent…” Distributive fairness items were developed in accordance with the equity rule, which is defined as “a single normative rule which dictates that rewards and resources be distributed in accordance with recipients’ contributions” (Leventhal, 1976, p. 94). A sample item is “Do your rewards or punishments reflect the effort you have put into your work?”

Interpersonal fairness contains four items that begin with the stem “The following items refer to your athlete leaders. To what extent…” All interactional fairness items were developed in accordance with Bies and Moag’s (1986) criteria for interactional fairness. Interpersonal fairness items were based on the criteria of respect (i.e., mutual respect between the authority
figure and followers) and propriety (i.e., authority figure acts with morals and politeness). A sample item is “Has (he/she) treated you in a polite manner?”

Informational fairness contains five items that begin with the stem “The following items refer to your athlete leaders. To what extent…” All informational fairness items were based on the criteria of justification (i.e., explaining the basis for decisions) and truthfulness (i.e., candid and honest authority figure). A sample item is “Has (he/she) communicated details in a timely manner?”

**Research on Fairness**

Literature examining perceptions of sport leader fairness is in its infancy. Jordan, Gillentine, and Hunt (2004) were the first researchers to highlight the importance of examining fairness in a team sport setting. They argue that fairness is applicable to the sport domain because of the similarities between organizations and team sports (Bridges & Roquemore, 2000). Jordan and colleagues (2004) suggest four strategies for leaders to implement fairness with their sport team: providing a voice, demonstrating consideration, Leventhal’s Rules (Leventhal, 1980) and providing adequate information. *Providing a voice* involves the leaders giving athletes decision influence and/or decision control. Athletes who feel as though their leaders are listening to them are likely to experience more satisfaction because the athlete had a say in the process (Jordan et al., 2004). Leaders *demonstrating consideration* for all team members in and out of the sport context includes treating everyone with dignity and respect. When leaders demonstrate these types of behaviors, the athletes are likely to follow their lead and show consideration for each other. Leaders who follow *Leventhal’s Rules* (Leventhal, 1980) abide by the following six conditions: (1) consistently apply rules and procedures, (2) act without bias, (3) adequately inform team members, (4) admit wrongdoings and make appropriate corrections, (5) consider all
team members when making decisions, and (6) adhere to team ethics. Athletes who have leaders following each of these rules can develop trust in their leaders. Providing adequate information to the team relates to sharing information regarding decisions. Jordan and colleagues (2004) recommend communicating openly and in person in order to eliminate any potential misunderstandings.

There are several potential outcomes of fair and unfair treatment in sport teams. On one hand, if athletes perceive their leaders to be unfair, they are more likely to withhold effort and show decreases in communication (Jordan et al., 2004). Additionally, the team is likely to exhibit fragmentation and group members may withdraw from the team (Jordan et al., 2004). On the other hand, potential outcomes of fair treatment include greater athlete satisfaction, commitment, effort, team unity, and willingness to help teammates (Jordan et al., 2004).

After Jordan and colleagues (2004) highlighted the importance of fairness for sport teams, research examined some of the correlates related to leader fairness in sport. Whisenant and Jordan (2008) found that youth athletes’ perceptions of coach fairness positively correlate with their decisions to continue participating in sport. Moreover, researchers have found that athlete perceptions of coach fairness impact their satisfaction levels (Nikbin, Sean, Albooyeh, & Foroughi, 2014), commitment to their teams (Ben-Ari, Tsur, & Har-Even, 2006; Ha & Ha, 2015), trust in their coaches, and effort given (Nikbin, Hyun, Iranmanesh, & Foroughi, 2014).

De Backer and colleagues (2011, 2015) examined the effects of coach fairness on the team and reported that fairness perceptions positively correlate with cohesion (task and social), team identification, and mastery motivational climate. Additionally, performance motivational climate and social loafing were reported to negatively correlate with perceptions of coach fairness (De Backer et al., 2015). These research findings highlight the importance of fairness in
relation to athletes’ desire to continue playing sport, interact positively with teammates and coaches, increase motivation, and continue giving effort.


Figure 6. A Full Range Model for Leadership Optimal Leadership Profile.

Adapted from:

Figure 7. Multidimensional Model of Leadership.

Adapted from:
Figure 8. Integrated Model of Leadership in Physical Activity Settings.

Adapted from:

Figure 9. Athlete Leader-Modified Integrated Model of Leadership in Physical Activity Settings.

Adapted from:

**Figure 10.** Conceptual Framework for Group Cohesion in Sport.

Adapted from:

Figure 11. Framework for the Study of Cohesion in Sport.

Adapted from:

Figure 12. Fairness Heuristic Model.

Adapted from:


APPENDICES

APPENDIX A

Athlete Demographics

Please tell us a little about yourself by answering the questions below.

Age: ____ yrs.

Gender: ________________

What year are you in university?
1st year  2nd year  3rd year  4th year  5th year Graduate Student

What university sport do you currently participate in? ______________________

How many years have you been playing the sport written above? ____ yrs.

How many years have you played with this team (include this season)?
1st  2nd  3rd  4th  5th

Do you normally start in games? ____ Yes   ____ No

This section deals with the leadership you provide. Please read the descriptions below and select one ONLY if it applies to you. If it does not apply to you, please proceed to the next page.

Formal Leader   □

(An athlete that is selected by the team or coach to be in a leadership position. Such as captain, co-captain, or assistant coach)

If you have selected this option, please circle the option below that applies to your formal leadership position.

Captain   Assistant Captain

Informal Leader   □

(Established through interactions with team members, not formally appointed by coach or team selection)
APPENDIX B

Leadership Scale for Sports
(LSS; Chelladurai & Saleh, 1980)

This questionnaire examines the behaviors of your team's athlete leader(s). There are no wrong or right answers, so please give your immediate reaction. Some of the questions may seem repetitive, but please answer ALL questions. Your personal responses will be kept in strictest confidence.

Using the following scale, please circle a number from 1 to 5 to indicate your level of agreement with each of the statements regarding your athlete leaders.

<table>
<thead>
<tr>
<th></th>
<th>1 Never</th>
<th>2 Seldom</th>
<th>3 Occasionally</th>
<th>4 Often</th>
<th>5 Always</th>
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</table>

My athlete leader(s)...

1. See to it that every team member is working to his/her capacity.  1 2 3 4 5
2. Explain to team members the techniques and tactics of the sport.  1 2 3 4 5
3. Pay attention to correcting team members’ mistakes.  1 2 3 4 5
4. Make sure that team members role on the team are understood.  1 2 3 4 5
5. Instruct team members individually in the skills of the sport.  1 2 3 4 5
6. Figure ahead on what should be done.  1 2 3 4 5
7. Explain to team members what they should and what they should not do.  1 2 3 4 5
8. Expect team members to carry out their assignment to the last detail.  1 2 3 4 5
9. Point out team members’ strengths and weaknesses.  1 2 3 4 5
10. Give specific instructions to team members as to what they should do in every situation.  1 2 3 4 5
11. See to it that the efforts are coordinated.  1 2 3 4 5
12. Explain how team members contributions fits into the total picture.  1 2 3 4 5
13. Specify in detail what is expected of team members.  1 2 3 4 5
14. Ask for the opinion of team members on strategies for specific competitions.  1 2 3 4 5
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>15. Get team members approval on important matters before going ahead.</td>
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<td>16. Let fellow team members share in decision making.</td>
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<td>17. Encourage team members to make suggestions for ways of conducting practices.</td>
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<td>18. Let team members share in discussion about goals for the team as a whole (e.g., the number of wins over the following month).</td>
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<td>19. Let team members try their own way even if they make mistakes.</td>
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<td>20. Ask for the opinion of team members on important team matters.</td>
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<td>21. Let team members work at their own speed.</td>
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<td>22. Let team members decide on the plays to be used in a game.</td>
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<td>23. Work relatively independent of other team members.</td>
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<tr>
<td>24. Not explain his/her/their action(s).</td>
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<td>25. Refuse to compromise a point.</td>
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<td>27. Speak in a manner not to be questioned.</td>
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<td>28. Help team members with their personal problems.</td>
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<td>29. Help team members settle their conflicts.</td>
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<td>30. Look out for the personal welfare of team members.</td>
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<tr>
<td>31. Do favors for team members.</td>
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<td>32. Express care for other team members.</td>
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<td>33. Encourage team members to confide in him/her/Them.</td>
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<tr>
<td>34. Encourage close and informal relations with team members.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1 Never</td>
<td>2 Seldom</td>
<td>3 Occasionally</td>
<td>4 Often</td>
<td>5 Always</td>
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<tr>
<td>35.</td>
<td>Invite team members to his/her/their home(s).</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>36.</td>
<td>Compliment a team member for his/her performance in front of others.</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>37.</td>
<td>Tell a team member when he/she does a particularly good job.</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>38.</td>
<td>See that a team member is rewarded for a good performance.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>39.</td>
<td>Express appreciation when a team member performs well.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>40.</td>
<td>Give credit when credit is due.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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</tbody>
</table>
This questionnaire examines the behaviors of your team's athlete leader(s). There are no wrong or right answers, so please give your immediate reaction. Some of the questions may seem repetitive, but please answer ALL questions. Your personal responses will be kept in strictest confidence.

Using the following scale, please circle a number from 1 to 5 to indicate your level of agreement with each statement regarding your athlete leaders.

<table>
<thead>
<tr>
<th></th>
<th>1 Not at all</th>
<th>2 Rarely</th>
<th>3 Occasionally</th>
<th>4 Often</th>
<th>5 All of the time</th>
</tr>
</thead>
</table>

My athlete leader(s)…
1. Recognizes that different athletes have different needs. 1 2 3 4 5
2. Treats each team member as an individual. 1 2 3 4 5
3. Considers that I have different strengths and abilities from others. 1 2 3 4 5
4. Helps team members to develop their strengths. 1 2 3 4 5
5. Talks in a way that makes me believe I can succeed. 1 2 3 4 5
6. Talks optimistically. 1 2 3 4 5
7. Talks enthusiastically. 1 2 3 4 5
8. Expresses confidence. 1 2 3 4 5
9. Gets me to re-think the way I do things. 1 2 3 4 5
10. Challenges me to think about problems in new ways. 1 2 3 4 5
11. Shows performers how to look at difficulties from a new angle. 1 2 3 4 5
12. Tries to help us work out how to solve problems. 1 2 3 4 5
13. Encourages athletes to be team players. 1 2 3 4 5
14. Gets the team to work together for the same goal. 1 2 3 4 5
15. Develops a strong team attitude and spirit among athletes. 1 2 3 4 5
<table>
<thead>
<tr>
<th></th>
<th>1 Not at all</th>
<th>2 Rarely</th>
<th>3 Occasionally</th>
<th>4 Often</th>
<th>5 All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>Will not settle for second best.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>17.</td>
<td>Expects us to achieve high standards.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>18.</td>
<td>Expects a lot from us.</td>
<td>1 2 3 4 5</td>
<td></td>
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</tr>
<tr>
<td>19.</td>
<td>Always expects us to do our best.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20.</td>
<td>Leads from the front whenever he/she can.</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>21.</td>
<td>Is a good role model for me to follow.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>22.</td>
<td>Leads by example.</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>23.</td>
<td>Leads by “doing” rather than simply “telling”.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>24.</td>
<td>Praises athletes when they show improvement.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>25.</td>
<td>Always recognized our achievements.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>26.</td>
<td>Gives us praise when we do good work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>Gives me special recognition when I do very good work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D

Fairness Questionnaire
(Colquitt, 2001)

This questionnaire is designed to assess your perceptions of fairness in your athlete leader(s). There are no wrong or right answers, so please give your immediate reaction. Some of the questions may seem repetitive, but please answer ALL questions. Your personal responses will be kept in strictest confidence.

Please respond between 1 and 5.

<table>
<thead>
<tr>
<th>1</th>
<th>To a small extent</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>To a large extent</th>
</tr>
</thead>
</table>

The following items refer to situations in which you were rewarded or disciplined by your athlete leader(s) during or after a practice or game. To what extent:

1. Do your rewards/punishments reflect the effort you have put into your work? 1 2 3 4 5
2. Are your rewards/punishments appropriate for the work you have completed? 1 2 3 4 5
3. Do your rewards/punishments reflect what you have contributed to the team? 1 2 3 4 5
4. Are your rewards/punishments justified, given your performance? 1 2 3 4 5

The following items refer to the procedures used by your athlete leader(s) to achieve outcomes. To what extent:

5. Have you been able to express your views and feelings during those procedures? 1 2 3 4 5
6. Have you had influence over the outcome arrived at by those procedures? 1 2 3 4 5
7. Have those procedures been applied consistently? 1 2 3 4 5
8. Have those procedures been free of bias? 1 2 3 4 5
9. Have those procedures been based on accurate information? 1 2 3 4 5
10. Have you been able to appeal the outcome arrived at by those procedures? 1 2 3 4 5
11. Have those procedures upheld ethical and moral standards? 1 2 3 4 5
The following items refer to your athlete leaders. To what extent:

<table>
<thead>
<tr>
<th></th>
<th>To a small extent</th>
<th></th>
<th></th>
<th></th>
<th>To a large extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>Have your athlete leader(s) treated you in a polite manner?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>Have your athlete leader(s) treated you with dignity?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>Have your athlete leader(s) treated you with respect?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>Have your athlete leader(s) refrained from improper remarks or comments?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>Have your athlete leader(s) been candid in their communications with you?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>Have your athlete leader(s) explained the procedures thoroughly?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>Were your athlete leader(s) explanations regarding the procedures reasonable?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>Have your athlete leader(s) communicated details in a timely manner?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>20.</td>
<td>Have your athlete leader(s) seemed to tailor their communications to individuals’ specific needs?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>
APPENDIX E

Group Environment Questionnaire
(GEQ; Eys, Carron, Bray, & Brawley, 2007)

This questionnaire is designed to assess your perceptions of your team. There are no wrong or right answers, so please give your immediate reaction. Some of the questions may seem repetitive, but please answer ALL questions. Your personal responses will be kept in strictest confidence.

The following statements are designed to assess your feelings about YOUR PERSONAL INVOLVEMENT with this team. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of these statements.

| 1 Strongly Disagree | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 Strongly Agree |
---|---|---|---|---|---|---|---|-----------------|
1. I enjoy being a part of the social activities of this team. & 1 2 3 4 5 6 7 8 9 |
2. I am happy with the amount of playing time I get. & 1 2 3 4 5 6 7 8 9 |
3. I am going to miss my teammates when the season ends. & 1 2 3 4 5 6 7 8 9 |
4. I am happy with my team’s level of desire to win. & 1 2 3 4 5 6 7 8 9 |
5. Some of my best friends are on this team. & 1 2 3 4 5 6 7 8 9 |
6. This team gives me enough opportunities to improve my personal performance. & 1 2 3 4 5 6 7 8 9 |
7. I enjoy team parties more than other parties. & 1 2 3 4 5 6 7 8 9 |
8. I like the style of play on this team. & 1 2 3 4 5 6 7 8 9 |
9. For me, this team is one of the most important social groups to which I belong. & 1 2 3 4 5 6 7 8 9 |

The following statements are designed to assess your perceptions of YOUR TEAM AS A WHOLE. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of these statements.

10. Our team is united in trying to reach its goals for performance. & 1 2 3 4 5 6 7 8 9 |
11. Members of our team would rather get together as a team than hang out on their own. & 1 2 3 4 5 6 7 8 9 |
<table>
<thead>
<tr>
<th></th>
<th>1 Strongly Disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>We all take responsibility for any loss or poor performance by our team.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>13.</td>
<td>Our team members party together often.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
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<tr>
<td>14.</td>
<td>Our team members have the same aspirations regarding the team’s performance.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
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<tr>
<td>15.</td>
<td>Members of our team would like to spend time together in the off season.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
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<tr>
<td>16.</td>
<td>If members of our team have problems in practice, everyone wants to help them so we can get back together again.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
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<td>6</td>
<td>7</td>
<td>8</td>
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<tr>
<td>17.</td>
<td>Members of our team stick together outside of practices and games.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
<td>7</td>
<td>8</td>
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<tr>
<td>18.</td>
<td>Members of our team communicate freely about each athlete’s responsibilities during competition or practice.</td>
<td>1</td>
<td>2</td>
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<td>7</td>
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APPENDIX F

Athlete Satisfaction Questionnaire
(ASQ; Riemer & Chelladurai, 1998)

This questionnaire assesses your satisfaction in your sport experience. There are no wrong or right answers, so please give your immediate reaction. Some of the questions may seem repetitive, but please answer ALL questions. Your personal responses will be kept in strictest confidence.

Please respond from 1 to 7 to indicate your level of satisfaction with your sport experience.

<table>
<thead>
<tr>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tbody>
<tr>
<td>Not at all satisfied</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Moderately satisfied</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Extremely satisfied</td>
<td></td>
<td></td>
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</table>

I am satisfied with…

1. How the team works to be the best 1 2 3 4 5 6 7
2. My social status on the team. 1 2 3 4 5 6 7
3. The coach’s choice of plays during competition. 1 2 3 4 5 6 7
4. The extent to which teammates play as a team. 1 2 3 4 5 6 7
5. The degree to which I have reached my performance goals during the season. 1 2 3 4 5 6 7
6. The degree to which my abilities are used. 1 2 3 4 5 6 7
7. The extent to which all team members are ethical. 1 2 3 4 5 6 7
8. The extent to which teammates provide me with instruction. 1 2 3 4 5 6 7
9. The recognition I receive from my coach. 1 2 3 4 5 6 7
10. The team’s win/loss record this season. 1 2 3 4 5 6 7
11. The training I received from the coach this season. 1 2 3 4 5 6 7
12. My dedication during practices. 1 2 3 4 5 6 7
13. My teammates’ sense of fair play. 1 2 3 4 5 6 7
<table>
<thead>
<tr>
<th></th>
<th>Not at all satisfied</th>
<th>2</th>
<th>3</th>
<th>Moderately satisfied</th>
<th>5</th>
<th>6</th>
<th>Extremely satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>The degree to which teammates share the same goal.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15.</td>
<td>The friendliness of the coach towards me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16.</td>
<td>The guidance I receive from my teammates.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17.</td>
<td>The improvement in my performance over the previous season.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18.</td>
<td>The instruction I have received from the coach this season.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19.</td>
<td>The level to which my talents are employed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20.</td>
<td>The role I play in the social life of the team.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21.</td>
<td>The tactics used during games.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>22.</td>
<td>Team’s overall performance this season.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>23.</td>
<td>Coach’s choice of strategies during games.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>24.</td>
<td>My enthusiasm during competitions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25.</td>
<td>My teammates’ sportsmanlike behavior.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>26.</td>
<td>Team member’s dedication to work together toward team goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>27.</td>
<td>The coach’s teaching of the tactics and techniques of my position.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>28.</td>
<td>The constructive feedback I receive from my teammates.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>29.</td>
<td>The degree to which my teammates accept me on a social level.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>30.</td>
<td>The extent to which my role matches my potential.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>31.</td>
<td>The extent to which the team has met its goals for the season thus far.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>32.</td>
<td>The improvement in my skill level thus far.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 Not at all satisfied</td>
<td>2</td>
<td>3</td>
<td>4 Moderately satisfied</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>------------------------</td>
<td>---</td>
<td>---</td>
<td>------------------------</td>
</tr>
<tr>
<td>33.</td>
<td>The level of appreciation my coach shows when I do well.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34.</td>
<td>How the coach makes adjustments during competitions.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>My coach’s loyalty towards me.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>My commitment to my team.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>The amount of time I play during competitions.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>The degree to which I do my best for the team.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39.</td>
<td>Coach’s game plans.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.</td>
<td>The degree to which my role on the team matches my preferred role.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.</td>
<td>The extent to which the coach is behind me.</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.</td>
<td>The manner in which coach combines available talent</td>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Thank you for completing the survey! Please enter your name and email address into the draw for a chance to win one of four $50 gift cards. Gift cards will be sent to draw winners electronically via email.

Name:
Email:
APPENDIX H

Recruitment Letter to Coaches at the University of Windsor

Hi ____________.

My name is Katie Hirsch and I am currently a Master’s student at the University of Windsor in the Faculty of Human Kinetics. My area of research involves the examination of athletes on sport teams and I am hoping to survey your athletes. If they choose to participate in the study, they will be asked to complete surveys related to leadership behaviors, cohesion, fairness, and satisfaction. The survey will take approximately 15-20 minutes to complete. If interested, I am available to meet your team before or after a practice to fill out the survey.

Your assistance is greatly appreciated.

Katie Hirsch
Recruitment Letter to Coaches/Athletic Directors for Online Survey

Hi Coach/Athletic Directors,

My name is Katie Hirsch and I am currently a Master’s student studying sport psychology at the University of Windsor in the Department of Kinesiology. I am currently seeking participants for a study that will examine athlete leadership behaviors, cohesion, fairness, and satisfaction. I would greatly appreciate it if you could forward this email to your athletes which contains a website address to the online survey. This study has received University of Windsor ethics clearance. Please let me know if research ethics approval is needed at your institution.

Thank you.

---------------

Dear athletes,

Participation in this study will involve completing an online survey which will take approximately 20-25 minutes to complete [Insert web link]. You will be entered to win one of four $50 gift cards for participating in my study. All information obtained from the study will be anonymous and confidential. Please reply to this email if you are interested in participating, have any questions, or need some clarification on anything. You may also contact Dr. Todd Loughead at loughead@uwindsor.ca (519-253-3000 ext. 2450). I have also attached a document (i.e., Letter of Information) which contains more information about the nature of the study.

Thank you in advance for your participation. It will greatly help me complete my degree and also advance knowledge in the field of sport psychology.

Katie Hirsch
APPENDIX J

Script for University of Windsor Athletes
Recruitment Script in Person

Hi,
My name is Katie and I am a Master’s student at the University of Windsor. I am completing a research project investigating the role that athlete leadership, cohesion, satisfaction, and fairness play within the context of sport teams. The survey takes approximately 20-25 minutes to complete and your participation is voluntary. All information obtained will remain confidential. Responses should be independently answered when completed place the survey back into the envelope. Your consent is obtained by completing the survey. If you have any questions at any point, please do not hesitate to ask me.

Thank you in advance for participating.
APPENDIX K

Letter of Information for Online Participants

TOKEN OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH (Online)

Title of Study: **INVESTIGATING THE RELATIONSHIPS AMONG ATHLETE LEADERSHIP BEHAVIORS, ATHLETE LEADER FAIRNESS, COHESION, AND ATHLETE SATISFACTION**

You are asked to participate in a research study conducted by Katie Hirsch, from the Department of Kinesiology at the University of Windsor. Results of the research study will contribute to a Master’s Thesis project.

If you have any questions or concerns about the research, please feel free to contact Katie Hirsch at hirschk@uwindsor.ca or Dr. Todd Loughead at loughead@uwindsor.ca.

PURPOSE OF THE STUDY
The purpose of the current study is to examine the relationship between athlete leadership behaviours, leader fairness, cohesion, and satisfaction of varsity university athletes.

PROCEDURES
If you volunteer to participate in this study, you will be asked to:
- Complete a survey pack consisting of five questionnaires. The first questionnaire will examine demographic variables. The second questionnaire will examine athlete leadership behaviours. The third questionnaire will examine perceptions of athlete leader fairness. The fourth questionnaire will examine cohesion. The fifth questionnaire will examine satisfaction. The survey pack will take approximately 20 minutes to complete.

POTENTIAL RISKS AND DISCOMFORTS
There is a potential that you may experience discomfort while answering information about your sport experience. However, there is no identifiable information linking you to your responses.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY
The information gained from this study will help advance knowledge in the field of sport psychology. The results will help to better understand how athlete leaders’ behaviours are relationship to perceptions of cohesion, satisfaction, and fairness. This knowledge can be used by sport psychology consultants to enhance the development of athlete leaders.

COMPENSATION FOR PARTICIPATION
You will be eligible to enter into a draw for one of four $50 gift cards. If you would like to enter, please click the link at the end of the survey and enter your email address.

CONFIDENTIALITY
Responses to the questionnaires will remain anonymous and confidential. All data will be kept in a locked cabinet which will only be accessible by the primary investigators. If completing the survey online, your data will be stored in a secured software that is only accessible to the primary investigators. Data will be kept secured for five years when it will then be destroyed.
PARTICIPATION AND WITHDRAWAL
Participation in this study is voluntary. You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time while you are filling out the surveys. However, once you have handed in the completed survey, this will be accepted as your consent to participate and it is not possible to withdraw because the surveys are anonymous, hence one cannot withdraw after submitting the questionnaire package. You may also refuse to answer any questions and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so such as too many questions left unanswered.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS
A summary of the results will be posted at the University of Windsor’s Research Ethics Board website by November 2019 (http://www.uwindsor.ca/reb). If you have any additional concerns or questions, you can call the investigators at the numbers above.

SUBSEQUENT USE OF DATA
These data may be used in subsequent studies, in publications and in presentations.

RIGHTS OF RESEARCH PARTICIPANTS
If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

SIGNATURE OF INVESTIGATOR
These are the terms under which I will conduct research.

____________________________________  __________________
Signature of Investigator  Date
APPENDIX L
Letter of Information for University of Windsor Participants

LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: INVESTIGATING THE RELATIONSHIPS AMONG ATHLETE LEADERSHIP BEHAVIORS, ATHLETE LEADER FAIRNESS, COHESION, AND ATHLETE SATISFACTION

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PROCEDURES
If you volunteer to participate in this study, you will be asked to:
Complete a survey pack consisting of five questionnaires. The first questionnaire will examine demographic variables. The second questionnaire will examine athlete leadership behaviours. The third questionnaire will examine perceptions of athlete leader fairness. The fourth questionnaire will examine cohesion. The fifth questionnaire will examine satisfaction. The survey pack will take approximately 20 minutes to complete.

POTENTIAL RISKS AND DISCOMFORTS
There is a potential that you may experience discomfort while answering information about your sport experience. However, there is no identifiable information linking you to your responses. Additionally, you can put the survey pack inside the envelope at anytime to indicate your completion thereby making your responses confidential.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY
The information gained from this study will help advance knowledge in the field of sport psychology. The results will help to better understand how athlete leaders’ behaviours are relationship to perceptions of cohesion, satisfaction, and fairness. This knowledge can be used by sport psychology consultants to enhance the development of athlete leaders.

COMPENSATION FOR PARTICIPATION
You will be eligible to enter into a draw for one of four $50 gift cards. If you would like to enter, please complete the form at the end of the survey.

CONFIDENTIALITY
Responses to the questionnaires will remain confidential. All data will be kept in a locked cabinet which will only be accessible by the primary investigators. If completing the survey online, your data will be stored in a secured software that is only accessible to the primary investigators. Data will be kept secured for five years when it will then be destroyed.
PARTICIPATION AND WITHDRAWAL
Participation in this study is voluntary. You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time while you are filling out the surveys. However, once you have handed in the completed survey, this will be accepted as your consent to participate and it is not possible to withdraw because the surveys are anonymous, hence one cannot withdraw after submitting the questionnaire package. You may also refuse to answer any questions and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so such as too many questions left unanswered.

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SUBSEQUENT USE OF DATA
These data may be used in subsequent studies, in publications and in presentations.

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If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

SIGNATURE OF INVESTIGATOR
These are the terms under which I will conduct research.

____________________________________  __________________
Signature of Investigator                        Date
VITA AUCTORIS

NAME: Katherine E. Hirsch

PLACE OF BIRTH: Durham, NC, USA

YEAR OF BIRTH: 1995

EDUCATION: C. E. Jordan High School, Durham, NC, USA, 2013

Furman University, B.S., Greenville, SC, USA, 2017

University of Windsor, M.H.K., Windsor, ON, 2019