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Leveraging the Team Environment Assessment (TEAM) to Optimize Team Building

Interventions with Youth Sport Teams

by

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Declaration by Author

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Abstract

Team building is a very common, yet multifaceted process which is often utilized in order to improve on the cohesion of a group, while not being its sole use or purpose. Cohesion is considered to be the heart of both group dynamics research in sport and exercise and team building. The present study sought to see how the use of a diagnostic tool, the Team Environment Assessment could be utilized to target specific needs of cohesion through the implementation of a team building intervention, with the purpose to improve the teams' levels of cohesion. A mixed methods approach was taken with two teams, totaling 33 participants, who were recruited and taken through a pre-intervention screening, an intervention that took place three weeks later, a one week follow up survey, and a one month post survey, as well as had participated in focus groups. Repeated measures MANOVA's demonstrated that there were nonsignificant quantitative findings for both groups from baseline to one week post intervention, as well as from baseline to one month post intervention. Qualitative data analysis revealed that the groups claimed to have greatly benefitted from participating in their targeted interventions, reporting greater task- and social-cohesion, as well as improvements in their targeted areas of goals and objectives and leadership, respectively. Despite its limitations, the study demonstrates that the TEAM can be a useful tool for sport psychology practitioners and coaches alike to optimize the effectiveness of team building interventions. Future research should seek to apply the TEAM in larger samples that would allow for a more robust quantitative evaluation, in particular to teams with low reported group cohesion, as well as in different sport settings.

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Introduction

““The group that we have, it’s such a close group already and we haven’t even played one game yet,” said Flames forward Matthew Tkachuk. “So I thought that (team building activity) was a perfect activity to kind of set us up for the start of the regular season. One thing we’re not going to have trouble with is clicking as a group. We’re a very close group right now.”” (“Flames hope team bonding experience takes them to the next level”, Calgary Sun, October 1st, 2019).

The Canadian Fitness and Lifestyle Research Institute (2013) claimed that from a 2010 survey of parents on their children’s sport participation, it was reported that 74% of youth aged 5-17 took part in sport over the previous twelve months. More recently, the Canadian Fitness and Lifestyle Institute (n.d.) found that from 2014-2016, 77% of Canadian youth aged 5-19 took part in formal sport and exercise settings. With such a large percentage of the Canadian youth population taking part in organized sport, it becomes imperative to understand how we can optimize their experiences in these settings to promote positive engagement and relationships with sport and exercise. The benefits of positive sporting experiences are not merely physical, but also aiding in the social and physiological development of youth (Merkel, 2013).

My personal motivation for writing this thesis pertains to a fantastic conversation that I had with Dr. Mark Bruner on a podcast episode. I featured him as an expert guest to discuss how coaches could develop cohesive sport teams, in which he provided a mix of the theoretical background, as well as very practical, applied strategies that coaches could utilize. As part of the theoretical background, he has discussed his recent group publication of the TEAM, which was particularly intriguing to me as it appeared to be able to be bridged seamlessly into applied

practice. Being a consultant in the field of sport and exercise psychology, I love to learn new evidence-based tools that can be easily applied into sporting environments, and the TEAM certainly took my attention. From here, myself and Dr. Bruner remained connected and eventually this podcast appearance flourished into an eventual master's thesis project. You truly never know where your inspiration for a master's thesis project will come, but I am grateful to have found it.

Literature Review

Team Building

Teamwork is critical to the effective functioning of a group (Spink, 2020). Dohme et al. (2020) highlighted the fact that effective team dynamics are often seen as paramount and foundational to the effective functioning of a team. One technique to foster effective team dynamics is through the employment of effective team building interventions (Dohme et al., 2020). Team building interventions can be understood as group activities, which engage team members to help them foster greater collective outcomes (Paradis & Martin, 2012), with the central focus revolving around developing a sense of unity within the group (Carron et al., 1997). Team building is very common in sport settings, with it having value in helping align a team's efforts towards a common goal and fulfilling their collective potential (Bruner et al., 2013). While the purpose of team building interventions is not solely confined to foster team cohesion (Paradis & Martin, 2012; Rovio et al., 2010), and can be malleable to meet the desires of the participants (Paradis & Martin, 2012), team cohesion remains a particularly desired outcome (Bruner et al., 2020; Paradis & Martin, 2012; Prapavessis et al., 1996). While these are some of the positive potential outcomes of team building, it is also important to note that ineffective team building can result in the alienation of group members and the forming of cliques (Bloom et al.,

2008). This, in part, highlights the need to conduct theoretically grounded and informed team building interventions, to strive for the positive individual- and collective-outcomes. Paradis and Martin (2012) provided an overview of how theoretical constructs and models of team building (see Carron & Spink, 1993) and cohesion (see Carron & Spink, 1993; Carron et al., 1997) can be applied to foster the desired outcomes of team building interventions. The latter will be discussed in the following section, whereas for now we will focus on some prominent theoretical constructs and models of team building.

Conceptual Framework and Theoretical Background of Team Building

Carron and Spink (1993) proposed a conceptual framework to help guide team building interventions. It involves three different stages, including two inputs (group structure and group environment), a throughput (group processes), and an output (group cohesion). It is believed that they sequentially influence each other (i.e., inputs influence throughput, which subsequently impacts the output). Carron and Spink (1993) had utilized this to help them identify relevant aspects of the group environment and group structure to their exercise group participants, providing them with contextually-rich knowledge to aid them in the development of group cohesion.

Direct vs. Indirect Team Building Interventions

Team building interventions can be applied either directly or indirectly (Dohme et al., 2020). Direct team building interventions are classified as such when they are facilitated by an expert (Carron et al., 1997), such as that of a sport psychologist or mental performance consultant. Rovio et al. (2012) conducted a season-long (12 months), direct team building study with a team of 22 Finnish junior ice hockey players aged 15-16 years old. Rovio et al. (2012) were interested in exploring the effect of applying an action-based approach to team building, as

well as to test the efficacy of applying performance profiling as a team building resource. The intervention began with pre-season team goal-setting and individual performance profiling, with the latter serving to develop a foundation for the rest season to guide player's personal goal-setting and role clarification. Team goals were evaluated four times throughout the season, and personal goals were evaluated at three points throughout the season. Rovio et al. (2012) had collected both qualitative and quantitative data, through the use of keeping a research diary, conducting two interviews with the team's head coach, tracking goal-setting through the athletes completing the Individual and Team Goal Achievement Scale twice, as well as leveraging the Group Environment Questionnaire (citing Carron et al., 1985) to track group cohesion throughout the season, which was completed by the athletes four times. It was found that performance profiling served as a useful tool for helping guide season-long, individual goal-setting interventions. In addition, mean scores suggest that perceptions of progression towards both individual- and team-goals improved throughout the intervention period. Repeated measures ANOVA's of the scores provided from the Group Environment Questionnaire suggested that social cohesion had gradually improved throughout the season, and task cohesion maintaining a consistent, high level.

Meanwhile, indirect team building interventions are characterized by the facilitation of a non-expert, such as a coach (Carron et al., 1997; Newin et al., 2008). The coach can play a strong, informal role in the dissemination of indirect team building interventions, due to the fact that roles, leadership and goals are often dictated by the coach (Carron et al., 1997). Empowering coaches to conduct effective team building exercises has been seen to help develop improved interpersonal skills in their coaching, such as communication and motivation (Bloom et al., 2008). Newin et al. (2008) evaluated the effects of an indirect, coach-implemented team building

intervention across twelve U12 ice hockey teams. Following the aforementioned conceptual model of Carron and Spink (1993), the coaches participated in a pre-season workshop to understand the rationale and benefits of team building interventions. Subsequently, they were provided with a conceptual framework to guide the team building interventions and the targeted constructs for their interventions, and the outline and 30-minute team building activities to run with their teams during the practical stage. Lastly, coaches were instructed during the intervention phase to complete the five team building interventions, as well as pre- and post-intervention forms for the coaches to complete. In addition, the qualitative data collection was enhanced through the help of research participants who collected a minimum of four hours of observational data of the coaches throughout the season, as well as coaches participating in exit interviews. Through developing a team-building approach that empowered coaches to facilitate team building activities throughout the season, the coaches reported considerable benefits for themselves and the team. For example, the coaches sampled found that they had progressed in their communication skills through being active agents in the team building intervention. Additionally, the coaches had felt that they had fostered a stronger sense of team unity, being characterized by the athletes working together better, and noticing stronger bonds. This process was also deemed a rather enjoyable experience, with both the coaches and players involved reporting having fun doing it as a group. Of note, Dohme et al. (2020) claimed that the method of delivery for team building interventions, whether employed as indirect or direct, offer no particular advantage over the other when working in a youth sport setting.

Implications for Use of Team Building Diagnostics

Given the fact that the aims of team building interventions vary upon the desires of those involved (e.g., coach, athlete), the outputs of the intervention should reflect just this (Paradis &

Martin, 2012). Paradis and Martin (2012) claimed that such outputs could include becoming more cohesive, having greater performance, fostering stronger adherence, boosting satisfaction and increasing collective efficacy (citing the work of Carron & Spink, 1993; Carron et al., 1997). That being said, there have been calls in the past to better target the needs for team cohesion within a group when electing to do team building interventions (Brawley & Paskevich, 1997; Prapavessis et al., 1996), as well as to increase the rigor of cohesion research (Eys & Brawley, 2018).

Prapavessis et al. (1996) believed that integrating athletes into the team building process from the beginning can help better inform team building interventions, as they can provide input through a needs assessment. From there, the team building intervention can be catered towards matching these identified needs (Prapavessis et al., 1996). Bruner et al. (2020) noted that often team building interventions are merely developed without inference into the team's areas of need, building on the work of Brawley and Paskevich (1997) of whom had called for the implementation of pre-screening tools for team building interventions. Bruner et al. (2020) proposed the use of the TEAM, a diagnostic tool that targets specific areas of team cohesion, to better inform and direct the focus of the facilitators of team building interventions. Bruner et al. (2020) had conducted a study in which they had applied a direct team building intervention to an elite level boys adolescent team, in an effort to test the efficacy of targeting low-reported constructs of cohesion, as well as to improve on the overall cohesiveness of the team. Baseline data was collected through a questionnaire featuring items taken from the TEAM, alongside the Youth Sport Environment Questionnaire (see Eys et al., 2009), as well as by completing focus group interviews with the players and coaches involved in the study. Upon collection, the baseline data was analyzed and two constructs of cohesion were targeted. The team was then

taken to a ropes course to do their intervention, in which they were first taken through an ice-breaker activity, later then going through the high ropes course and ending it off with a debriefing discussion. Following this, the participants then completed again the questionnaire one week post-intervention, as well as one month post-intervention, alongside the conduction of focus groups. It was reported that the targeted constructs of leadership and role acceptance, as well as task cohesion, had demonstrated significant improvement, in differing capacities, while no significant changes were found for social cohesion in their study. These results suggest that the TEAM can be a useful tool for helping optimize the effectiveness of team-building interventions, for the purpose of improving team cohesion. Bruner et al. (2020) claimed that through the use of TEAM, coaches and practitioners can provide further insight into the perceived cohesive needs of the group, thus better directing the approach to satisfying these needs amidst team building interventions. While the use of the TEAM has demonstrated promising initial findings, it has yet to be tested with youth sport teams and teams with low perceived cohesion.

Team Cohesion

Cohesion, now regarded as an emergent state opposed to past theorizations of it being a dynamic process (Eys & Brawley, 2018), can be understood as “..the tendency for a group to stick together and remain united in the pursuit of its goals and objectives.” (Carron, 1982, p. 124). Some benefits of team cohesion include the ability to help teammates work better together (Smith et al., 2013), elevate performance outcomes (Carron & Spink, 1993), drive enjoyment (Bloom et al., 2008), improve positive cognitions and affects (Eys & Brawley, 2018), elevate athlete satisfaction (Paradis & Loughhead, 2012), facilitate the commitment to group norms (Carron et al., 1993), foster positive youth development (Bruner et al., 2013) and optimize

interpersonal relationships (Carron & Spink, 1993). Strong cohesion is widely seen as a vital part of a team's likelihood for success (Carron & Spink, 1993; Carron et al., 1997; Prapavessis et al., 1996), with the benefits not being solely exclusive to the functioning of a team (Carron & Spink, 1993; Eys & Brawley, 2018), but also to the individual coaches (Newin et al., 2008) and athletes (Bloom et al., 2008; Carron & Spink, 1993; Eys & Brawley, 2018; Newin et al., 2008). Cohesion is also considered the heart of both group dynamics research in sport and exercise (Eys & Brawley, 2018) and team building (Bruner et al., 2013).

Conceptual Framework and Theoretical Background of Team Cohesion

Carron et al. (1985) proposed a conceptual model of cohesion that sought to help differentiate between a member's personal attractions and whole perceptions to their group. This was done in an effort to provide clarity within the group dynamics literature surrounding the differences between individual- and group-influences of cohesion, both of which have contributions to the development of team cohesion. Carron et al. (1985) described the individual attractions to the group category as representing one's personal motives to elect to be a part of the group, and how these motives interact with their involvement in the group (e.g., roles, between team members). Additionally, the group integration category was described as "...the degree of unification of the group field." (p. 248), highlighting the quality of relationships between members of the same group. Furthermore, these two categories can be separated into further subcategories to distinguish between social- and task-components. Task cohesion can be understood as the orientation of members of a group to collectively work towards a common goal. Meanwhile, social-cohesion can be understood as the orientation of members of a group to be interested in fostering and maintaining social ties between those within the group. In total, they had proposed four constructs of cohesion, being "...group-integration-task, group

integration-social, individual attractions to group-task, and individual attractions to group-social.” (p. 248).

Team Cohesion and Teammate Perceptions

One area of focus within the literature of youth sport and cohesion is the role that teammates' perceptions play in the development of cohesion (McLaren & Spink, 2018; Spink, 2020; Spink et al., 2018). The perceptions of team members play a role in the development of cohesion, as cohesion is strongly tied to a team's collective efforts coming together to pursue a common goal (Spink, 2020). That being said, if teammates perceive each other to be committing and working towards a common goal (i.e., collective outcome), and they notice the efforts of their teammates, then this may boost the cohesion of the team (Spink, 2020; Spink et al., 2018). Team members having a positive perception of their teammates' communication of attitudes and commitment to achieving a goal can help improve perceptions of cohesion (Spink, 2020).

McLaren and Spink (2018) conducted a cross-sectional study involving 139 youth soccer players, which aimed to assess the interaction between forms of teammate communication and perceived cohesion. They found that task cohesion was positively predicted by levels of positive conflict communication and acceptance. In the same breath, task cohesion was also negatively predicted by negative conflict communication. As for social cohesion, it was positively predicted by distinctiveness and positive conflict communication, while being negatively predicted by negative conflict communication. McLaren and Spink (2018) found that intra-team communication styles were consistent across their sample of both male and female youth athletes. These findings suggest that task cohesion can be moderated by increased levels of communication styles that foster acceptance and resolve conflict in a positive manner. More recent research has also indicated that team members who communicate with larger proportions

of their teammates tend to perceive higher levels of task cohesion (McLaren & Spink, 2020). Overall, demonstrating a clear value in the importance of communication, in both volume and quality, for fostering task cohesion (McLaren & Spink, 2018; McLaren & Spink, 2020).

Levels of perceived cohesion can also be inferred through understanding relevant cues to informing cohesion (McLaren & Spink, 2020; Spink et al., 2018). Given that cohesion is delineated between task and social aspects, the cues could be different to each orientation (Spink et al., 2018). The cues to informing task cohesion are ones that aid in the promotion of the notion of working towards a collective goal (Spink et al., 2018). Spink et al. (2018) conducted a path analysis to dig deeper into the relationship between task cohesion and perceived effort of teammates. Spink et al. (2018) claimed that given the fact that winning is a commonly desired outcome of playing sport, paired with the notion that hard work is instrumental and foundational to winning, that teammates perceiving each other as working hard should inform the group that they are in pursuit of a common goal. Thus, it should aid in the development of task cohesion. Using measures of both task cohesion and effort, they had sampled 92 youth soccer players, aged 12-16, during both the initial portion of their season, as well as towards the end of their season. Participants were asked to nominate their teammates based on if they feel they exerted maximal effort, being separated into outward and inward nominations. The former represents the total amount of nominations given to the team, and the latter focuses on the amount of votes a specific teammate garnered. It was found that the outward nominations given during the initial portion of the season were significantly correlated to task cohesion during both the initial portion and late into the season, while the opposite was found for inward nominations of maximal effort. These findings provide evidence that teammates' perceptions of teammate effort can act as a strong cue for task cohesion.

As for cues to social cohesion, there is some evidence to suggest that fostering in-group relationships between coaches and athletes can be beneficial to the development of social cohesion (Cranmer & Myers, 2014). Cranmer and Myers (2014) applied Dansereau et al.'s (1975) leader-member exchange theory in order to assess both coach-athlete and athlete-athlete communication, with focus on the effects that perceived in-group vs. out-group relationships have on perceived cohesion and cooperative communication. In a study with 158 former high school athletes, it was found that in-group relationships between athletes and coaches were positively predictive of both social and task cohesion between teammates. This highlights the vast need for having healthy coach-athlete relationships within a team to improve not only the leader-member exchanges, but also the member-member exchanges. In addition, in-group relationships were partially characterized by cooperative communication.

It is important to note that while cohesion is a commonly desired outcome of team building interventions (Bruner et al., 2020; Paradis & Martin, 2012; Prapavessis et al., 1996), it is not its sole use or purpose (Rovio et al., 2010). Rovio et al. (2010) claimed that in elite level environments, targeting cohesion through team building may not actually be the most suitable cause. Rovio et al. (2010) believed that given the fact that teams in elite settings are often accompanied by a large task-focus, where both individual team members and team management are much more concerned with their performances, as opposed to how cohesive they may be as a group. Thus, arguing that when working in an elite setting, executing interventions that help the team collectively perform better may prove to be more useful in contrast to interventions which instead focus on fostering group cohesion. Important to note, however, is that while in elite youth sporting environments cohesion may not be the ultimate goal, due to a large emphasis being on performance outcomes (e.g., winning), they do not have to be mutually exclusive (Benson et al.,

2016). While the groups involved in our study would not be classified as elite, per se, they still are involved in competitive environments in which tryouts take place for both the selection and deselection of players on an annual basis. Thus, demonstrating a more salient presence of the value of winning, compared to the likely climate of a level in which would be purely recreational.

Possible Negative Implications of High Cohesion

While a strong case has been made for the development of cohesion, and rightfully so, there is also evidence that having groups that are too cohesive may not be ideal (Bruner et al., 2014; Hardy et al., 2005; Rovio et al., 2009). Rovio et al. (2009) found that when working with a junior ice hockey team, having too high levels of social cohesion led to groupthink, group polarization, and conformity. These outcomes served to hurt team performance, making the case for the idea that perhaps when assessing the ideal level of social cohesion, having moderated levels could be ideal. Worth noting is that Rovio et al. (2009) claimed that their findings are not to suggest that social cohesion should be deliberately lowered, nor to suggest that only task cohesion should instead be sought to be developed. Rather, it was claimed that the leaders of groups should remain cognizant of the detrimental effects that high levels of social cohesion can have on group's tendencies to conformity, and that they should provide safe spaces for team members to express their true thoughts on how they can work towards collective performance outcomes. Bruner et al. (2014) found a similar finding in that while cohesion typically can play an integral role in positive youth development, too high levels of cohesion (both task and social) can be predictive of negative experiences. Hardy et al. (2005), in a sample of young adult athletes, found that the majority of participants (56%) felt that high levels of social cohesion can come with negative side effects, with a smaller percentage claiming the same regarding task

cohesion (31%). In addition, 22% of participants felt the same way about too high levels of both task and social cohesion. Some of the identified negative effects of high cohesion included facets at the group level and personal level. Regarding high social cohesion, participants reported concerns in areas like communication problems, social isolation, decreased focus and more. As for high task cohesion, they found that some athletes perceived there to be concerns surrounding areas such as, yet not limited to, diminished social relations, perceived pressures, and communication problems.

Purpose and Research Questions

The present study focused on exploring how the use of a screening tool, the Team Environment Assessment (TEAM) (see Bruner et al., 2020) could be used to help develop the cohesion of two youth sport teams. The benefit of utilizing the TEAM is to help guide team building interventions through identifying the teams reported areas of need to foster cohesion, which could include areas like role clarity, leadership and much more (Bruner et al., 2020, Carron & Spink, 1993). The teams were taken through a five stage process over approximately a six week period, in which involved: (1) An initial screening process using a questionnaire in which combined 30 items from both the TEAM and Youth Sport Environment Questionnaire (YSEQ) (see Eys et al., 2019), (2) Participating in a TEAM informed team building intervention, (3) Completing the same questionnaire as stage one, (4) Participating in small scale focus group interviews, and (5) Completing the same questionnaire one last time. The research questions that guided this study are (1) How can applying the TEAM aid in the optimization of team building interventions in a youth team setting? And (2) Can applying the TEAM help improve the cohesion of youth teams? The value of the present study is to expand on the present

understanding on how team building diagnostics can optimize the delivery of team building interventions, and the subsequent development of group cohesion with youth sport teams.

Methodology

Mixed Methods

Mixed methods research can be understood as a process in which a research question is tackled through the complimentary employment of both quantitative and qualitative approaches (Anguera et al., 2012; Ivankova et al., 2006; Lingard et al., 2008). Mixed methods procedures are utilized when the quantitative or qualitative methods are not sufficient on their own to encapsulate the phenomena of a study (Ivankova et al., 2006), as when presented on their own are bound to express individual flaws (Turner et al., 2015). Thus, mixed methods research helps promote an approach in which the researchers can benefit from the strengths that both qualitative and quantitative research offer, with neither needing to be deemed superior to the other (Anguera et al., 2012). Rovio et al. (2012) noted that given the fact that team building is a multivariate process, team building studies should seek to assess multiple team building methods within a single study. In addition, they claimed that team building studies also would benefit from incorporating qualitative analyses, as rich data (i.e., specifics into the driving factors for change) would be lost through employing a purely quantitative approach.

There has been repeated discussion surrounding the different types of publications that have risen from the sport psychology research field (see Culver et al., 2003; Culver et al., 2012). Culver et al., (2003) provided a concise picture of the landscape of qualitative research in sport psychology, through summarizing the strides made throughout the 1990's. Through reviewing the qualitative research published in three of the top, refereed journals of sport psychology

research, it was found that of the total of 706 articles published, not a single one was categorized as applying more than one method. Thus, not demonstrating a single article in which was deemed as applying a mixed method approach, despite 38% of the published qualitative studies incorporating quantitative measures (e.g., surveys). Fast-forward a roughly decade, Culver et al. (2012) had revisited the landscape of published qualitative research in sport psychology in an effort to provide an update on Culver et al.'s (2003) review. Culver et al. (2012) found that the rates of mixed methods approaches had decreased (38.1%-31.1%, -7%). It was explained that within the realm of sport psychology research, there is still uncertainty surrounding the application of mixed methods research approaches, with such concerns not being uniquely apparent to the field.

Traditionally, there has been a narrative surrounding the fact that qualitative and quantitative methods are polar opposites, and as such should be separated when it comes to conducting research (Denzin, 2010; Moran et al., 2011). It was only until the 1980's where there was increased acceptance for mixed methods approaches, fueled by the discrediting of positivism (Denzin, 2010). Over time, Denzin (2010) stated that the interest in mixed methods research has been predominantly driven by post-positivist scholars who have experimented with both qualitative and quantitative approaches. Clearly, this could pose harm to the quality of the qualitative side of their mixed methods research, as such researchers were likely to have little to no formal training in qualitative approaches (Denzin, 2010).

This criticism was furthered by McGannon and Schweinbenz (2011), in that mixed-methods approaches predominantly adopt a post-positivist paradigm, being the dominant qualitative paradigm in sport and exercise psychology research. Such a focus on post-positivist paradigms can act to marginalize other qualitative approaches (i.e., interpretive) and thus hinder

the potential of adopting mixed-methods approaches (McGannon & Schweinbenz, 2011). Moran et al. (2011) went as far to describe the prominence of quantitative research in sport and exercise psychology as hegemonic. However, when considering this, McGannon and Schweinbenz (2011) believed that it is important to note that a result of a primary focus on quantitative research, as well as solely on post-positivist approaches, is the potential of further oppression of qualitative work altogether, particularly with non-positivist approaches. Thus, stunting the growth of the potential for mixed methods approaches in sport and exercise psychology research (McGannon & Schweinbenz, 2011).

While there has been some skepticism in the field regarding the true complementarity of mixing qualitative and quantitative methods (Moran et al., 2011), there has been increased discussion regarding the true potential of taking mixed methods approaches (McGannon & Schweinbenz, 2011). Mixed methods research affords researchers the opportunity to not have to purely select position on the ever-debated and dividedness between qualitative and quantitative approaches (McGannon & Schweinbenz, 2011). Instead, it opens up opportunities for the integration of such methods, resulting in an approach that can be much more complete, robust, and comprehensive (Anguera et al., 2012; Dossett et al., 2020; McGannon & Schweinbenz, 2011), as well as reflexive and critical (McGannon & Schweinbenz, 2011). Thus, resulting in much more open discussions and the limiting of segregation for conflicting perspectives (McGannon & Schweinbenz, 2011). More recently, Sparkes (2015) recognized a growing interest in applying mixed methods approaches in sport and exercise psychology research. However, Sparkes (2015) had claimed that there are many apparent inconsistencies in terminology used that have been revealed throughout the research (i.e., method and methodology

as synonymous), resulting in additional challenges when striving to interpret and synthesize the literature.

Mixed methods research can be conducted in a variety of sequences, with the elected sequence being an important step to justifying the use of mixing methods (Lingard et al., 2008). For example, qualitative and quantitative methods can be employed at the same time, or in a varying order depending on the type of research project (Dossett et al., 2020; Lingard et al., 2008). Additionally, the timing of the convergence of methods can vary (Lingard et al., 2008). For the purpose of this study, a sequential explanatory design was applied. A sequential explanatory design involves collecting and subsequently analyzing quantitative data, which then informs the direction of the qualitative data collection through the use of group interviews (e.g., focus groups) (Anguera et al., 2012; Dossett et al., 2020). Upon the completion of both the quantitative and qualitative data collection, the results are then converged, through an approach that often puts a larger emphasis on the qualitative results (Anguera et al., 2012). Ivankova et al. (2006) claimed that while oftentimes greater emphasis is placed on the quantitative portion of explanatory sequential designs, the priority of quantitative or qualitative methods can be determined throughout the course of the study. Schulz and Grimes (2002), citing the work of Haynes et al. (1997), suggested that when attrition rates exceed 20%, there is a prevalent risk of biases in the dataset. Due to the considerable attrition rate of our study participants for the questionnaire responses (i.e., ~27% attrition from initial screening to one week post-intervention, as well as ~52% attrition rate from initial screening to one month post-intervention), it was decided by the first and fourth authors that greater emphasis would be put on the qualitative portion of the study. This allowed us to still dive deeper into results of the data, instead of being

held back by the quantitative findings that were fragmented by the lack of sample size and considerable attrition rates.

Participants

The participants were recruited through personal my connections in ice hockey mid-way through their season. Thirty-three participants aged 13-15 years old ($M= 13.38$, $SD= 0.51$) from two competitive Canadian youth ice hockey teams participated in the study. Of the two teams, one was a U13 boys team ($n=17$), and the other was a U15 girls team ($n=16$). Both teams played at similar competitive level to each other, while being in different leagues and associations.

Bioethics approval was received for the study from the University of Thessaly prior to the data collection period. The coaches were contacted and were asked if they would be interested in participating in the research study, which sought to assess the group dynamics of their team and how a subsequently targeted team building intervention could potentially be of use. Initially, three teams were recruited but one of the teams had to rescind their commitment prior to the initial data collection period due to extraneous circumstances. The coaches were told that their players would be asked to participate in a questionnaire at three different time points, in a team building workshop, as well as small group interviews at the conclusion of the study, which took place over roughly a six-week period during the second half of their seasons. The participants and their parents were taken through an informed consent and assent process both prior to and during the data collection period. The study had begun with an initial screening questionnaire, made up of 30 items from the TEAM (see Bruner et al., 2020) and the YSEQ (see Eys et al., 2009). Once collected, the raw scores were analyzed separately for both groups, in which the targeted posits of cohesion were identified. Following the completion of the initial screening process, a three week period was used in order to organize meeting times for the interventions, as

well as for intervention development. The interventions were then delivered to both groups, respectively, with the U15 girls team being run in a classroom format in-person, and the U14 boys team being run over a group video call, due to the ongoing fluidity of COVID-19 pandemic restrictions in which had restricted originally organized in-person space. Upon completion of the intervention, the groups were then sent the same questionnaire to complete for a second time, being done within a week. A month after the intervention, the two teams were then taken through semi-structured focus group interviews to debrief on their experiences with both the workshop and their perceptions of their group dynamics. A semi-structured interview guide was developed between the intervention phase and the focus group interviews, being informed by their quantitative results.

Description of Interventions

Goals and Objectives

A goals and objectives workshop with the U15 girls team was conducted in-person in a classroom format. The participants, as well as their head coach and one of their assistant coaches, were initially taken through an interactive icebreaker activity, and then proceeded into an open-ended discussion around an analogy to spark conversation on the importance of goal-setting. The group was shown a photo of a mountain, with a silhouette mountain-climber person on the bottom with an uneven line drawn on the mountain to represent the route to successfully climbing the mountain. The group was then asked what they noticed about the line, sparking discussion surrounding adversity/setbacks (i.e., the path moved downwards and sideways at times) and process goals (i.e., having different points of reference on the path). This then led well into an educational piece on how to use the WOOP method for achieving goals. WOOP is a mental contrasting exercise that involves the use of implementation intentions in order to help

people overcome foreseeable barriers associated with desired ends (Monin et al., 2022). The WOOP acronym stands for Wish (choosing an end-goal), Outcome (imagining the results of achieving your wish), Obstacle (identifying foreseeable obstacles to achieving your wish), and Plan (how you plan to overcome the identified obstacles; implementation intentions) (Monin et al., 2022). The mental contrasting component of the WOOP method is an efficacious approach that lends itself well when connected back to goal-setting and subsequent actionable steps, providing the participants the opportunity to be more prepared in the face of often unavoidable adversity (Monin et al., 2022).

The participants were provided a WOOP-based worksheet in which we discussed as a group the team goal and how we could apply the WOOP principles to it. This was then connected back to their individual roles, in which we worked through what their individual role is and how this connects back to the overarching team goal. They were tasked with writing down *Actionable Role Definers*, being understood as three important actions that they need to complete in order to do their role effectively. Lastly, implementation intentions were incorporated in order to help them determine solutions to foreseeable adversities to execute their role effectively, similar to the “Plan” component of the aforementioned WOOP method (Monin et al., 2022).

Leadership

As previously mentioned, group 1’s intervention was initially planned to be done in person, but due to ongoing COVID-19 restrictions, it was shifted to an online group video call via Zoom. 15/17 of the team’s participants were present at the workshop. The participants began with an icebreaker activity, in which they were shown different random photos to spark some laughter and get everyone comfortable. They were instructed to discuss the first thing that came

into their minds when they saw the photos. The first few slides of photos were not sport-related (i.e., photos of cartoon characters), with the last two slides starting to shift more to the conversation at hand. Namely, the last featured photos of five different National Hockey League captains, and them realizing this led well into a small group discussion around what leadership means to them. We then discussed the team's goal, and brainstormed six challenges that are associated with achieving that goal. Once these challenges were identified, the players were then split into three groups of 4-6 players using the breakout room feature on Zoom, in which they were assigned to come up with actions that they could take as leaders to 2/6 of the groups identified challenges. Within these small groups, they were also explained that everyone was going to have a different role in this process. Only one person was allowed to communicate verbally, with the others having to decide who can communicate through only 1/3 of the following methods: Using solely the chat function, only getting to use emoji reactions, and by having their camera on but microphone muted. It was up to them to decide who took on these roles within their small groups. Prior to separating them into their breakout rooms, I had checked with the participants to make sure that they knew how to use these different virtual functions. They were given approximately 5-10 minutes in their breakout rooms to complete this task. The breakout rooms were then dismissed and everyone was brought back into the main room, where the groups had shared some of their experiences and the leadership actions they had thought of.

This group activity was inspired by the idea of providing the players with increased autonomy in the decision-making process when it comes to solving team-related problems. By bringing them together in small groups and discussing their findings with the rest of their team, it also provided the players with the opportunity to have their voices heard. Placing limitations on the players methods of communication served well as a layer for problem-solving, as well as for

a way to make the activity more fun, challenging and engaging for the group. Doing so helped promote intellectual stimulation, being hypothesized by Callow et al. (2009) as a potentially effective tool to help promote cohesion. Callow et al. (2009) speculated that this could be done through having athletes work collectively to construct effective solutions to challenges, promoting effective conflict management tools and cohesion.

Instruments

Consistent with the structure of Bruner et al. (2020), a screening tool consisting of items from the Youth Sport Environment Questionnaire (YSEQ) (see Eys et al., 2009) and the TEAM were used.

YSEQ

The YSEQ was selected for the present study due to its proven track record and considerable utilization (see Benson et al., 2016, Bruner et al., 2020, Paradis & Loughead, 2010) in assessing and measuring group cohesion, with it being validated for demographics aged 13-17 years old (Eys et al., 2009; Jewitt, 2011), entirely encompassing the age range of the sample in the present study (ages 13-15). The YSEQ is an 18-item questionnaire that seeks to measure the group cohesion of a youth team, being comprised of items that target task (8) and social (8) cohesion, as well as spurious negative items (2) (Eys et al., 2009). Its items are measured using a 1-9 scale, ranging from *Strongly Disagree* to *Strongly Agree*.

TEAM

As for the TEAM, it is a 12-item questionnaire consisting of questions that target inputs that pull from the group environment, group structure, and group processes that feed into cohesion, consistent with the conceptualization proposed by Carron and Spink (1991) and later adapted by Carron et al. (1997) (Bruner et al., 2020). The scoring of the TEAM items is identical

to that of the YSEQ (Bruner et al., 2020). Prior to sending the screening questionnaire out to the coaches, the items from the TEAM were assessed for readability through an online platform called WebFx. The purpose of this was due to the fact that we were cognizant of ensuring that the questions were written in a coherent way for the age group of our sample, with the tool only being formally used in research with older, adolescent athletes (see Bruner et al., 2020). Items 3-6 and 10-11 of the TEAM were revised based on their readability scores being deemed too complex for the majority of our group to understand. Personal judgement by myself and the fifth author were also used when assessing the readability of the items. In addition, Athlete Leadership was added as a new item to the TEAM, following up on a future direction proposed by Bruner et al. (2020). The item for athlete leadership was inspired by the work of Loughhead (2017), who provided a deep analysis into the present state of the athlete leadership literature. See appendix A for a breakdown of the different readability scores for both the original and altered items, which includes both their original and altered wording.

Upon the completion of the revisionary process, the questions from the YSEQ and TEAM were inputted into an online survey platform called Jotform, and were sent out to the coaches and players to complete. The coaches served as the predominant point of contact for the survey data collection. The players were distributed the questionnaires to complete on their own predominantly via their coaches. See appendix B for the revised TEAM items for youth groups.

Focus Groups

A focus group interview guide was developed following the work of Kruegar (2002). The 10-question guide was organized into three sections: (1) Question, (2) How this question contributes to the purpose of the study, and (3) Potential answers to this question. This process was reviewed by myself and the fourth author, with the latter being an expert in qualitative

methods. In line with the recommendations made by Kruegar (2002), following the focus group interviews the group's answers to the questions were centralized under their respective questions. Later, overall the overall interpretations and findings of their responses to the interview questions were summarized into paragraph form by myself. These then served to aid in the development of both first and secondary order themes. The names of the participants were replaced with pseudonyms, in order to contain their confidentiality.

Trustworthiness

Burke (2016) put forward guidelines in order to assess qualitative research, being credibility, dependability, transferability, and confirmability. The purpose of this is to increase research rigor, one that contrasts the guidelines of quantitative research (Burke, 2016).

Credibility refers to the idea that findings are indeed reflective of the data collected from the research participants (Burke, 2016). In the present study, credibility was improved through triangulating our findings from not only our quantitative and qualitative data collection, but also through field notes and reflections done throughout the study (Brown et al., 2015; Hassandra & Chroni, 2020). Thus, these findings were collected through multiple sources (i.e., players, coaches, researcher), differing collection strategies (i.e., questionnaires, focus groups, field notes) and types of data, producing a triangulation schema and contributing to greater credibility of findings (Brown et al., 2015; Hassandra & Chroni, 2020). Another way that credibility was improved was through some prolonged engagement with the groups. I have provided mental performance consultancy services to one of the team's in the past, as well as occasionally having worked as a substitute teacher in which I, while coincidentally, had some previous engagements and rapport built with some of the participants.

Dependability is concerned with the consistency of the findings, being contrastable with the common desire in quantitative data analysis to achieve reliability (Burke, 2016). To attain dependability, Burke (2016) claimed that a study “..must be seen as: (1) consistent in that the research process is well established and trackable; and (2) accurate in that the data can be confirmed through the stated research process.” (p. 332). Throughout the course of the project, I had taken notes and kept records of the methods used, as well as the materials produced, and subsequently used throughout the intervention period. Such a process provided the basis for an audit trail, which “..requires specific information about the data and specific information about the data analysis to be recorded.” (Carcary, 2020, p. 167). This meticulous approach provides sufficient evidence in order to thoroughly describe the research process, which would be key for the replication of the study in the future (Smith, 2016).

Transferability concerns the fact of whether the findings of qualitative research can be taken and applied when working with other groups (Smith, 2016). Transparency is key for promoting the transferability of your findings, as it is ultimately determined by the subsequent reader(s) of your research if your findings can be utilized for their group (Smith, 2016). That being said, Smith (2016) claimed that providing a thick description can be utilized to provide such transparency, which involves in-depth accounts of the findings and interpretations of the qualitative data (Stearn, 1998). As mentioned before, I had taken notes and kept records of the methods used, as well as the materials produced, and subsequently used throughout the intervention period. Much like the opportunistic use of an audit trail to aid in developing rigor through dependability, the thorough approach to the research development and process also aids in the replication of the study in the future (Smith, 2016).

Finally, confirmability concerns the fact that the conclusions made are indeed grounded in the findings from the studies themselves (Burke, 2016). This is important as there have been ongoing concerns regarding qualitative research and how the biases of the researchers can misinterpret the data (Burke, 2016). Confirmability can be sought through engaging in practices like leveraging a reflexive journal, in which researchers can track the perceived impact that their own personal experiences and backgrounds could have on their qualitative data analysis (Burke, 2016). I had compiled notes post-intervention, following the recommendations made by Krueger (2002), as part of a systematic analysis process of the focus group data.

Direct Team Building Interventions

Direct team building interventions were facilitated by myself, being a Student Member of the Canadian Sport Psychology Association with nearly three years of experience as an applied mental performance consultant (provisional). I demonstrate a strong familiarity in ice hockey, having frequently played the sport during my childhood and now actively working with ice hockey clientele and teams from the elite youth, junior and collegiate levels across multiple roles, namely as a mental performance consultant (provisional). Such experiences demonstrate my investment in the sport, providing me with an insider perspective (Wiser, 2016). The content of the direct team building interventions will be discussed more in-depth later.

Critical Realism

Critical realism is a philosophy which recognizes that we cannot separate the ‘observable world’ from that of the ‘real world’, with the two being separate, yet connected, entities (Mukumbang, 2021; University of Warwick, 2020). From a critical realist perspective, the ‘observable world’ can be understood as the world in which has been socially constructed as we see it, as what we have seen and experienced has shaped the way we observe the world

(University of Warwick, 2020). The ‘real world’, on the other hand, is made up of what is unobservable to us, and has a direct influence on the events that socially construct our ‘observable world’ (University of Warwick, 2020). Critical realism rejects constructivist and positivist points of view, in it believes that ontology and epistemology both exist, opposed to the ontological reality being fragmented to our epistemology (Fletcher, 2017). Thus, the goal of critical realism is to unpack the underlying mechanisms, that of the ‘real world’, which directly influence our lived experiences and interpretations of the ‘observable world’ (University of Warwick, 2020; Zachariadis et al., 2013). Critical realism is not confined to a predetermined set of methods, but is rather operationalized more generally to guide research (Fletcher, 2017). Due to the inherent flexibility of its methodological framework, critical realism affords researchers the opportunity to dive deeper into the true meanings of phenomena (Fletcher, 2017).

While mixed methods will be discussed further in the following section, it is important to note that critical realism can mesh well with mixed methods approaches (Mukumbang, 2021; Zachariadis et al., 2013). This is due to the fact that since critical realism opposes the idea that there is a single truth to uncovering and researching a particular phenomenon, the application of mixed methods provides multiple perspectives into the data collection and subsequent analysis process (Mukumbang, 2021; Zachariadis et al., 2013). Zachariadis et al. (2013) claimed that “For critical realism, the link between the assumptions about the existence of the world and society (ontology), the idea of how knowledge is possible and of what (epistemology), and the choice of methodological approach is of major importance.” (p. 856). Of note is that within critical realist research, using questionnaires (like the TEAM) are a common way to collect quantitative data (Mukumbang, 2021). As well, the employment of focus groups is considered a common method to collect qualitative data within a critical realist research design (Mukumbang, 2021).

Combined, this highlights and supports our approach to both quantitative and qualitative data collection within the present study.

Results

Descriptive Statistics

Of the total of 33 participants who participated in the study, the participation was scattered throughout. Beginning with group 1, whose targeted construct was leadership, only 12/17 of the participants had completed the survey from baseline to one week post-intervention. From one week post-intervention to one month post-intervention, 11/17 of the participants completed the survey at both time points. Overall, 8/17 of the participants had completed the survey at all three time points throughout the study. As for group 2, whose targeted construct was goals and objectives, only 8/16 of the participants from group 2 had completed the survey from baseline to one week post-intervention. From one week post-intervention to one month post-intervention, only 5/16 of the participants from group 2 had completed the survey at both time points. Overall, 3/16 of the participants from group 2 had completed the survey at all three time points throughout the study. The mean scores across all time points for group 1 can be found in Table 1, and the mean scores across all time points for group 2 can be found in Table 2.

Questionnaire Mean Scores and Standard Deviations

Table 1
Questionnaire Mean Scores and Standard Deviations for Group 1

	Initial Screening (N=17)		One Week Post Intervention (N=12)		One Month Post-Intervention (N=11)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Scale (TEAM)						
Role Clarity	7.35	1.5	7.75	1.14	7.64	1.12
Role Acceptance	7.29	1.4	7.33	1.72	7.45	1.21
Leadership	6.06	1.78	6.25	2.30	7.55	1.29

Group Norms	7.65	0.86	7.50	1.38	7.18	0.87
Conformity to Group Norms	7.18	1.13	7.50	1.51	6.90	1.81
Togetherness	7.88	1.50	8.08	1.44	8.45	0.82
Goals and Objectives	7.35	1.69	7.42	2.02	7.55	1.29
Cooperation	7.53	1.18	8.00	0.85	7.73	0.79
Distinctiveness	8.35	1.37	8.42	0.79	7.82	1.47
Sacrifices	7.82	0.73	8.25	0.87	7.73	1.35
Interaction and Communication	8.06	0.97	8.25	0.87	7.64	0.81
Athlete Leadership	8.59	0.71	8.58	0.67	8.18	0.87
Scale (YSEQ)						
Task Cohesion	7.79	1.35	8.01	1.06	7.74	1.13
Social Cohesion	7.72	2.09	7.81	2.07	8.16	1.27
Demographic Data						
Age	13.18	0.39				

Note. Leadership is italicized as it was the targeted construct for this group's team building intervention.

Table 2
Questionnaire Mean Scores and Standard Deviations for Group 2

Scale (TEAM)	Initial Screening (N=16)		One Week Post-Intervention (N=12)		One Month Post-Intervention (N=6)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Role Clarity	7.06	1.48	7.08	2.02	8.17	1.60
Role Acceptance	7.19	1.48	6.83	1.19	8.00	1.10
Leadership	7.38	2.03	7.75	1.76	8.17	0.75
Group Norms	7.50	1.42	7.42	1.56	8.33	1.21
Conformity to Group Norms	7.38	1.39	7.25	1.36	8.17	1.33
Togetherness	7.31	1.88	7.42	1.51	8.17	1.17
<i>Goals and Objectives</i>	6.81	1.90	7.42	1.51	8.17	0.98
Cooperation	7.38	1.60	7.58	1.24	8.50	0.84

Distinctiveness	7.56	1.66	7.75	1.42	8.67	0.82
Sacrifices	7.25	1.32	7.75	0.75	8.17	1.33
Interaction and Communication	7.63	1.06	6.58	1.73	8.83	0.52
Athlete Leadership	8.13	1.27	8.17	0.94	8.83	0.41
Scale (YSEQ)						
Task Cohesion	7.09	1.63	7.28	1.42	8.21	1.13
Social Cohesion	7.16	1.90	7.54	1.53	7.83	1.23
Demographic Data						
Age	13.56	0.63				

Note. Goals and Objectives is italicized as it was the targeted construct for this group's team building intervention.

Goals and Objectives

One-way repeated measures multiple analysis of variance (MANOVA) were calculated to test for differences in goals and objectives for group 2, between baseline and one week post-intervention, and baseline and one month post-intervention. Upon examination of multivariate statistics, non-significant effects were seen for goals and objectives $F(1, 7) = .038, p = .850$ from the baseline to one week post-intervention. Multivariate statistics also revealed non-significant effects for goals and objectives, $F(1, 4) = .118, p = .749$ from baseline to the one month post-intervention time periods. The data for the participants included in this analysis can be found in Tables 3 and 4.

Table 3
Goals and Objectives Scores Across Time Points (Accounting for Participant Attrition, N=8)

Scale (TEAM)	Initial Screening		One Week Post-Intervention	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Goals and Objectives	7.00	2.00	7.13	1.55

Table 4
Goals and Objectives Scores Across Time Points (Accounting for Participant Attrition, N=5)

Scale (TEAM)	Initial Screening		One Month Post-Intervention	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Goals and Objectives	7.80	0.84	8.00	1.00

Leadership

One-way repeated measures MANOVA were calculated to test for differences in leadership for group 1 and goals between baseline and one week post-intervention, and baseline and one month post-intervention. Upon examination of multivariate statistics, non-significant effects were seen for leadership, $F(1, 11) = .137, p = .718$ from the baseline to post-intervention. Multivariate statistics also relieved non-significant effects for leadership $F(1, 10) = 4.568, p = .058$ from baseline to the one month post-intervention time periods. The data for the participants included in this analysis can be found in Tables 5 and 6.

Table 5
Leadership Scores Across Time Points (Accounting for Participant Attrition, N=12)

Scale (TEAM)	Initial Screening		One Week Post-Intervention	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Leadership	6.00	2.00	6.25	2.30

Table 6
Leadership Scores Across Time Points (Accounting for Participant Attrition, N=11)

Scale (TEAM)	Initial Screening		One Month Post-Intervention	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Leadership	6.36	1.86	7.55	1.29

Group Cohesion

One-way repeated measures MANOVA were calculated to test for differences in group cohesion between baseline, post-intervention, and at follow-up. The analysis showed a non-significant multivariate effect, $F(F4, 7) = 1.28, p = .36$. Expectedly, examination of the univariate effects showed non-significant effects for task, $F(2, 20) = 0.52, p = .60$, and social, $F(2, 20) = 1.41, p = .27$, cohesion. The mean scores for task and social cohesion across the time points are presented in Table 7.

Table 7
Group Cohesion Scores Across Time Points (Accounting for Participant Attrition, N=11)

Scale (YSEQ)	Initial Screening		One Week Post-Intervention		One Month Post-Intervention	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Task Cohesion	7.45	1.13	7.70	0.64	7.69	0.69
Social Cohesion	7.90	1.25	8.17	1.04	8.19	0.70

Note. Only the participants from both groups who completed the questionnaire at every time point were included in this portion of the analysis.

Qualitative Data Analysis

Goals and Objectives

Table 8
Themes Generated from Group 2's Focus Groups

Type of Themes	Theme Titles
Primary Theme	Bringing Everyone Together on the Same Wavelength
Second Order Theme	Incorporation of Roles into Goals and Objectives

The results from the focus groups uncovered both first and second order themes, as outlined in Table 8. As a primary theme, it was apparent that the group had felt that the goals and objectives workshop had served them well, as a means of helping bring everyone together on the same wavelength. It appeared that while the team collectively were in pursuit of a common goal (e.g., winning a championship), the team members were less aware of the collective interest in making this goal happen. The following excerpt from one of the players from the U15 girls group demonstrates this idea:

Justine: “Um, it's, I think it sort of made us like, with the last meet that we had with you. And then in the dressing room. It's sort of like, I don't think everybody knew how much, like, in common what we wanted, was like, we all want the exact same thing, basically. And we all want to, like, work together. And it just, I feel like it brought us closer as a team.”

It would be reasonable to assume that having such conversations surrounding everyone's desires of achieving a common goal that increased in task-cohesion should follow. This sentiment is echoed by the work of Spink et al. (2018) and Spink (2020), in that perceived efforts in working towards a common goal can serve to increase the level of cohesion within a team. Bruner et al. (2014) found such perceived cohesion was predictive of various positive outcomes, including goal-setting, as well as personal and social skill development. This same idea was reflected through the team's coaching staff, with the Head Coach and one of their Assistant Coaches involved during the goal-setting workshop. The coaches had explained that after our

goal-setting intervention, it sparked much self-awareness within their group, so much that they had subsequently held a team meeting before their next practice to dive deeper into the goal-setting and team roles. Through a critical realist lens, it makes me consider if perhaps it was the intervention which aided in the development of cohesion, or were the underlying mechanisms, that of the 'real world', more geared towards the advancement of the team through the direction of the coaches, or a combination of both. During the ensuing weekend, they participated in a tournament. Herbison et al. (2022) found that competitive youth ice hockey coaches who set goals for tournaments helped promote identity advancement within their team, being connected to the development of positive sport experiences. The value in triggering these conversations can be partially encapsulated by the following quote from one of their assistant coaches:

Assistant Coach 1: “(We) never maybe never knew where each other was, right? So I think by (Head Coach), we had that meeting by (Head Coach) saying it but then also hearing from players you're like, “Okay, we are clearly all on the same page.”.”

As mentioned earlier, Cranmer and Myers (2014) found that in-group relationships were partially characterized by cooperative communication (Cranmer & Myers, 2014). Involving coaches within the team-building intervention appeared to afford the opportunity for increased symmetrical communication, as it brought everyone on the same wavelength for goals and objectives, as well as serving to promote role clarity. Supported by the work of Newin et al. (2008), coaches in their sample reported that their communication had improved through being active agents in the team building process. The Head Coach of this team particularly emphasized how his communication has improved since the goals and objectives intervention:

Head Coach: “Yeah, that's awesome. It's funny, I was just gonna almost ask the girls that

is too. You know, I think about again, like I know, like I'm sort of mentioned is I think it's really helped my communication, um, of always having that sort of level set with the girls and be able to have, you know, this is what we're going to talk about this is your goals. This is your role. I think, you know, that if they've been able to ask me the question and I've been able to articulate a better answer. I think one of the things that's interesting that I don't think we could ever get, uh, but maybe maybe the girls can give us feedback is all everyone was in good spirits. You know, we had a great practice last night. We've had a great couple of weeks together. So over the course of that time, we've also, were eliminated from the playoffs by one point. We had an unsuccessful round robin in the (name of tournament) yet everybody's still smiling, you know, everyone is still optimistic..”

A second order theme that occurred was that of the incorporation of roles into goals and objectives. Herbison et al. (2022) identified that coaches could foster identity entrepreneurship, being understood as “..leaders clarifying shared values, goals, and norms for team members “ (p.5), through “..reinforcing team values and behavioral norms related to task and social aspects of team membership.” (p.5). This point is salient when considering the nature of the coaches involvement with our second group. During the goal-setting workshop, the topic of roles was mentioned and it really sparked an apparent revelation within the group, being consistent with my field notes regarding the prominence of roles as an area of indirect focus. As Herbison et al. (2022) had pointed out, coaches in their sample had sought to foster shared social identity through highlighting players' individual contributions. Much to the similarities to our U15 girls group, the coaches had attempted to foster greater cohesion within their team by becoming much

more clear with the roles on their team. The value of this was partially encapsulated by the following quote from the team's Head Coach:

Head Coach: "So I think, um, I really enjoyed the, just another angle, another tool in the toolbox of pieces, just a level set as a coach just to make sure that I can have transparent conversations with the girls and they understand the role and the expectation we have (for) them on their team. That, you know, what they think maybe their their fastball and their go to might be different than we view it as so I think it's been, um, you know, a good grounding in, in conversations, I think to help the girls and, and you know, make sure they can develop and, uh, know what they need to do."

Rovio et al. (2012) found that role clarification was a key component to fostering effective team goal-setting, as it served as a means of incorporating everyone into the larger picture, team goals. This serves as a way for individual goals to be complementary to team goals (Rovio et al., 2012). During the intervention, as mentioned, the players had taken the time to identify their team goal as a group, and then worked backwards in order to determine what their role was, and how they could take actionable steps to completing their role effectively. Of note, goal-setting can be characterized as a method of informational support which as mentioned in Cranmer's (2016) study, Goldsmith (2004) had characterized informational support to involve not solely the conveying of information, but also essentially connecting the dots and relaying advice to areas of focus/need. Given the fact that the coaches were involved in the girls sample from our study where goals and objectives were the focus, it would be reasonable to expect that having everyone involved could have helped provide additional perspectives on team roadblocks and problems. Thus, having coaches as part of team building workshops could act as a method to produce higher quality coach-athlete relationships.

Collectively, their intervention appeared to reduce the ambiguity in the dressing room, allowing everyone to know and see the collective efforts in pursuing a common goal. Through incorporating aspects of role clarity, and connecting them to their goals and objectives intervention, it was reported to alleviate “awkwardness” within their team. Eys et al. (2005) found that role ambiguity is impacted by the coaches' clarity in communicating their players' roles, as well as through conflicting communication. Thus, by having open-conversations as a group regarding goals and objectives, and how their individual roles help them work towards this as a unit, it appeared to reduce role ambiguity and increase role clarity. This idea was exemplified by the Head Coach from the U15 girls sample:

Head Coach: “And as much I think it was the opportunity for (AC) and (AC2) and I just sort of say, "Hey, we're gonna do this." I think it was great to see the girls to be prepared. There didn't be I didn't think there was any sort of awkwardness in the room. Like it was really, you know, at ease that everyone understood what we were trying to talk through and where we were trying to get at.”

Leadership

Table 9
Themes Generated from Group 2's Focus Groups

Type of Themes	Theme Titles
First Order Theme	Development of Open-mindedness
Second Order Theme	Emergence of Informal Leaders

The results from the focus groups revealed both first and second order themes, as outlined in Table 9. As a primary theme, it was clear that the players appeared to become more open-minded from participating in this exercise. Through reflecting on potential barriers and

how they could collectively overcome them, it appeared to spark a wave throughout the group to be open-minded and want to learn from others, in order to work towards a collective goal:

Lleyton: “Um, I noticed one thing that we were at, I think it was our last game in the (name of tournament) playoffs. And me and Jimmy were sitting watching the game before us play and we're just watching the game and just learning. And, I thought it was really cool because, you know, learning from what we can do better. Or like, you know maybe how other teams are playing with, we can do some other things to improve our team as well.”

Taylor Staden: “Yeah, absolutely.”

Lleyton: “So like, like, some of what we did in the workshop kind of carried on to you know, learning from other teams and learning with each other as well.”

Malloy and Kavussanu (2021) claimed that, at its core, authentic leadership consists of self-awareness and self-regulation. Malloy and Kavussanu (2021) also explained that authentic leaders demonstrate an interest and care for the perspectives of those around them, as well as a concern for their needs. In this case, the athlete appeared to have developed greater self-awareness through being more open-minded from the exercise, thus aiding in the pursuit of achieving a collective goal. Doing so allowed him, and his teammates, to be inspired to learn from others (both members and non-members of the team), helping drive peak performance. Interestingly, this new-found self-regulation appeared to help the athletes be less reliant on the guidance of their coaches, as they became more inclined to consider solutions themselves:

Lleyton: “..Like, I feel like before you know like, coming off like a tough loss. I feel like the coaches would kind of tell us like you know what, we could do better and you know, learn from our mistakes, but now I just feel like, like I said before, like when coming off

a shift I feel like we can learn from we were learning from our mistakes and getting better and improving.”

A second order theme here was the prominence of emergent leaders. Emergent leaders can be understood as informal leaders who take on leadership roles and responsibilities passed throughout their teammates, demonstrating such leadership as a dynamic process, opposed to static (Loughead, 2017; Schnurr et al., 2021). One athlete in particular had spoken to the development of his leadership, which was later seconded by a teammate of his. As mentioned earlier, McLaren and Spink (2018) found that task cohesion was positively predicted by levels of positive conflict communication and acceptance. This being said, the players being involved in the development of appropriate leadership responses could be framed as a means of promoting positive conflict communication. In the development of such positive conflict communication, the players seemingly have the opportunity to ‘find their voices’ through a collective effort to outline desirable leadership behaviours. A triangulation of my field notes also found that by the group coming together and having more clarity, it appeared to help the athletes set expectations throughout the group. Thus, it appears that by engaging in this exercise, it appeared to help outline positive leadership behaviours to promote a task-focus throughout the group:

Randy: “Personally I don't like being (the) leader type. Like I don't like being the one that you just I don't know why I just don't like being the leader type, but I felt like more people, like, it was just like a handful of people before I felt more people started like more people started trying to get the team going and focused and started trying to be leaders instead of just the little handful.”

Gould (2016) put emphasis on the importance of adults educating youth on ideal leadership behaviours, as well as to help put them in situations where they can test and develop

their ability to lead. Interestingly, Gould (2016) claimed that, as an effective instructor of leadership, it is important to be creative and find ways to help youth athletes get out of their comfort zone regarding expressing leadership behaviours. This idea is salient with the activity they did as a group, and was actually directly echoed by one of the players:

Randy: “I found the group projects (their intervention), group projects, like they help because like you had to pick a leader and then everyone else had to have their own roles.. And like it forced people like maybe someone who doesn't like to be leader like they had to be the one who, like, stepped up and I guess did the most because the talker was mostly the one who could do the most work and like tell everyone what they thought and everyone else had to like, do their roles that maybe they weren't used to, but like, you had to do it for that time.”

The primary theme regarding group cohesion was the fact that participating in the team building intervention appeared to bring both groups closer together, respectively. It appeared to act as a means of promoting collective focus within the group, helping them work towards a common goal. As mentioned earlier, the cues to informing task cohesion are ones that aid in the promotion of the notion of working towards a collective goal (Spink et al., 2018). By having the teams sit down and both actually become more aware of their teammates interest in wanting to pursue a common goal, it is reasonable to assume that task cohesion could have followed as a result (Spink, 2020; Spink et al, 2018). However, it is merely one aspect to sit down and discuss team goals, and while this is clearly worthwhile, the more important aspect is actually putting it into action; as the old mantra goes, *seeing is believing*. By having the participants develop actionable steps to implementing the information shared during their team building workshops, it allowed them to have an easier time in connecting the dots:

Joseph: “I feel like we all started to get like, a little bit more focused before warmup after we did it. Like.”

Taylor Staden: “What are, what were maybe some of those changes Joseph, like what are some things maybe you personally did, if you don't mind sharing, mind sharing to get a little more focused in warmups?”

Joseph: “Um, just not fooling around and like, listening to my own music and like thinking of what I'm gonna do in the game. Yeah.”

Spink et al. (2013) found that adolescent athletes (~16 years of age) tend to work harder when they perceive the effort levels of their teammates to be higher, and normative beliefs had a strong influence on the amount of effort exerted. While our sample consisted of slightly younger athletes, the sentiment remains the same. Thus, with Joseph reporting that they were all starting to get more focused prior to games, it could be framed as means of the complete output of effort throughout the team increasing. Taking a critical realist perspective, it appears that this newly found collectivity amongst the group could potentially have served as a potential underlying, driving force to helping them achieve a common pursuit (Zachariadis et al., 2013). In addition, the players going through the leadership exercise, where they collectively came up with foreseeable challenges and their associated ideal responses, could be seen as a means of establishing new normative beliefs within the group. Thus, helping to potentially increase the effort of the participants at the individual level (e.g., seeing other teammates follow the identified positive responses to challenges helping inspire others to do the same). Connecting back to the previously mentioned work of Spink (2018), when teammates perceive that they were working harder towards achieving a collective goal, cohesion could increase. This revelation builds well on the previously mentioned point of sitting down and becoming more aware of the team's

common interests, with this now being the next step into implementing the identified actionable-steps. Interestingly, it appeared that both groups also benefited from the increased self-awareness that occurred through using the TEAM. A review of my field notes backs up this claim, as the conversations throughout the course of the study seemed to pave the way for much needed change within each of the groups, respectively. The TEAM served as a reflective tool for the players to bring light to how they feel about their team dynamics, with the workshops then being key to working through the newly identified and thought-out areas of cohesion:

Justin: “So I think like my favourite part about this workshop was like, either the survey that we first did, like and we had to answer all those thirty questions. And it brought like self-awareness of how you feel about the team. And then also, I liked the.. like six challenges and then find the solutions with the whole team and I like how we all found solutions to every single one and we put them into play.”

Having the participants utilize the TEAM as an indirect self-reflection tool demonstrated to improve on their reported self-awareness, serving as a potential vehicle for change throughout the group. Interestingly, with one of the groups reporting that they simply never discussed some of the areas regarding their team dynamics (i.e., goals and objectives, roles), perhaps the TEAM served as a means of fulfilling that void within the group. Thus, helping increase the self-awareness of those involved, sparking conversations relating to newly found areas of need and concern.

Discussion & Conclusion

Revisiting our Research Questions

The purpose of the present study was to expand on the understanding of the application of the TEAM in informing the development of team cohesion amongst youth teams. This was

done in an effort to help further the current understanding of how coaches and applied practitioners can optimize the results of their team building interventions with youth groups. As well, this study aimed to further the TEAM's applied uses and applicability to different groups.

How can applying the TEAM aid in the optimization of team building interventions in a youth team setting?

Nonsignificant changes were found through the quantitative data analysis. A considerable attrition rate regarding the questionnaire responses was experienced, with only 24/33 participants (~27% attrition rate) participating from baseline to one week post-intervention, and 17/33 participants (~52% attrition rate) from baseline to one month post-intervention. As mentioned prior, Schulz and Grimes (2002), citing the work of Haynes et al. (1997), suggested that when attrition rates exceed 20%, there is a prevalent risk of biases in the dataset. Due to this, when considered alone, no confidence can be put directly onto the raw quantitative scores. However, when supported by the qualitative findings, positive trends for the direction of the group's cohesion were experienced. The key findings of the study demonstrate a wide variety of apparent benefits to utilizing the TEAM. The participants in the present sample claimed to have benefitted from the intervention through increases in their targeted construct of cohesion (i.e., goals and objectives, leadership), but also secondary benefits such as the development of self-awareness, emergence of leaders, and raising collective efficacy through highlighted discussions around having a common purpose. Despite the nonsignificant quantitative results, the support of the rich qualitative data uncovered from focus groups, provides evidence that the TEAM could provide value in guiding team building interventions to develop team cohesion with youth sport teams. These generalized findings support the first research question.

Can applying the TEAM help improve the cohesion of youth teams?

The data supports the notion that the TEAM can prove to be of use in developing the cohesion of youth sport teams. While there were nonsignificant quantitative results for improvements in group cohesion, the participants had supported the idea that they had come together collectively. This was demonstrated from the data collected from their focus groups, in which the participants had expressed that they felt that their teams experienced improvements in team functioning, collective purpose, and awareness of working towards a common goal. To reiterate, Spink (2020) claimed that task cohesion tends to improve when a group perceives themselves as working towards a common goal, which was a common notion between both of our samples through the use of the TEAM. Through a critical realist frame, the development of cohesion is classified as that of our 'observable world' (University of Warwick, 2020). This being said, the underlying mechanisms which perhaps served as part of this improvement in cohesion are not as clear cut, yet remain important to work to interpret due to their inherent driving and direct force (Zachariadis et al., 2013).

The results of our study aid in supporting our research questions as they provided a strong starting basis for applying the TEAM to youth sport teams, as well as that it can be used to help improve on the cohesion of a youth sports team. The findings from the present study are in line with the existing literature (Bruner et al., 2020) in that the TEAM can be an efficacious tool for promoting team cohesion and optimizing team building interventions. Interestingly, one finding we had that was in line with the current research was that of the power of teammate perceptions. As discussed in the results section, it was apparent that through the focus group interviews, both groups reported that they became more cohesive through a greater awareness, and subsequent action, of desiring a common goal. This is in line with the work of Spink (2020)

and Spink et al., (2018), in the importance of understanding the relevant cues to task and social cohesion. This raises awareness as to the value of the TEAM in serving as a cue to bring light to relevant cues to task (e.g., desiring a common goal) and social (e.g., positive communication) cohesion. Thus, these preliminary findings suggest that the TEAM could serve as a strong self-awareness tool to kick-start task and social cohesion within a youth sport team environment, adding to the current state of research as a potential indirect benefit of the TEAM. From a critical realist perspective, it could perhaps be that the use of the TEAM served to help bring light to the underlying mechanisms in which were driving the newly sought after cues to driving cohesion. While it is certainly possible that the TEAM could bring to light facets to cohesion in which could be of potential harm (i.e., groupthink, group polarization; Rovio et al., 2012), if the group were to not have responded as positively as they did, it could still be viewed as a tool in which shines light on cues as to which were perhaps undercover, or neglected altogether.

Limitations

The present study does not come without its limitations. As mentioned, the quantitative data analysis revealed no significant effects from pre-intervention to one week post intervention, as well as from pre-intervention to one month post-intervention. So while there is justification for the application of a greater emphasis on the qualitative results of the study (Ivankova et al., 2006), that is not to say that nonsignificant quantitative results are to be nullified or ignored. Gathering survey data certainly can come with its challenges, especially collecting virtually as we did in the present study, which was a major contributor to the lack of power in our quantitative analysis. Additionally, there was a significant attrition rate throughout the course of the study, namely at the final time point. While the reasoning for this could certainly be a myriad of possibilities, the high mean scores demonstrated in the latter stages of the study could be

skewed due to perhaps the participants who enjoyed the process and intervention, and benefitted, felt more inclined to complete the surveys at all time points. While in theory the idea of no-cost team building workshops are of value to teams, ultimately they appear to not suffice as a valuable incentive for youth athletes. Future researchers should look to add additional incentives to their studies to increase the consistency of their response rates, particularly when collecting data through individual virtual surveys.

Future Directions

From the present study, there are many future directions which are similar to those suggested by Bruner et al. (2020). Namely, those include the fact that researchers should seek to apply the TEAM to a larger sample of teams, in an effort to test it on teams who come from a wider variety of sports, backgrounds, and levels of cohesion. The formal research to date on the use of the TEAM, being that of Bruner et al. (2020) and the present study, has only focused on samples of athletes who play ice hockey and are predominantly Canadian, presenting a narrow scope. This being said, future research could seek to apply the TEAM in different types of sports that have both individual and team components (e.g., tennis, paddling) to develop a greater understanding of its use and applicability in a wider range of settings. In addition, another area of focus which would be interesting to dive deeper into is testing the use of the TEAM with groups who report low group cohesion. The research to date has only tested groups with task and social cohesion levels of above 7/9 (as reported by the YSEQ) and above. While this can be difficult to accomplish (i.e., finding a group to work with who has low group cohesion), it could certainly prove worthwhile to expand on the use and efficacy of the TEAM.

As discussed earlier, Rovio et al. (2010) discussed how team building interventions are not solely used to improve on cohesion. The present literature to date on the application of the

TEAM has focused on utilizing it to improve on cohesion through targeting the specific area as per their screening data (Bruner et al., 2020). Thus, it could be of use to test the effectiveness of the TEAM in aiding to help inform team building interventions where improving cohesion is not the desired outcome. Instead, researchers could look to use the team to inform team building interventions where improving team performance is the focus, which is often the case when working in elite sporting environments (Rovio et al., 2010). Additionally, it would be of value to measure the improvements in cohesion when working with two groups, with a control group (i.e., receiving a general team building activity) and an intervention group (i.e., incorporating the use of the TEAM). While the results from the present study suggest that the TEAM is of benefit to youth athletes, it also was not measured against a control group. This poses questions as to if the TEAM in itself was a major contributor to the improvements in cohesion, or was it predominantly the value of bringing teams in to do a fun and engaging team building activity? This serves as a worthwhile future direction.

Conclusion

Overall, team building is a multifaceted process in which can be aided by the use of different methods and techniques (Paradis & Martin, 2012; Rovio et al., 2010), with the present study focusing on the value of the TEAM in aiding in this endeavour. While our descriptive statistics had demonstrated a lack of significant changes, it is reasonable to assume that the groups benefited from the team building intervention based on the rich, qualitative findings. Within the present study, the TEAM demonstrated the ability to not only aid in the development of targeted constructs of cohesion (i.e., goals and objectives and leadership), but also secondary benefits such as the development of self-awareness, emergence of leaders, and raising collective efficacy through highlighted discussions around having a common purpose. The present study

provides further evidence for the applied use of the TEAM for coaches and practitioners alike to inform their development, and subsequent delivery, of team building interventions.

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Appendices

Appendix A

Readability Scores for Original & Revised TEAM Items

Number & Item	Original Readability (Age range, readability score /100)	Altered? (Yes/No)	Altered Readability (Age range, readability score /100)	New Item? (Yes/No)
1. Role Clarity	9-10, 84.6	No	N/A	No
2. Role Acceptance	9-10, 93	No	N/A	No
3. Leadership	22-23, 19.2	Yes	11-12, 87.4	No
4. Group Norms	15-16, 58	Yes	12-13, 77.1	No
5. Conformity to Group Norms	12-13, 71.5	Yes	13-14, 67.9	No
6. Togetherness	14-15, 61.7	Yes	12-13, 80.5	No

7. Goals and Objectives	12-13, 70.7	No	N/A	No
8. Cooperation	13-14, 64.4	No	N/A	No
9. Distinctiveness	10-11, 84.4	No	N/A	No
10. Sacrifices	14-15, 62.4	Yes	13-14, 66.4	No
11. Interaction and Communication	15-16, 46.5	Yes	12-13, 71.1	No
12. Athlete Leadership	N/A	N/A	10-11, 78.6	Yes

Appendix B

Team Environment Assessment (TEAM): Adjusted Items for U13-U15 Groups

- 1. Role Clarity:** Team members clearly understand their roles on the team. (*e.g., a scorer, an enforcer*).

(1) Strongly Disagree..... (9) Strongly Agree
- 2. Role Acceptance:** Team members accept their role on the team.

(1) Strongly Disagree..... (9) Strongly Agree
- 3. Leadership:** When appropriate, the coach lets us help make decisions for the team (*e.g., coach seeks team input on the selection of a drill in practice*).

(1) Strongly Disagree..... (9) Strongly Agree
- 4. Group Norms:** All team members know how we are expected to behave. (*e.g., team expectations are clear, such as all team members try their hardest for every drill in practice, everyone arrives early to practice, etc.*).

(1) Strongly Disagree..... (9) Strongly Agree
- 5. Conformity to Group Norms:** Team members follow the team's established group norms (*e.g., team members try their hardest during drills in practice since hard work is a behavioral expectation*).

(1) Strongly Disagree..... (9) Strongly Agree
- 6. Togetherness:** Team members spend a lot of time together. (*e.g., the team practices, trains, and competes together multiple times per week. Team will sometimes spend time together even on off days*).

(1) Strongly Disagree..... (9) Strongly Agree

7. Goals and Objectives: Team members participate in the development of team goals.

(e.g., all team members help develop team goals for the season, such as certain number of wins or winning a championship).

(1) Strongly Disagree..... (9) Strongly Agree

8. Cooperation: Team members work together as a group rather than as individuals. *(e.g.,*

while team members do compete against one another for playing time and in practice, all players understand that these processes are necessary to get better as a team).

(1) Strongly Disagree..... (9) Strongly Agree

9. Distinctiveness: Team members are distinguishable from others who are not on the team.

(e.g., jerseys, cheers, track suits etc. that distinguish them from non-team members).

(1) Strongly Disagree..... (9) Strongly Agree

10. Sacrifices: Individual team members make sacrifices in order to benefit the whole team

(e.g., team members help pick up water bottles, ensuring that the team dressing room is clean, or listen to others' warm-up music to benefit the team).

(1) Strongly Disagree..... (9) Strongly Agree

11. Interaction and Communication: All teammates interact and communicate freely with

one another. (e.g., the team uses lots of group drills that encourage us to communicate instead of working on our own).

(1) Strongly Disagree..... (9) Strongly Agree

12. Athlete Leadership: There are a number of players on this team who are leaders, even if

they don't wear a letter (e.g., team captain, team clown, motivator, energizer).

(1) Strongly Disagree..... (9) Strongly Agree