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A Season-Long Team-Building Intervention With A Collegiate Men's Hockey Team

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A SEASON-LONG TEAM-BUILDING INTERVENTION WITH A COLLEGIATE
MEN'S HOCKEY TEAM

By

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ABSTRACT

The purpose of the current study was to implement various team-building interventions with a collegiate men's ice hockey team over the course of their season. The team-building interventions utilized a personal disclosure mutual-sharing (PDMS) approach to foster candour and collaboration amongst the team members and the research team. The participants consisted of three team captains and the head coach ($N = 4$). Using semi-structured interviews, participants were asked about the benefits and improvements in regards to the team-building interventions. In terms of benefits, the results indicated consultant support led to a variety of outcomes including enhanced leadership, communication, cohesion, and performance. Further, participants indicated that by increasing more team members into the leadership (e.g., decision-making) concerning the team-building interventions would decrease perceived hierarchies amongst the team members and ultimately increase cohesion. By increasing the number of team members in the development of the team-building interventions, opportunity for feedback would increase their effectiveness.

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Introduction

Historically, cohesion has been found to be one of the most important small group

variables in helping a group of athletes achieve a common goal (Lott & Lott, 1965; Pain &

Harwood, 2009; Yukelson, 1997). This importance is due to its crucial role in helping groups

achieve success regardless of their situational context (e.g., organizational, military, and sport)

(Mudrack, 1989). Specific to sport, coaches believe cohesion to be directly related to improved

team performance and success (Bloom et al., 2003; Carron et al., 2002). Given the importance of

cohesion in relation to successful team performance, a process known as team-building is used to

develop or enhance perceptions of cohesion (Senécal et al., 2008). Hence, team-building

interventions are designed to increase group effectiveness by enhancing cohesion (Carron et al.,

1997). While cohesion is the primary outcome of team-building (Carron et al., 1997), there are

other benefits of team-building, which include (a) improving teamwork pertinent to

accomplishing the team's tasks, (b) encouraging interactive processes involving inter-member

and intra-team communication and coordination, (c) modifying the perceptions, attitudes, and

expectations of the team in terms of significant matters relevant to the team members, and (d)

minimizing components of the group that obstruct or diminish the group's ability to develop

effective teamwork (Brawley & Paskevich, 1997). Based on these benefits, Brawley and

Paskevich (1997) defined team-building as a method of helping the group to increase its

effectiveness, satisfy the needs of its members, improve work conditions, and enhance team

cohesion.

Many of the benefits of Brawley and Paskevich's (1997) operational definition are

contained within Carron and Spink's (1993) team-building conceptual model (see Figure 1). This

linear team-building model consists of inputs, throughputs, and outcomes. The inputs in the

model consist of *group environment* and *group structure. Group environment* comprises two

subcategories, group togetherness and distinctiveness, that can be viewed as teams who are

regularly in close physical proximity and who are perceived as unique, ultimately develop a

stronger sense of "we" and overall cohesion (Carron & Spink, 1993; Prapavessis et al., 1997).

The other input, *group structure,* consists of three sub-categories including group norms,

individual positions, and leadership. As group norms and collective expectations develop within

a group, the group's structure becomes more stable (Carron & Spink, 1993). Similar to

distinctiveness and togetherness, group norms also creates a stronger sense of "we" amongst

group members. Conformity to group social and task norms increases cohesiveness and once

established are highly resistant to change (Prapavessis et al., 1997). Additionally, the individual

positions creates stability in the group's structure when members consistently occupy a specific

role. For instance, when group members have a clear understanding, are satisfied, and accept

their role, cohesion increases (Prapavessis et al., 1997). Leadership is believed to influence task

and social cohesion of the group; especially when a participative style of leadership is utilized

that focuses on fostering interpersonal relationships with team members and including members

in decisions that involve their needs) (Prapavessis et al., 1997; Yukl, 1989).

 Group processes are viewed as the throughput in the team-building model that includes

factors such as interaction and communication, sacrifices, team goals, and cooperation.

Interaction and communication enhances a group's perception of cohesiveness when members

participate in task and social discussions (Carron & Spink, 1993). Carron and Spink (1993) noted

that when members make sacrifices for their group, it increases their commitment to the group

and ultimately enhances perceptions of cohesion. When team goals are collaboratively

established as a team, team success is improved and cohesiveness is enhanced (Prapavessis et al., 1997). Lastly, cooperation among team members has shown to be more beneficial than individual and competitive behaviour in terms of team and individual performance; thus, cooperation amongst team members enhances perceptions of cohesiveness (Prapavessis et al., 1997).

Originally, Carron and Spink (1993) advanced cohesion as the outcome of the team-building model. However, Paradis and Martin (2012) forwarded additional outcomes of team-building. In addition to cohesion, Paradis and Martin suggested that *performance, athlete satisfaction, collective efficacy,* and *adherence/retention* could be viewed as outcomes of the team-building process. *Cohesion* is defined as "a 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" (Carron et al., 1998, p. 213). *Performance* has been operationalized in many ways using both subjective (e.g., Levy et al., 2010) and objective (e.g., Dunn & Holt, 2003) performance indicators. 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). Bandura (1997) defined *collective efficacy* as "a group's shared belief in its conjoint capability to organize and execute the courses of action required to produce given levels of attainment" (p. 477). Lastly, cohesion has been found to positively influence a multitude of *adherence/retention* related outcomes such as frequency of being active (Spink et al., 2014), attendance (Loughead et al., 2001), athlete effort (Prapavessis & Carron, 1997), intention to return to the team (Spink, 1995), and actual return to the team the following season (Spink et al., 2010).

To date, researchers have targeted not only the outcomes of the team-building model, but also the various inputs and throughputs from Carron and Spink's (1993) model when implementing team-building interventions. This has typically resulted in a multimodal approach to team-building where several intervention are implemented to enhance the team's effectiveness. This multimodal approach of utilizing numerous team-building interventions has been effective to enhancing team cohesion (Bloom & Stevens, 2002; Rovio et al., 2012; Stevens & Bloom, 2003; Voight & Callaghan, 2001), role and behavioural expectations (Bloom & Stevens, 2002; Rovio et al., 2012; Stevens & Bloom, 2003;), communication (Bloom & Stevens, 2002; Stevens & Bloom, 2003; Voight & Callaghan, 2001), interpersonal relationships with teammates (Stevens & Bloom, 2003), interpersonal relationships with coaches (Bloom & Stevens, 2002), and individual and team performance (Rovio et al., 2012; Stevens & Bloom, 2003; Voight & Callaghan, 2001). Given these benefits to multimodal team-building interventions, the current study sets out to expand this approach to team-building research by using a multimodal approach that utilizes an action research approach whereby the participants are consulted when designing the team-building interventions.

In the above-mentioned studies, it was unclear the degree to which the coaches or athletes were involved in decisions regarding the team-building interventions and/or models used (e.g., Barker et al., 2014; Bartunek, 1994; Dunn & Holt, 2004; Holt & Dunn, 2006; Senécal et al., 2008; Windsor & Barker, 2011). This is problematic because there is potential for the researcher to impose the team-building intervention onto the participants. By not having participants actively involved in the team-building process, the researcher fails to incorporate the experiential knowledge of the participants (Greenwood et al., 1993; Reid, 2000; Ristock & Pennell, 1996). Without input from the participants, researchers may create team-building interventions based on

previous experiences or "canned programs". This approach to team-building can produce unsuitable interventions that do not acknowledge the unique needs of the group (Boss & McConkie, 1979).

One approach to team-building that may overcome some of these noted limitations is participatory action research (PAR, see Figure 3). PAR is defined as a social process of collaborative learning realized by a group of people, who join together in changing the practices through which they interact in a shared social world (Kemmis & McTaggart, 2005). Some researchers suggest that PAR limits objectivity as participants who are involved in the collaborative shaping of the research have too much at stake to be unbiased (Kemmis et al., 2014). In contrast, other researchers have argued that the participants have an advantage being immersed in the inner workings of their circumstances. The advantages of PAR is that it creates; (1) conditions for participants to understand practices and traditions from within that inform and situate them in relation to their particular settings, (2) conditions for participants to be informed and speak a shared language amongst the group that is being examined, while joining discussions and debating with those who shape the current practices, (3) conditions for participants to be actively involved in the development of actions and interactions that shape how practices are conducted, and (4) conditions for participants to, individually and collectively, change the ways in which the conduct and consequences of their current practices must be reconfigured to meet desired outcomes (Kemmis et al., 2014). A key element of PAR that ensures the above conditions are met, is its cyclical nature of identifying a problem, collaboration between the participants and the researcher in terms of planning how to tackle the problem, developing a plan that is put into action, the action and its outcomes are observed by the participants and researcher, and lastly, reflecting on the action and its outcomes (Kemmis & McTaggart, 2005;

Kemmis et al., 2014; Tennenbaum et al., 1992). If upon reflection, the action taken is deemed effective, then the process of planning, action, observing, and reflection is repeated building off of this initial success. If the reflection deems the action to be unsuccessful, then these unintended outcomes are taken into consideration in the planning of new or different action in the next cycle of planning, action, observing, and reflecting. The cycle continues until the participants have reached their objective. PAR allows researchers to work with both athletes and coaches in an attempt to personalize the team-building interventions. As a result, a PAR approach is a collaborative style making it ideal in the sport setting as a variety of issues can arise during a competitive season.

The current study, utilizing a multimodal approach to team-building using PAR, sought to enhance the team environment through a variety of social and task related interventions targeting the inputs (*group environment* and *group structure*) and throughputs (*group processes*) of the Carron and Spink (1993) team-building model. The use of PAR informed the researchers as to which components of the team-building model should be targeted for intervention. The rationale for using PAR with this particular team was based on the situational factors surrounding the team's composition and the restrictions related to the COVID-19 pandemic. First, the head coach approached the research team asking them to serve as sport psychology consultants for the 2021-2022 season. At the initial assessment meeting the following concerns and topics were outlined; (1) a large number of players joining the team as first year athletes competing at this level or who had transferred from other universities ($N = 13$), (2) the team's leadership group (i.e., captains and assistant captains) would benefit from the support of the consultants, (3) it was the first season returning from a previously canceled season due to COVID-19 restrictions, (4) a shortened regular season and playoffs was being instituted because

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of COVID-19, (5) there was a possibility of players leaving the team during the season in order to pursue professional playing opportunities due to COVID-19 restrictions, and (6) the head coach wanted learn more about team dynamics through the support of the research team. The head coach believed the team would benefit from the assistance of the research team in facilitating team-building amongst a group who had not competed since the 2019-2020 season. In the current study, an attempt was made to capture the individual perceptions of the head coach and the captains in relation to their experiences of being immersed in the various team-building interventions that occurred throughout the season. Understanding the perceptions of the head coach and the leadership group can provide insight to assist in future planning and design of similar team-building initiatives to improve the team environment.

Method

Philosophical Assumptions

To understand the subjective nature of participants' experiences of the season-long team-building interventions, this study was approached from an interpretivist paradigm which comprises ontological relativism (i.e., reality is humanly constructed, multi-layered, and subjective) and epistemological constructivism (i.e., knowledge is co-constructed between the researcher and participant) (Smith & Caddick, 2012; Sparkes & Smith, 2014). The ontology acknowledges that each participant and researcher offer their own subjective views and realities to the data. The epistemology acknowledges the data generated were a product of the interactions between participant and researcher, as well as the researcher's interpretations of these interactions.

A researcher's area of interest is accompanied by previous experiences and how they have interpreted them (Braun & Clarke, 2019). Given this information, a researcher's critical

reflexive ability is an essential part of the qualitative process (Maxwell, 2013). More specifically,

researchers must be aware of their existence and the impact they impose on the research process,

rather than attempting to supress their subjective disposition (Duffy et al., 2021). Many factors

can influence data collection, interpretation and analysis, such as gender, culture, and past

experiences (Sparkes & Smith, 2014). The student-researcher (Myles Doan) played competitive

hockey for 18 years, including four years in the Ontario Hockey League and two for the

University of Windsor men's hockey team. Thus, his previous experiences as a competitive

hockey player who played in similar leagues as the participants inevitably shaped how he

interacted with the participants and interpreted the data. While drawing on his experiences

playing hockey and being immersed with the team for the season helped him build rapport with

the participants; he was also aware that these experiences may have influenced how he interacted

with the participants during the interviews and how he interpreted the data. In conjunction with

his philosophical assumptions identified above, he did not attempt to minimize his experiences.

Instead, he acknowledged them here so that readers can better understand his role in co-creating

the data in this study. Therefore, based on the chosen ontological and epistemological

assumptions, this study allowed the participants to share their perceptions of the various team-

building interventions that took place throughout the 2021-2022 season.

Participants and Procedures

Prior to data collection, ethical clearance to conduct the current study was obtained from

the University of Windsor's Research Ethics Board. The leadership group and coach of the

men's hockey team were contacted via email to take part in a one-on-one semi-structured, open-

ended interview to assess their experiences of the various team-building interventions provided

by the research team over the course of season. The leadership group consisted of three captains

with varying degrees of team tenure ranging from a first year player, second year player, and two fourth year players, while the head coach had occupied their position for 14 years. The three captains agreed to participate in the study along with the head coach. The rationale to interview the captains and the head coach was based on the fact that these individuals were active participants within the PAR approach. To ensure consistency and richness of the data, other players were not selected as participants because they did not experience the same level of interaction and involvement with the research team as the leadership group.

All interviews were conducted via video using Microsoft Teams following the season by the student-researcher. Deakin and Wakefield (2014) found that video interviews in comparison to in-person interviews helped rapport building, while giving participants more flexibility and overall cost savings. This was important as members of the leadership group lived outside of the Windsor-Essex area. Further, Jenner and Myers (2019) found participants shared exceptional disclosures and personal experiences due to the participants' private settings when conducting online video interviews. Based on these findings, using video to interview participants was beneficial in generating rich data.

Description of the Hockey Team Context

It is important to understand the make-up of the team before presenting the team-building interventions. At the beginning of the season, the team comprised a 27-player roster. However, there was a COVID-19 outbreak in the Province of Ontario that necessitated the pause of the season in December 2021 that lasted until the end of January 2022. During the COVID-19 pause, three players decided to turn pro and left for other playing opportunities. Consequently, the head coach added three players: one player joined the playing roster, while two other players joined the practice squad. In terms of the team's composition, the team carried three goalies, eight

defenceman, and 14 forwards. Of those players, nine were returning players who had previously played with the team, three were transfers from other universities, six were recruited in 2020 and had yet to compete with the team, and six were 2021 recruits. According to the head coach, players who did not play regularly caused unnecessary distractions for the team and coaching staff and this was witnessed by the student-researcher.

Description of the Team-Building Interventions

The use of PAR allowed the research team to identify which components of the team-building model (Carron & Spink, 1993) should be targeted for intervention over the course of the season. In particular, the research team met four times with the head coach and the leadership group twice in the off-season to discuss the team's status moving into the start of a new season and then met regularly during the season. Arising from those discussions, below is a description of the components from Carron and Spink's (1993) team-building model that were targeted for intervention during the season. Furthermore, Table 1 depicts the team-building interventions that occurred chronologically throughout the season.

Group Structure

Leadership

In the current study, the head coach and the captains were viewed as the leadership component within Carron and Spink's (1993) team-building model. It has been noted that without good leadership, it is difficult for any team-building intervention to be successful. Hanson and Lubin (1986) proposed that in order to have successful team-building interventions, the following conditions should be present; (a) team leaders e.g., head coach and captains) must be committed and actively participate in the team-building interventions, (b) team leaders must not show triviality or pessimism to the team-building process, (c) team leaders must be willing to

examine their own roles within the team, (d) team members must be willing to put forth effort and responsibility to ensure success of the team-building interventions, (e) team members must reflect on the team's processes and evaluate their own performance, (f) team members must commit to regular and productive team meetings, and (g) team members must understand that team-building is a process that requires on-going diagnosis, feedback, action planning, action, and evaluation. The first three conditions emphasize the team leaders' ability to influence other members to commit to the team-building intervention, which in-turn leads to contingencies based on the entire group. In other words, the team leaders bare most of the responsibility in the team-building interventions' effectiveness. Consequently, in the proposed study, regular meetings were held with both the head coach and captains.

Coach Meetings

The research team initially met with the head coach in the pre-season for a formal needs assessment. The coach mentioned having issues in previous seasons managing players who were not in the line-up regularly and players who were unhappy with their role on the team. The coach found their behaviour to be disruptive and negatively affect team functioning. Over the duration of the season, regular meetings with the coach were held either weekly or bi-weekly depending on the team's schedule for a total of 18 meetings. The role of the research team was to offer their support and guidance from a sport psychology perspective when handling issues concerning players and team issues by proposing interventions that the coach could implement. The purpose of these meetings was to provide the coach with an opportunity to speak about the functioning of the team and/or any concerns that arose and to receive guidance on to handle any potential situations. In addition, the meetings with the coach also allowed the research team to serve as a liaison between the team and coach to help mitigate any issues or situations.

Captains' Meetings

The research team also met with the team captains on a weekly or bi-weekly basis for a total of 20 meetings. The captains in these meetings included one head captain, two assistant captains, and the research team. The research team's role was to allow the captains to speak freely, answer any questions, address any concerns they may have without judgment, and provide insight on how to handle situations. These meetings also allowed the captains an opportunity to voice their concerns and/or provide feedback about the team and its functioning without a coach present. Furthermore, the captains were also consulted on the team-building interventions allowing for their input and collaboration. This collaborative approach provided both parties information to construct appropriate team-building interventions, meanwhile educating the captains on its purpose. Like the coach's meetings, the objective was to satisfy components of PAR, specifically diagnosis and feedback of internal team functions from the players' viewpoint.

Role Clarity and Acceptance

Aligning with Carron and Spink's (1993) team-building model, role clarity and acceptance were addressed through individual role meetings that were held in November after the first six games of the season. A second role meeting was proposed, however due to COVID-19 restrictions pausing games, the meeting was cancelled. Research has shown role clarity to be positively related to role efficacy and role performance effectiveness (Bray & Brawley, 2002). Based on the formal needs assessment with the head coach, this role intervention was designed to improve coach-athlete relationship, enhance communication between coach and player, and increase performance. Prior to these meetings, the head coach and the research team met to address the nature of the meetings, topics of discussion, and strategies for optimal

communication between the coach and players. As a result, the head coach created profiles for each player with separate sections for areas of success, improvement, defining the role and how to fulfill it, and player feedback. Throughout these meetings the head coach spoke about the player's performance and how it tied into their role on the team, meanwhile the research team were present to support both the players and the coach during these meetings to help clarify a player's ability to fulfill his role obligations. The players had the opportunity to speak on how they felt they were performing, discuss the coach's comments, and their designated role.

Group Environment

Distinctiveness and Togetherness

The research team presented to the head coach the idea of a "jersey ceremony" to promote distinctiveness and togetherness that comes with being a member of a team. In discussions with the head, the idea of a "Legacy Night" emerged as a way to achieve this objective. The event included an alumnus who spoke about their experiences as a member of the team and impact of being a member of this team. In particular, the speaker highlighted the experience of playing hockey for the program, the relationships made with teammates and staff members, and the life lessons learned during their tenure. Other areas were emphasized by the head coach such as the team's involvement with community programs and their importance. Ultimately, the theme of the event posed the question to the players: "What would you like your legacy to be with this team"?

Group Processes

Interaction and Communication

In order to foster better interaction and communication amongst players, the head coach, in consultation with the research team, implemented a player-centered teaching model during the

pre-season that had veteran players educating the newer players on the team concerning the team systems (e.g., power play, penalty kill, offensive philosophy). The coaching staff prepared the veteran players with video clips and skeleton notes on what they were presenting to ensure that the content matched the coach's desired philosophies. The teaching sessions were done without the coaching staff present to encourage greater interaction and communication amongst the players. This same process was repeated to review the team systems prior to the start of the playoffs.

<div align="center">Communication and Sacrifice</div>

Personal-Disclosure Mutual-Sharing (PDMS; Holt & Dunn, 2006) was used as a team-building modality to foster better communication amongst teammates as it provides them an opportunity to share impactful personal experiences that would otherwise be kept to themselves. Athletes have reported PDMS interventions to increase perceptions of cohesion, improved confidence and trust in teammates, enhanced communication, and a greater appreciation for their teammates' values, beliefs, attitudes, roles, and personal motives (Dunn & Holt, 2004; Hirsch, 1992; Windsor & Barker, 2011). The above findings are conceptually similar to Carron and Spink's (1993) *group processes* in their team-building model as it promotes communication that can reveal sacrifices made or willing to be made, lead to clarity of team goals, and ultimately how to cooperate amongst each other in order to achieve them.

The PDMS team-building intervention (labeled as the team capsule) was held during an overnight outing where the team was participating in two exhibition games prior to the regular season. The research team instructed players, coaches, and other staff members to reflect on; (a) their current behaviours causing barriers to their own success that needed to be sacrificed for the good of the team, and (b) highlight desired behaviours they wish to strive for in order to improve

the team. Upon reflection, team members (players, coaches, and other staff members) were asked to write down these behaviours on two separate cue cards (one cue card for the sacrifice behaviours and one cue card for the desired behaviours). The team members gathered around a bonfire and each individual was given a chance to speak about these behaviours while burning the sacrifice behaviour cue card in the fire and placing the desired behaviour cue card in the team capsule. Following the PDMS intervention, the team capsule was sealed and brought with the team to away games and placed in the center of the dressing room for practices and home games to remind the team members of the sacrifices and commitment they offered to the team.

This same intervention was conducted prior to the second half of the season (post-holiday break and Covid pause) to revisit and reflect upon the team members' progress involving the behaviours discussed during the first intervention. The team members gathered in a local hotel conference room where the research team instructed and facilitated the intervention for a second time. The team capsule was re-opened and team members retrieved their desired behaviour cue card from the first intervention. They were instructed to reflect on the progress of those behaviours mentioned during the first intervention and write down their progress and/or create newly desired behaviours they believed would help the team. Five players had left the team who participated in the first intervention, and one new player had joined. This was an important process to integrate the new member into the team, while recognizing those who had left by removing their cue cards from the team capsule.

Prior to the playoffs, the team gathered without the coaching staff to hold a Players' Only Meeting. The purpose of this meeting was to give players an opportunity to speak amongst the group about what they needed to do on their behalf to achieve success in the post season. The captains led the meeting by outlining what success would mean heading into the playoffs. The

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rest of the team was then invited to say what success in the playoffs would mean to them and how they would personally contribute. It was suggested by the research team to borrow some elements from the team capsule team-building intervention, so players could speak with candour and potentially mention the sacrifices they were willing to make in their pursuit of playoff success.

Interview Guide

The interview guide (see Appendix A) is divided into four sections. The first section is administrative in nature by reviewing the make-up of the study and obtaining participant consent. The second section consists of a series of questions designed to create a rapport between the interviewer and participant. The third section of the interview guide consists of the main questions concerning the impact of the various team-building interventions that occurred over the course of the season. Specifically, participants were asked about their perceptions of the team-building interventions (e.g., coach meetings, captains' meetings, role meetings,) and the impact they had on the individual participant and the team as a whole. Follow-up questions were designed to capture any recommendations for improving the team-building intervention if it were held again. A list of probes assisted with managing the conversation and ensuring the participant elaborated on issues related to the interview question. The fourth section included a summary and concluding questions that allows the participant to make any clarifications or provide any additional comments.

Data Analysis

Interviews were transcribed verbatim and analyzed using the software program Dedoose[tm]. A reflexive thematic analysis was conducted using a data-driven approach to assess participants' experiences of the team-building interventions offered during the season (Braun &

Clarke, 2019). In particular, the lead researcher (i.e., graduate student) systematically separated the data into meaning units, created tags (i.e., codes), developed high-level patterns (i.e., subthemes), and then arrived at overarching themes (i.e., themes). In addition to Sparkes and Smith's (2014) concept of reflexivity, this study followed the recommendations by Smith and McGannon (2018) that suggest the use of critical friends. The lead researcher's advisor, who has experience in qualitative interviews, served as a critical friend and met with the lead researcher at each stage of the analysis to encourage reflexivity to explore the various interpretations of the data. Critical friends assist in analyzing the data and minimize any biases. Braun and Clarke (2006) highlight six phases on how to conduct a thematic analysis. Phase 1, *immersion*, involves getting familiar with the data by reading it and becoming aware of recurring meanings and patterns. Phase 2, *generating initial codes*, involves systematically coding the data and then compiling a list of codes to prepare for categorization. Phase 3, *searching for and identifying themes*, involves a broader search for themes that began with the development of a list of potential themes that eventually was refined into overarching themes. Phase 4, *reviewing themes*, this phase requires refinement of the broader themes through two levels of review. Level one involves identifying coherent patterns within the extracted data to form a "thematic map" and level two involves reviewing the validity of the themes to the entire data set, while adding themes that might have been missed. Phase 5, *defining and naming themes,* involves determining specific areas of the data each theme encapsulates and establishing clear definitions and names of the themes. Phase 6, *production of report*, begins once themes have been finalized through extensive analysis. The report illustrates the validity of establish themes within the data collected and utilizes compelling examples to relate the data to the research question.

Results

This section of the manuscript will outline the results from interviews with four members of this men's ice hockey team. The results section provides descriptions of the themes and subthemes identified in the interviews, along with supporting quotes from the participants, labelled P1 through P4The results are presented based on the benefits of the team-building program that occurred during the season and the improvements that could be made to the program moving forward.

<div align="center">**Benefits of the Team-Building Interventions**</div>

As for the benefits of the team-building program, one key theme emerged was the support the research team provided to the leadership group. In turn, the support received from the research team enhanced the leadership group's capability to provide leadership to their team, and enhanced the team's performance, communication, and cohesion.

Consultant Support

Consultant Support was defined as the leadership group utilizing the research team as a supportive outlet. That is, the participants discussed the benefits of having the research team's support and this support was related to *relieving pressure*, the consultants serving as a *liaison, collaborator* and *a third party* to the leadership group. These four sub-themes typically occurred when participants were asked about the regular meetings with the research team, but were also present when asked about the team-building intervention related to the team capsule team-building activities, individual role meetings, and the player-centred teaching model. Given the emergence of *consultant support* over various team-building interventions, it is important to outline the diversity of this theme's influence on multiple other themes. Although *consultant support* is defined as the research team being an outlet for the leadership group, the nature of support varied depending on the team-building intervention. Because of this, the support from

the research team led to the outcomes that included *enhanced leadership*, *enhanced performance*, *enhanced communication*, and *enhanced cohesion*. This will be highlighted by outlining the sub-themes of *consultant support* to contextualize its various types of influence on the outcome based themes mentioned above.

Starting with the consultant support sub-theme, *relieving pressure*, in reference to the regular meetings with the research team.

If you don't let those thoughts and feelings out, you'll end up letting it out in frustration in front of your teammates, which I think can be a really bad thing. I think letting it out in a group session with the research team and the other captains can definitely be very beneficial. (P1)

Moreover, the sub-theme of *third party perspectives* was mostly present throughout the regular meetings with the research team. Participants shared similar sentiments that the research team offered information or solutions to situations from a sport psychology lens that otherwise would not have been considered:

Sometimes you have to look from outside the [hockey] program to truly see what's inside it and I thought that when I spoke to the research team, I was getting good information. Meaning not information that I necessarily wanted to hear, but information that I needed to hear. (P4)

This participant outlines the importance of gaining insight from a neutral party (the research team), which could ultimately be considered *enhanced communication* through candour*, which is a sub-theme that will be examined later.

Participants often mentioned utilizing the research team as *liaisons* between the

leadership group and the coaching staff. One participant had this to say about their experience

where the research team served as this liaison:

> Having the research team was really beneficial because there was almost a middleman to
>
> kind of mediate the discussions, almost in a sense to be like, "OK, this is what you guys
>
> are saying. This is what the coaches are saying. I think we can combine this and this".
>
> (P2)

As stated by the participant, the research team offering mediation as *consultant support* between

the players and the coaching staff, led to the outcome of *enhanced communication*.

Lastly, *collaboration* amongst the research team and the leadership group, was mentioned

mainly in relation to the regular meetings, however these collaborative discussions were integral

to the development of the team-building interventions: "I know the leadership group and the

research team talked a lot about the things we could do from a team-building standpoint and I

feel like we kind of like hit a home run with their feedback about our pre-season activity" (P3).

This quote is in reference to the time-capsule team-building activity that was collaboratively

conceived with both the leadership group and the research team.

The themes that were considered outcome based will be outlined in the following section.

Enhanced Leadership

Enhanced leadership was defined as any team-building intervention that increased the

leadership group's ability to fulfill their duties as leaders, as well as providing the team with

more opportunities for formal, informal, and non-leaders to lead. This was mostly reported when

participants spoke of the regular meetings with the research team, the time-capsule team-building

activity, the player-centered teaching model, and the players' only meeting. Each team-building intervention will be examined for its unique influence on enhanced leadership amongst the team.

When participants were asked about the regular meetings between the research team and leadership group, a common theme emerged concerning how the leadership group felt they could be better leaders after speaking with the research team.

Having the opportunity to talk to the research group was really beneficial because there were times when I would speak up in those meetings and there was something that was really bugging me. And once I let it out, I felt like I didn't have to go to practice later with that on my shoulders. I feel like if I didn't have that opportunity it would really have affected my play and really affect my ability to be a leader on the ice for that practice or anything like that because it would have negative implications for my teammates and my coaches. (P1)

Not only did the participant mention their ability to lead was enhanced, but their play was enhanced too by utilizing the support of the research team. This sentiment was shared above by another participant who spoke of being a better leader through mitigating personal and team pressures throughout the meetings, which ultimately led to enhanced leadership.

The time-capsule team-building activity demonstrated the importance of leadership on the success of team-building interventions.

If the captains got up and screwed around and said something dumb [during the time-capsule activity], I think the whole thing would have went spiraling downwards. But I think once the captains got up and said something serious, like, "You know, we're here to win, and this is what we want to bring to the table, this is my last year, this is my 3rd

year, this is what I want to get out of the program". The other guys really understood where each other were coming from. (P2)

Not only did the leadership group set the time-capsule team-building intervention up for success through their words and actions, it offered an opportunity for them to demonstrate their ability to lead. Consequently, other teammates acted similarly, resulting in an impactful team-building intervention.

In regards to the player-centered teaching model, participants mentioned how the leadership group were able to set expectations for the team while still cultivating a comfortable learning environment for players to present and discuss tactical systems:

I really thought that was beneficial, that they weren't there [the coaches] and that the captains were kind of laying down the law and I think that allowed first year guys to know that there were no stupid questions. (P2)

Moreover, participants indicated that these meetings encouraged peer to peer tactical advice that might not have happened with the coaching staff present.

I was talking about the penalty kill with another player and I talked about some of the tactics and some of the tips that I got in my first year and implemented that into our system. Meanwhile, if it was one of our coaches talking, it probably wouldn't have got to that and guys wouldn't come up to me and asked questions about specific things that I said. (P2)

This furthers the narrative of players being given increased opportunities to lead, and in this case veteran players helping new members of the team with tactical advice.

Moreover, in the player-centered teaching model, participants discussed the benefit of utilizing multiple people to teach the team's systems:

When you have one of your teammates and friends teaching it to you and different people

coming up at different times to teach it, it's a lot easier to stay focused because, you're

not just hearing one voice all the time, and it's someone you can relate to as well. (P3)

This quote also outlines the relatability that the player-centered teaching model offered,

ultimately enhancing the experience of *shared leadership*.

Similarly, when participants were asked about the players' only meeting, they mentioned

an increase in informal leaders and non-leaders speaking up: "Guys that you wouldn't have

thought would have stepped up, said something and there was a lot of feedback and discussion"

(P2). With more players being vocal and having the opportunity to speak and lead, the variety

sources of feedback increased as well.

Leadership was also enhanced when the leadership group delegated duties to the research

team or other team members to increase intra-team functioning. This was deemed as *shared*

leadership and was mostly present when participants discussed the regular meetings with the

research team and the player-centered teaching model.

This participant spoke of how the regular meetings with the research team gave them a

platform to communicate, but ultimately learn how to share responsibilities with other team

members.

The biggest thing I learned with the meetings is just being able to open up and share my

feelings and discuss how I'm feeling or what my thoughts are with the other captains and

the research team and we can resolve the problems together as opposed to having me just

either hold them all in or try and resolve them all on my own. (P1)

This quote outlines the benefit of being able to use the other leaders and the research group as a

resource, rather than bearing all of the responsibilities.

Enhanced Performance

  Enhanced performance was defined as any team-building intervention that assisted the leadership group and team in their ability to perform better. The sub-themes that were present were *focus* and *consistent goals.* These sub-themes were present mostly when participants were asked about the regular meetings with the research team. In regards to the sub-theme of focus, this was a by-product of the research team relieving pressure from the leadership group within the regular meetings.

    This past year, being able to have the research team as a resource it allowed me

    personally, not to worry about certain things because I was able to let it out and the

    research team was able to communicate with the coaching staff themselves, kind of like a

    liaison type thing. I just think it took a lot of pressure off myself personally and I was

    able to kind of worry less about problems going on within the team and focus more on

    being a leader and playing my game. (P1)

In this case, the participant mentioned their ability to increase focus on leadership and performance due to the research team's support. This came in the form of relieving pressure between the captains and the coaching staff by taking on issues that might have been discussed directly between captains and coaches in past seasons. Participants mentioned that sometimes it is difficult to discuss certain issues with the coaching staff that could potentially have implications to their relationship and/or playing time. The regular meetings and consultant support allowed players to direct their focus into other areas such as performance.

  Furthermore, participants stated that as a result of the regular meetings with the research team, the team was also able to keep consistent goals.

Whenever I sit down and have a conversation with a coach or our coaches, I always feel

better about what we're doing and because sometimes if you don't talk to coaches, just

like players, if you don't talk to players on an individual basis for a while sometimes you

tend to kind of go in different directions. And so I thought that, I really enjoyed the

conversations, I enjoyed your input and I would like more of it. Having these meetings in

place allows you to have a little bit more of that, or mitigate that veering off. (P4)

By having consistent regular meetings, the leadership group was able to increase their adherence

to the team goals and vision.

Enhanced Communication

Enhanced Communication was defined as participants having an increase in the quality

and quantity of communication platforms. Participants found that their communication was

enhanced in the form of conflict resolution and by having candid conversations with team

members. This was mostly occurred in the regular meetings with the research team, the time-

capsule team-building activity, and the players' only meeting. The quote from the following

participant highlights this:

I felt like it was a really good outlet for us to have conversations and really kind of get it

all out there and get the research team's perspective on it as well. So when you guys

[research team] would ask questions, I felt like that got the conversation going and it

really got us thinking because maybe there was some stuff that we thought was a big deal

and you guys kind of had a different viewpoint on it and then it was like the situation was

resolved from there or it was like "OK, this actually is a big deal, we need to figure this

out and get to the root of the problem". I felt like that was super beneficial. I feel like I

can speak for the four of us [leadership group] that were part of those meetings, we loved

them and I think they were super beneficial to our success throughout the year, because

we were able to talk about things that were happening within our team and figure those

things out. (P2)

As stated by the participant, having the platform to meet and discuss team matters with the

research team, conflicts were resolved that ultimately benefitted the team. Furthermore, the time-

capsule team-building activity and players' only meeting offered multiple platforms for team

members to communicate. The nature of the time-capsule team-building activity and players'

only meeting was based on candour and authentic conversation that was to be shared with team

members. As one participant noted:

I really liked the time-capsule. I think it was another really good ice breaker type thing at

the beginning [of the season] and you also were able to kind of see guys in a different

light kind of why they play hockey, what motivates them, where they want to see the

team go and what they want to achieve. It's kind of something you wouldn't necessarily

always hear from your teammates. It's the kind of stuff that you would normally keep

inside to yourself, but I really felt a sense of team bonding during that time-capsule

activity more so than any other activity. (P2)

This participant outlines that team members would not normally divulge this type of information

or engage in these types of conversations, but ultimately it created a greater sense of team

cohesion.

As for the players' only meeting, this participant spoke to the significance that these

candid conversations had on the team.

I think the players speaking from the heart, being like our captain said that this is his last

year and there's nothing that he would want more than to finish off his career as a champ.

That stuff sticks with you. (P3)

Overall, there seemed to be some overlap on enhanced communication and participants

mentioning how they were brought closer together because of the various platforms to

communicate and the nature of the conversations being candid and authentic.

Enhanced Cohesion

Enhanced Cohesion was defined as participants feeling a sense of closeness along with a

better understanding of teammates and coaches. As stated in the section above, when participants

spoke about *enhanced communication*, they usually mentioned the construct of cohesion in some

form. Having strong team cohesion seemed to be a by-product of having enhanced

communication through the various team-building interventions along with the support of the

research team facilitating the meetings. Participants believed that cohesion was mostly enhanced

in relation to the two time-capsule team-building interventions.

Participants highlighted the time-capsule team-building interventions enhanced cohesion

as it acted as an ice breaker, increased comfort amongst teammates, and was used to welcome

new teammates.

It was a good ice breaker to get together as a team all at once along with staff members. I

thought it was probably the best team-builder we had all year because it was intimate,

each person talked, and it was fun. But then sitting around the camp fire afterwards when

we all could have went back to our rooms right away, but no, we hung out and talked

about where we're from and everything. I thought that was a really powerful event. (P3)

Furthermore, participants mentioned that players felt more comfortable with each other after the time-capsule team-building activity.

I think it just allowed players to kind of be themselves around other players. I mean, at the beginning of the year, especially this year we had 14-15 new guys and you don't really know them very well. As I mentioned before and they were kind of really able to open up in front of the team and say some things that they might not have said before. So I think it really allowed for guys to be able to approach guys and talk to them and open up and feel more comfortable around each other for sure and really made us a closer team at the end of the day. (P2)

The second time-capsule team-building intervention was used not only to revisit and discuss the first one from the beginning of the season, but also to welcome a new teammate that had joined the team after one of the players left the program. "We added a player and it was really good for him to kind of speak up and give his two cents on what he's going to bring to the team". (P2)

Improvements of the Team-Building Interventions

Overall, it was found that the consultant support and team-building interventions facilitated many outcomes that benefitted the team. However, the participants also voiced how the research team could improve their approach if they were to continue with the team the following season.

Regular Meetings with the Research Team

When participants were asked about improving the team-building interventions, the most prominent critique was that informal leaders and non-leaders were excluded from the regular scheduled meetings with the research team. This caused a number of concerns that were voiced

by those in the leadership group. One of those concerns was that players outside of the leadership group felt secluded and potentially created a perceived hierarchy. As this participant noted:

> An issue I think that we [as a leadership group] had was people knew the that these meetings were happening and I felt like they wanted to know what was happening, which at the same time, if I wasn't a part of the core group and meeting with the research group, I feel like I would want to know what's happening too because I wouldn't want to feel left out because maybe some players and I don't know if this was happening, but maybe some players felt like, are the captains on a different level than the other players on the team? Is there like a little hierarchy happening within the team? (P2)

The same participant went on to say this about the seclusion and perceived hierarchy: "We got the odd joke, like, 'Is the club meeting today'? It was just kind of banter between the boys". Although other players joked about the regular meetings with the research team, it was important to acknowledge the impact it had in terms of creating a perceived divisiveness in the team. This perceived divisiveness also led to another concern that the leadership group's messages to the team were becoming forced or unauthentic.

> I just feel like they might have questioned our purpose of giving some things or spreading the message if that makes sense? They might have just questioned if that's really what we wanted, or if that's what the coaching staff or the research team wanted us to say to the team. I think because they knew we were having lots of meetings with the coaching staff and with the research team. I think some guys might have started to sense that we were maybe being forced to say somethings even if we weren't. They just kind of think that way automatically when we're meeting with the coaches and the research team every

week or every couple weeks, and they aren't necessarily included in a lot of this stuff. I

definitely think some players started to feel like our message was kind of forced. (P2)

When asked about what could be done differently, this participant mentioned including more

players in the regular meetings:

I wonder if maybe the research team would be able to meet more with players who are

not captains on the team to kind of reiterate the message as well, just to make them feel

included in the meetings and stuff or they're meeting with the coaching staff more. Just

so when the captains go and spread the message, it's not the first time they've heard it.

(P2)

Although players outside of the leadership group were rarely included in the regular meetings

with the research team, when they were included, it yielded positive results. The following

participant said:

I think another thing when we had those meetings, sometimes we also added an

additional player into them, to some of the dinners and stuff that we did. I think that was

super beneficial too because I felt like upper year players that might not have had a letter

on their jersey were still a part of the conversation when they were there and they were

always included. Even when we talked and we had a joint discussion, even when the

season was paused [due to Covid-19] and we were going to restart and then coach wanted

to talk about set-up and how we want to do our practice days. I think that was really good

and that was something that the research group kind of brought forth and I think

everybody felt included. (P2)

Given this information, including informal leaders and non-leaders in the regular meetings with the research team would have decreased the perceived hierarchy and mitigate the perception of forced and unauthentic messaging.

Time-Capsule Team-Building Interventions

Another area of improvement concerned the two time-capsule team-building interventions and that players forgot what they had written or said, which could contribute it being less impactful. As noted by one participant:

An improvement for the time-capsule is to remember what we had said because at the beginning of the year we all said what it was at that time, and I guess it was important to reflect on it, but I totally forgot what I had written. What I was going to sacrifice, I think most guys did forget. Maybe for an improvement of the overall time-capsule activity, if we do it again, is that we put everything in the fire, but we also keep a copy of what everyone said. Then we have a paper, for example in the dressing room where it says what everybody is just going to bring because you don't want to forget about the sacrifice throughout the season. Like, if player X says I'm going to be the first one at the rink every day, last one to leave. This way guys remember what they said at the beginning and then you'd be able to see if we were still holding ourselves to it. (P2)

This quote also suggests that the players would be able to hold each other and themselves more accountable if there was a physical copy of their sacrifices written somewhere in the dressing room. Especially if the same team-building intervention were to be held a second time to check on the progress of the sacrifices written down. As a result, this would potentially foster a more successful and create a longer-term impact of the intervention.

Another participant went on to say that if this team-building intervention were to take occur again that drawing more attention to the time-capsule could increase its impact.

> After we did the time-capsule activity we would carry it [the time-capsule] on the road and everything. But I don't think we really talked about it enough and that can be to my fault or the captains' fault as well for not kind of bringing it up, but I think we could have used that as more motivation down the road, just to kind of remind guys why we're doing this. (P1)

They suggested that the time-capsule could be used as a motivational tool by drawing more attention to its significance and the sacrifices that were written down when the activity initially took place.

Lastly, one participant mentioned that by revisiting the time-capsule at the end of the year its impact could be increased by allowing players to reflect on it once more. It was noted:

> At the end of the year, you know, some closure to it, look to hand these back. And this is an opportunity for you and it's not for me to say whether or not you accomplish your whatever it is, but this is what you talked about in September, remember, and just give it back to not read them, just give it back to him. And I think that might bring the whole thing full circle. You know, and that was something that I would like to have seen in retrospect. (P4)

Overall, the time-capsule team-building intervention was talked about in high regard for its short-term impact, however, the improvements mentioned are feedback to increase its impact in the future.

Role Meetings

When asked about improvements pertaining to the role meetings, participants mentioned that they would have liked more coaches present [e.g., positional coaches], have more check-ins as roles change throughout the season, and leaders had to support some teammates after their role meeting for guidance. In this quote, the participant speaks of why it would be beneficial to have more coaches present during the role meetings.

It's different than just having a one-on-one with your [head] coach because one guy says something, the other guys too, so something like having that middle person [positional coach] there being like yeah I see this too. This might be a good add since they have a lot to say because you know your forward coach or D coach, I think it should be specific, it should be a rule of three, like this rule should always be three guys in the room. (P2)

What is highlighted in this quote, is that players would value the input of their positional coach because they are familiar with that player and what is needed from them to improve along with the head coach's input. Furthermore, they suggest this would also be beneficial by making sure the messaging and conversation is consistent between player and coach.

Participants also spoke about how they felt in relation to role meetings, but furthermore, how they can be improved and why:

Probably the weakness to me, the one thing that that I didn't necessarily like about it is that I think your role can change throughout the season. I feel like sometimes when you establish roles, people feel like that's it. This is your role. It's not going to change. But hockey seasons are long. Lots of things can happen, and I think also you have to be able to adapt as a hockey player. So that was one thing I don't really like about role meetings is that, sure, it's good at the time. You kind of know where you're fitting in, but at the

same time, hockey's crazy, injuries happen and things are going to change at all times. I

don't like when people get too fixed on a certain role ever. (P1)

When asked about how it could be improved, they had this to say.

I think it would be more check-ins. I know we probably met with the coach once per

semester individually, something like that. I don't know if it would help if we did it

maybe twice a semester, just so you kind of know where you're at. I think more of these

meetings could be good just to kind of check in with the players because I know

personally as a captain you have a lot of players coming up to you all the time. They're

kind of like, hey, what's going on here, what's going on with this, what's going on with

that? I think more check-ins with the coach would be good, just so guys can kind of

figure where they're at that moment in time as opposed to after a long period of time.

(P2)

They also highlighted that as members of the leadership group, they had to act as a

mediator to other players on the team for information. The participants also talked about how the

leadership group needed to support teammates after the role meetings were held. This one

participant noted:

As a leader I know I had to talk to a lot of guys and kind of motivate them. Like I know

you had a crappy meeting, but you know it's all good, just keep plugging away, and it's

kind of cliché stuff that I feel like kind of goes right through them, but it's almost stuff

that just kind of needs to be said. (P1)

As for the role meetings, the improvements mentioned would be increasing check-ins so

that players have more role clarity as the season progresses. Moreover, the leadership group and

other players could benefit from additional support provided by the research team after these meetings to ensure a positive perspective or messaging in their pursuit of improvement.

Players' Only Meeting

The improvement that the participants would have liked to see made in relation to the players' only meeting would be more control of the meeting (e.g., time, location, duration). The players' only meeting took place after the team met to go over tactical systems right before the start of the playoffs. As one leader noted:

> I think next year we have to plan a night for the coaches. That was good to teach us the videos. But I think the players need to, we need to do something like go to dinner together, not the same night as the coaches. We need to have the importance of getting together outside the rink, not as in "Hey, we're meeting at the Holiday Inn to go over our systems package and while we are there it's also convenient to meet as a players' only". I think for team-building, guys need to come in, commit their time outside of dedicated team time. I thought it would have been better if we set aside two times: Monday with the coaches and Wednesday with the players. (P2)

As a result of the lack of control over the players' only meeting, another concern arose similar to the regular meetings with the research team, that players questioned the authenticity of the leadership group's message.

> Sometimes guys might feel like we're just kind of saying the same things as the coaches or the coaches kind of told us. I know some guys came up to us and asked if the coaches made us have a players' only meeting just for the sake of doing it. (P1)

The improvements mentioned above share a similar remedy which would be including more members of the team for support and input. Whether it be more coaches at the role

meetings or informal leaders and non-leaders at the regular meetings with the research group. The diversity of input could have mitigated the concerns that arose for each team-building intervention and caused less strain on the leadership group.

Discussion

The purpose of this study was to implement and examine a season-long multimodal team-building intervention using Participatory Action Research (PAR) through a variety of social and task related interventions in a collegiate men's ice hockey team. Using semi-structured one-on-one interviews, an attempt was made to capture the head coach and the captains' (leadership group) individual perceptions of their experiences of the various team-building interventions that occurred throughout the season. It was found that through the support of the research team (consultant support) and implementation of team-building interventions, the leadership group perceived both them and the team benefitted from the various team-building interventions that occurred throughout the season. The participants also provided suggestions as how to improve the team-building interventions, which revolved around having the informal leaders, non-leaders, and assistant coaches be included in the development and participation of the team-building interventions.

An important result and overarching theme in the current study that was present in most of the findings was the support of the research team, also known as *Consultant Support.* The theme of *Consultant Support* consisted of relieving pressure (leading to increased focus), providing a third party perspective, collaborating with the leadership group, and acting as a liaison between the players and coaching staff. The efficacy of the team-building interventions hinged on the research team's role in facilitating them and, in general, the interactions that occurred with the leadership group. When looking at the effective practices of mental

performance consultants (MPC), there are a number of desirable traits that coaches and athletes look for when forming a working alliance. These traits are rapport, respect, trust, a partnership, and a positive impact on the client (Sharp et al., 2015). While not all of these traits explicitly emerged through the results of the current study, partnership was evident. Partnership is deemed effective when the following three factors are present that include boundaries, agreement of goals, and coach involvement (Sharp et al., 2015). In relation to the current study, acting as a liaison between the players and coaches satisfied all three of these factors. Any concerns or messaging between the leadership group and the research team was kept confidential unless stated otherwise, which is related to boundaries. As well, when concerns or messaging was to be relayed to the coaches and players, there was an agreement of goals that were trying to be achieved between the leadership group and the research team. In terms of collaborating with the leadership group, McCann (2000) suggested a partnership approach when working with an athlete to promote feedback and a collaborative relationship when setting goals for example. In the case of the current study, the leadership group was consulted on the team-building interventions proposed by the research team and were then collaborated upon until a desired result was achieved.

Participants also reported that the research team helped them with relieving pressure which in turn increased their focus towards performance and leadership related tasks. These findings support Wrisberg and colleagues (2009) who found that athletes seek mental training from MPCs primarily to enhance performance, more specifically, deal with pressure and improve focus. Third party perspectives were offered by the research team to assist the leadership group in changing the manner in which they approach a situation or their performance. Maclean and Lorimer (2016) stated that in coaching education programs, interpersonal (e.g., coach-athlete

communication) and intrapersonal (e.g., reflective practice) skills are underemphasized and are in need of more attention. Although Maclean and Lorimer's (2016) emphasis is on coaches to enhance their interpersonal and intrapersonal skills, athletes would benefit from these skills as well. In the current study, the leadership group benefitted from the research team's third party perspectives that included how to effectively communicate with their teammates and coaches to help enhance their interactions. Collectively, the manner in which the research team consulted and supported the leadership group, led to the following enhancements.

The theme of *enhanced leadership* as a finding was not surprising considering "leadership" is a facet of group structure in the team-building model (Carron & Spink, 1993) and was one of the primary focuses of the team-building interventions (see Figure 1). Participants believed leadership was enhanced due to the support of the research team that allowed the leadership group to focus on their duties as leaders. In relation to the support provided by the research team, Nixon (1992) stated that social networks created within a team will influence how group members bind, develop patterns of communication, and formalize behavioural expectations. A communication pattern that was established was social support from the research team using the regular meetings with the leadership group. The results of the current study align with Brustad and Ritter-Taylor's (1997) findings in that social support can be in the form of technical and emotional assistance to help minimize the stress athletes experience. Furthermore, the team-building interventions were administered using a hybrid approach, where some of the interventions were directly administered to the leadership group and other times the leadership group led the delivery of the team-building intervention. Yukelson (1997) believed that the use of the hybrid team-building approach enabled a more robust assessment of the team's dynamics, resulting in a more effective team-building intervention rather than using direct or indirect

approaches exclusively. This was an important aspect to enhancing the leadership capacities of the leadership group as the research team was able to assess situations more accurately, therefore providing tailored support to the leadership group.

When examining the increase in opportunities to lead, the functions of leadership (task, social, external; Loughead et al., 2006) were considered during the development of the team-building interventions (e.g., player-centered teaching model (task leadership), time-capsule team-building intervention (social leadership), and Legacy night (external leadership). By providing a variety of leadership opportunities, the leadership group had the chance to utilize the various leadership functions with the end goal of enhancing their own leadership capabilities. It should be noted that the enhancement of leadership was mostly contained to the members of the leadership group (i.e., formal leaders), leaving the informal leaders and non-leaders with less opportunity to enhance their leadership capacity. Therefore, it was recommended by the participants that it would be beneficial to increase the number of players who participate in the team-building interventions. In particular, it was suggested by the participants to include more teammates in the regular meetings with the research team as this would lead to a flattening of the perceived leadership hierarchy within the team and reduce player alienation. As Loughead et al. (2006) noted, task, social, and external functions of leadership are shared by a variety of formal, informal, and non-leaders. Based on these findings, including more team members, regardless of their leadership status, would increase the likelihood of enhancing the collective leadership of the team.

Ironically, the leadership group also spoke of *shared leadership* as a benefit to the team-building interventions. Participants highlighted they were able to utilize the research team and other teammates by delegating responsibilities, discussing conflict resolution, and ultimately

relieving individual pressure. These results are representative of Day and colleagues' (2004) definition of shared leadership, which is the distributions of leadership influence across multiple team members which can significantly improve team and organizational performance. In the case of the current study, shared leadership was primarily carried out in the regular meetings with the research team and the player-centered teaching model. Amongst the leadership group, the distribution of leadership was apparent as participants spoke of relieving pressure through delegation. In other words, shared leadership was exhibited, however, it could have been enhanced even further if more team members were included in these regular meetings. For example, in the player-centered teaching model, the influence of shared leadership was more widespread as team members outside of the leadership group were assigned leadership responsibilities when teaching the team's playing systems. Overall, Carson et al. (2007) stated that when more team members provide leadership to their peers, the density of the leadership network increase, which in turn increase the leadership influence within the entire team.

As for the theme of *Enhanced Performance*, the results showed that a consequence of the regular meetings with the research team was the opportunity for the leadership group to focus their attention towards on-ice performance and team goals. More specifically, participants stated that the research team relieved pressure by acting as a liaison between the leadership group and the coaching staff, therefore increasing their focus towards performance related tasks, rather than focusing on intra-team conflict. Participants also stated that the regular meetings mitigated team members losing focus of team goals. A limitation participants stated was the adherence to goals or sacrifices mentioned during the team capsule team-building activities. Participants mentioned that in order to be reminded of their goals and sacrifices, posting them in the dressing room would have aided in their adherence.

One of the many positive results was the enhancement of communication skills as they increased the frequency to communicate, as well as the quality of communication especially when a PDMS approach was used, which enabled team members of the leadership group to communicate more effectively. Carron and Spink (1993) argued that providing opportunities for team members to communicate would enhance team cohesion. In fact, the participants indicated that the team capsule team-building activity that used a PDMS approach increased intra-team communication that in turn led to perceptions of increased team cohesion among all team members. In regards to the increase in the quality of communication, Sullivan and Feltz (2003) outlined four factors of effective team communication: acceptance of each other, distinctiveness from other groups, constructive intra-team conflict, and a reduction in destructive conflict. The current study's findings would suggest acceptance of each other occurred during the time-capsule team-building activities as participants echoed Hirsch's (1992) findings that sharing and disclosing personal information (i.e., PDMS) led to a greater appreciation of team members' values, attitudes, and personal motives. Constructive intra-team conflict was demonstrated through the regular meetings with the leadership group as it allowed the research team to provide guidance in terms of how to deal with situations in a constructive manner that also had the effect of mitigating negative conflict. As a result of utilizing a PDMS approach during the team capsule time-building activities, it allowed the leadership group to communicate more effectively to their teammates about team-related issues. A limitation that negatively impacted intra-team communication was the exclusiveness of the leadership group meeting with the research team. It was felt by the participants that team members outside of the leadership group questioned the authenticity of the leadership group's messaging to the team. For future reference, it would be

advised that more team members should be included in discussions with the research team in order to keep messaging similar and avoid intra-team conflict due to alienation.

As noted by the *Enhanced Cohesion* theme, cohesion was primarily fostered through the use of the PDMS team-building interventions (e.g., regular meetings with the research group, and team capsule team-building activities). In particular, the PDMS interventions increased perceptions of cohesion since it was a beneficial way of welcoming new team members to the group by facilitating shared perceptions, meanings, constructs, and understanding (Ostroff et al., 2003). In doing so, team members felt more comfortable with each other having shared personal stories, experiences, and goals during these two PDMS team-building interventions. The results of the current study would suggest both task and social cohesion were impacted by the PDMS team-building interventions. As Hardy and Crace (1997) noted the goal of PDMS team-building interventions is to enhance overall team functioning, which is why the current study included PDMS team-building interventions that discussed individual player roles, views, values, and motives from both a social and task perspective. As a result, by discussing relevant team factors through allowed athletes and coaches to respond to team members more productively (Mohammed & Dumville, 2001; Orlick, 1990). A limitation that was highlighted by the participants was again the exclusion of other team members outside of the leadership group in the regular meetings with the research team, which led to perceived alienation. Hardy and colleagues (2005) found in certain circumstances where social cohesion was high amongst a small group of teammates that the formation of cliques could occur. In the current study, it could be argued that the high levels of cohesion for those members of the leadership group could led other team members to perceive the leadership group as a clique. As mentioned above, inclusion

of more team members when meeting with the research team would be beneficial to mitigating cliques amongst the team.

Summary and Future Directions

In conclusion, utilizing Carron and Spink's (1993) model as a framework to inform the creation of the team-building interventions was found to be a useful tool. By maximizing the number of components from the model into the present study's interventions, athletes and coaches received a very robust season long team-building experience. The research team found that by using a PDMS approach to the team-building interventions allowed for a more impactful experience for all members of this varsity team. The PDMS approach promoted candour between the research team and leadership group, which helped create authentic feedback when the leadership group was asked to collaborate on the creation of the team-building interventions. This collaborative process benefitted the overall relationship the researchers had with the athletes and coaches.

Furthermore, MPCs should not underestimate their impact on the functioning of a team. Based on the results of the current study, the participants believed the support provided by researchers was beneficial in ways that they had not experienced in their ice hockey careers. Merely offering athletes and coaches external support to discuss personal and team-related issues enhanced personal and team growth. Implications from the current study suggest MPCs should greatly consider utilizing PDMS interventions to decrease power dynamics. It was found that candour and relating to athletes and coaches from a personal level enhanced the relationship and overall experience of everyone involved with the team. As for future directions, it is recommended that more athletes be consulted when designing the team-building interventions and have more athletes involved in the meetings as to limit alienation and perceived hierarchy

amongst the team. By incorporating this recommendation, there would be increased opportunity for more feedback that could ultimately enhance the effectiveness of the team-building interventions.

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Tables

Table 1

Season Timeline with Team-Building Interventions and Intended Outcomes

Month	Team-Building Intervention(s)	Intended Outcome(s)
August	· First assessment meeting with head coach and research team	· Identify areas of strength and weakness · Identify leaders · Build rapport with coach
September	· First regular meeting with leadership group · Player-centered teaching model · Exhibition games begin	· Build rapport with captains · Ask for the captains' feedback on proposed team-building interventions · Give team members opportunity to lead and communicate
October	· Over-night PDMS team capsule activity · "Legacy Night" · Regular season begins	· Enhance communication amongst team members through personal disclosure · Enhance cohesion · Enhance team members' ties to alumni and program history
November	· Role meetings	· Enhance role clarity · Give players and coaches a chance to communicate about goals and expectations
December	· Regular meetings with leadership group · Holiday break and COVID-19 season pause	· Discuss plan of action for time off with coaches and captains
January	· Holiday break and COVID-19 season pause continues	· N/A

February	·	Hotel conference room PDMS team capsule activity 2	· Revisit topics discussed from the first team-capsule activity
			· Welcome new player to team
			· Enhance communication and cohesion after hiatus
March	·	Players' only meeting	· Enhance communication and cohesion heading into playoffs
	·	Playoffs begin	

Note. Each month starting in September until the end of the season, there were either weekly or bi-weekly meetings held between the research team and the coach and captains.

<center>**Literature Review**</center>

The purpose of this thesis is to examine a season-long multimodal team-building intervention using a Participatory Action Research (PAR), thus attempting to enhance the team environment through a variety of social and task related interventions and athlete leadership in a collegiate men's ice hockey team. More specifically, an attempt was made to capture the head coach's and the captains' individual perceptions of their experiences with being immersed in the various team-building interventions that occurred throughout the season. Therefore, this literature review will assess information concerning (a) team-building and (b) athlete leadership.

<center>**Team-Building**</center>

In this opening section, the construct of team-building will be defined, characteristics of team-building examined, and a conceptual model outlined. As well, the delivery methods and research regarding team-building will be reviewed.

Definition of Team-Building

Team unity or cohesion is one of the cornerstones for helping a group of athletes achieve a common goal (Pain & Harwood, 2009; Yukelson 1997). Given the importance of cohesion in relation to team functioning, a process known as *team-building* is a method used to develop or enhance perceptions of cohesion (Senécal et al., 2008). Researchers have shown that cohesion is directly associated to increases in team performance and success (Bloom et al., 2003; Carron et al., 2002a). Hence, team-building interventions are designed to increase group effectiveness by enhancing cohesion (Carron et al., 1997).

Given the importance of team-building to enhancing cohesion, researchers have advanced several definitions of the construct. In organizational psychology, Dyer (1977) defined team-building as "an intervention conducted in a work unit as an action to deal with a condition or

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conditions seen as needing improvement" (p. 4). This definition was seen as general in nature

where the goal was to improve an individual's work condition, which influenced researchers to

refine the definition further and view it as a method of assisting the group to increase its

effectiveness, satisfy the needs of its members, or improve work conditions (Beer, 1980; De

Meuse & Liebowitz, 1981; Hanson & Lubin, 1986). Newman (1984) advanced a slightly

different definition and referred to team-building as "a method to support a group and promote

an increased sense of unity and cohesiveness, enabling the team to function more smoothly and

effectively" (p. 27). Newman's definition considered different elements such as promoting unity

and cohesiveness to improve work effectiveness and conditions.

Within the context of sport, the Journal of Applied Sport Psychology published a special

issue in 1997 devoted to the construct of team-building in sport. In the many articles that

appeared in this issue, numerous definitions of team-building were advanced. Hardy and Crace

(1997) referred to team-building as an intervention which improves team performance by

enhancing team processes or synergy. Similarly, Widmeyer and Ducharme (1997) stated that

team-building interventions have two main objectives: (a) enhance a group's maintenance (i.e.,

performance), and (b) their locomotion (i.e., cohesion). Lastly, Brawley and Paskevich (1997)

referred to team-building as enhancing a team's task and/or social components. In particular,

they viewed team-building as a method of helping the group to: (a) increase group effectiveness,

(b) satisfy the needs of its members, and/or (c) improve work conditions. As a result, Brawley

and Paskevich noted that team-building interventions have several objectives: (a) improve

teamwork pertinent to accomplishing the team's task(s), (b) encourage interactive processes

involving inter-member and intra-team communication and coordination, (c) modify the

perceptions, attitudes, and expectations of the team in terms of significant matters relevant to the

team members, and (d) minimize components of the group that obstruct or diminish the group's ability to develop effective teamwork. Taken together, the team-building definitions presented in the special issue all share a common element, which is the development of task (group goals) and social (relationships) cohesion (Loughead & Hardy, 2006).

Conceptual Model of Team-Building

Given a key component of team-building is the development of cohesion, Carron and Spink (1993) advanced a conceptual model of team-building to outline the components hypothesized to impact the outcome of cohesion. Specifically, the conceptual model of team-building is a linear model consisting of inputs, throughputs, and outputs (see Figure 1). The inputs are *group environment* and *group structure,* which influence the throughput of *group processes*, and in turn, impacts *cohesion* as an output (Carron & Spink, 1993).

In terms of inputs, Carron and Spink (1993) highlighted two types: group environment and group structure. As for group environment, the authors emphasized the factor of distinctiveness and proximity/togetherness. Carron and Spink described distinctiveness as being "when the group's immediate environment and/or appearance of group members themselves are distinctive, perceptually different, or unique, members develop a stronger sense of 'we,' more readily distinguish themselves from non-group members ('they'), and ultimately develop stronger perceptions of cohesiveness" (p. 12). Examples of distinctiveness can take the form of having a group name, customizing group shirts or other apparel, and creating slogans/mantras for the group. Essentially, creating or outlining unique characteristics which only pertain to the group will enhance belongingness ("we") and ultimately cohesion. As for the factor of proximity/togetherness, this refers to group members who are regularly in close physical proximity will develop increased perceptions of cohesion (Prapavessis et al., 1997).

The second input identified in the model is *group structure* consisting of the factors of group norms, individual positions, and leadership. Starting with group norms, Carron and Spink (1993) stated that as norms and collective expectations develop within a group, the group's structure becomes more stable. Similar to distinctiveness and togetherness, group norms also creates a stronger sense of "we" amongst group members. As noted by Prapavessis et al. (1997), conformity to group social and task norms increases cohesiveness and once established are highly resistant to change. A social norm example could be arriving an hour early to team practices to socialize, whereas a task norm could be playing within the team's offensive or defensive systems. Additionally, the factor of individual positions creates stability in the group's structure when members consistently occupy a specific role. For instance, when group members have a clear understanding, are satisfied, and accept their role, group cohesion increases (Prapavessis et al., 1997). Lasty, the factor of leadership is believed to influence task and social cohesion of the group; especially when a participative style of leadership is demonstrated.

Group processes are identified as the throughput in the team-building model. The factors that constitute *group processes* include interaction and communication, sacrifices, team goals, and cooperation. Interaction and communication enhances a group's perception of cohesiveness when members participate in task and social discussions (Carron & Spink, 1993). This can be achieved through group/partner activities and taking turns demonstrating different tasks to the group. As for sacrifice behaviours, Carron and Spink (1993) noted that when members make sacrifices for their group, it increases their commitment to the group and ultimately enhances perceptions of cohesion. This can take form of more senior or high status members assisting newer members with task related matters, and forgoing their needs for the greater good of the team or the needs of teammates (Prapavessis et al., 1997). When team goals are set

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collaboratively rather than individual goals, team success is improved and cohesiveness is enhanced (Prapavessis et al., 1997). Finally, the factor of cooperative behaviour among team members has shown to be more beneficial than individual and competitive behaviour in terms of team and individual performance; thus, cooperation enhances perceptions of cohesiveness (Prapavessis et al., 1997).

Lastly, the output of the team-building model is *cohesion*. Carron et al. (1985) proposed that a group's cohesiveness is based on two categories related to the individual members and group, as well as task and social components within those categories. These categories are characterized as the Individual Attractions to the Group (i.e., a member's feelings towards to the group and motivation to remain with the group) and Group Integration (i.e., a member's perceptions of the group's ability to unify). These categories include four sub-categories related to task and social components of the group: Individual Attractions to the Group-Task (ATG-T), Individual Attractions to the Group-Social (ATG-S), Group Integration-Task (GI-T), and Group Integration-Social (GI-S). In terms of the task and social subcategories, task is related to collective performance, goals, and objectives, whereas social is related to relationships within the group.

Methods of Team-Building Delivery

Three methods have been advanced when delivering team-building interventions: *indirect* (Carron & Spink, 1993), *direct* (Yukelson, 1997), and *hybrid* (Loughead & Hardy, 2006). First, the delivery of an *indirect* approach involves a mental performance consultant (MPC) implementing a team-building intervention through the coach, who then implements the intervention with the team. There is a four-stage process in which the MPC refers to when educating the coach on how to properly implement the intervention, which includes an

introductory stage, a conceptual stage, a practical stage, and an intervention stage (Carron &
Spink, 1993). During the introductory stage, the MPC provides rationale for the team-building
intervention as past research has indicated when coaches understand its reasoning, their
motivation towards the intervention increases (Carron & Spink, 1993). For example,
emphasizing the benefits of increased task and social interactions, greater role acceptance,
improved group stability, and their overall impact on team performance can be beneficial to a
coach who is implementing the team-building intervention (Carron & Spink, 1993). The
conceptual stage involves educating the coach on Carron and Spink's (1993) team-building
model with the intent that coaches will better understand the components of a cohesive group.
Following the conceptual stage, it is in the practical stage where the coach develops strategies
with the consultant that will be used in the team-building intervention. The purpose of this stage
is to improve the team environment, structure, and processes through a tailored team-building
intervention. Once the details of the intervention are finalized, the intervention stage will occur
and the coach will administer the team-building intervention.

The second approach is Yukelson's (1997) *direct* method whereby the MPC works
directly with the athletes in determining the details of the team-building intervention (Carron, et
al., 1997; Yukelson, 1997). There is a four-stage process when implementing the *direct*
approach. The first stage is assessment of the situation, where the MPC observes the team's
dynamics (e.g., quality of interpersonal relationships, team atmosphere), talks with coaches,
athletes, and any other staff members in order to gain insight. The second stage, education, is
meant for the MPC to familiarize the team members with the underlying rationale of the team-
building intervention. For example, describing how enhancing team chemistry (cohesion)
through team-building will help get everyone to work together towards a common goal

(Yukelson, 1997). The third stage is brain storming and requires the team members' assistance in identifying areas of improvement. This is facilitated by the MPC through questions that provoke reflection on desired accomplishments and how they will be achieved (Yukelson, 1997). Once this has been established, the final stage includes the development of the action plan and the delivery of the team-building intervention implemented by the MPC.

Based on Yukelson's (1997) *direct* approach, Voight and Callaghan (2001) conceptualized a specific team-building intervention called the *direct service approach.* This approach was a result of past team-building research, applied techniques, and interviews with athletes and coaches from Penn State University. The framework of the *direct service approach* consists of the following components: (a) shared vision (common goals and complementary roles), (b) collaborative and synergistic teamwork, (c) individual-team accountability, (d) team identity, (e) positive team culture and cohesiveness, and (f) open and honest communication. In order to tap into all of these components, a seven stage team-building implementation procedure was outlined: *Stage one* – a formal needs assessment is conducted by coaches and MPC to determine what the team needs to be successful at moving forward. *Stage two* – once needs are determined, coaches and MPC develop a plan. *Stage three* – an initial team meeting is held by the MPC between the team's members and coaches, where team members are informed about what team-building is and participate in a brain storming session addressing the needs of the team. *Stage four* – the MPC along with the team prioritizes its needs from the brain storming session and continues to define each need and how it can be addressed. *Stage five* – from there, follow-up meetings are held by the MPC to create short and long term goals based off the team's needs and how they can be met. *Stage six* – throughout the season, team meetings facilitated by the MPC occur in order to gauge the team's progress of the team's goals. To ensure optimal

results, evaluations in the form of open discussions or rating sheets are critical. *Stage seven* – as

the season progresses, any conflicts that may arise are mitigated through team meetings. The

results from the Voight and Callaghan (2001) intervention found that this approach increases

individual and team performance through enhanced unity, team communication, problem

solving, and motivation/focus of team and individual goals.

Dunn and Holt (2004, 2006) put forth another *direct* method of team-building called

personal-disclosure mutual-sharing (PDMS). This team-building approach uses communication

exercises facilitated by the MPC that involves team members sharing personal information or

stories that other team members were unaware of (Crace & Hardy, 1997; Dunn & Holt, 2004;

Holt & Dunn, 2006). Without knowing personal information, team members find it challenging

to assist others when they are unaware of teammate needs or feelings (Orlick, 1990). Hence, the

goal of these PDMS exercises is to increase team members' collective understanding and

appreciation of each other's roles, views, values, motives, and needs in order to enhance team

functioning (Hardy & Crace, 1997). This collective understanding is meant to enhance

communication, motivation, cohesion, and decision-making efficiency (Cannon-Bowers & Salas,

2001). When structuring a team-building intervention involving PDMS, Holt and Dunn (2006)

provided guidelines for the MPC who administer the exercises. The MPC must (a) establish

group communication practices/meetings throughout the season, (b) facilitate the meetings, and

(c) demonstrate contextual sensitivity (i.e., knowing what type of intervention is appropriate for

the team) (Holt & Dunn, 2006). With that said, given the personal nature of PDMS exercises, it

may not be an appropriate intervention for all teams. For example, highly committed athletes and

elite teams are more likely to participate in these personal disclosure type of engagements;

whereas, non high-performance athletes or teams who are resistant to personal disclosure, would

benefit more from open discussion and sharing of team functioning and task related objectives (Harwood, 2008; Yukelson, 1997).

Lastly, the *hybrid* approach to team-building interventions includes both *direct* and *indirect* methods. This approach incorporates conceptual components from Carron and Spink's (1993) *indirect* method and Yukelson's (1997) *direct* method. Given Prapavessis' et al. (1996) criticism towards the *indirect* method's lack of assessment, it is important to consider the benefits of each approach. Yukelson (1997) believed the assessment stage is the most important component in delivering a good team-building intervention. Therefore, MPCs are encouraged to apply a thorough assessment of the team's dynamics, while considering the conceptual framework of the *indirect* method (Hardy & Loughead, 2006). This combination allows a more accurate, deliberate, and efficient team-building intervention that considers the team's specific needs (Yukelson, 1997). With team members (e.g., athlete leaders, coaches) involvement in the development of the strategies, promotes ownership and intrinsic motivation towards the team-building intervention. This can influence team leaders' "buy-in" to the intervention and as a result, increase other team members' perceptions of importance and commitment (Carron et al., 1997).

Team-Building Intervention Types and Research

The concluding section of team-building will examine qualitative, quantitative, mixed-methods, and participatory action research pertaining to numerous team-building interventions within various sport contexts.

PDMS. Dunn and Holt (2004) implemented a PDMS team-building intervention involving a male intercollegiate ice hockey team. The participants comprised 27 players who were interviewed regarding their perceptions of the team-building exercises held at a national

championship tournament. The researchers' goal was to enhance the team's emotional attachment to each other. In fact, Bloom et al. (2003) indicated that enhancing a team's emotional attachment during important events may benefit the team's performance. With that said, the purpose of their PDMS team-building intervention was to create an environment in which players would become emotionally invested in the task (i.e., championship tournament) and become reacquainted with the importance of team cohesion. Team cohesion was identified as an integral part of their team's success the previous season when they won the national championship title. The nature of the team-building intervention was to share something personal that "shaped their sporting personality" and "would make their teammates want to be in the trench besides them before going into battle." Athletes reported that the team-building intervention was emotionally intense, with some describing it as a significant life experience. Furthermore, athletes perceived the intervention to enhance understanding of themselves and others, increased closeness and playing for each other (cohesion), improved confidence and trust in teammates, and feelings of invincibility.

Holt and Dunn (2006) followed up their previous study (i.e., Dunn & Holt, 2004) on PDMS interventions by working with a high performance Canadian female soccer team. The participants consisted of 22 athletes, with 15 who volunteered to be interviewed. The purpose of this study was to test the replicability of Dunn and Holt's (2004) intervention and provide guidelines to MPCs and/or practitioners who wished to implement their own PDMS intervention. The guidelines presented were how to: (a) establish group communication processes throughout the season, (b) facilitate meetings, and (c) exhibit contextual sensitivity. Similar to the Dunn and Holt (2004) study, the intervention was held at a national tournament. However, unlike their previous study, a MPC delivered the PDMS intervention and spoke first in the meeting. The

MPC instructed players and coaches to reflect upon and answer these questions: "Why I play soccer, and who I play for" and "What will I bring to the team at the national championship." Nearly identical to the previous study (i.e., Dunn & Holt, 2004), athletes perceived the intervention to enhance understanding of themselves and others, increased closeness and playing for each other (cohesion), and feelings of invincibility. However, perceptions of confidence differed between the two studies as Holt and Dunn's (2006) results pertained to the enhancement of the athlete's personal confidence, rather than confidence in the team as in Dunn and Holt (2004). The authors recommended the following three guidelines for MPCs to follow. First, it is important to establish group communication during the season and the authors provide two group PDMS exercises. The focus of these exercises is to acquaint athletes with the principles of PDMS interventions which are: preparing information for team meetings, publicly speaking and sharing personal information to the group, emphasising the importance of respecting confidentiality. Given the personal nature of PDMS interventions, a vital factor when establishing these processes is the MPC must foster trust and rapport with team members. This is more easily achieved when the MPC begins working closely with the team early in the season and is included in team functions and events. The second guideline concerns the facilitation of PDMS meetings. It is important to give athletes time to prepare their responses, provide clarity and emotional guidance by alleviating concerns, consider when during the season the PDMS meetings will occur and length of the meetings, the content of the meetings, and role of the MPC during the meetings. The third guideline refers to the contextual sensitivity by taking into account the timing of the PDMS along with the age and maturity of athletes.

A group of researchers from the United Kingdom (UK) have also conducted team-building research using a PDMS framework. Windsor and Barker (2011) implemented a PDMS

intervention with a professional soccer club from the UK before an important match during a domestic cup competition using a mixed methods approach. Participants included 21 male soccer players who took part in a PDMS intervention using similar questions to Dunn and Holt's (2004) study. The first question was: "Why do you play soccer and what do you bring to the team" and "Tell a personal story that will convince your teammates that they would want you on the team alongside them playing in the important game the next day." In addition to answering these qualitative questions, athletes also completed two questionnaires following the intervention: the Group Environment Questionnaire (GEQ; Carron et al., 1985) to measure cohesion, the British Scale for Effective Communication in Team Sport (BRSECTS; Sullivan & Callow, 2005) to assess team communication, and a social validation questionnaire to provide robust anecdotal data in conjunction with the questionnaire data. The results showed no statistically significant changes in cohesion or team communication; however, the results from the social validation questionnaire indicated that most players felt the intervention enhanced closeness (a proxy measure of cohesion), understanding of others, and communication. An important caveat to consider in this study is some athletes' native language was not English. This led to some confusion surrounding the intervention and limitations to sharing their stories. Similar findings were apparent as athletes reported apprehension (although some athletes later revealed regret for not divulging more), and emotional intensity.

Barker et al. (2014) delivered a dual-phase PDMS intervention with 15 elite youth (aged 14-18) cricketers that took place during a preseason tour. The purpose of this study was to explore the effects of a dual-phase PDMS intervention measuring social identity and collective efficacy. In the first phase (PDMS1), athletes were instructed to disclose relationship-oriented information and in the second phase (PDMS2) mastery-oriented information. The intention was

to discover if different forms of PDMS interventions could influence other factors of team functioning, rather than the traditional disclosure of personal information to enhance group relationships. Statistical analyses showed that social identity and collective efficacy increased through both PDMS interventions. Social validation data revealed athletes respected and valued their teammates' personal disclosure post-PDMS1, which influenced an enhanced ability to disclose mastery-oriented information at PDMS2.

Participatory action research. Another research method used to examine team-building in sport has been participatory action research (PAR) methodology. Rovio et al. (2012) examined a season-long multifaceted team-building intervention with a junior league ice hockey team in Finland. Participants consisted of 22 players, aged 15-16, and three coaches. The purpose of the study was to implement and examine a season-long team-building intervention. In particular, the MPC delivered a team-building intervention that focused on group goal setting, individual goal setting, and role clarification facilitated by performance profiling. Through performance profiling, a clearer understanding of required ice hockey qualities emerged and were then referenced for group discussions related to role clarity and goal setting. Once team and individual goals were set, team meetings were held throughout the season. In addition, qualitative data were also collected through: (a) diary entries based on observations, conversations, and meetings by the MPC and (b) through two (2) video-recorded semi-structured interviews with the head coach. The results showed that performance profiling helped to identify the characteristics of the players, which in turn facilitated perceptions of role clarity and individual goal setting. With role clarity and individual goals established, players were able to better understand how these factors influenced the group goals. The players also completed two questionnaires concerning goal achievement and cohesion pre- and post-intervention, in which

significant increases were found for goal achievement. In terms of cohesion, task cohesion remained constant throughout the season while social cohesion gradually increased as the season progressed.

Meta-analysis. As noted above, the majority of studies concerning team-building in sport have used quantitative measures. Given the amount of research produced in this area, Martin et al. (2009) completed a meta-analysis of 17 team-building intervention studies. The primary purpose was to examine the effectiveness of team-building interventions in sport, and the secondary purpose was to examine the influence of various moderating variables. The moderator variables consisted of characteristics of the study (experimental design, non-experimental, quasi-experimental), characteristics of the team-building intervention (single task-oriented protocol such as goal setting, omnibus task-oriented protocols, socially-oriented protocols, and adventure/outdoor experience), mode of intervention delivery (direct and indirect), intervention length (less than 2 weeks, 2-20 weeks, and 20 weeks and above), characteristics of the participants (gender, age, type of sport, skill level), and outcome variables (cohesion, performance, enhanced cognitions, roles, and anxiety). Effect sizes were then calculated for each of the above-mentioned moderating variables. Quasi-experimental designs had an effect size of .408 drawn from 10 studies, while non-experimental designs had an effect size of .474 collected from the remaining 7 studies. Intervention types reported goal setting interventions to have an effect size of .714 drawn from 3 studies, omnibus with an effect size of .161 drawn from 9 studies, interpersonal relations with an effect size of .486 drawn from 1 study, and adventure programs with an effect size of .471 drawn from 4 studies. Mode of delivery reported direct interventions with an effect size of .446 drawn from 11 studies and indirect interventions with an effect size of .414 from the remaining 6 studies. Length of intervention saw those that lasted less

than 2 weeks to have an effect size of .106 collected from 5 studies, interventions 2-20 weeks had an effect size of .499 collected from 5 studies, and interventions lasting 20 weeks and above had an effect size of .564 collected from 7 studies. Interventions with male participants reported an effect size of .334 from 5 studies, female participants reported an effect size of .458 from 10 studies, and mixed participants reported an effect size of .712 from the remaining 2 studies. Interventions pertaining to sport types saw interactive sport with an effect size of .159 from 10 studies, individual sports with an effect size of .673 from 6 studies, and combination sports with an effect size of .712 from the remaining study. Interventions at varying skill levels reported high school to have an effect size of .240 drawn from 1 study, intercollegiate interventions had an effect size of .482 drawn from 14 studies, and post-collegiate had an effect size of .218 drawn from 2 studies. Outcome variables of social cohesion reported an effect size of .214 from 11 studies, task cohesion reported an effect size of .263 from 11 studies, performance reported an effect size of .712 from 5 studies, enhanced cognitions reported an effect size of .799 from 5 studies, roles reported an effect size of .789 from 1 study, and anxiety reported an effect size of -.165 from 3 studies. Effect sizes related to age were not reported. Goalsetting and omnibus team-building programs were the most commonly used forms of team-building. Goalsetting was found to be more effective than omnibus interventions given its specific and directed nature versus the more general and broad nature of omnibus interventions. Implications from these results suggest fewer team-building interventions would allow athletes to better focus their attention and result in more positive outcomes. Method of team-building delivery (i.e., indirect vs direct) did not differ significantly in effectiveness indicating that both are effective forms of delivering team-building interventions. The duration of the team-building interventions were categorized into three lengths: less than 2 weeks, 2-20 weeks, and 20 weeks and greater. The results showed that

interventions lasting 2-20 weeks were more beneficial than interventions lasting 2 weeks or less, and interventions lasting 20 weeks and greater to be more effective than interventions lasting 2-20 weeks. Essentially, as the duration of the team-building intervention increased, so did its effectiveness. This could be attributed to team-building interventions taking time to be properly introduced, gain trust of the participants, and ultimately for behaviour change to occur. As for gender, there were no differences indicating that both male and female athletes benefit from team-building. The type of sport (individual sports versus team sports) showed that team-building interventions had a greater effect on individual sports (e.g., track and field, gymnastics) than team sports. It is proposed that a ceiling effect may cause this outcome as team sports work collaboratively and may already be cohesive, thus allowing individual sports more room for growth when it comes to cohesion. Skill level was heavily represented by intercollegiate samples. This was found to be a limitation of the study as results could not be generalized to all ages. The most frequently examined outcome of cohesion was not significantly impacted by team-building interventions. It is possible given the different measurements used across the selected studies could offer ambiguous results. Lastly, cognition based outcomes had a large positive effect further strengthening the notion that psychological, physical, and physiological skills benefit from interventions.

Athlete Leadership

This section of the literature review will begin by defining the construct of athlete leadership along with its characteristics. Following the definition, four models that have been used to study athlete leadership will be discussed along with their associated leadership behaviours. Next, the measurement tools for assessing these leadership behaviours will be

reviewed. To conclude, an overview of pertinent research will examine the roles and attributes of athlete leaders and their influence on group cohesion.

Athlete Leadership Defined

Loughead et al. (2006) defined athlete leadership 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" (p.144). This definition was developed using Northouse's (2001) four characteristics of leadership. Specifically, Northouse stated that (1) leadership is a process that is enacted by interactions between the leader(s) and the follower(s), (2) leadership emerges when an individual influences others, (3) leadership occurs within groups, and (4) leadership is about the attainment of common goals. When considering leadership as a process, it means that it is not a trait or a characteristic where it is innate to the leader, rather it is an event that occurs between leaders and followers. As a result, leadership is not a one-way construct but is an interactive event. When leadership is viewed in this manner, it becomes available to everyone within the group. Second, leadership involves influence and without it, leadership does not exist. It is important to consider how leadership is operationalized. Third, leadership must occur within a group setting. Simply put, without followers there is no leadership. Fourth, leadership occurs with the purpose of propelling a group towards common goals or objectives. This characteristic of leadership highlights the interactive process of followers and leaders in terms of engaging in mutual influence towards collective or shared goals.

As the definition infers, athlete leadership is a shared phenomenon (Loughead et al., 2019) where there are two types of athlete leadership roles: *formal* and *informal.* When an athlete is designated by a coach or team (e.g., group election) as a captain, co-captain, or assistant captain, they are considered a *formal* athlete leader. For those athletes who emerge into their

leadership role through interactions with team members, these individuals are known as *informal athlete leaders*.

Models of Athlete Leadership

Athlete leadership research has been guided primarily by two models—the Full Range Model of Leadership (FRML; Avolio, 1999) and the Multidimensional Model of Leadership (MML; Chelladurai, 2007). Recently, two newer models have been forwarded to complement the FRML and MML. This section will review these four models used to conceptualize athlete leadership.

Full Range Model of Leadership. Conceptualized by Avolio (1999), the FRML consists of three broad leadership styles ranging from absence of leadership to more effective forms of leadership (see Figure 4). *Laissez-faire* is the most absent form of leadership according to the FRML (Avolio, 1999) and is considered to be the least effective approach to leadership. Laissez-faire is characterized by an avoidance of responsibility, indecisiveness, and waiting to see if others will initiate a task. However, Avolio (1999) surmises that *laissez-faire* leadership can be appropriate and even necessary in situations where, for example, followers are considered experts and highly self-motivated individuals.

T*ransactional leadership* is considered to be more effective than laissez-faire. This type of leadership style refers to a relationship between leader (e.g., athlete leader) and follower (e.g., teammates), contingent on some exchange that meets both parties' self-interests in the form of reward and/or recognition. Characteristics of transactional leadership relative to laissez-faire are decreased indecisiveness, accepting more responsibility, increased involvement in decision-making and creating and maintaining agreements based on contingencies with followers. Transactional leadership is an effective style of leadership through the use of constructive and

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corrective forms of feedback. Transactional leadership has been operationalized by Avolio

(1999) consisting of three leadership behaviours. *Contingent reward* is the first transactional

leadership behaviour where leaders provide promise, praise, and rewards to followers who

achieve desired performance and to encourage other followers to behave similarly. This type of

feedback is considered constructive and is more effective than corrective feedback. The second

transactional leadership behaviour is *management by exception* and consists of two sub-

categories: *management by exception-active* and *management by exception-passive.* Leaders who

exhibit *management by exception-active* traits monitor followers' errors and take immediate

action. Furthermore, leaders who portray *management by exception-passive* traits wait for errors

and take action later. In contrast to constructive feedback (i.e. providing rewards for desired

behaviours), management by exception is the chastisement of followers who behave undesirably.

While both forms of corrective feedback are considered to be ineffective the majority of time, in

high risk/emergency situations active management by exception is effective and sometimes

required.

The most effective leadership style within the FRML is *transformational leadership*

(Avolio, 1999), which aims to develop followers into leaders through fostering the unique traits

and behaviours the follower possesses (Burns, 1978). The key component of transformational

leadership is to focus on encouraging followers to strive for greater goals and objectives beyond

those that are transactional. Avolio (1999) operationalized transformational leadership through

the following four leadership behaviours: *idealized influence, inspirational motivation,*

intellectual stimulation, and *individual consideration*. *Idealized influence* is achieved when

leaders behave in a manner where followers view them as role models and, in turn, emulate their

leaders' behaviours. Leaders who are admired, respected, and trusted will have a higher

probability of followers who identify with them and their vision. *Inspirational motivation* is achieved when leaders provide meaning and challenge to their followers' work in ways that motivate them. Leaders who demonstrate inspirational motivation do so with enthusiasm and optimism, which results in enhanced team spirit. *Intellectual stimulation* is achieved when leaders encourage followers to question the status quo and approach situations using novel perspectives. Creativity is encouraged and there is no public criticism of individual members' mistakes. Furthermore, followers are encouraged to try new approaches and their ideas are not criticized even if they differ from the leaders'. *Individualized consideration* is achieved when leaders recognize each follower has different needs and desires. This can be in the form of learning, goals, and motivation. Interactions are tailored to ensure followers are receiving feedback that meet their needs, while consistently evaluating the impact of these interactions. This ensures that leaders' behaviours are matching the unique needs of their followers.

Multidimensional Model of Leadership. The MML, developed by Chelladurai (Chelladurai, 1993; Chelladurai 2007, see Figure 5), is a linear model outlining the antecedents for a multitude of leadership behaviours and the effect they have on athlete outcomes. These antecedents consist of *leader characteristics* (e.g., personality, expertise, experience), *follower characteristics* (e.g., characteristics of individuals within the group: ability, needs; and the characteristics of the group as a whole: age, gender, skill level), and *situational characteristics* (e.g., task type social/cultural context of the group). These antecedents influence three states of leader behaviours which are: *required* (the appropriate leadership behaviours needed for the situation)*, actual* (leadership behaviours presented)*,* and *preferred* (team members' desired leadership behaviours)*.* Furthermore, these throughputs influence the outcomes, which can be viewed as the consequences of the three leader behaviours (i.e., required, actual, and preferred).

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Chelladurai (2007) in his model identified performance and satisfaction as important outcomes but this is by no means an exhaustive list of outcomes. It is believed the level of congruence between the three states of leaders determine the level of follower performance and satisfaction. For instance, higher levels of congruence among the leader states will result in higher levels of performance and satisfaction.

      Working Model of Shared Athlete Leadership. Conceptualized by Loughead et al. (2021, see Figure 6) this linear model contains antecedents, moderating factors, shared athlete leadership, and outcomes. The antecedents include: *characteristics of athlete leaders, teammates, and/or coaches* (e.g., age, experience personality), *situational characteristics* (e.g., practice, competition, task type, level of competition), *team characteristics* (e.g., team ability, size, maturity, diversity), and *team culture* (e.g., beliefs and values). The *characteristics of athlete leaders, teammates, and/or coaches* are moderated by *psychological factors of athlete leaders, teammates, and/or coaches* (e.g., self-esteem, efficacy beliefs, motivational orientation, behavioural intentions). This directly impacts the relationship these individuals will have towards shared athlete leadership. The *characteristics of athlete leaders, teammates, and/or coaches, situational characteristics, team characteristics,* and *team culture* are moderated by the psychological factors of athlete leaders, teammates, and/or coaches. Furthermore, shared athlete leadership impacts individual (e.g., self-efficacy, athlete satisfaction, motivational orientation, individual performance) and team (e.g., collective efficacy, cohesion, intra-team communication, team performance) level outcomes. However, there is a feedback loop involving individual and team level outcomes into shared athlete leadership. Outcome variables will influence athlete leaders behaviours based on the relative level of achievement and/or desired result.

The Four-Dimensional Model of Athlete Leadership. The Four-Dimensional Model of

Athlete Leadership, advanced by Maechel et al. (2020), is based on Yukl's (2012) taxonomy of

organizational behavioural leadership and on Loughead et al.'s (2006) three-dimensional model

for athlete leadership (i.e., task-related functions, social-related functions, and external-related

functions). The Four-Dimensional Model of Athlete Leadership contains four meta-categories:

task-oriented functions, relations-oriented functions, change-oriented functions, and *external*

oriented functions. T*ask-oriented functions* refer to performance related expectations,

development of skills and tactics, coordination of team structure, and navigating decision-

making. *Relations-oriented functions* focuses on the social aspects of leadership and the

interpersonal relationships athlete leaders and their teammates. Some of these behaviours

include: conflict management, promotion of teamwork, empowerment, social support, role

modeling, mentoring, and recognition/praise of good performance. *Change-oriented functions*

refer to the modification of teammates' attitudes and bahaviours by using the leadership

behaviours of: inspirational motivation, intellectual stimulation, encouraging collective learning,

and advocating for why change is needed. *External-oriented functions* are leadership behaviours

concerned in dealing with external factors outside the team. For instance, athlete leaders will

network with individuals who can provide assistance, gather relevant information about the

team's performance, monitor the external environment to protect the team, and represent the

team's interests.

Assessing Athlete Leadership Behaviours

In order to measure the athlete leadership behaviours contained in the aforementioned

conceptual models, two questionnaires have been primarily utilized in past research. The

Differentiated Transformational Leadership Inventory (DTLI; Callow et al., 2009) measures

seven dimensions of transformational and transactional forms of athlete leadership through 31 items on a 5-point Likert scale (1 – *not at all* to 5 – *all of the time*). In particular, the DTLI measures six transformational leadership behaviours and one transactional leadership behaviour. The six transformational leadership behaviours are: *Inspirational Motivation* (e.g., the degree to which athlete leaders demonstrate enthusiasm and optimism), *Individualized Consideration* (e.g., the degree to which athlete leaders demonstrate personal development via compassion and coaching), *Intellectual Stimulation* (e.g., the degree to which athlete leaders promote creativity and novel approaches to problem solving), *Appropriate Role Modelling* (e.g., the degree to which athlete leaders display desired behaviours during games and outside of sport to influence teammates), *High-Performance Expectations* (e.g., the degree to which athlete leaders promote high-level performance and excellence within the team), and *Fostering Acceptance of Group Goals and Promoting Teamwork* (e.g., the degree to which athlete leaders encourage individual and team goal-setting to increase performance). The one transactional leadership behaviour is *Contingent Reward* (e.g., providing positive reinforcement to teammates when a desired behaviour or outcome is achieved).

The Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) measures 40 items related to athlete leadership behaviours on a 5-point Likert scale (1- *never* to 5- *always*). There are five leadership behaviours targeted in the LSS: *Democratic Behaviour* (e.g., the degree to which an athlete leader involves other teammates in decisions), *Autocratic Behaviour* (e.g., the degree to which an athlete leader makes decisions independently), *Training and Instruction* (e.g., the degree to which athlete leaders demonstrate behaviours related to teaching teammates skills and tactics), *Social Support* (e.g., the degree to which an athlete leader provides care to

teammates' well-being), and *Positive Feedback* (e.g., the degree to which an athlete leader encourages teammates and provides constructive feedback).

Research using the LSS and DTLI in Relation to Cohesion

In this final section of the literature review, research pertaining to athlete leadership behaviours operationalized using the LSS (Chelladurai & Saleh, 1980) and DTLI (Callow et al., 2009) and its relationships with cohesion will be examined. Given the desired outcome of team-building is enhanced cohesion, researchers have found that numerous athlete leadership behaviours are positively related to cohesion (Callow et al., 2009; Loughead & Hardy, 2006; Vincer & Loughead, 2010).

LSS. Vincer and Loughead (2010) examined the athlete leadership-cohesion relationship among 312 intercollegiate and club level athletes using the LSS and GEQ. Athlete leaders who were viewed by the teammates as exhibiting more the leadership behaviours of Social Support and Training and Instruction showed a positive relationship to all four dimensions of cohesion (i.e., ATG-S, ATG-T, GI-S, and GI-T), whereas Democratic Behaviour was positively associated with ATG-T. A negative relationship was found between athlete leaders exhibiting Autocratic Behaviour and all four dimensions of cohesion. However, the findings also showed that the leadership behaviour of Positive Feedback was not relate to cohesion. This latter finding came as a surprise as coach leadership research has found a positive relationship between Positive Feedback and both social and task cohesion. It was speculated that since athlete leaders demonstrated more Positive Feedback and Democratic Behaviour than coaches (Loughead & Hardy, 2005), the impact of these behaviours could lose their significance (Vincer & Loughead, 2010).

Paradis and Loughead (2012) further examined the athlete leadership-cohesion relationship by investigating whether cohesion served as a mediator between athlete leadership behaviours and athlete satisfaction. The participants consisted of 205 youth soccer and basketball players who completed the Youth Sport Environment Questionnaire (YSEQ; Eys et al., 2009) to measure cohesion, the LSS (Chelladurai & Saleh, 1980), and the Athlete Satisfaction Questionnaire (ASQ; Reimer & Chelladurai, 1998). The results indicated that both task and social cohesion mediated both task and social aspects of athlete leadership and athlete satisfaction. However, it was found that the athlete leadership behaviour of Autocratic Behaviour may not be relevant given its non-significance in this study and in Vincer and Loughead (2010).

Burkett et al. (2014) examined formal and informal athlete leaders and their relationship between athlete leadership behaviours and cohesion. Participants consisted of 74 NCAA Division III college basketball athletes who completed the LSS (Chelladurai & Saleh, 1980) and GEQ (Carron et al., 1985). There were no difference found between formal and informal leaders in regard to Democratic Behaviours, Autocratic Behaviours, Positive Feedback, and Training and Instruction. However, informal athlete leaders showed more Social Support than formal athlete leaders. This could be attributed to the findings of Loughead et al. (2006) which stated informal athlete leaders fulfill their role through social related behaviours and providing clarification to teammates on instructions given by coaches or formal leaders. In terms of cohesion, the athlete leadership behaviours of Training and Instruction, Democratic Behaviours, Social Support, and Positive Feedback were positively related to both task and social cohesion. Similar to previous findings (Vincer & Loughead, 2010), Autocratic Behaviour had a negative relationship with both task and social cohesion.

DTLI. Callow et al. (2009) examined the relationship between athlete leadership behaviours and cohesion. Participants consisted of 309 club ultimate Frisbee players from the United Kingdom who completed the DTLI (Callow et al., 2009) and the GEQ (Carron et al., 1985). In terms of the athlete leadership behaviours assessed by the DTIL and its relationship to cohesion, the results showed that Fostering Acceptance of Group Goals and Promoting Teamwork, High Performance Expectations, and Individual Consideration was positively related to task cohesion. Additionally, social cohesion was positively associated with Fostering Acceptance of Group Goals and Promoting Teamwork.

Bosselut et al. (2018) examined whether interactional justice served as a mediator between transformational athlete leadership and cohesion. Interactional justice can be defined as the interpersonal treatment that followers receive when a decision is taken (Bies & Moag, 1986) and is dependent on leader behaviours (Naumann & Bennett, 2000; Wu et al., 2007). Participants consisted of 315 female athletes with a mean age of 22 from 25 team sports (i.e., baseball, basketball, soccer, handball, kayak polo, rugby, and volleyball) at various competition levels (i.e., district, regional, national, and international). Participants completed the DTLI (Callow et al., 2009), Questionnaire de l'Ambiance du Groupe (a French version of the GEQ; Heuzé & Fontanye, 2002), and Colquitt's scale (Colquitt, 2001) to measure interactional justice. The results indicated interactional justice mediated the relationship between transformational leadership and cohesion. Specifically, at the individual level, all transformational leadership behaviours influenced both dimensions of task cohesion (i.e., GI-T and ATG-T) through interactional justice. Furthermore, all transformational leadership behaviours, except Appropriate Role Modelling, positively influenced social cohesion (i.e., GI-S) through interactional justice. At the team level, the findings indicated interactional justice only mediated Intellectual

Stimulation and social cohesion. The implications of this study suggest that athlete leaders consider using a transformational leadership approach in order to facilitate interactional justice among their teammates in order to enhance the team's cohesiveness.

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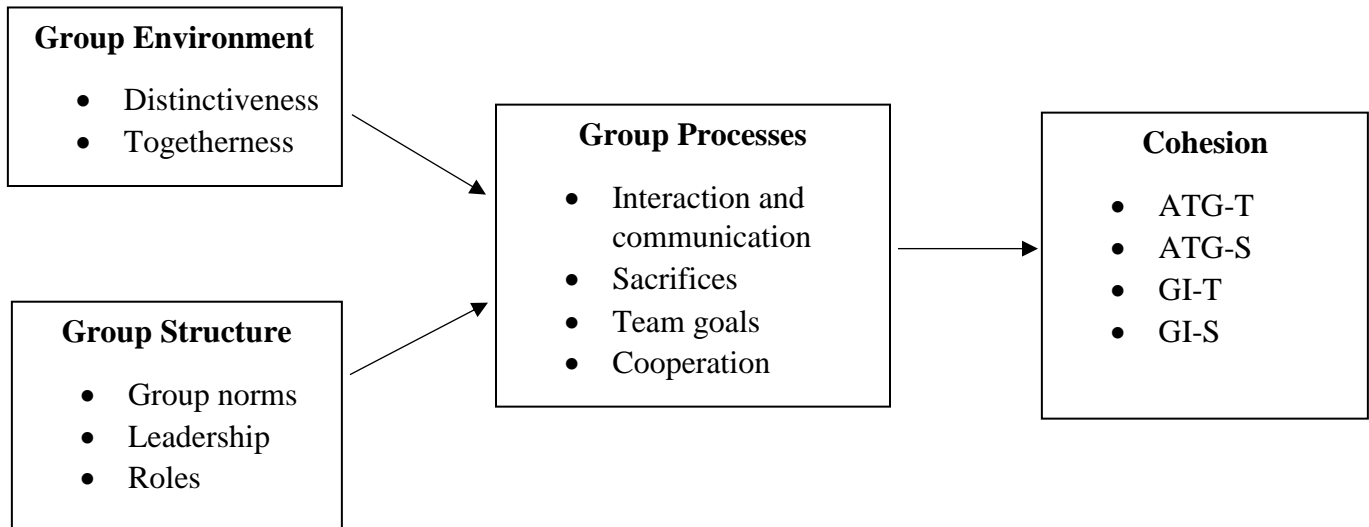   *practice* (pp. 91-100). Routledge.

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Figure 1

Carron and Spink's (1993) Team-Building Model

Group Environment
- Distinctiveness
- Togetherness

Group Structure
- Group norms
- Leadership
- Roles

Group Processes
- Interaction and communication
- Sacrifices
- Team goals
- Cooperation

Cohesion
- ATG-T
- ATG-S
- GI-T
- GI-S

Note. Adapted from Carron, A. V., & Spink, K. S. (1993). Team building in an exercise setting.

The Sport Psychologist, *7*(1), 8–18. https://doi.org/10.1123/tsp.7.1.8

Figure 2

Model of Group Cohesion
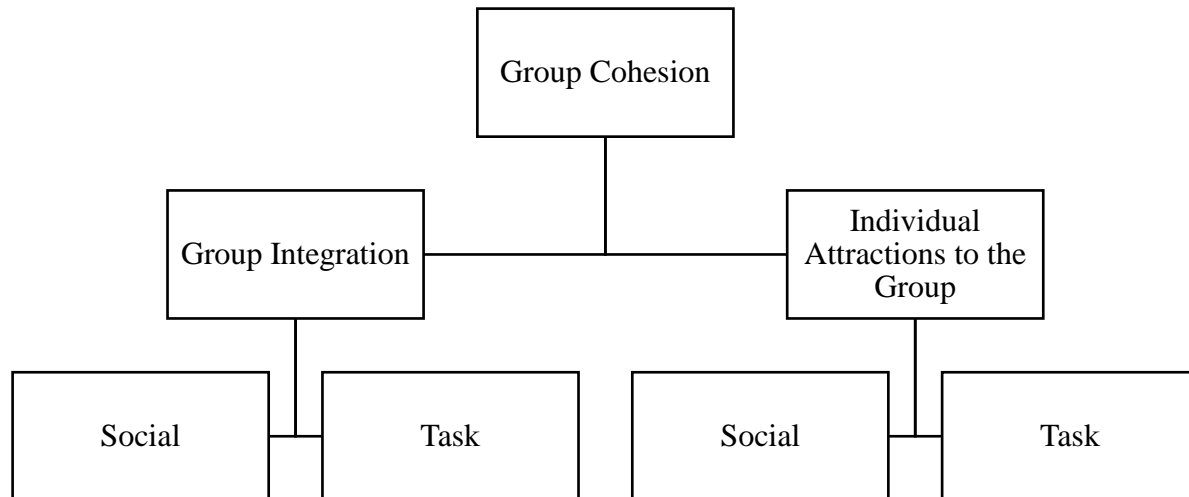
Note. Adapted from Carron, A. V., Widmeyer, W. N., & Brawley, L. R. (1985). The

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Figure 3

A Participatory Action Research Model


```
┌─────────────────────┐              ┌─────────────────────┐
│     6) Action       │              │  1) Data collection │
│                     │   ──────►    │                     │
│  A plan is implemented             │   Gather data from  │
│  to address the issue(s)           │ statistics or meetings
└─────────────────────┘              └─────────────────────┘

┌─────────────────────┐              ┌─────────────────────┐
│ 5) Action planning  │              │ 2) Diagnosis of the │
│                     │              │      problem        │
│   Potential ideas and             │                     │
│ solutions are discussed           │  Pinpoint the issue(s)
│                     │              │ from the data collected
└─────────────────────┘              └─────────────────────┘

┌─────────────────────┐              ┌─────────────────────┐
│   4) Discussion     │              │    3) Feedback      │
│                     │   ◄──────    │                     │
│  Discuss thoughts   │              │ Inform the group or │
│ concerning the issue(s)            │  individual(s) of the
│                     │              │      findings       │
└─────────────────────┘              └─────────────────────┘
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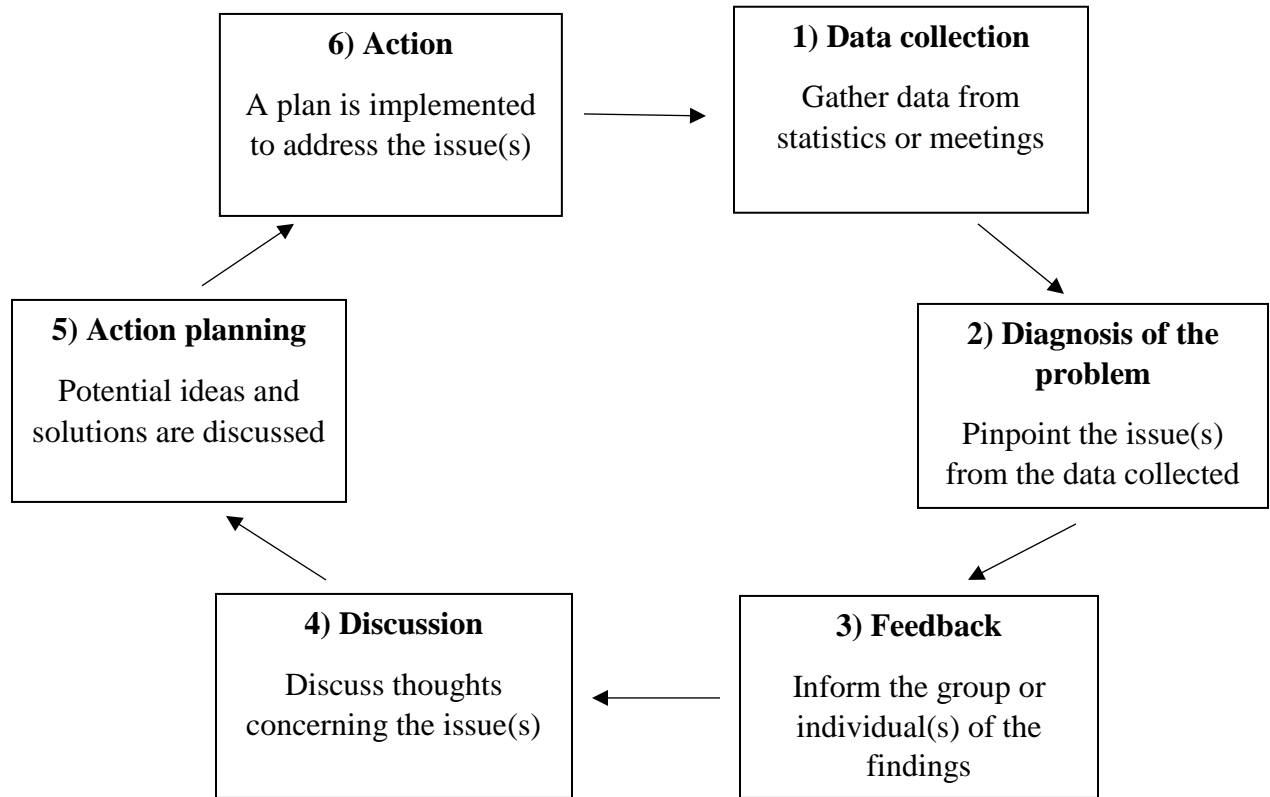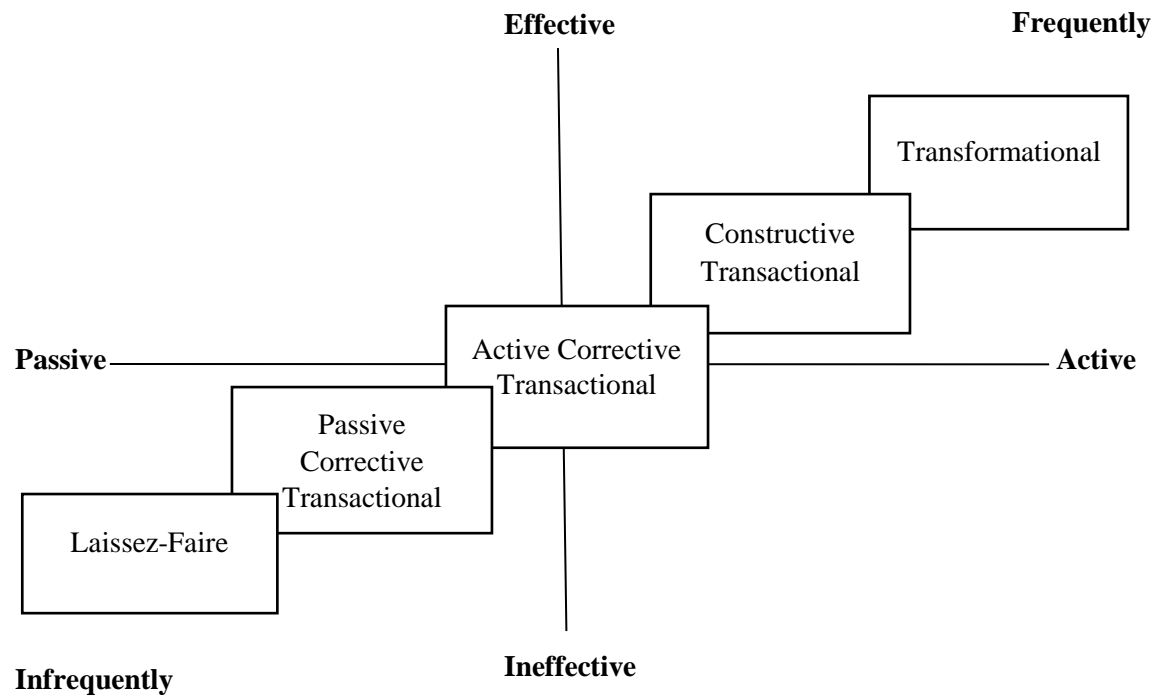
Note. Adapted from Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The action research planner*. Springer. https://doi.org/10.1007/978-981-4560-67-2

Figure 4

Full Range Leadership Model

Effective **Frequently**

Transformational

Constructive
Transactional

Active Corrective
Transactional

Passive **Active**

Passive
Corrective
Transactional

Laissez-Faire

Infrequently

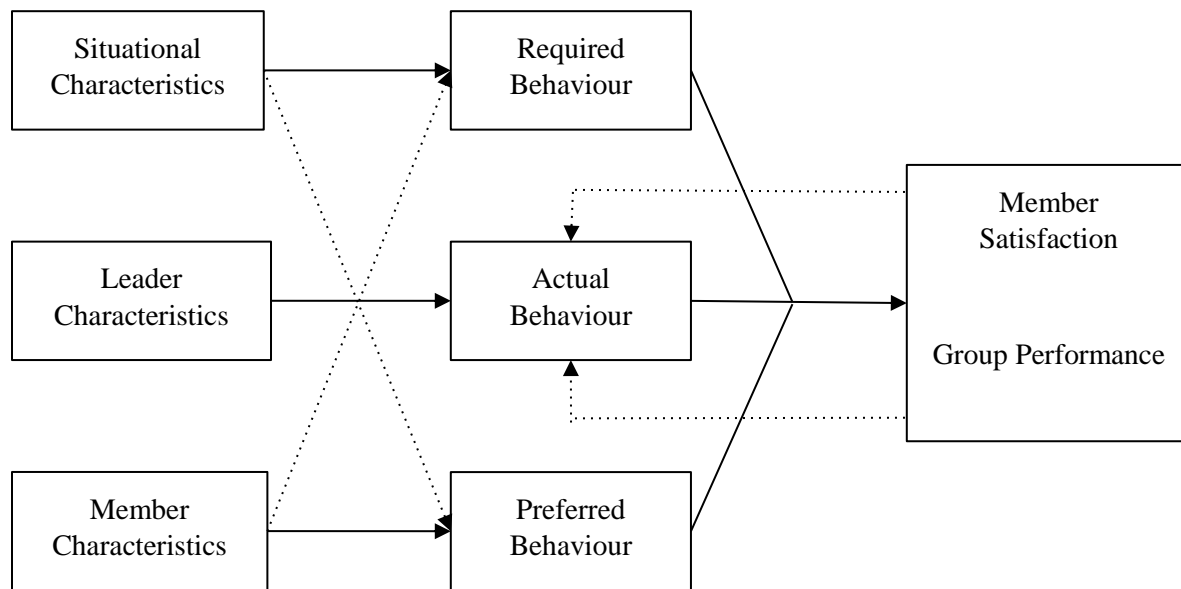**Ineffective**

Note. Adapted from Avolio, B. J. (1999). *Full leadership development: Building the vital forces in organizations*. Sage.
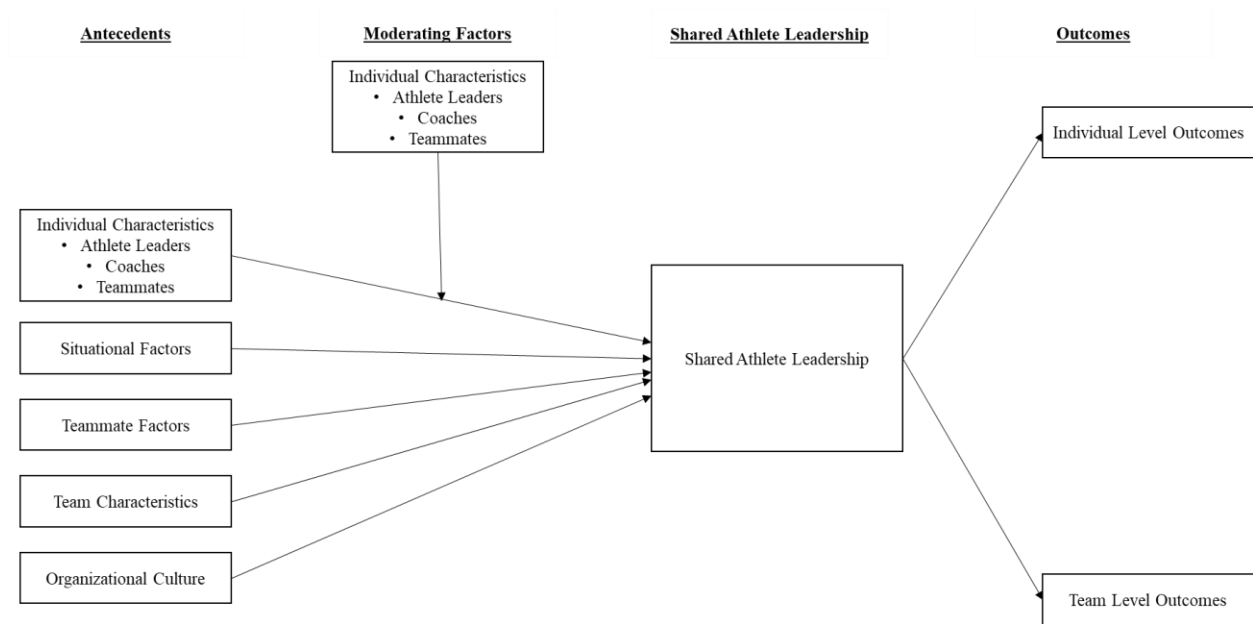
Figure 5

Multidimensional Leadership Model

Note. Adapted from Chelladurai, P. (2007). Leadership in Sports, In G. Tenenbaum, & R. C.

Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 113-135). John Wiley and Sons.

Figure 6

A Working Model for the Study of Athlete Leadership

Note. Adapted from Loughead, T. M., Munroe-Chandler, K. J., Boisvert, M. M., & Hirsch, K. E. (2021). Athlete leadership. In E. Filho & I. Basevitch (Eds.), *Sport, exercise, and performance psychology: Research directions to advance the field* (pp. 161-175). Oxford University Press.

Interview Guide

A. Pre-interview administration

- Introduction to the study

- Review letter of information

- Consent for audio recording / general consent

B. Opening questions

1. How many seasons have you been with the team?

2. What made you decide to come to this team/program?

3. How would you describe your overall experience this season?

C. Main questions

The next set of questions will go over the team-building interventions held throughout the

season.

4. There were various team-building interventions held over the course of the season. Could

   you please describe the strengths of each intervention and any improvements you'd like

   to see in the future?

   a. The regular meetings with the research team

   b. The player-centered teaching model for learning team systems

   c. Legacy Night

   d. The first team-capsule team-building activity

   e. The individual role meetings

  f. The second team-capsule team-building activity

  g. The players-only meeting pre-playoffs

5. Overall, what were some learning experiences from the season? For example, personal skills you learned as an athlete and team leader. Are those learning experiences transferable to other areas outside of hockey?

6. Overall, how do you feel the team benefitted from the team-building interventions? Which do you feel had the biggest impact and why?

D. Summary and Concluding Questions

7. Is there anything else you would like to add that I didn't ask? Any final comments or questions?

Probes: Key phrases to stimulate reflection

- Can you expand on that?

- Can you clarify that?

- That's interesting, tell me more about that

- Could you please tell me more about this

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