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Using a Team-Based Approach to Psychological Skills Training with an Esports Team

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**USING A TEAM-BASED APPROACH TO PSYCHOLOGICAL SKILLS
TRAINING WITH AN ESPORTS TEAM**

By

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ABSTRACT

The popularity and commercial success of videogames in the current era has given rise to a new type of competition: electronic sports (or esports). While the debate to determine whether esports deserve to be included under the larger umbrella of "sports" is ongoing (Jenny et al., 2016; Wagner, 2006), researchers have proposed that esports would benefit greatly from research in traditional sport psychology (Murphy, 2009; Pedraza-Ramirez et al., 2020). Since team building and psychological skills training (PST) programs have been employed within traditional sport settings to enhance the performance and outcomes of sport teams (Bruner et al., 2013; Munroe-Chandler & Hall, 2021), the aim of the current study was to examine the impact of a PST-based team building workshop program on collegiate-level esports players' perceptions of team cohesion as well as their use of PST techniques during training. This was accomplished by comparing the participants' scores on the Group Environment Questionnaire (GEQ; Carron et al., 1985), and the Test of Performance Strategies-2 (TOPS-2; Hardy et al., 2010) pre- to post-intervention. The participants included four players of the University of Windsor's esports program Lancer Gaming. While the effect of the intervention on the participants' scores on the GEQ and TOPS-2 could not be statistically analysed due to small sample size, the effect sizes that were observed could be indicative of beneficial effect of the intervention workshops. Suggestions are presented for researchers looking to work with collegiate esports player populations.

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RESEARCH ARTICLE

Introduction

Competitive videogaming or electronic sports (esports) "is an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies" (Wagner, 2006, p. 3). Stated simply, it is a form of competition that takes place in the virtual world, with videogames providing both the forum and the context for competition. The popularity of esports has seen a massive growth within the last decade, with professional competitions bringing in millions of viewers and sporting multimillion-dollar prize pools (Esports Earnings, 2020; Jenny et al., 2016). Aside from a flourishing professional industry, esports has also been accepted as an authentic form of competition within many intercollegiate athletic departments across the United States and Canada (Jenny et al., 2016; Keiper et al., 2017).

From a research perspective, the study of esports has been approached from a multitude of academic disciplines, including business, sports science, cognitive science, informatics, law, media studies, and sociology (Reitman et al., 2019). It has been suggested by several authors that sport psychology may provide a useful framework for the study of esports and esports athletes (Murphy, 2009; Poulus et al., 2020; Wagner, 2006). While Jenny and colleagues (2016) demonstrated that esports does not completely satisfy all of the requirements to be considered a sport (e.g., physicality and institutionalization being the lacking elements), Wagner (2006) argued that there is a natural connection between traditional sports and esports. This contention is supported by two different systematic reviews of existing esports research which explored the similarities between esports and traditional sports (Bányai et al., 2018; Pedraza-Ramirez et al., 2020). Bányai and colleagues' (2018) systematic review showed that the process of becoming a

professional esports player is similar to the process of becoming a professional athlete in traditional sports (e.g., requiring training, skill acquisition, and mental and physical preparation for contests). The authors also discussed the similarities between esports players and professional gamblers (e.g., excessive time spent playing) and suggested that future research should focus on the comparison and evaluation of sports and esports. In their systematic review, Pedraza-Ramirez and colleagues (2020) emphasized that research in esports could benefit from a close association with the field of sport psychology, and that by focusing on the cognitive functions and game performance in esports, this association may lead to a better understanding of the underlying mechanisms of performance. Furthermore, integrating the research disciplines of traditional sports and esports could help both areas overcome theoretical and methodological constraints.

The similarities between traditional sports and esports are further underscored at the level of individual players. Birch and Chekera (2020) compared esports players to traditional athletes and argued that esports players have psychological demands similar to the demands faced by traditional athletes, including the need to manage emotions during competitions, dealing with the pressure to perform, and even dealing with injuries. Furthermore, Murphy (2009) proposed that esports performance in professional contexts may be enhanced through the use of Psychological Skills Training (PST) by improving the mental skills of the players. Other authors echoed Murphy's contention, and added that to be successful in esports, players must possess social and emotional skills to effectively cooperate with their team members in online and offline settings, as well as be able to employ mental skills such as goal setting, imagery, and anxiety management to achieve optimal performance (Himmelstein et al., 2017; Tang, 2018; Taylor, 2012). Himmelstein et al. (2017) provided support to these ideas by conducting interviews with high-

level League of Legends (Riot Games, 2009) players (i.e., highly ranked players who competed in a minimum of two tournaments within the past 12 months). They identified 11 techniques that the players used to achieve optimal performance (e.g., building team dynamics, monitoring their mindset, using pre-performance routines), as well as some of the perceived obstacles that prevented the players from performing optimally. Specifically, these obstacles included barriers for optimal performance, team obstacles, need for balance between life and gaming, and limited understanding of the game. From these findings, the authors concluded that gamers' performance could be improved with the use of mental skills training. Given the similarities between the domains of esports and traditional sports, it makes sense to adapt concepts from traditional sports for the purposes of designing applied PST interventions to be used with esports players.

As noted earlier, esports players must possess social and emotional skills. Consequently, team building and PST programs have been employed to enhance the performance and outcomes of traditional athletes and their teams (Bruner et al., 2013; Munroe-Chandler & Hall, 2021), however, the same training with esports players is rare, and no empirical studies, to my knowledge, have been undertaken to examine their effectiveness. The construct of team building is viewed as an important group development intervention for nurturing effective teams (Bruner et al., 2013). According to Brawley and Paskevich (1997), team building is defined as a "method of helping a group to a) increase effectiveness, b) satisfy the needs of its members, or c) improve work conditions" (p. 13). To achieve this, team building interventions in traditional sports have focused on increasing group effectiveness by enhancing group cohesion (Carron et al., 1997). Cohesion, one of the most important small group variables in a wide variety of disciplines (Carron & Brawley, 2000), is defined as "a dynamic process that is reflected in the tendency for

a group to stick together and remain united in pursuit of its instrumental objectives and/or for the satisfaction of member affective needs" (Carron et al., 1998, p. 213).

Based on this definition of cohesion, Carron and Spink (1993) developed a conceptual model for implementing team building interventions. The team building model (see Figure 1) is linear and encompasses inputs, throughputs, and outputs. The inputs are assumed to influence the throughputs, which in turn contribute to the development of the output of cohesion (Carron & Spink, 1993). The inputs are divided into two categories: group environment (includes factors such as group distinctiveness and togetherness), and group structure (includes factors such as group roles and group norms). The throughputs encompass group processes (includes factors such as group goals and objectives), and the outcomes are the desired group outcomes such as cohesion.

In the current study, the implementation of the team building program took the form of a PST intervention. In the domain of traditional sport psychology, "a PST program, or intervention, entails the structured and consistent practice of psychological skills" (Munroe-Chandler & Hall, 2021, p. 134). PST interventions are based on the assumption that thoughts and feelings can inhibit performance and that specific mental skills, when used effectively, can enhance performance (Hays, 1995). PST interventions employ a wide variety of psychological techniques to promote desired outcomes, including goal setting, self-talk, and arousal regulation (Munroe-Chandler & Hall, 2021; Williams et al., 2015).

The PST intervention employed in this study was designed to indirectly influence all three components of the team building conceptual model (see Figure 1). The workshops developed for this intervention were designed to affect the group environment (e.g., promotion of team togetherness as a consequence of receiving a team building program), group structure

(e.g., team members learning about their roles through team discussions), and group processes (e.g., interaction, communication, and establishment of team goals). The outcome was expected to be enhanced team cohesion pre- to post-intervention.

The reason for designing a PST-based team building program in the current study is twofold. Implementing the program with an esports team could both foster team cohesion (e.g., through influence on the components of the team building model) while simultaneously teaching the players how they can use PST principles to improve their team and individual performance and outcomes. The purpose of the current study was to examine the impact of a PST-based team building program on collegiate-level esports players' perceptions of team cohesion, and their use of psychological skills during training. To that end, it was predicted that the esports players would report higher levels of team cohesion, as well as higher frequency of utilization of relevant psychological skills post-PST intervention.

Method

Participants

A total of 12 University of Windsor students who were members of the League of Legends esports team from the 2021 Lancer Gaming collegiate esports program were invited to participate in the study. From this pool, a total of four students (P1, P2, P3, and P4) participated in the workshops and completed the pre- and post-intervention questionnaires.

At the time of the study, the Lancer Gaming League of Legends team had completed its inaugural season as a collegiate esports team and was in transition, as it was the off-season in collegiate esports. The 12 team members were a mix of players who took part in the previous season's competitions, as well as new prospective players, all awaiting tryouts which were set to begin at the end of the summer. While the official League of Legends team roster is composed of

approximately seven players (five active players and 2-3 substitutes), all 12 members are considered members of the team from the perspective of group dynamics. As viewed from the lens of Tuckman and Jensen's (1977) revised model of group development, at the time of the study the Lancer Gaming League of Legends team was undergoing the "forming" stage, during which there is an increase in group activities that centers on getting acquainted with one another and the opportunity to establish goals and objectives for the upcoming season. This is an important element to consider, as the current program sought to enhance the players' outcomes through the use of PST-based team building techniques.

The participants were all 20 to 22-year-old males, who have played the game League of Legends for multiple years (P1 – 11 years; P2 – 8 years; P3 – 8 years; P4 – 3 years). The participants played a variety of roles on the team (P1 – Mid; P2 – Jungle and ADC; P3 – Support; P4 – Mid), with only the Top role being unrepresented in the current sample. Three of the four participants had been involved with the Lancer Gaming program since its inception at the beginning of the 2020 academic year, except for P1, who had been involved with the program for 8 months. Only one participant completed all three workshops (P1 – completed workshops 1 and 2 in person and workshop 3 independently), while two participants completed two workshops (P2 – completed workshop 1 in person and workshop 2 independently; P3 – completed workshop 1 in person and 3 independently), and one participant completed only one workshops (P4 – completed workshop 2 in person). None of the participants had received formal psychological skills training prior to enrolling in this study.

League of Legends

League of Legends is a competitive online multiplayer videogame, which is developed and published by Riot Games (2009). It is played by two opposing teams of five players, with

each team occupying and defending their half of the game map. Each player chooses a character (known as a "champion") from a large roster of unique characters, which possess unique abilities and require different styles of play. During a match, the teams must compete for resources with the ultimate goal of destroying the opponent's base. Each player on a team has a unique role to fulfil, which is similar to the different positions that exist in traditional sports. The five roles are: "Top", "Jungle", "Mid", "ADC", and "Support".

Role of the First Author

An essential part of the intervention development and delivery was the role of the first author. He had experience as an esports player, along with coursework in sport psychology and group dynamics. Furthermore, the first author had been involved with the Lancer Gaming team for a season prior to conducting his research. He attended and observed the Lancer Gaming League of Legends team's meetings, practice games, and official matches against other collegiate teams. This affiliation with Lancer Gaming allowed the first author to become an accepted member of the team and afforded him the opportunity to observe the team's interactions on a regular basis. Finally, the choice of PST strategies included in this intervention was informed by discussions with the Lancer Gaming League of Legends team coach and with members of the research team, as well as observations of the team during the previous competitive season.

Measures

Demographics

The participants were asked to provide their in-game moniker, age, gender, the length of time they've played League of Legends, their position on the Lancer Gaming team, and how long they've been involved with the Lancer program (see Appendix A).

Cohesion

Cohesion was assessed using the 18-item Group Environment Questionnaire (GEQ; Carron et al., 1985, see Appendix B). The GEQ measures four dimensions of cohesion: (i) Group Integration-Task (GI-T; 5 items), (ii) Group Integration-Social (GI-S; 4 items), (iii) Individual Attractions to the Group-Task (ATG-T; 4 items), and (iv) Individual Attractions to the Group-Social (ATG-S; 5 items). Sample items included: "Our team is united in trying to reach its goals for performance" (GI-T), "Members of our team would rather get together as a team than hang out on their own" (GI-S), "I am happy with the amount of playing time I get" (ATG-T), and "I enjoy being a part of the social activities of this team" (ATG-S). The players were asked to rate each item on a 9-point Likert scale anchored by *strongly disagree* (1) and *strongly agree* (9). The psychometric properties of the GEQ have been reported, demonstrating support for the validity of the GEQ (Brawley et al., 1987; Whitton & Fletcher, 2014).

PST Use

The players' PST use was assessed using the 64-item Test of Performance Strategies-2 (TOPS-2; Hardy et al., 2010, see Appendix C). The TOPS-2 measures eight (4 items per subscale) psychological skills and strategies used by athletes in practice (goal setting, relaxation, activation, imagery, self-talk, attentional control, emotional control, and automaticity), and competition (same as in practice, but with negative thinking replacing attentional control). Sample items included: "I talk positively to get the most out of competitions/practice" (self-talk in competition/practice), "Emotions keep me from doing my best" (emotional control in competition/practice), "Allow whole skill or movement to happen naturally without concentrating on each part" (activation in competition/practice), "I set very specific goals" (goal setting in competition/practice), "I rehearse my performance in my mind" (imagery in

competition/practice), "Can get myself 'up' if I feel flat" (activation in competition/practice),

"Use relaxation techniques to improve performance" (relaxation in competition/practice), "Keep

my thoughts positive" (negative thinking in competition), and "Able to control distracting

thoughts when training" (attentional control in practice). The players were asked to rate each

item on a five-point Likert scale anchored by *I never do this* (1) and *I always do this* (5). The

choice was made not to analyze the competition subscale data as the players did not have the

opportunity to play in any organized competitions during the study, as it was the offseason in

collegiate esports. The TOPS-2 has demonstrated factorial validity and scale reliability (Hardy et

al., 2010), and has been described as the assessment of choice for examining the frequency with

which athletes employ mental techniques, as well as for assessing intervention effectiveness in

applied research (Woodcock et al., 2012).

Workshop Evaluation Form

The workshop evaluation form was a way for the participants to provide feedback on

their experiences with the workshops and the intervention. Developed specifically for this study,

it was composed of six open-ended questions designed to elicit feedback and suggestions from

the participants, with sample items such as "What was your favourite part of the workshops?"

and "What was most challenging about the workshops?" (see Appendix D).

Procedure

The Lancer Gaming program coordinator was approached by email to solicit the team's

participation in the study (see Appendix E). The email contained a letter of information outlining

the nature of the study (see Appendix F). The permission of the program coordinator was

secured (see Appendix G). The players who agreed to participate in the study provided their

consent as part of the completion of the Qualtrics questionnaire (see Appendices A-D).

Following ethics clearance from the university's Research Ethics Board (Appendix H), participants received the pre-intervention questionnaire package containing the demographics, the psychological skills inventory (TOPS-2; Hardy et al., 2010), and the cohesion inventory GEQ; Carron et al., 1985). Post-intervention, the participants completed TOPS-2 and the GEQ along with the workshop evaluation form.

The intervention consisted of three distinct PST-based team building workshops (each lasting 1 hour in duration) held once every two weeks for a total of six weeks during the offseason in collegiate esports. The offseason presented a good opportunity for the participants to learn new skills and try out new ideas, as there is less pressure to perform and compete (Weinberg & Gould, 2019). Furthermore, the six-week duration of the intervention allowed the participants and the opportunity to have enough time between individual workshops to practice the psychological skills learned. Longer-duration team-based interventions have also been observed to be more effective than interventions that lasted less than two weeks (Martin et al., 2009).

All of the workshops were conducted online using the videoconferencing software Microsoft Teams™. If the participants were unable to attend the workshops at the scheduled time, they were sent a recording to view it at their convenience. The workshops followed the three-phase structure of PST programs, consisting of separate education, acquisition, and practice phases (Munroe-Chandler & Hall, 2021). During the education phase, emphasis was placed on the importance of developing psychological skills, and how psychological skills affect performance. The acquisition phase focused on the strategies and techniques that may be employed for learning the relevant psychological skills. Finally, the practice phase had three objectives: (i) to help the participants learn the skills so they become automated, (ii) to help the

participants integrate psychological skills into their performance, and (iii) to simulate the skills to be applied in actual competition (Weinberg & Gould, 2019). See Appendix I for full description of the workshops.

The first workshop focused on goal setting, and followed the protocol described by Eys and colleagues (2006) to establish overarching goals for the whole team to work towards. In the program, the players as a collective decided long-term and short-term outcome goals for the team to strive towards. Then, the team was asked the question "What do you have to do especially well as a team on a game-to-game basis to maximize your chance of reaching your short-term and long-term goals?" The players were provided specific and measurable performance indices that they chose independently, and then deliberated as a team to reach a consensus on 5-6 most important performance indices (and appropriate target levels for these indices) that they will work towards as a group (Eys et al., 2006). Furthermore, the team goal setting program was supplemented with individual goal setting, and the players were asked to reflect upon and share with the team what they could do at the individual level to help the team reach their goals. The players were asked to set their individual goals with the use of the SMARTS goal setting principle (Munroe-Chandler & Hall, 2021). The participants were also given a daily practice log to help them track their individual goals.

The second workshop focused on stress management and arousal regulation strategies. The players were taught techniques to set pre-competition routines in order to manage their stress before competitions, as well as breathing exercises they could use shortly before games to prepare themselves for the competition, and during the games to overcome stressful periods in competitions (Hanton et al., 2015; Munroe-Chandler & Hall, 2021). The players were asked to

write out their pre-game routines and make use of them during future competitions and/or scrimmages, modifying them as needed.

The third and final workshop centered around self-talk strategies the players could employ in their games. The players were taught about the six self-talk dimensions (valence, verbalization, self-determination, directional interpretation, directional intensity, and frequency; Munroe-Chandler & Hall, 2021) and how they can use self-talk to motivate and/or instruct themselves, as well as to restructure negative statements (Hanton et al., 2015; Munroe-Chandler & Hall, 2021). The players also received a self-talk log for future games and/or practices to track their uses of self-talk.

Results

Means and standard deviations were calculated for the TOPS-2 practice subscale for each individual player (see Figures 2-5), as well as for the overall sample (see Figure 6). The TOPS-2 competition subscale was not included in the examination because the players did not have the opportunity to participate in any competitions for the duration of the study, as it was done during the offseason in collegiate esports. The means and standard deviations were also calculated for the GEQ subscales for all individual players (see Figures 7-10) as well as for the entire sample (see Figure 11).

A visual inspection of the TOPS-2 scores for individual players showed some marginal improvements in their PST use pre- to post-intervention, especially for participant P1 (improved in 5 of 8 subscales; see Figure 2), however participants P2 and P3 have also shown improvements (improved in 4 of 8 subscales; see Figures 3 and 4), with the participant P4 showing least improvement (improved in 3 of 8 subscales; see Figure 5). The GEQ subscale scores for individual players showed similar results, with participant P1 showing most

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improvement (improved in all 4 subscales; see Figure 7), participant P3 showing less (improved in 3 of 4 subscales; see Figure 9), and participants P2 and P4 showing the least improvement (improved in 2 of 4 subscales; see Figures 8 and 10).

While the overall TOPS-2 practice subscale means pre- and post-intervention were within one standard deviation of each other, there were marginal increases in 5 of 8 subscales, specifically in Self-Talk (3.00 to 3.62), Automaticity (3.44 to 4.06), Goal Setting (3.44 to 3.88), Activation (4.06 to 4.13), and Relaxation (2.56 to 2.88) (see Table 1). Similarly, there were marginal increases in all GEQ subscales pre- to post-intervention: ATG-T (6.13 to 6.44), ATG-S (6.70 to 6.80), GI-T (5.85 to 6.60), and GI-S (5.13 to 5.75) (see Table 2).

Considering that the total sample size of the current study is four participants, any statistical analysis is bound to be under-powered. To have sufficient power (i.e., ≥ 0.80), the sample size would have to be approximately 34 participants. Therefore, the statistical analysis in the current study was limited to the reporting of subscale effect size values, specifically Cohen's d (see Table 3). Cohen (1988) defined small, medium, and large effect sizes as $d = .20, .50,$ and .80, respectively. Within the TOPS-2 practice subscales that displayed marginal increases, Cohen's effect size values suggested moderate to large practical significance ($d = 0.65$) for Self-Talk, large practical significance ($d = 0.83$) for Automaticity, small to moderate practical significance ($d = 0.40$) for Goal Setting, small practical significance ($d = 0.20$) for Activation, and small to moderate practical significance ($d = 0.30$) for Relaxation.

For the GEQ subscales, Cohen's effect size values suggested moderate practical significance ($d = 0.57$) for the ATG-T subscale, very small practical significance ($d = 0.07$) for the ATG-S subscale, moderate to large practical significance ($d = 0.67$) for the GI-T subscale, and large to very large practical significance ($d = 1.05$) for the GI-S subscale.

Discussion

As esports become more widely accepted as a form of competition, there is a need to examine how the field of esports could benefit from the existing sport psychology literature. Esports players share similar social and psychological demands as athletes in traditional sports (Bányai et al., 2018; Birch & Chekera, 2020; Taylor, 2012), and as such the development and application of PST techniques to enhance their outcomes is a natural step forward. The purpose of the present study was to examine the impact of a PST-based team building program on collegiate-level esports players' perceptions of team cohesion, and their use of PST techniques during training. To that end, it was hypothesized that after participating in the PST program the players would report higher scores on the subscales of the GEQ (Carron et al., 1985), demonstrating increased levels of team cohesion, and that the players would report higher scores on subscales of TOPS-2 (Hardy et al., 2010), demonstrating higher frequency of utilization of relevant psychological skills. Following the collection of the data, it was determined that the current sample size was too small for typical statistical analyses (e.g., t-tests). Instead, effect sizes (Cohen, 1988) for the differences between pre- and post-intervention subscales were calculated.

The mean score differences that were observed between the pre- and post-intervention test scores should be addressed. The participants displayed individually different levels of improvement in their use of psychological skills as well as on team cohesion. The differences in improvement could be related to the participants' levels of engagement and workshop completion. Participant P1 was the only individual who completed all three workshops and showed the greatest improvement in PST use as measured by the TOPS-2 (improved in 5 of 8 subscales, see Figure 2), as well as team cohesion as measured by the GEQ (improved in all 4

subscales, see Figure 7). Conversely participant P4, who completed only one workshop, showed

the least improvement in PST use (improved in 3 of 8 subscales; see Figure 5) and tied with

participant P2 for least improvement in team cohesion (improved in 2 of 4 subscales; see Figure

10). Participants P2 and P3 fell between the two extremes, both having completed two out of the

three workshops (P2 completed workshops 1 and 2; P3 completed workshops 1 and 3). PST

interventions that combine more than one type of psychological strategy have been reported to

be particularly successful in producing positive effects on performance (Zakrajsek & Blanton,

2017). As such, the participants' differing levels of improvement may be linked to their levels of

exposure to various PST strategies from the workshops. Furthermore, athletes who take part in

PST programs have been reported to experience greater improvements in the individual

perceptions of team cohesion than athletes who do not (Miçooğullari & Kirazci, 2016).

While the effect of the intervention on the participants' combined average scores on the

TOPS-2 practice subscale pre- to post-intervention could not be statistically analysed due to the

small sample size, the marginal increases that were observed could be indicative of a favorable

effect of the workshops. The workshops delivered to the participants covered Goal Setting,

Arousal Regulation, and Self-Talk strategies, and the participants' observed TOPS-2 scores

reflected marginal increases in the relevant subscales pre- to post-intervention, specifically in

Goal Setting, Relaxation, and Self-Talk (see Table 1). The effect sizes of these subscales (Goal

Setting $d = 0.40$; Relaxation $d = 0.30$; Self-Talk $d = 0.65$) also implied a considerable effect that

the intervention had on the participants' use of these PST strategies.

The Automaticity subscale also showed a marginal increase pre- to post-intervention. In

fact, the effect size of the Automaticity subscale was the highest in the sample (Cohen's $d =$

0.83). The increase in this subscale came from participants P1 and P2, both of whom reported

increased levels of Automaticity post-intervention, whereas participants P3 and P4 remained the same (see Figures 2-5). It is possible that the participants who learned more than one type of psychological strategy saw benefits in their performance and perhaps an increase in experiencing flow during practice (Thomas et al., 1999).

Interestingly, the Emotional Control and Imagery subscales showed marginal decreases pre- to post-intervention, with small to moderate practical significance (Emotional Control $d =$ 0.25; Imagery $d = 0.34$). The decrease in Emotional Control was especially unexpected seeing as arousal regulation techniques taught to the participants, specifically diaphragmatic breathing, could be used to control emotions and mitigate anxiety (Hanton et al., 2015). An explanation for the decrease in the Emotional Control subscale can be taken from the fact that esports players perform in very pressurized environments, and as such are subject to a variety of internal (e.g., communication issues, lack of confidence in teammates, intra-team criticism) and external (e.g., stressors from external criticism) stressors (Smith et al., 2019), which are beyond the purview of the current study.

The decrease in the Imagery subscale is difficult to explain. Only participants P1 and P4 registered a decrease in their use of Imagery pre- to post-intervention, which goes against any explanation that would lean on workshop attendance to explain the change, especially since the current program did not touch on imagery techniques. However, the TOPS-2 is unable to differentiate between the different types of imagery that could have been used by the participants (Martin et al., 1999), and considering that there is a wide range of factors that may affect imagery effectiveness, such as imagery ability, skill level, and imagery perspective (Munroe-Chandler & Guerrero, 2017), the observed changes may be due to an effect of a confounding variable.

The participants' combined average scores on all four of the GEQ subscales also showed marginal increases pre- to post-intervention, suggesting a possible beneficial effect of the workshops on the participants' perceptions of team cohesion (see Figure 11). The effect sizes of most of the GEQ subscales were medium to large (ATG-T $d = 0.57$; GI-T $d = 0.67$; GI-S = 1.05), with the exception of the ATG-S subscale ($d = 0.07$). These increases are in keeping with previous research which indicated improvement in team cohesion following a team building intervention (Miçooğullari & Kirazci, 2016; Senécal et al., 2008; Stevens & Bloom, 2003). In regard to ATG-S, it is possible that since the study took place during the off-season and during the height of the Covid-19 pandemic, most of the participants weren't able foster a personal attraction to the team's social aspect and interactions, as the team hadn't been formed at the time.

The largest increases in cohesion were observed in the group integration aspects of cohesion (i.e., GI-T (5.85 to 6.60) and GI-S subscales (5.13 to 5.75)), indicating a potential increase in the participants' perceptions of team closeness, similarity, and bonding around the task of playing on the team, as well as a social unit (Whitton & Fletcher, 2014). All participants showed marginal increases in the GI-S subscale, and everyone except participant P2 showed increases in the GI-T subscale. This finding is in keeping with the research of Stevens and Bloom (2003), who proposed that since team building interventions center around group-oriented activities, the group integration subscales would best reflect the influence of the intervention. Furthermore, Carron and Brawley (2000) argued that all groups go through developmental changes as time goes on, and as a result, perceptions of cohesion will also be affected. It is important to note that team cohesion should be viewed as a dynamic state that is affected by various factors.

The current study has several limitations that should be discussed. While it is possible that the aforementioned changes pre- to post-intervention are due to the influence of the workshops, a causal relationship between the intervention and the observed changes cannot be inferred. The issues endemic to one-group pre-test post-test designs are present in the current study. Factors such as history, testing, and even a degree of maturation of the participants could have been responsible for the marginal changes observed pre- to post-intervention (Price et al., 2017). Furthermore, the small sample size makes any conclusions drawn from the current study difficult to generalize. However, the considerable effect sizes of some of the subscales pre- to post-intervention is encouraging, indicating that future studies with a larger sample size (and adequate power) may reveal significant effects of conducting PST interventions with collegiate esports players.

There were several limitations which arose during the course of the study which may be unique to the domain of collegiate esports. The issue of overcoming player reluctance about taking part in mental skills training programs is as much of a problem in collegiate esports as it is in traditional sports (Weinberg & Williams, 2015). This lack of buy-in from the participants resulted in poor workshop attendance and questionnaire completion.

Another limitation was that the PST program was done during the off-season in collegiate esports. While the off-season is considered to be one of the best times to initiate a PST program (Miçooğullari & Kirazci, 2016; Weinberg & Gould, 2019), the choice to conduct the intervention in the off-season worked against the purposes of the current study. As it was the off-season, there was no definitive "team" to speak of, since the players were waiting to try out for the League of Legends team for the coming season. This meant that the individual players did not know for

certain who would be on their team in the new season, so the effectiveness of the team building component of the workshops may have been rendered much less effective.

Finally, the COVID-19 pandemic also had an impact on the current study given there were no in-person interactions between the participants, and the entire program was conducted through online platforms (e.g., Microsoft Teams™). While more research is required to determine whether online psychological interventions are as effective as traditional in-person interventions (Hurley, 2021), authors have previously raised concerns regarding the delivery of intervention programs through online platforms (Cotterill & Symes, 2014; Hurley, 2021). It's generally much easier to build rapport through face-to-face interaction than through dialogue that takes place on-screen. Furthermore, the quality of explicit and implicit communication suffers, especially in the cases of audio-only sessions as the consultant receives virtually no nonverbal cues from the participants (Cotterill & Symes, 2014; Cottrell et al., 2019). During the workshop delivery sessions in the current study, most of the participants chose to keep their video off, which made it more difficult to judge the participants' level of engagement with the workshop content.

In the team building model (see Figure 1), in-person interactions influence all three input and throughput components of the model. Specifically, when it comes to factors such as team culture, distinctiveness, and togetherness (Group Environment), the establishment of group roles, norms, and leadership (Group Structure), and the promotion of interaction and communication (Group Processes), in-person interactions are extremely important for successful implementation of team building interventions (Paradis & Martin, 2012). Because the model was the basis for the PST program employed in the current study, the lack of these interactions meant that the program was much less effective in promoting team cohesion, especially in a new organization

like Lancer Gaming, which has existed only for one academic year at the beginning of the intervention.

There are several future directions that can be forwarded. It is important that researchers continue investigating the impact of conducting PST and team building interventions with esports players, as it is a novel context for competition, and growing in popularity. However, the value of the current study is in putting forward suggestions that should be considered when working with collegiate esports populations, and that perhaps would have ensured a better outcome in the current intervention program. The first suggestion for anyone looking to work with collegiate esports athletes would be to acquire buy-in from the team by actively getting to know individual team members and establishing a good rapport. An effort should be made to be physically present at the team's meetings and practice games before the intervention is introduced, as it is easier to initially build rapport face-to-face than through online interaction (Cotterill & Symes, 2014).

The second suggestion has to do with the decision to conduct the intervention during the off-season. While it is important for the players to have sufficient time to learn and practice new skills without the pressure to win, any team building programs and other interventions should commence once the team has actually been selected for the new season, most likely in the pre-season, during the end of summer near the beginning of the academic year (Miçooğullari & Kirazci, 2016; Weinberg & Gould, 2019).

Furthermore, while running any PST or team building programs, an effort should be made to ensure the team is able to play in practice games against other collegiate teams. In accordance with the practice phase of the three-phase structure of PST programs (Munroe-Chandler & Hall, 2021), holding practice games would enable the players to integrate the

psychological skills into their performance and to apply what they learned in an actual competitive environment. When asked about what modifications they'd make to the workshops, two of the participants brought up the lack of competitive environments to apply the new skills: "Perhaps a practical application or case study (since simply learning about the techniques is VERY different from actually remembering to apply them when the pressure is high)" (P1) and "Maybe add a scrim during the workshops so we can practice and use the tools we are given" (P2). Consequently, it would also be essential for the mental performance consultant to be able provide support to the team both before and after the practices and games to help the players remember to implement the psychological skills that they've learned in the workshops.

The final suggestion is regarding the importance of promoting a strong team structure and a supportive team environment (see Figure 1). There are several ways in which a collegiate esports organization can foster both. For team environment, allocating a dedicated space on campus for the team to practice and hold meetings in as well as distributing team attire will promote distinctiveness and togetherness in the team (Paradis & Martin, 2012). At the time of writing this paper such a space is currently being built for the Lancer Gaming organization and has been dubbed as the Armoury, and Lancer Gaming team attire has been distributed to the League of Legends team. When it comes to team structure, the development of adaptive team norms for competition, practice, the off-season, and social situations should be encouraged. Team norms represent the "standards for behavior that are expected of members of the group" (Carron, 1988, p. 121), and as such would be a powerful way to affect the members of the team through social means (Munroe-Chandler et al., 1999). The purpose of developing these norms would be to ensure that the individual members understand that the esports team is an authentic team, and not simply a collection of individuals that occasionally happen to play together.

Conclusion

The aim of the current study was to examine the impact of a PST-based team building program on collegiate-level esports players' perceptions of team cohesion, as measured by the GEQ (Carron et al., 1985), and their use of PST techniques during training, as measured by the TOPS-2 (Hardy et al., 2010). The program consisted of three one-hour long workshops which covered the PST techniques of goal setting, arousal regulation, and self-talk. It was hypothesized that participation in the program would result in the players reporting higher scores on the GEQ and the TOPS-2, which would signify greater perceptions of team cohesion, and higher frequency of PST technique use, respectively.

The collected data were not enough to conduct a statistical hypothesis test, as the lack of participants would make the statistical test underpowered. Therefore, the analysis of the data was limited to the comparison of means, standard deviations, and effect sizes for the GEQ and TOPS-2 subscales pre- to post-intervention. The results showed marginal increases in the means of five of the eight TOPS-2 subscales, and as well as the means of all four GEQ subscales pre- to post-intervention. Cohen's effect size values for the TOPS-2 subscales suggested a considerable effect of the intervention on the participants' use of Goal Setting, Relaxation, Self-Talk, and Automaticity PST strategies. Cohen's effect size values for the GEQ suggested a considerable effect of the intervention on three of the four GEQ subscales, with the exception of the ATG-S subscale.

The current study's contribution to the sport psychology literature is in being the first to conduct a PST-based team-building program with a sample of collegiate esports players. Aside from presenting data that may inform future PST and team-building research with esports players, the study also offers suggestions that should be considered by researchers or mental

performance consultants when conducting PST or team-building interventions with collegiate esports players. Researchers should continue to explore the new domain of esports psychology, as esports are an exciting and novel competitive setting, and the performers who compete in esports deserve to have their efforts and training supported with techniques that are validated and adapted to use with esports athletes.

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Table 1

TOPS-2 Practice Subscale Means and Standard Deviations

Subscale	Pre-Intervention		Post-Intervention	
	Mean	*SD*	*Mean*	*SD*
Self-Talk	3.00	1.46	3.63	1.31
Emotional Control	4.06	1.24	3.81	1.05
Automaticity	3.44	1.41	4.06	1.06
Goal Setting	3.44	1.15	3.88	1.15
Imagery	3.38	0.81	3.19	0.83
Activation	4.06	0.85	4.13	0.96
Relaxation	2.56	1.75	2.88	1.36
Attentional Control	3.88	0.81	3.88	1.36

Note. The TOPS-2 is rated on a 5 pt. Likert scale with higher scores reflecting greater use of the skill.

Table 2

GEQ Subscale Means and Standard Deviations

Subscale	Pre-Intervention		Post-Intervention	
	Mean	*SD*	*Mean*	*SD*
ATG-T	6.13	1.56	6.44	1.14
ATG-S	6.70	1.18	6.80	1.30
GI-T	5.85	2.20	6.60	1.15
GI-S	5.13	1.48	5.75	1.27

Note. The GEQ is rated on a 9 pt. Likert scale with higher scores reflecting higher cohesion.

ATG-T = Individual Attractions to the Group-Task; AGT-S = Individual Attractions to the

Group-Social; GI-T = Group Integration-Task; GI-S = Group Integration-Social.

Table 3

TOPS-2 Practice Subscale and GEQ Subscale Effect Sizes

Scale	Subscale	*d*
TOPS-2	Self-Talk	0.65
	Emotional Control	0.25
	Automaticity	0.83
	Goal Setting	0.40
	Imagery	0.34
	Activation	0.20
	Relaxation	0.30
	Attentional Control	0.00
GEQ	ATG-T	0.57
	ATG-S	0.07
	GI-T	0.67
	GI-S	1.05

Note. The effect size measure used is Cohen's *d*.

Figure 1

Conceptual Model for Implementing Team Building Interventions (Adapted from Carron &

Spink, 1993).

INPUTS   THROUGHPUTS   OUTPUTS

Group Environment

- Distinctiveness
- Togetherness

Group Processes
- Group Goals and Objectives
- Interaction and Communication

Group Outcomes
- Cohesion
  - Task
  - Social

Group Structure

- Group Roles
- Group Norms
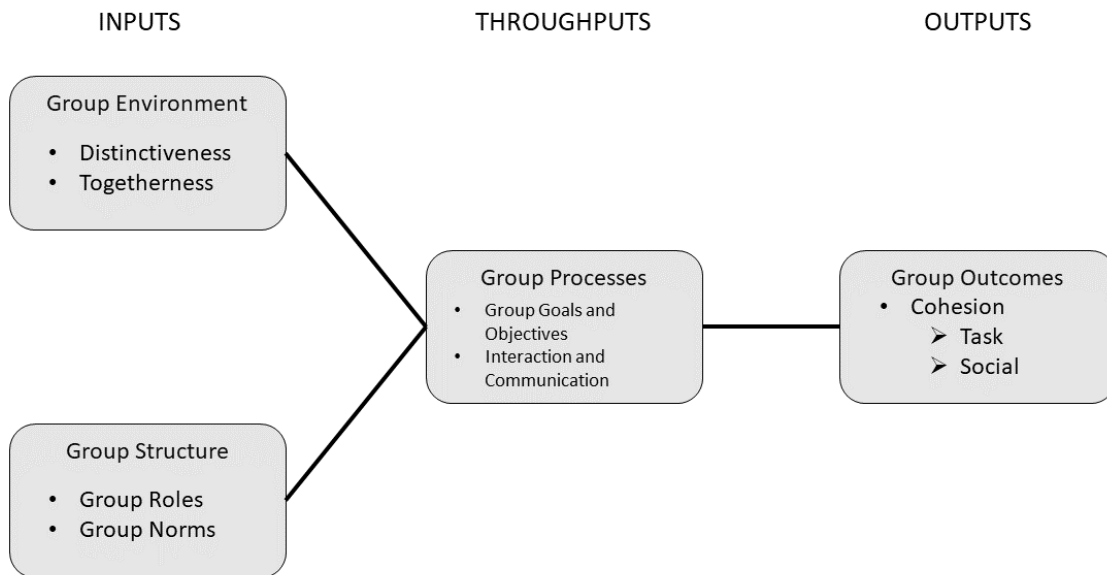
Figure 2

Participant 1 TOPS-2 Practice Subscale Scores
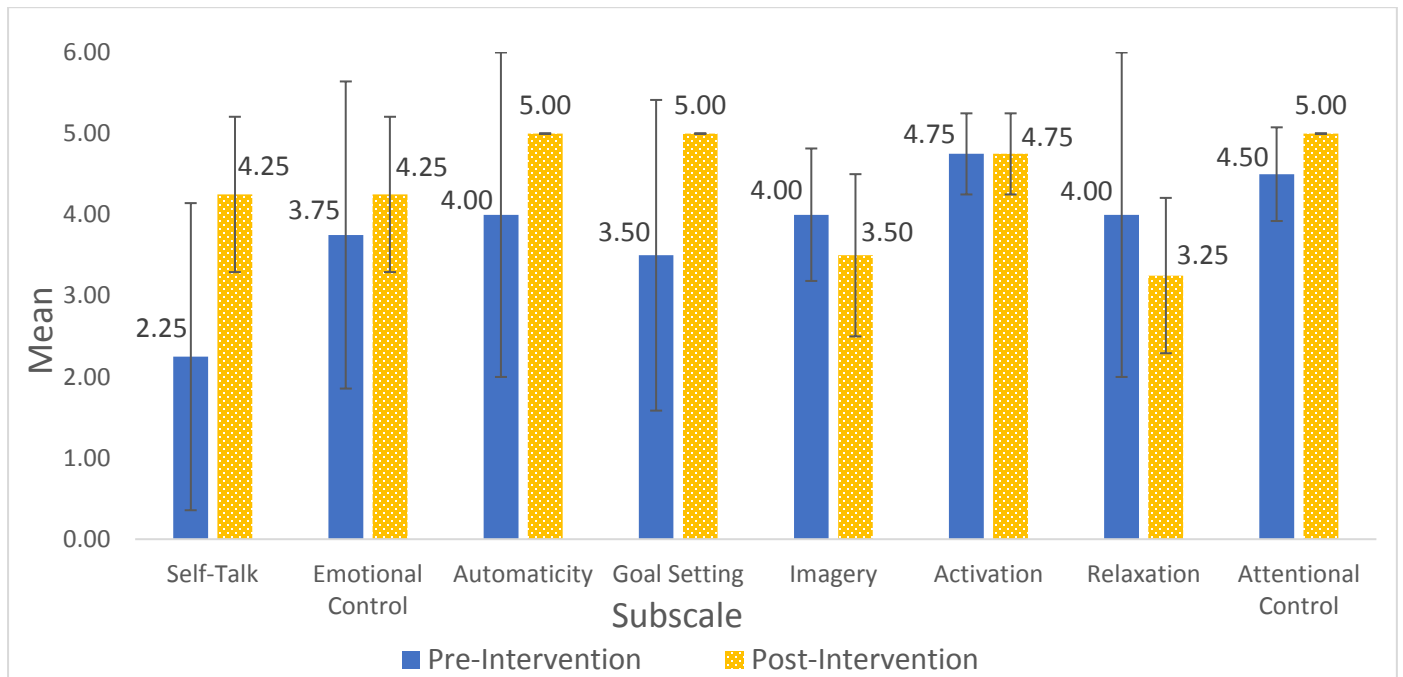
Figure 3

Participant 2 TOPS-2 Practice Subscale Scores
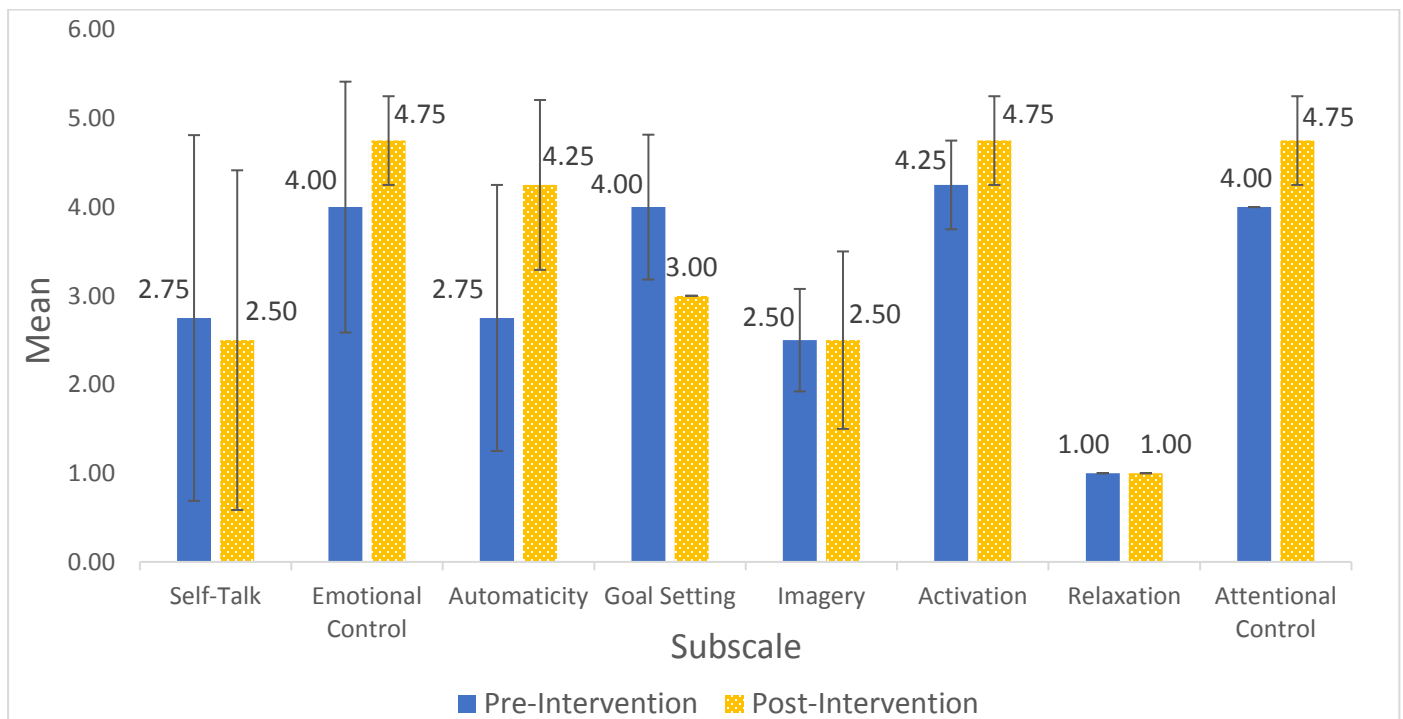
Figure 4

Participant 3 TOPS-2 Practice Subscale Scores
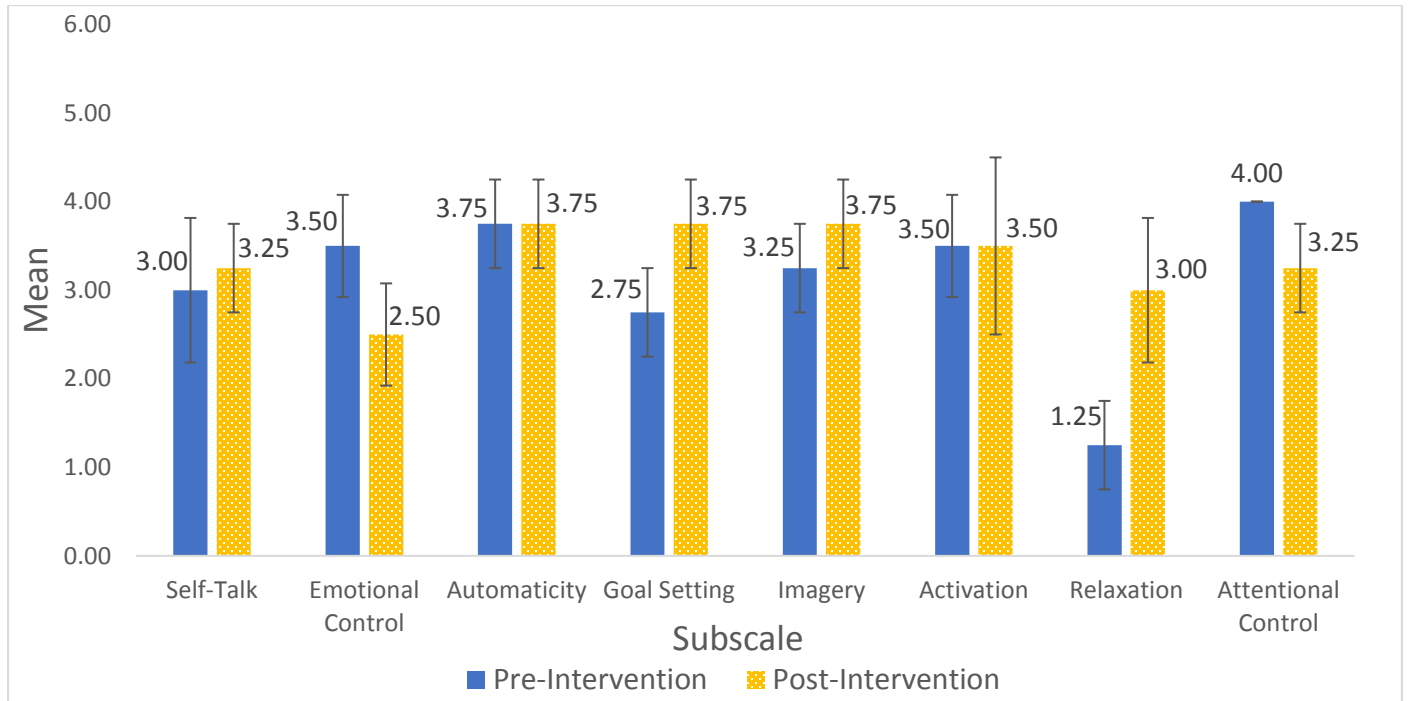
Figure 5

Participant 4 TOPS-2 Practice Subscale Scores
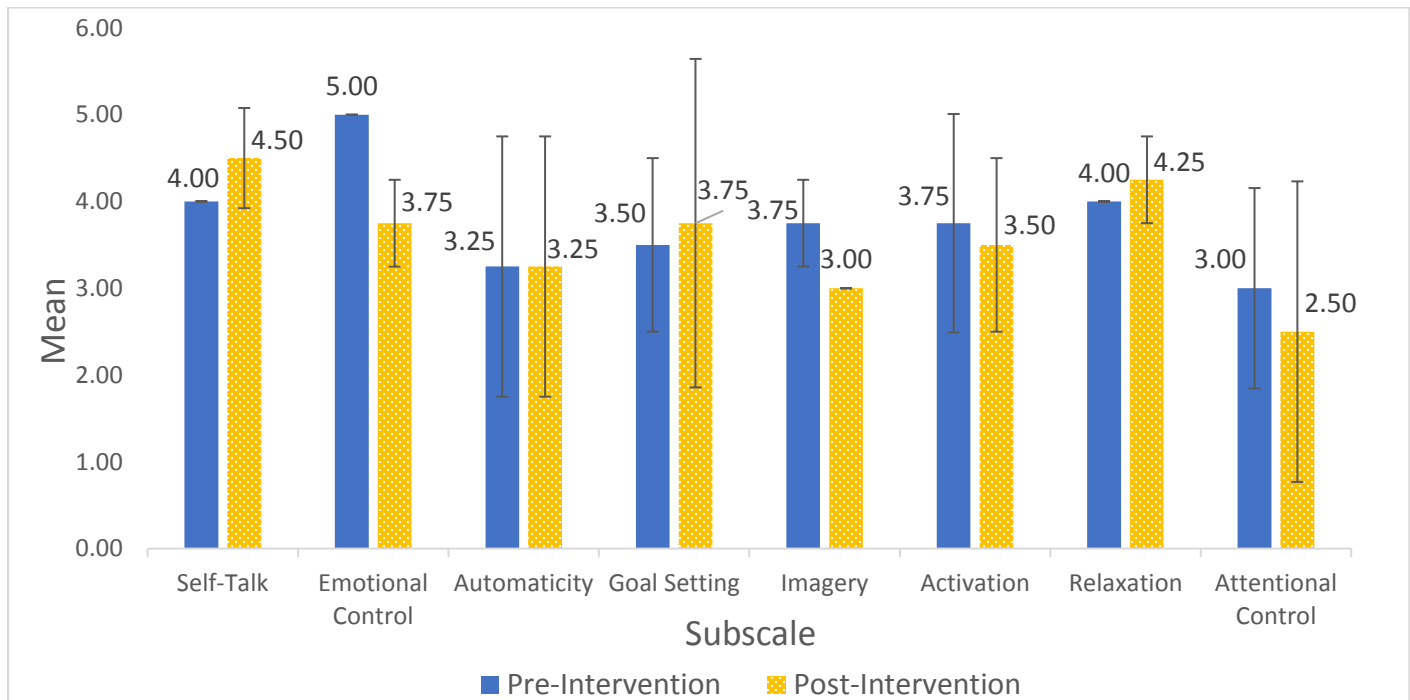
Figure 6

Players' Overall TOPS-2 Practice Subscale Scores
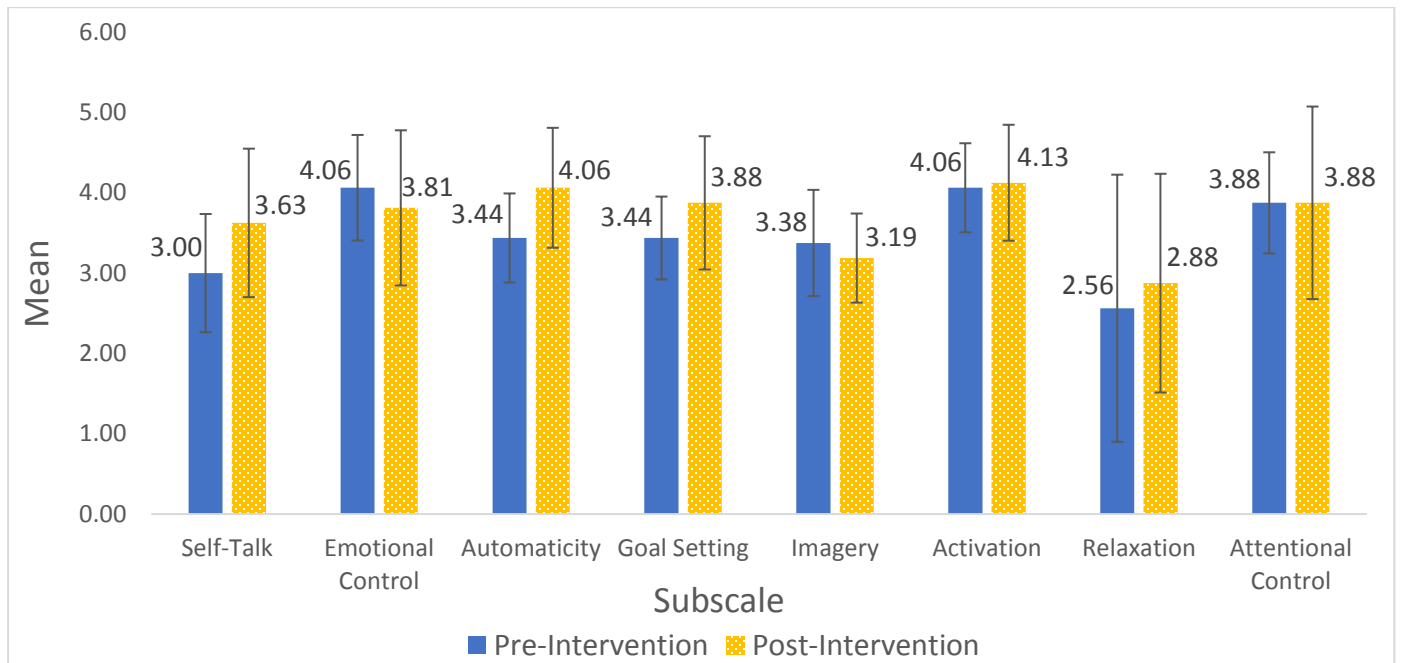
Figure 7

Participant 1 GEQ Subscale Scores
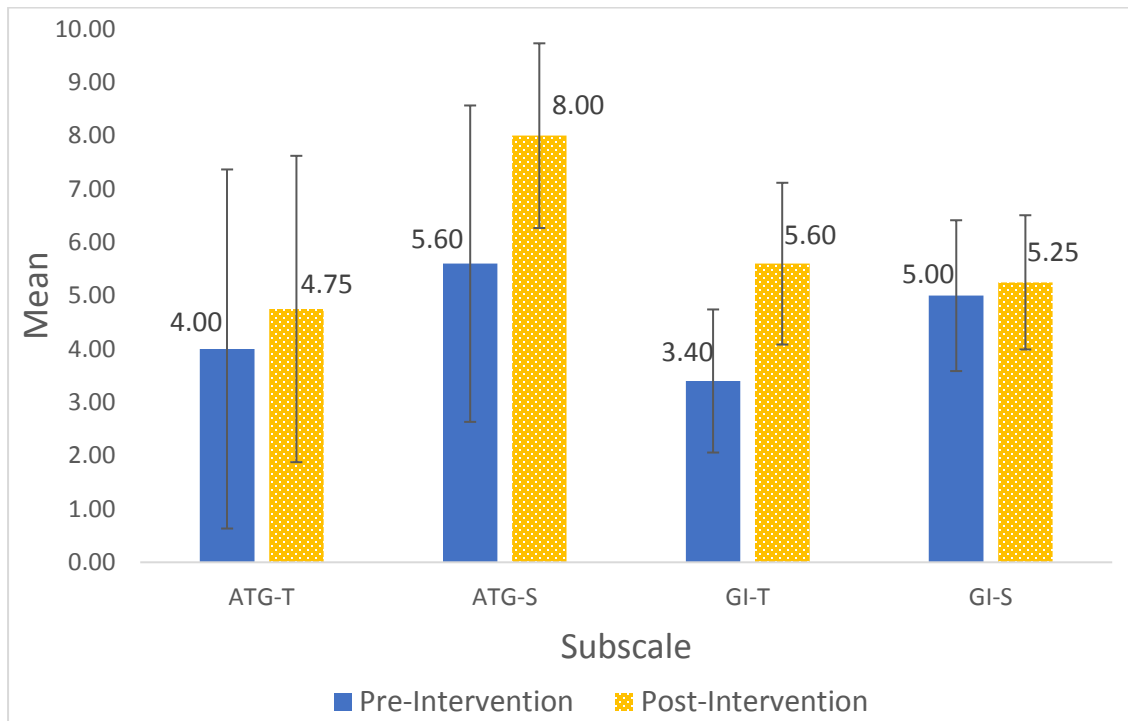
Figure 8

Participant 2 GEQ Subscale Scores
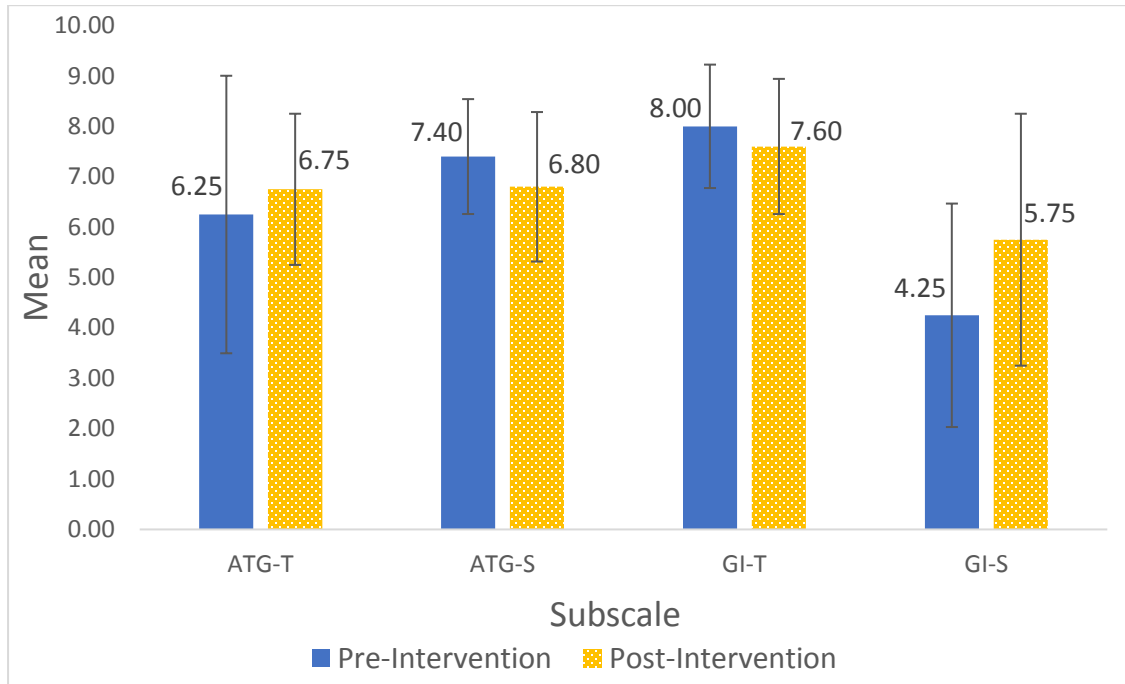
Figure 9

Participant 3 GEQ Subscale Scores
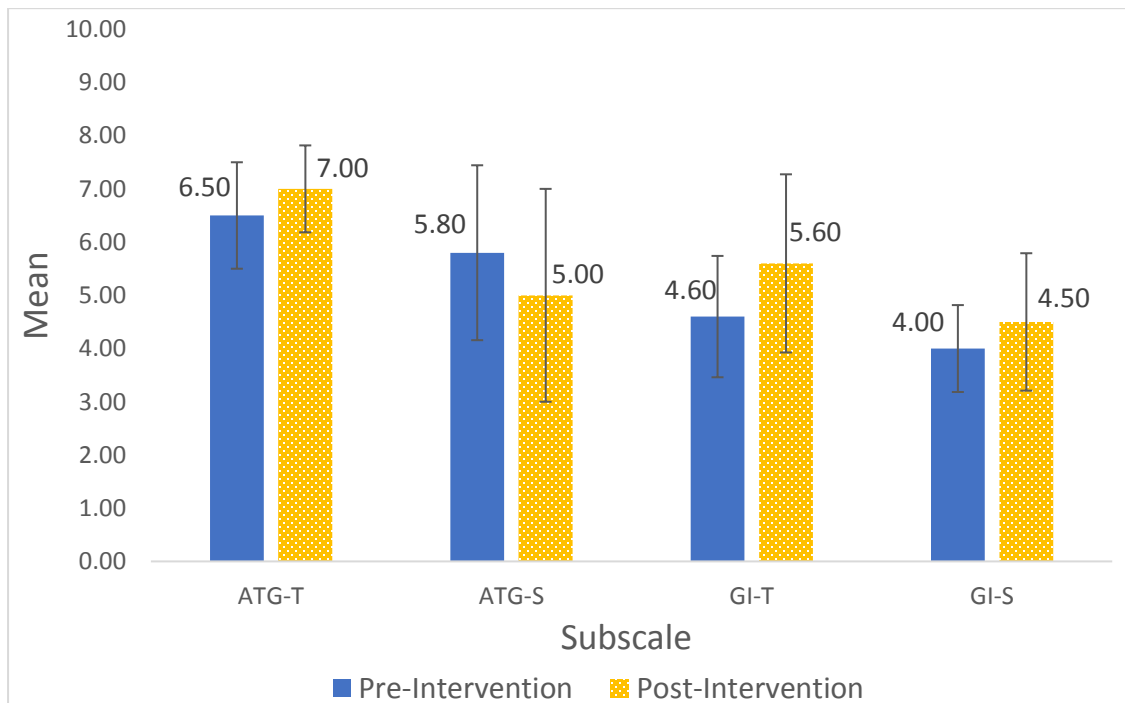
Figure 10

Participant 4 GEQ Subscale Scores
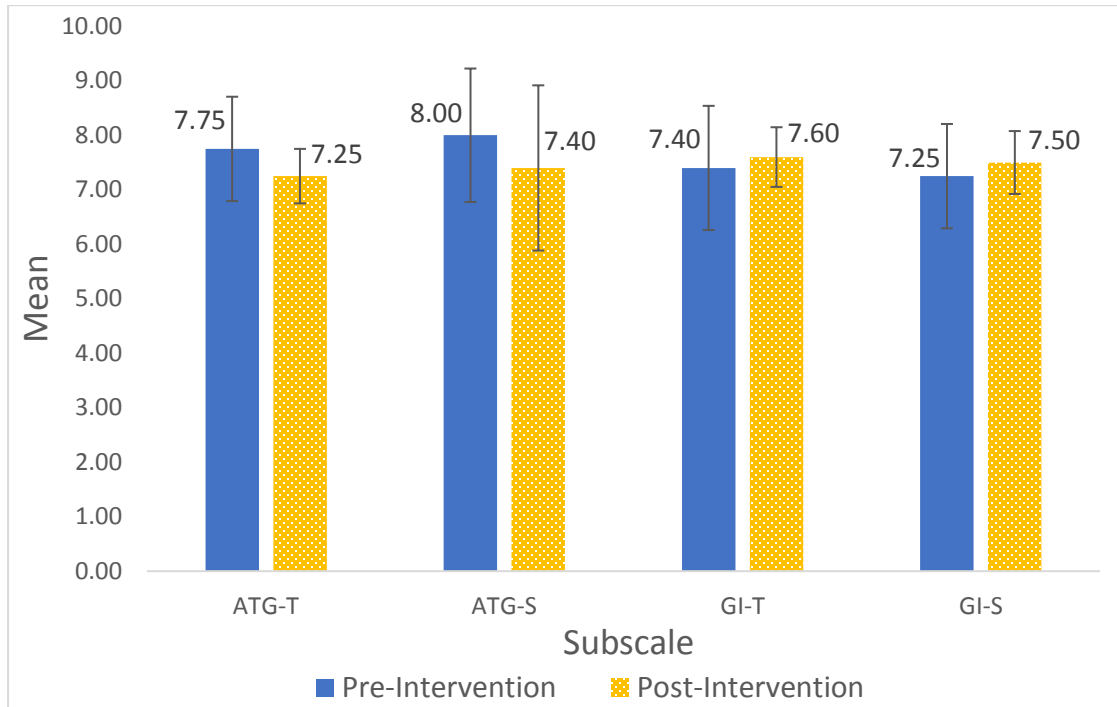
Figure 11

Players' Overall GEQ Subscale Scores
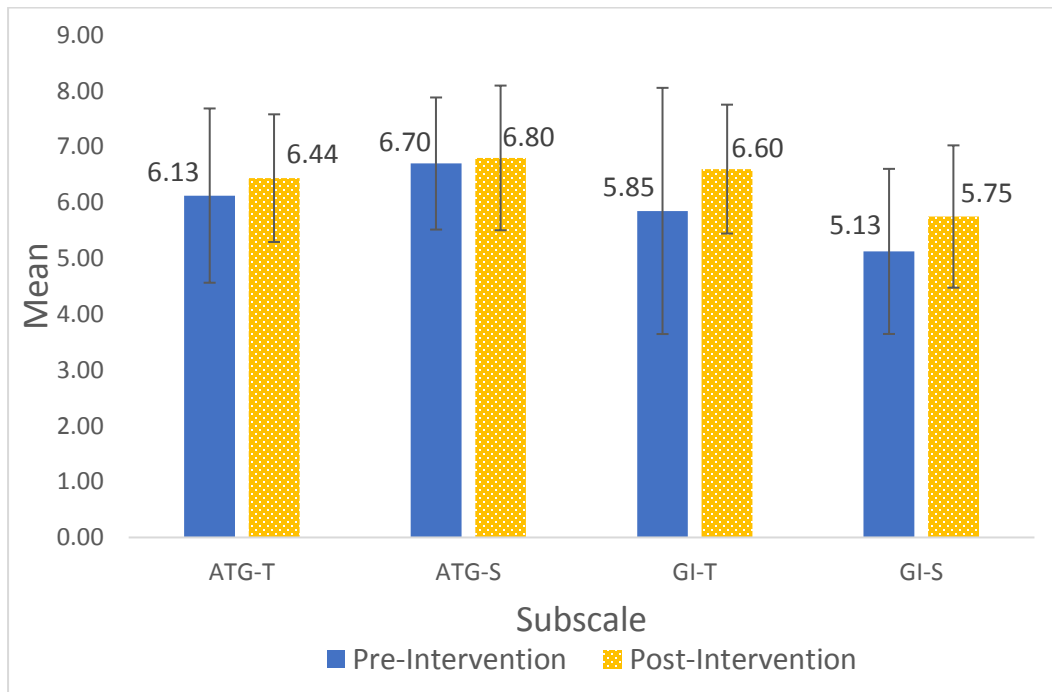
REVIEW OF LITERATURE

Introduction

The overall purpose of this study is to examine the impact of a PST-based team building program on collegiate-level esports players' perceptions of team cohesion, and their use of psychological skills during training and competition. The review of literature is divided into four main sections: (1) cohesion literature in the field of traditional sports, (2) team building research, (3) esports research, and (4) psychological skills training (PST) in sport.

Cohesion

This section of the thesis reviews the literature relevant to the construct of cohesion. The construct is defined, the measurement tool used to assess the construct is described, and the conceptual model of cohesion is presented.

Definition of Cohesion

Much of the current research on team building in the field of sport psychology has been linked closely with the concept of cohesion, and how various team building approaches may be used to enhance it (Bruner et al., 2013; Rovio et al., 2010). Researchers in the field of group dynamics have identified cohesion as one of the most important small group variables, and as such the construct has been studied extensively (Carron & Brawley, 2000; Loughead & Hardy, 2006). Carron and colleagues (1998) proposed the most widely used and accepted definition of cohesion wherein they conceptualize the construct as "a dynamic process that is reflected in the tendency for a group to stick together and remain united in pursuit of its instrumental objectives and/or the for the satisfaction of member affective needs" (p. 213).

The above definition encompasses four characteristics that are important for understanding the nature of cohesion (Loughead & Hardy, 2006). First, cohesion is a

multidimensional construct. There are numerous factors that result in a group sticking together and remaining united. Second, cohesion is a dynamic construct. It can change over time so that factors contributing to cohesion at one stage of the group's development may not be salient at another stage. Third, cohesion is instrumental. All groups come together for a purpose. And fourth, cohesion is affective. Bonding is satisfying to group members and is related to positive affect (Loughead & Hardy, 2006).

In order to avoid the measurement issues that were prevalent in earlier studies of cohesion (Loughead & Hardy, 2006), Carron and colleagues (1985) developed a conceptual framework based on three fundamental assumptions. The first assumption is that cohesion "can be evaluated through the perceptions of individual group members" (Loughead & Hardy, 2006, p. 260). The second assumption is that the group and the individual are distinct, which reflects the difference between the group member's perceptions of the group as a whole (group integration; GI), and the member's personal attraction to the group (individual attractions to the group; ATG) (Carron et al., 1985). The third assumption is that the task- and social-oriented concerns of the group and its members are distinct (Carron et al., 1985), with the task orientation reflecting the tendency towards achieving the group's goals, and the social orientation reflecting the tendency towards maintaining and developing social relationships within the group (Loughead & Hardy, 2006). The resulting conceptual framework is composed of four dimensions of cohesion: group integration-task (GI-T), group integration-social (GI-S), individual attractions to group-task (ATG-T), and individual attractions to group-social (ATG-S) (Carron et al., 1985; Loughead & Hardy, 2006).

Measurement of Cohesion

Based on the aforementioned conceptual framework, Carron and colleagues (1985) developed the Group Environment Questionnaire (GEQ) – an 18-item inventory designed to measure four dimensions of cohesion: GI-T (5 items), GI-S (4 items), ATG-T (4 items), and ATG-S (5 items). All items of the GEQ are measured on a 9-point Likert scale ranging from 1 (strongly disagree) to 9 (strongly agree). The psychometric properties of the GEQ have been examined several times since its development, demonstrating support for the validity of the GEQ (Brawley et al., 1987; Whitton & Fletcher, 2014), and support for the reliability of the GEQ (Eys et al., 2007; Senécal et al., 2008; Whitton & Fletcher, 2014). The GEQ represents the best measure of cohesion in sport (Eys & Brawley, 2018; Loughead & Hardy, 2006).

Conceptual Model for the Study of Cohesion

To guide ongoing cohesion research in sport, Carron (1982) proposed a general conceptual model of cohesion (see Figure 12). This conceptual model is structured in a linear fashion, encompassing inputs (the antecedents of cohesion), throughputs (the dimensions of cohesion), and outputs (the consequences of cohesion) (Carron, 1982). The antecedents of cohesion are separated into four components: environmental, personal, leadership, and group factors, all of which influence the throughput of group cohesion (for a review, see Loughead & Hardy, 2006). The outputs/consequences of cohesion are classified into individual and group outcomes, with the focus often being on how cohesion affects team performance (Carron, 1982; Loughead & Hardy, 2006).

Within the context of sport, both task and social cohesion have been found to have a strong relationship with performance (Carron et al., 2002; Loughead & Hardy, 2006). The relationship has been reported to be robust regardless of the causal direction (cohesion-to-performance or performance-to-cohesion) (Carron et al., 2002). However, high social and task

cohesion has also been perceived by some athletes to potentially give rise to a variety of negative consequences, including (but not limited to) communication problems, time wasting, and decreased member contribution (Hardy et al., 2005).

In the domain of sport psychology, cohesion has been a key component of team building research since the early 1990's (Rovio et al., 2010). Bruner and colleagues (2013) have noted that this focus on cohesion is compelling, but may also be cause for concern, as it suggests that the general scope of team building research in sport is relatively narrow. The authors noted that future research on team building and group performance enhancement should consider alternative approaches to team building derived from existing sport and organizational psychology literature (Bruner et al., 2013; Rovio et al., 2010).

Team Building

In this section the construct of team building is defined, the conceptual model of team building is outlined, and a review of relevant team building literature is presented.

Definition of Team Building

The concept of team building in the field of sport psychology has its origins in the domain of industrial and organizational (I/O) psychology (Brawley & Paskevich, 1997; Hardy & Crace, 1997; Rovio et al., 2010; Yukelson, 1997). Team building is viewed as the most important group development intervention for nurturing effective teams in both sport psychology and I/O domains (Bruner et al., 2013; Liebowitz & De Meuse, 1982).

Within the I/O setting, team building has been defined as "a long term, data-based intervention in which intact work groups experientially learn, by examining their structures, purposes, norms, values, and interpersonal dynamics, to increase their skills for effective teamwork" (Liebowitz & De Meuse, 1982, p. 2). Team building has also been conceptualized as

interventions which are designed to improve work group effectiveness by "removing barriers, clarifying roles, improving interpersonal relations, establishing agreed upon goals, or through other targeted intervention strategies" (Tennenbaum et al., 1992, p. 119). Taken together with similar definitions from other I/O researchers, team building in the I/O setting has been summarized by Rovio et al. (2012) to be "a long-term, mutual, and participatory learning process in which the members of a group are helped to improve team effectiveness from the view of the task and interpersonal relationships" (p. 585).

In sport, Yukelson (1997) proposed that team building is "an ongoing, multifaceted process where group members learn how to work together for a common goal and share pertinent information regarding the quality of team functioning for the purpose of establishing more effective ways of operating" (p. 73). Widmeyer and Ducharme (1997) proposed that team building is the process of team development with the objective of enhancing team maintenance (cohesion), and team locomotion (performance).

Borrowing from the organizational development literature, Brawley and Paskevich (1997) defined team building as a "method of helping a group to a) increase effectiveness, b) satisfy the needs of its members, or c) improve work conditions" (p. 13). Based on this definition, the authors noted that effective team building interventions should: a) result in a positive influence on the group's teamwork, b) enhance the interactive processes of the team, c) change the team's perceptions, expectations, and attitudes about important matters relevant to the team, and d) reduce the group properties that hinder the development of effective teamwork (Brawley & Paskevich, 1997). To that end, team building interventions in the sport setting are designed to increase group effectiveness by enhancing group cohesion (Carron et al., 1997). This integrated definition of team building proposed by Brawley and Paskevich (1997) has been

described as the most precise definition of the team building process in sport (Bruner et al., 2013; Loughead & Hardy, 2006).

Conceptual Model of Team Building

In order to facilitate a transition from the theoretical construct of team building to its practical applications, Carron and Spink (1993) developed a conceptual model for implementing a team building program. The team building model (see Figure 1) is linear and encompasses inputs, throughputs, and outputs. The inputs are assumed to influence the throughputs, which in turn contribute to the development of the output of cohesion (Carron & Spink, 1993).

The inputs include two categories: group environment and group structure. Carron and Spink's (1993) original formulation of the group environment category included only the factor of distinctiveness, which referred to the tendency for the group members to develop a stronger sense of "we" when the appearance or the environment of the group members is distinctive when compared to nongroup members. Additional research added the factors of togetherness and proximity to the group environment category, which generally refers to the team's physical proximity and the length of time they spend together both inside and outside of practice (Paradis & Martin, 2012). The other input category, group structure, includes the factors of group norms, group positions, role clarity, role acceptance, and leadership (Carron & Spink, 1993; Paradis & Martin, 2012). The group members' knowledge of their roles, the norms and collective expectations within the group, as well as effective leadership practices contribute to the stability of the group's structure, which leads to greater cohesiveness (Carron & Spink, 1993; Paradis & Martin, 2012).

The throughput of the conceptual model is the group processes, which includes factors such as team communication, team sacrifices, and the group's goals and objectives (Carron &

Spink, 1993; Paradis & Martin, 2012). When individual team members make sacrifices for the benefit of the group, their commitment to the group increases and leads to greater cohesiveness. Positive social and task interactions between the group members also increase the perception of cohesion (Carron & Spink, 1993). Furthermore, the establishment of clear group goals, which are accepted by individual group members, has been shown to enhance team cohesion as well as team effectiveness (Widmeyer & Ducharme, 1997).

In order to deliver Carron and Spink's (1993) model of team building, two protocols have been utilized, labeled as indirect or direct, which is contingent on the role that the mental performance consultant performs during the delivery of the intervention (Eys & Kim, 2017). Indirect team building interventions in sport have their origin in the work of Carron and Spink (1993) and involve the mental performance consultant working with the members of the coaching staff to design the team building program. The developed strategies are then delivered by the coaching staff to the players. In contrast, the direct approach to team building is based on the work of Yukelson (1997) and involves the mental performance consultant working directly with the athletes as well as the coaching staff to design and implement the team building program (Eys & Kim, 2017). In their meta-analysis of team building interventions in sport, Martin and colleagues (2009) found no difference in effectiveness between the indirect and direct delivery methods, suggesting that the delivery of the intervention should be tailored to the preferences and needs of the coaching staff and the team.

Team Building Research

This section will discuss team building studies and interventions published in the sport psychology literature. This review will be organized into quantitative, qualitative, and mixed method approaches according to the methodologies employed by the researchers.

Quantitative Approaches

The majority of team building research in sport has been conducted using quantitative methods. Voight and Callaghan (2001) delivered a team building intervention to two university-level women's soccer teams, using the direct team building approach proposed by Yukelson (1997). The intervention aimed at fostering a shared vision, role clarity, strong leadership, individual and team accountability, team identity, and open and honest communication. The participants from two intercollegiate teams completed the Consultant Evaluation Form (Partington & Orlick, 1987), which was used to record the participants' perceptions of the program's effectiveness. Both teams' effectiveness ratings and open-ended responses were high, indicating that the members found the intervention to be effective in enhancing their individual and team performance, as well as enhancing team unity (Voight & Callaghan, 2001).

Senécal et al. (2008) conducted a season-long team building intervention program, which measured the effect of a team goal setting program on cohesion of female high school basketball teams. The researchers used Eys and colleagues' (2006) three-stage team goal setting protocol to enhance group cohesion and performance for the teams in the experimental group. The participants in both the experimental and control conditions completed the Group Environment Questionnaire (GEQ; Carron et al., 1985) at the start and end of the season. The experimental and control groups did not differ in their perceptions of cohesion at the start of the season, however the experimental group maintained their level of cohesion at the end of the season, whereas the control group saw a decrease in cohesion (Senécal et al., 2008).

Martin et al. (2009) completed a meta-analysis of team building interventions in sport using data from 17 different studies. The results showed that: goal setting programs were superior to omnibus programs in regard to the effectiveness of the program, direct and indirect

methods of program delivery did not differ in effectiveness, the length of the team building program was positively correlated with its effectiveness, and the construct of cohesion ranks among dependent variables least influenced by team building. The analysis provided several implications for conducting effective team building programs. Specifically, the programs should: (a) focus on goal setting or adventure-based programs; (b) be at least two weeks in length, and preferably over 20 weeks; (c) target individual teams if increased cohesion is the goal of the intervention; and (d) have the aim to increase performance or improve the members' cognitions (Martin et al., 2009).

Qualitative Approaches

Qualitative methods have also been used to investigate the effects of team building interventions in sport. Holt and Dunn (2006) utilized a personal-disclosure mutual-sharing (PDMS; for a review see Dunn & Holt, 2004) protocol with a team of high-performance female soccer players. The preparatory phase took place two weeks prior to an important national tournament and required the players and the coaches to write answers to self-reflective questions. The PDMS intervention meeting was held on the evening before the semi-final game. Interviews were then conducted two weeks after the end of the tournament. The interviews indicated that the PDMS intervention was seen by the athletes as an emotionally intense experience that led to increased team understanding, cohesion, and self-confidence (Holt & Dunn, 2006). The authors provided a set of guidelines for practitioners who may wish to increase cohesion using PDMS interventions with their own teams.

Bloom et al. (2003) used a qualitative approach to evaluate elite coaches' thoughts and beliefs on the topic of team building, and what team building strategies they implemented with their teams. The researchers recruited university level coaches from Canadian institutions and

collected the data through focus group interviews, where they were asked to talk about their perceptions and use of team building. The analysis of the responses revealed that the coaches believed in, understood, and made use of team building activities. They saw team building as a way to improve team cohesion. The coaches identified specific types of team building activities (e.g., social, physical, or psychological), explained who implemented them and at what point in the season, how the team building activities were chosen, and from where they got their ideas for team building.

Rovio et al. (2010) conducted a narrative review of team building research in sport psychology. The authors grouped their findings into three themes: (a) team building interventions in sport are effective, especially when the goal is to improve cohesion; (b) the theoretical foundations for team building research in sport are inconsistent; and (c) team building research in sport has eschewed team building methods employed in I/O literature, in favor of an orientation towards cohesion. The authors further proposed several implications: (a) there is a need to establish a clear conceptual definition and theoretical framework for individual team building programs; (b) team building research in sport should actively test other frameworks in addition to cohesion-based research; and (c) when designing team building programs, greater emphasis should be placed on the team task and/or team goals. Furthermore, they proposed that the practicalities of team building programs should be described in greater detail to aid practitioners working with teams.

Mixed-Method Approaches

Several team building studies have been designed using an experimental mixed methods approach, which allows researchers to capture both the measured effectiveness of the intervention and the participants' perceptions of the program. Stevens and Bloom (2003) used a

mixed method approach to examine the effectiveness of a team building intervention using two intercollegiate women's softball teams; one team served as the intervention group and the other as the control group. For the intervention group, the researchers used Carron and Spink's (1993) conceptual framework for team building to improve cohesion through sessions focused on role behavior, social support, team leadership, social interaction, and clarification of team goals. All participants were assessed on cohesion using the group-oriented subscales (GI-T and GI-S) of the GEQ (Carron et al., 1985). Focus group interviews were conducted with the intervention group for the purpose of gathering the participants' opinions on the effectiveness of the intervention. Quantitative results showed that the intervention group reported significantly higher levels of task and social cohesion following the intervention period compared to the control group, however further administrations of the GEQ during the competitive season showed that these differences did not extend throughout the competitive season. Through qualitative interviews, the researchers found that athletes saw an improvement in role understanding, relationships between team members, and sport-specific communication. However, areas of concern included communication breakdowns during critical game situations and discomfort discussing personal matters with the coaches.

Rovio et al. (2012) implemented a year-long, multifaceted team building intervention with a junior league ice hockey team using an action research methodology. The team building program consisted of group goal setting, individual goal setting, and role clarifying. Performance profiling was used as a foundation for establishing goals and role clarification (Butler & Hardy, 1992). Both qualitative and quantitative data were collected. Quantitative measures included goal achievement via the Individual and Team Goal Achievement Scale (ITGAS), and cohesion via the GEQ (Carron et al., 1985). Qualitative methods consisted of a research diary in which

observations, conversations, and meetings were recorded, as well as semi-structured interviews with the head coach. The findings indicated that performance profiling, goal setting (individual and group), and role clarification were complimentary to each other, increasing group functioning and performance. Task cohesion remained high, while social cohesion increased throughout the season.

Windsor et al. (2011) investigated the effects of a PDMS intervention on cohesion and communication among male professional soccer players. The intervention was carried out during the latter stages of a high-level competition, while the team was preparing for an important domestic cup match. Quantitative measures of cohesion (GEQ; Carron et al., 1985), and communication (Scale for Effective Communication in Team Sports; Sullivan & Feltz, 2003) were taken at pre- and post-intervention (two weeks before and after the intervention, respectively). A qualitative social validation questionnaire was also taken immediately after the PDMS session and at a two-week follow-up, which explored the participants' perceptions and feelings about the intervention, as well as the perceived benefits. The results showed that while there were no significant changes in cohesion or team communication, the team performed above their expectations before losing in a penalty shoot-out. However, most players reported that they felt the intervention was a positive experience that improved closeness, understanding of teammates and communication.

Esports

This section reviews the literature relevant to the domain of electronic sports (esports). The concept of esports is defined and explained, and the rationale for its study using traditional sport psychology methods is provided. Previous research conducted in the domain of esports is reviewed, and its implications are discussed.

Defining Esports

The videogame industry has seen continuous growth, both in world-wide popularity and commercial success. Having grown well beyond its humble beginnings, playing videogames is a pastime which engages 64% of adults in the United States (The Entertainment Software Association, 2020). Emerging from this industry, a new form of high-performance competition has found its way into the mainstream, generally known as electronic sports (esports). The term esports encompasses a wide variety of virtual competition settings, including genres such as Multiplayer Online Battle Arenas (MOBAs), Real-Time Strategy Games (RTSs), First-Person Shooters (FPSs), and traditional sport simulators (e.g., soccer, basketball, hockey). The aforementioned genres are united under the umbrella of esports based on the definition proposed by Wagner (2006): "eSports' is an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies" (p. 3). Other definitions exist, which dictate the need for spectatorship, governing bodies, human opponents, sporting/business organizations, virtual environments similar to reality, and the inclusion of competitions and leagues (Freeman & Wohn, 2017; Hamari & Sjöblom, 2017; Lee et al., 2014). However, the definition proposed by Wagner has the advantage of being the most straightforward, as well as being broadly applicable to the different forms of esports competitions that exist currently, or that may arise in the future. Furthermore, authors in the domain of esports have used Wagner's formulation in their own works (Bányai et al., 2018; Taylor, 2012).

In 2020, the global esports audience has reached over 435 million people, and the total revenues reached over $947 million (Newzoo, 2021). Esports are also on the rise on college and university campuses across North America, starting out as student-led organizations and more

recently being included as part of intercollegiate athletic departments (Amazan-Hall et al., 2018; Keiper et al., 2017). The National Association of Collegiate Esports (NACE) is an association of varsity esports programs at colleges and universities across the US, and includes over 170 member institutions (NACE, 2021).

The parallels between esports and traditional sports have not gone unnoticed by the researchers and scholars in the fields of sport philosophy (Ferrari, 2013; Llorens, 2017), sport management (Funk et al., 2018; Hallmann & Giel, 2018), interactive media (Wagner, 2006; Witkowski, 2012), and human performance (Jenny et al., 2016). An ongoing debate is whether esports should – or even could – be considered a part of the greater domain of sports (Jenny et al., 2016; Wagner, 2006). Scholars have pointed out the issues surrounding the absence of physicality during esports activities, as well as the lack of institutionalization within the esports industry. These issues are seen as crucial for an activity to be considered a sport and would thus preclude the domain of esports from being viewed as sport (Jenny et al., 2016). However, as noted by Wagner (2006):

> There is no particular need to look at eSports as an area of disciplines that satisfy a traditional sport definition. We could just as well look at eSports as a completely separated field of study. The overrated question whether competitive gaming is a sport or not is to some extent irrelevant for the academic discussion of eSports. However, the above approach shows that there is a quite natural connection between traditional sports and eSports that goes far beyond the commonly used argument that eSports relates to the training of a proper hand-eye coordination through computer games. It furthermore allows us to borrow academic approaches and methodologies from traditional sport and training science and to apply them to what might be called "eSports science". (p. 3)

Regardless of this ongoing debate, esports present a novel competitive setting worthy of examination, with calls for more research coming from researchers across a wide variety of disciplines (Faust et al., 2013; Griffiths, 2017; Himmelstein et al., 2017; Mora-Cantallops & Sicilia, 2018; Murphy, 2009; Pluss et al., 2019).

Research in Esports

Esports and videogames as a whole present a confluence of many different spheres of research. This section will review the literature relevant to esports from a mental skills perspective and the characteristics of esports players.

Mental Skills in Esports

Despite the substantial growth of the esports domain in the recent years, to date very little research has examined the mental skills required to perform at the highest level. Murphy (2009) argued that sport psychologists should study popular videogames, citing the increasing physical activity in some videogames, as well as the increased popularity of competitive social videogames (i.e., esports). Murphy proposed that in-game esports performance in professional contexts may be enhanced through the use of PST techniques by improving cognitive skills such as concentration, imagery, and stress management.

To help clarify the role of psychological factors in esports, Pedraza-Ramirez and colleagues (2020) conducted a systematic review of available esports literature. The review of a total of 52 articles was conducted following the PRISMA-P guidelines and had two main aims: (i) to systematically summarize esports literature related to both cognitive and game performance, and (ii) to integrate esports in the field of sport psychology. The review included the following relevant findings: (i) different specific characteristics are important when differentiating between levels of expertise in various esports, (ii) there are specific psychological

and in-game skills that esports players can develop to achieve higher levels of performance, and (iii) it is important to consider how esports players practice to improve their skills and to understand the requirements and characteristics of each individual esport. Overall, the researchers emphasized that research in esports could benefit from a close association with the field of sport psychology, and that by focusing on the cognitive functions and game performance in esports, this association may lead to a better understanding of the underlying mechanisms of performance.

Himmelstein et al. (2017) interviewed five high-level competitive esports players to identify the specific mental obstacles they face, as well as the mental techniques they already possess and utilize in gaming. The qualitative content analysis resulted in two higher order themes: (i) techniques used to achieve optimal performance – which refer to (mostly mental) skills that competitive gamers reported using themselves or seeing other successful gamers use; and (ii) obstacles encountered by competitive gamers – which refer to perceived barriers that prevent gamers from performing optimally in both practice and competition. The higher order theme of techniques used to achieve optimal performance was further broken into two categories: (a) what gamers do to ensure a successful performance; and (b) what gamers do to improve upon their skills. The higher order theme of obstacles encountered by competitive gamers was separated into four lower order themes: (a) barriers for optimal individual performance; (b) team level obstacles; (c) need for balance between life and gaming; and (d) limited understanding of the game. The authors identified several mental skills as being important for achieving optimal performance, namely goal setting, imagery, anxiety management, motivation, and communication. Based on these findings, the authors concluded

that employing sport and performance psychology techniques, such as mental skills training, should help to improve gamers' performance.

To examine some of the psychological aspects of competing at a high level in esports, Smith et al. (2019) conducted inductive analyses on interviews with seven professional male esports players. The analyses investigated the stressors experienced and the associated coping strategies used by the players. The researchers identified a variety of internal (e.g., team issues and individual issues) and external (e.g., scrutiny/criticism and event issues) stressors, as well as five forms of coping (e.g., emotion-focused coping, problem-focused coping, avoidance coping, approach coping, and appraisal-focused coping). Key findings include the players' use of positive self-talk to deal with losses, players' issues with in-game communication concerning aggressively presented feedback, evident overuse of avoidance coping strategies during competitive play, and a lack of use of effective problem- and emotion-focused strategies during gameplay. The authors encouraged applied practitioners to assess esports athletes' psychological skill usage and tailor the training to the specific demands of the competitive environment.

Tang (2018) presented an overview of esports and its similarities to traditional sports. He highlighted the benefits of cohesion in other performance contexts and proposed that same benefits can be expected to aid players in the esports domain. Similar to traditional sports, esports teams operate in a highly task-based environment. For elite level esports teams winning is crucial, creating an environment where the players must be able to collaborate under pressure. Tang emphasized the need for professional esports players to possess social and emotional skills to effectively cooperate with and support team members in both online and offline settings. He concluded that promoting cohesion in esports should be a priority, both for the purposes of improving social skills of the players, as well as enjoyment and performance.

Characteristics of Esports Players

The growth of esports has prompted some researchers to examine the characteristics of esports players and their differences from traditional sport athletes. Kari and Karhulahti (2016) used a survey to examine the training and physical exercise routines of 115 elite esports athletes. Based on the results, the authors arrived at three conclusions regarding the present state of expert esports play: (i) the overall time that esports players spend practicing and training for their respective esports is heavily exaggerated by the popular press, with the daily average of the current sample being approximately 5.28 hours, as compared to the claimed 12 to 14 hours claimed by journalists; (ii) elite esports players are relatively physically active, with the average player spending 1.08 hours per day on physical exercise; and (iii) the reasons behind the players' relatively high amounts of physical exercise is their increased awareness concerning the benefits of healthy lifestyles, with more than half of the sample claiming that exercise had a positive effect on their competitive careers.

Schaeperkoetter et al. (2017) explored the role of athlete identity (i.e., how strongly an individual identifies with the athlete role) and social capital (i.e., the resources gathered from social relations within a network or group of people) of esports scholarship players. Thirty-three esports student-athletes receiving scholarships at a private university were interviewed to determine their similarities and differences with traditional scholarship athletes. It was found that esports athletes had high levels of athlete identity and social capital within their own team, and that esports athletes had a desire to pursue a professional career playing in esports, similar to traditional athletes. The authors suggested that university athletics administrators should consider the impact of esports at institutions with small enrollments, as many respondents specifically mentioned esports as the main reason for choosing to attend the university. Combined with the

high levels of athlete identity and social capital, both of which enhance retention, administrators can capitalize on the sponsorship of esports as a competitive varsity program, with the benefit of strengthening the campus community as a whole.

The common factors relevant to success in esports and traditional sports was investigated by Railsback and Caporusso (2019). Interviews with four professionals working as coaches in esports and traditional sports, two from each setting, were conducted. Specifically, the authors sought to identify the traits and challenges (psychological and physical) prevalent in both traditional sport athletes and esports players. The results from the interviews were then used to design a questionnaire exploring the human factors in esports by addressing five factors related to the participants' preparation for tournaments: dedication, practice, concentration, critical thinking, and physical ability. The questionnaire was given to 48 student-athletes with a background in traditional sports and 48 student-esports participants. Coaches from both settings had similar perspectives on the challenges and dynamics which esports and traditional sports have in common, with the exception of the intensity of physical activity. The coaches also praised the inclusivity and the unbiased nature of esports competition. Quantitative analyses showed that there was no statistical difference between esports and traditional sports in four out of five factors (dedication, practice, concentration, and critical thinking) of tournament preparation considered in the study.

Psychological Skills Training

This section reviews the literature relevant to psychological skills training (PST) in sport. PST is defined, a measurement tool developed to assess the athletes' use of PST strategies is described, and a review of relevant psychological strategies that have been applied in sport settings is presented.

Definition of PST

In the domain of sport and exercise psychology, PST is defined as "a program or intervention that entails a structured and consistent practice of psychological skills and generally has three distinct phases (education, acquisition, and practice)" (Munroe-Chandler & Hall, 2021, p. 134). PST programs are based on the assumption that thoughts and feelings can inhibit performance and that specific mental skills, when used effectively, can enhance performance (Hays, 1995). PST programs employ a wide variety of psychological techniques to promote desired outcomes, including goal setting, self-talk, and arousal regulation.

Measuring Psychological Skill Use

For the purposes of measuring athletes' use of psychological skills and strategies in practice and competition, Thomas and colleagues (1999) developed the Test of Performance Strategies (TOPS). The TOPS is a 64-item inventory which measures eight skills and strategies used by athletes in practice (goal setting, relaxation, activation, imagery, self-talk, attentional control, emotional control, and automaticity), and competition (same as in practice, but with negative thinking replacing attentional control). Since it was first developed, the TOPS questionnaire has been revised to improve the validity of a few of its subscales (Lane et al., 2004), resulting in the development of a psychometrically stronger inventory revised as the TOPS 2 (Hardy et al., 2010). The TOPS has been described as the assessment of choice for examining the frequency with which athletes employ mental techniques, as well as for assessing intervention effectiveness in applied research (Woodcock et al., 2012). Furthermore, the TOPS and its iterations have been validated and approved for the assessment of psychological skills in athletes within Iranian, Turkish, and Spanish populations (Lourido et al., 2018; Miçooğulları, 2017; Saadatifard et al., 2014).

PST Strategies

This section will present a review of relevant PST strategies that have been previously applied in sport settings and received substantial research attention. The review will cover the strategies of goal setting, self-talk, and arousal regulation.

Goal Setting

In sport, goal setting is a powerful technique that has been commonly used to enhance performance (Healy et al., 2018; Weinberg, 2013). Goals have been separated into three types, all of which play important roles in directing behavioral change (Weinberg & Gould, 2019): outcome goals (focus on competitive results and social comparison), performance goals (focus on achieving performance objectives based on one's own previous performances), and process goals (focus on specific actions an athlete must engage in during the performance to perform well).

Extensive goal setting research has been done in sport and organizational settings regarding the principles for how best to apply goal setting to enhance performance (Kyllo & Landers, 1995; Locke et al., 1981; Locke & Latham, 1985; Weinberg, 2013). Based on the current evidence, Munroe-Chandler and Guerrero (2019) recommended a set of guidelines: (1) Goals should be moderately difficult; (2) Process goals should be flexible and serve as an initial step to achieving performance and outcome goals; (3) Short- and long-term goals should be set to maintain motivation over time; and (4) As a member of a team, both individual and team goals should be set.

The link between group goal setting and group cohesion has been a consistent finding in sport psychology literature (Widmeyer & Ducharme, 1997), and goal setting-based programs were found to be some of the most effective team building interventions in the Martin and

colleagues' (2009) meta-analysis of team building interventions in sport. An example of such a goal setting program is the Eys et al. (2006) protocol, which has been found to be an effective team building tool for influencing cohesiveness in sport teams (Senécal et al., 2008).

Goal Setting Research. In the sport domain, goal setting and its effectiveness has been studied extensively. Weinberg and colleagues (1993) assessed the frequency, effectiveness, and importance of different types of goals in 678 NCAA Division I athletes. The findings revealed that: (1) improving their own performance, winning, and having fun were the most important goals for the collegiate athletes; (2) athletes preferred to set moderately difficult and very difficult goals more than setting moderate or easy goals; (3) athletes preferring moderately difficult and very difficult goals found their goals more effective than the athletes who set moderate goals; (4) while females set more goals, and found goals to be more effective than males did, males set more outcome goals; (5) starters used goal setting more and found it more effective than did the reserves; and (6) athletes higher in perceived ability felt that goal setting was more effective for them than did athletes lower in perceived ability.

Kyllo and Landers (1995) undertook a meta-analysis of the literature investigating the effects of goal setting on performance in sport and exercise. Goal setting was found to improve performance by 0.34 of a standard deviation, with the biggest effects if the goals were moderate, outcome focused, used a combination of short- and long-term goals, allowed individuals to participate in setting the goals, and were made public.

Burton et al. (2010) examined the perceived effectiveness of goals in a sample of 338 elite Olympic-level athletes from 12 different team and individual sports using the Olympic Goal Practices Questionnaire (OGPQ) – an extensive goal setting survey. Overall, the results suggested that effective elite goal setters are more committed to goal setting and set all types of

goals more frequently than less effective elite goal setters, with the multifaceted goal setters

having greater confidence and career sport success than the performers in the other three profiles.

Self-talk

Self-talk in sport has been a widely used and widely endorsed strategy, employed with

the aim to facilitate learning and enhancing performance (Hatzigeorgiadis et al., 2014; Van

Raalte et al., 2015). Hardy (2006) defined self-talk as verbalizations or statements addressed to

the self, which are multidimensional in nature, have interpretive elements associated with the

content of the employed statements, are dynamic, and serve instructional and motivational

purposes for the athlete. Furthermore, Hardy proposed that the nature of self-talk can best be

understood with the help of six overlapping aspects, which later authors have adapted into six

self-talk dimensions that may be used as a guide when developing a self-talk intervention in

sport: (1) valence (negative or positive); (2) verbalization (overt or covert); (3) self-

determination (assigned or freely chosen); (4) directional interpretation (motivating or de-

motivating); (5) directional intensity (not at all or very much so); and (6) frequency (often or

never; Munroe-Chandler & Hall, 2021).

Beyond Hardy's self-talk dimensions, Van Raalte and colleagues (2015) presented a

sport-specific theoretical model of self-talk which sought to build on the existing theory and

research. The model is based on dual process theories and incorporates two distinct processing

mechanisms dubbed System 1 (intuition) and System 2 (reasoning). The model directs attention

to new and unexplored self-talk research questions, and may be employed to help practitioners

develop and implement effective self-talk interventions (Van Raalte et al., 2016)

Self-talk interventions can be employed to improve performance in a variety of ways.

Tod et al. (2011) concluded that the use of positive, instructional, and motivational categories of

self-talk resulted in performance benefits. Furthermore, Williams et al. (2015) described several ways in which self-talk may be used, which includes aiding in skill acquisition and performance, in changing bad habits, in attention control, in creating affect/mood and controlling effort, in changing affect/mood and the effect of emotions, in adoption and maintenance of exercise behavior, and in building self-efficacy and confidence.

      Self-talk Research. A large proportion of research on self-talk has been conducted to investigate how self-talk may be applied in practice. Hardy and colleagues (2009) examined the effectiveness of two intervention approaches for tracking instances of negative self-talk. Seventy-three physically active kinesiology undergraduate students were recruited and assigned to either a control, a paperclip, or a logbook intervention group. The students in the paperclip group were given a bag containing 50 paperclips and were required to move a paperclip from their right pocket to their left whenever they made a negative self-statement during a training session. The students in the logbook condition were given a training diary and required to record information about negative self-statements they made during a training session, including the number of statements, triggering events, how they felt after the occurrence of the statements, and other details. Before and after completing their training sessions, the participants completed a questionnaire which assessed the awareness and motivation to change negative self-talk. The results showed that neither experimental group differed significantly from the control group on their motivation to change negative self-talk, or their awareness of the content of negative self-talk; however, the logbook group reported significantly better awareness of how much they used negative self-talk compared to the control. Furthermore, the investigators undertook a qualitative analysis of self-talk data of the logbook group. They found that the participants' negative self-talk was strongly associated with the onset of physical discomfort, the presence of task related

cues, negative performance cues, and during particular segments of the workout. To a lesser

extent, negative self-talk was also associated with loss of task application, negative attitudes, and

negative emotions. The content of the negative self-talk was related to the task and the

participants' engagement with the task. Finally, the consequences and feelings that stemmed

from the use of negative self-talk were sorted into themes representing negative, positive, and

neutral consequences. Overall, the findings supported the applied use of the logbook technique

over the paperclip approach.

Hatzigeorgiadis and colleagues (2014) tested the effectiveness of a 10-week self-talk

intervention on the competitive performance of 41 adolescent swimmers. The participants in the

experimental group underwent an eight-week self-talk training program, where they practiced

self-talk during supervised intervention sessions. The purpose of the program was to have the

participants understand, learn, and practice self-talk techniques in order to develop their personal

competitive self-talk plan. The performance of the participants was evaluated based on the

improvement the athletes showed from pre- to post-intervention competition results. The results

showed that self-talk strategies can be effective in competitive environments, practicing self-talk

leads to consistent use of self-talk during both training and competition, and participation in the

development of their personal self-talk plans may have increased athletes' interest and

commitment to using them. Finally, it was suggested that motivational self-talk may be more

effective than instructional self-talk in competitive settings.

Tod et al. (2011) conducted a systematic literature review which examined the

relationship between self-talk and performance in sport. A total of 47 studies were included in

the systematic review. It was found that the use of positive, instructional, and motivational

categories of self-talk benefitted performance. Furthermore, negative self-talk may not have

detrimental effects on motor skill performance, possibly because some athletes may see negative self-talk as motivating. In general, the analysis showed that there is support for the use of self-talk for performance enhancement purposes, however the authors advocated for the expansion of the self-talk knowledge base.

Arousal Regulation

Various sports require athletes to achieve and maintain different levels of arousal for optimal performance. Athletes must be able to psych-up when they are under-aroused and relax when their level of arousal causes anxiety and nervousness (Munroe-Chandler & Hall, 2021). The athletes must be able to determine their current level of arousal, identify what level of arousal is optimal for performance, and be able to regulate it (Gould & Udry, 1994; Munroe-Chandler & Hall, 2021).

A large part of arousal regulation research in sport deals with arousal reduction and stress management strategies (Gould & Udry, 1994; Hanton et al., 2015). A typical response to stress in sport is anxiety, which has been divided into two components: cognitive, which consists of negative mental assessments, and somatic, which includes muscle tension, shortness of breath, and increased heart rate (Pineschi & Di Pietro, 2013). Arousal energizing strategies have seen comparatively less research in sport, as athletes have been reported to have more difficulty staying relaxed during competition than trying to increase their arousal (Gould & Udry, 1994). Among the various anxiety-reducing techniques, some of the most commonly used approaches include progressive relaxation, breath control, and autogenic training (Munroe-Chandler & Hall, 2021).

While competitive stressors are known to produce an anxiety response in athletes, there is evidence to suggest that the effect could be beneficial. Hanton and Jones (1999) found that

compared with nonelite performers, elite performers have developed cognitive skills and strategies that allowed them to interpret their pre-competition anxiety as facilitative to their performance. These findings were further supported by Neil and colleagues (2006), with the addition that elite players had lower relaxation usage, whereas nonelite performers used relaxation skills to reduce the debilitative symptoms of anxiety. Elite athletes tend to maintain the intensity of their competitive anxiety while using goal setting, imagery, or self-talk to interpret their symptoms in a facilitative manner (Wadey & Hanton, 2008).

Arousal Regulation Research. In order to better understand the relationship between relaxation skills and performance, Kudlackova et al. (2013) examined the use of relaxation skills by 150 athletes representing three skill levels. Recreational, college, and professional-level athletes from a variety of sports completed a survey which assessed relaxation on three deliberate practice dimensions (relevance, concentration, and enjoyment), time spent in relaxation activities, and what function the relaxation activities served for the participants. The results showed that all athletes saw relaxation skills as relevant to performance, requiring concentration, as well as being enjoyable. All athletes, regardless of skill level, reported that they used relaxation skills to cope with competitive anxiety and to promote physical recovery. Higher skilled athletes made more use of deep breathing, imagery, and muscle relaxation to cope with competitive anxiety, compared to less skilled athletes. Furthermore, more physical types of relaxation were used to cope with competitive anxiety, whereas more mental types of relaxation were used to cope with everyday anxiety.

The intensity and direction of the competitive anxiety response and psychological skill use was examined in 115 elite and nonelite male rugby union players (Neil et al., 2006). Players completed measures of competitive anxiety, psychological skill use, and self-confidence. Elite

performers reported higher levels of self-confidence, lower usage of relaxation skills, and higher

usage of self-talk and imagery than non-elite players. Moreover, elite performers also construed

competitive anxiety as facilitating to their performance through a combination of psychological

skills, whereas the nonelite performers primarily used relaxation strategies to reduce anxiety

intensity, which they viewed as debilitating.

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Figure 12

A General Conceptual Model of Cohesion (adapted from Carron, 1982; Loughead & Hardy,

2006).

INPUT   THROUGHPUT   OUTPUT

Environmental Factors

Personal Factors

Leadership Factors

Group Factors

Cohesion
- ATG-Task
- ATG-Social
- GI-Task
- GI-Social

Individual and Group Outcomes
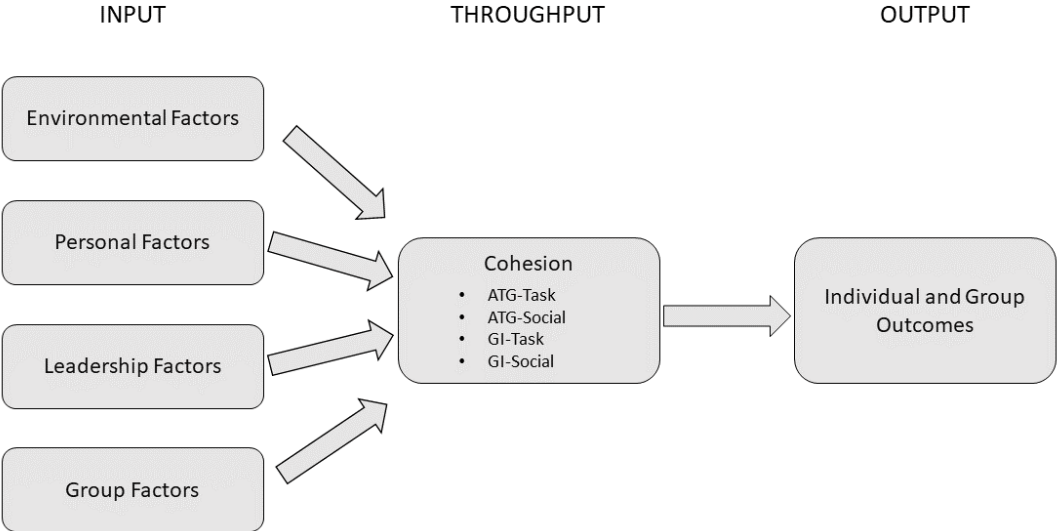
APPENDICES

Appendix A

Demographics Questionnaire

In-game moniker: _____

Age: _____

Gender: _____

How long have you played *League of Legends*?
_____ (Years and/or Months)

What position do you play on your team? (i.e., Top, Jungle, Mid, ADC, Support):
_____ (If more than one, include two most relevant)

How long have you been involved with your current team?
_____ (Months or Weeks)

Appendix B

Group Environment Questionnaire (GEQ)

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

Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of these statements.

1.   I enjoy being a part of the social activities of this team.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

2.   I am happy with the amount of playing time I get.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

3.   I am going to miss my teammates when the season ends.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

4.   I am happy with my team's level of desire to win.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

5.   Some of my best friends are on this team.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

6.   This team gives me enough opportunities to improve my personal performance.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

7.   I enjoy team social activities more than other types of social activities.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

8.   I like the style of play on this team.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly
     Disagree   Agree

9.   For me, this team is one of the most important social groups to which I belong.

     1   2   3   4   5   6   7   8   9
     Strongly   Strongly

Disagree   Agree

10.   Our team is united in trying to reach its goals for performance.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

11.   Members of our team would rather get together as a team than hang out on their own.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

12.   We all take responsibility for any loss or poor performance by our team.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

13.   Our team members socialize together often.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

14.   Our team members have the same aspirations regarding the team's performance.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

15.   Members of our team would like to spend time together when the season ends.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

16.   If members of our team have problems in practice, everyone wants to help them so we can get back
       together again.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

17.   Members of our team socialize outside of practices and games.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

18.   Members of our team communicate freely about each athlete's responsibilities during competition or
       practice.

        1   2   3   4   5   6   7   8   9
    Strongly   Strongly
    Disagree   Agree

Appendix C

Test of Performance Strategies-2 (TOPS-2)

Instructions: Using the italicized statement below, read each question and indicate the appropriate number (1 to 5) in the space provided. Keep in mind 1= Never and 5=Always Statement: *During competition…*	1 I never do this	2 I rarely do this	3 I sometimes do this	4 I often do this	5 I always do this
1. I talk positively to get the most out of competitions					
2. Manage self-talk effectively					
3. I say things to help competitive performance					
4. I say specific cue words or phrases to help my performance					
5. My emotions get out of control under pressure					
6. Difficulty with emotions at competitions					
7. Difficulty controlling emotions if I make a mistake					
8. Emotions keep me from performing my best					
9. Able to trust my body to perform skills					
10. Sufficiently prepared to perform on automatic pilot					
11. Allow whole skill or movement to happen naturally without concentrating on each part					
12. Unable to perform skills without consciously thinking					
13. I set personal performance goals					
14. I set very specific goals					
15. Evaluate whether I achieve competition goals					
16. I set specific result goals					
17. I rehearse my performance in my mind					
18. I imagine my competitive routine before I do it					
19. I rehearse the feel of performance in my imagination					
20. I visualize my competition going exactly the way I want it					
21. Can get myself "up" if I feel flat					
22. Can psych myself to perform well					
23. Can get my intensity levels just right					
24. Can get myself ready to perform					
25. Use relaxation techniques to improve performance					
26. Use relaxation strategies as a coping strategy					
27. If I'm starting to "lose it", I use a relaxation technique					
28. Relax myself to get ready to perform					
29. Keep my thoughts positive					
30. Self-talk is negative					
31. Thoughts of failure					
32. Imagine screwing up					

Instructions: Using the italicized statement below, read each question and indicate the appropriate number (1 to 5) in the space provided. Keep in mind 1= Never and 5=Always Statement: *During practice…*	1 I never do this	2 I rarely do this	3 I sometimes do this	4 I often do this	5 I always do this
1. Motivate myself to train through positive self-talk					
2. Talk positively to get the most out of practice					
3. Manage self-talk effectively					
4. Say things to myself to help my practice performance					
5. Trouble controlling emotions when things are not going well					
6. Performance suffers when something upsets me					
7. Emotions keep me from performing my best					
8. Frustrated and emotionally upset when practice does not go well					
9. Able to perform skills without consciously thinking					
10. Perform automatically without having to consciously control each movement					
11. Allow whole skill or movement to happen naturally without concentrating on each part					
12. Monitor all the details of each move to successfully execute skills					
13. Set very specific goals					
14. Set goals to help me use practice time effectively					
15. Set realistic but challenging goals					
16. Don't set goals for practices, just go out and do it					
17. When I visualize my performance, I imagine what it will feel like					
18. When I visualize my performance, I imagine watching myself as if on a video replay					
19. Rehearse my performance in my mind					
20. Visualize successful past performances					
21. Can get my intensity levels just right					
22. Can get myself ''up'' if I feel flat					
23. Can psych myself to perform well					
24. I have difficulty getting into an ideal performance state					
25. I use relaxation techniques to improve my performance					
26. Use practice time to work on relaxation technique					
27. Practice using relaxation techniques at training					
28. I use training sessions to practice relaxing					
29. Able to control distracting thoughts when training					
30. Focus attention effectively					
31. Trouble maintaining concentration during long practices					
32. Attention wanders while training					

Appendix D

Workshop Evaluation Form

We would like to take this time to thank you for your participation in this psychological skills training program. We hope it has been an exciting learning experience for you. Your feedback is extremely important to us and will help make the program better for future years. Please take your time honestly and thoughtfully answering the following questions.

1.   Which workshops have you attended and/or completed on your own time?
        a. Workshop 1: Goal Setting
        b. Workshop 2: Arousal Regulation
        c. Workshop 3: Self-Talk
        d. None
2.   What was your favourite part of the workshops?

3.   What was most challenging about the workshops?

4.   What modifications would you make to the workshops? (Please explain why you are recommending these modifications)

5.   Do you feel that you've developed useful psychological skills over the course of the workshops? (Please give details)

6.   Do you feel that the workshops helped you to become a stronger team? (Please give details)

7.   How many times in the last 6 weeks did you practice/play with other Lancer Gaming players? (Including the *League of Legends* team tryouts)

8.   How much did you play on your own time in the last 6 weeks? (Games or hours per week)

9.   Additional comments:

Appendix E

Program Coordinator Consent Form

My name is Erkin Zuluev and I am currently a student at the University of Windsor in the Faculty of Human Kinetics. I am aiming to conduct a research project which will examine the effect of a team building and psychological skills training program on the members of the *League of Legends* Lancer Gaming esports team. The proposed research is currently under review by the University of Windsor's Research Ethics Board. I'm seeking your permission to recruit the members of the esports team as participants for the study. I have attached a Letter of Information that describes the purpose of the study and its design. Once I receive clearance from the university's REB, and with your permission, I will email the team members for study recruitment.

Team members 18 years of age or older are eligible to participate. Participation is voluntary, and the participants can withdraw at any point. As part of this research project, the participants will be asked to complete a survey pre- and post-intervention which will determine the changes in team cohesion and their use of psychological skills as a result of a team building program. If you have any questions or concerns about the research, please feel free to contact me.

I have read the Letter of Information, have had the nature of the study explained to me, and I agree to allow players from my team to be recruited for this study. All questions have been answered to my satisfaction.

_____
(Signature of Lancer Gaming coordinator)

_____
Date

Letter of Information Sent to the Program Coordinator

Title of Study: THE IMPACT OF PSYCHOLOGICAL SKILLS TRAINING ON ESPORTS PLAYERS

You are asked to participate in a research study conducted by Mr. Erkin Zuluev, and Drs. Krista Chandler and Todd Loughead, from the Department of Kinesiology at the University of Windsor. The results of the project will contribute to the completion of Erkin Zuluev's Master's Thesis.

If you have any questions or concerns about the research, please feel to contact Mr. Erkin Zuluev. You may also contact the study co-supervisors: Dr. Krista Chandler; Dr. Todd Loughead.

PURPOSE OF THE STUDY

The purpose of the study is to examine the impact of a psychological skills training program on esports players' perceptions of cohesion and use of psychological skills.

PROCEDURES

If you volunteer to participate in this study, you will be asked to do the following:

Prior to the beginning and at the conclusion of the psychological skills training program delivered to the Lancer Gaming *League of Legends* team, you will be asked to complete a series of questionnaires pertaining to team cohesion and your use of psychological skill techniques. The questionnaires will take approximately 15 minutes to complete.

POTENTIAL RISKS AND DISCOMFORTS

There are no psychological, emotional, or physical risks or discomforts associated with participation in this study.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

The information gained from this study will advance research in the field of esports psychology. Specifically, the results will aid in the creation and implementation of team building and psychological skills training programs for esports athletes. In addition, the players involved in the program will be contributing to the development and the expansion of knowledge in the esports domain, specifically in the field of esports psychology.

COMPENSATION FOR PARTICIPATION

You will not be compensated for your participation in this study.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. All data will be kept in a password protected file which will only be accessible by the primary investigators. Potentially the data may also be utilized in subsequent studies conducted by the researchers. All participant data will be password-protected to ensure that only the listed investigators are able to access the data. The collected data will include your in-game moniker for the purposes of linking the beginning and end surveys. Once the surveys have been completed, the data will be de-identified, and the in-game monikers will be deleted. The data will be destroyed six months after the publication of the study.

PARTICIPATION AND WITHDRAWAL

Participation in this study is completely voluntary. If you volunteer to participate in this study, you may withdraw from completing the questionnaires at any time, and still complete the psychological skills training program, without penalties or consequences. You may refuse to answer any questions in the questionnaires. The investigator may withdraw you from this research if circumstances arise which warrant doing so. You may request that your data be removed from the study.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

The results will be posted at the University of Windsor's Research Ethics Board website by September 1, 2021 (https://scholar.uwindsor.ca/research-result-summaries/). If you have any additional concerns or questions, you can contact the primary investigators at the numbers listed above.

Web address: _____https://scholar.uwindsor.ca/research-result-summaries/_____
Date when results are available: _____September 1, 2021_____

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

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

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

_____   _____
Signature of Investigator   Date

Appendix G

Program Coordinator Consent Form Signed and Dated

![University of Windsor logo]

PROGRAM COORDINATOR CONSENT FORM

My name is Erkin Zuluev and I am currently a student at the University of Windsor in the Faculty of Human Kinetics. I am aiming to conduct a research project which will examine the effect of a team building and psychological skills training program on the members of the *League of Legends* Lancer Gaming esports team. The proposed research is currently under review by the University of Windsor's Research Ethics Board. I'm seeking your permission to recruit the members of the esports team as participants for the study. I have attached a Letter of Information that describes the purpose of the study and its design. Once I receive clearance from the university's REB, and with your permission, I will email the team members for study recruitment.

Team members 18 years of age or older are eligible to participate. Participation is voluntary, and the participants can withdraw at any point. As part of this research project, the participants will be asked to complete a survey pre- and post-intervention which will determine the changes in team cohesion and their use of psychological skills as a result of a team building program. If you have any questions or concerns about the research, please feel free to contact me at (647) 994-3891 or via email: zuluev@uwindsor.ca.

I have read the Letter of Information, have had the nature of the study explained to me, and I agree to allow players from my team to be recruited for this study. All questions have been answered to my satisfaction.

████████████████████

(Signature of Lancer Gaming coordinator)

2021.1.27

Date

Appendix H

REB Clearance Letter

Today's Date: February 08, 2021
Principal Investigator: Mr. Erkin Zuluev
REB Number: 38841
Research Project Title: REB# 21-004: "The Impact of Psychological Skills Training on Esport Players"
Clearance Date: Cleared February 8, 2021
Project End Date: May 01, 2021

_____

This is to inform you that the University of Windsor Research Ethics Board (REB), which is organized and operated according to the Tri-Council Policy Statement and the University of Windsor Guidelines for Research Involving Human Participants, has granted approval to your research project. This approval is valid for one year after the clearance date noted above.

An annual Progress Report must be submitted for renewal of the project. The REB may ask for monitoring information at some time during the project's approval period. A Final Report must be submitted at the end of the project to close the file.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the REB. Approval for modifications to an ongoing study can be requested using a Request to Revise Form.

Investigators must also report promptly to the REB:
a) changes increasing the risk to the participant(s) and/or affecting the conduct of the study;
b) all adverse and unexpected events that occur to participants;
c) new information that may affect the risks to the participants or the conduct of the study.

Forms for submissions, notifications, or changes are available on the REB website: www.uwindsor.ca/reb. If your data are going to be used for another project, it is necessary to submit a secondary use of data application to the REB.

Sincerely,

Suzanne McMurphy, Ph.D., MSS, MLSP
Chair, Office of Research Ethics
University of Windsor
2146 Chrysler Hall North
519-253-300 ext. 3948
Email: ethics@uwindsor.ca

Appendix I

Workshop Materials

Workshop 1: Goal Setting

Structure:

1. Welcome participants and distribute the **Setting Effective Goals** info sheet, the **Goal Setting Worksheet**, and the **Goal Setting Tracking Sheet**.
2. **10-15 min:** Deliver a presentation – what is Goal Setting and how to use it.
   a. What is goal setting?
   b. Types of goals
   c. SMART(S) goal setting principles
3. **20-30 min:** Introduce the Team Goal Setting Activity.
   a. **2-5 min:** Players generate long- and short-term outcome goals.
   b. Question is asked: "What do you have to do especially well as a team on a game-to-game basis to maximize your chances of reaching your short- and long-term goals?"
   c. **10-15 min:** Team's performance goals are established.
      i. Players provided with a list of approximately 10 performance (game) indices/goals that are specific and measurable (also potentially have the players come up with other performance indices/goals).
      ii. **5-7 min:** Each player independently picks 3-4 performance indices that they believe are most important for team success.
      iii. **5-7 min:** The total team discusses and negotiates until a consensus is reached on 3-4 performance indices, establishing the 3-4 performance goals considered most important for team success.
   d. **5-10 min:** Target levels to strive towards for each performance goal are established.
      i. **3-5 min:** Each player determines the target level they think is appropriate for each performance goal.
      ii. **3-5 min:** Target level chosen by each individual are discussed as a team and a team decision is made for the target levels for each team goal.
4. **15-20 min:** Introduce Individual Goal Setting Activity.
   a. Ask the players what they need to do at the **individual** level to help the **team** achieve the established goals?
   b. **5-6 min:** Provide a set of sample individual goals that the players can work towards, and discuss any questions the players may have.
      i. In-game goals such as practicing a certain amount of time/week.
      ii. Out-of-game goals such allocating a specific amount of time to schoolwork/day.
   c. **5-7 min:** The players are split into pairs (or threes) to share and discuss their individual goals.

       d. **5-7 min:** The players share their individual goals with the entire team, get feedback and possible suggestions from teammates
5. Give the players a set of final goal setting tips and reminder that they are free to get in touch with the primary investigator or their coach for help with their goals.

Setting Effective Goals

What is a goal? – *A goal is a target or an objective that people strive to attain.*

Types of goals:

Outcome goals

- What do you wish to achieve in the next season? In the next few games?
- Goals that focus on competitive results.
- Dependent on the ability and performance of one's opponents.
- e.g., winning matches and competitions; outplaying opponents.

Performance goals

- How do you wish to improve in the next season? From game to game?
- Goals that focus on improvement and attainment of personal performance standards.
- Dependent on personal past performances.
- e.g., improve CS while playing a certain hero in *League of Legends*; decrease the number of deaths per match.

Process goals

- Specific actions you have to do to attain performance or outcome goals.
- Step-by-step actions you must perform when playing in a game OR day-to-day training goals.
- Goals that focus on specific behaviours in which you must engage to perform well and reach your performance or outcome goals.
- e.g., sequence of key presses and movements you must execute to perform a certain skill combination, micro mechanics; playing practice games 6 days per week for the duration of the season.

The SMART(S) goal setting principles – Using the acronym SMART(S), you can remember six guidelines for effective goal setting. Every goal you set should follow these guidelines.

Specific

- Is the goal specific?
- Set goals that are specific, as opposed to vague. They should target a particular skill, action, or area for improvement.
- e.g., "I want to increase my GPM" vs. "I want to get better."

Measurable

- Is the goal measurable?
- Goals should be readily measurable in order to assess progress.
- If you have no way of tracking your progress, you have no way of knowing if you're getting closer to your goal.

Adjustable

- Is the goal adjustable?
- Be ready to adjust the goals if necessary.

- An adjustment might be needed because your initial goal proves too difficult OR too easy. Or perhaps due to outside factors such as schoolwork or family issues.

Realistic

- Is the goal realistic?
- Goals should be moderately difficult. If goals are too easy, they are of little value. On the other hand, if they are too difficult, they may lead to a decrease in confidence.

Timely

- Is the goal timely?
- The goals should have a time-frame associated with them. Otherwise, they can be dismissed and put off indefinitely. Setting a time-frame provides motivation to succeed, as well as allowing you to create sub-goals on the way to your ultimate goal.

Supported

- Do you have social support to help you reach your goal?
- Social ties and relationships can be a great asset to help you stay motivated and focused on your goal by acting as social support when there are difficulties on your goal setting journey.
- Support can come from a variety of sources (e.g., friends, teammates, coaches, parents, and mentors.)

Final goal setting tips

- Goals have to be revisited regularly to chart progress and update them if needed.
- Seek the help of your team and coach in achieving your goals.
- When attaining goals and sub-goals, take the time to recognize your achievement.
- When setting goals, record them and place them somewhere you will be reminded of what you're working towards.

Team Goal Setting Worksheet

Instructions:

As a team, discuss and determine the short-term (e.g., results in the next few games) and long-term (e.g., overall team standing) **outcome goals** you will strive for during the next season. Remember to follow the SMART(S) principles when setting goals.

Potential Short-Term Outcome Goals:	Potential Long-Term Outcome Goals:
Final Short-Term Outcome Goals:	Final Long-Term Outcome Goals:

Once you and your team have established the short- and long-term outcome goals to work towards, think about the following question:

What do you have to do especially well as a team on a game-to-game basis to maximize your chances of reaching your short- and long-term goals?

Potential Performance Goals

- Gold per minute
- CS per minute
- Kills (e.g., within a certain time period)
- Damage dealt (e.g., in total, or by a specific role)

- Wards placed
- Timing of certain item
- Number of camps cleared
- Number of rotations (e.g., by certain time)

- Objectives captured (e.g., dragons/baron)
- Buildings destroyed
- Number of deaths (e.g., per match, and/or per role)

Individually identify 3-4 performance goals, picking from the list provided or suggesting your own:

1.
2.
3.
4.

As a team, discuss and determine the 3-4 performance goals that you believe are most important for team success:

1.
2.
3.
4.

Once the team has determined the 3-4 performance goals to work towards, it is time to set the **specific level** for each team goal – the target to strive for *in each game*.

Individually set the target level you believe is appropriate for each performance goal:

1.
2.
3.
4.

As a team, discuss and determine the target level you believe is appropriate for each performance goal:

1.
2.
3.
4.

_

Team Goal Setting Tracking Sheet

Long-term Goal Statement

Outcome Goals:

Short-term Goal Statement

Performance Goals	Levels/Targets
1.	1.
2.	2.
3.	3.
4.	4.

Individual Goal Setting Worksheet

Now that you've determined your **team goals** for the next season, it is time to think about what you may need to do at the **individual** level to help the **team** as a whole achieve the established goals?

In other words, what personal goals can you set to make sure you are able to perform at your best during the next season?

These goals could focus on your in-game performance (e.g., playing enough ranked games per week), or alternatively out-of-game concerns (e.g., making sure you're up to date on your schoolwork or other commitments).

Again, remember to follow the SMART(S) principles when setting your individual goals.

Instructions

What is my #1 personal **performance** goal?

SMARTS Checklist	
SPECIFIC Is the goal specific?	
MEASURABLE Is the goal measurable? How will I measure progress and success?	
ADJUSTABLE Is the goal adjustable? When will I re-visit my goal to see if I'm on track or if I need to adjust my goal?	
REALISTIC Is the goal realistic? Is it tough enough to push me but within my reach so I can achieve it with hard work?	
TIMELY Is the goal timely? Do I have a deadline by which I should achieve this goal?	
SUPPORTED Do I have social support to help me with this goal?	

What actions/steps am I going to take to ensure I achieve my goal? In other words, what are my **process** goals?

1.	
2.	
3.	

What **barriers** do I foresee, and how may I avoid them?

1.	
2.	
3.	

Individual Goal Setting Example

Goal Statement:

I want to increase the number of ranked games I play per week from 3 to 7 during the course of the next month.

Process Goals

1.	Select specific days on which I will play.
2.	Map out the progression of the increase from week to week (e.g., 4 games on Week 1, 5 games on Week 2, etc.)
3.	Let teammates or friends know of my goal/plan and potentially get them to play with me to make the grind a little easier.

Barriers and Solutions to Them

1.	Barrier: Lack of time. Solution: Ensure that any relevant tasks or responsibilities have been taken care of.
2.	Barrier: Established goal too difficult to achieve. Solution: Re-evaluate/adjust the goal (e.g., increase number of ranked games from 3 to 6 instead).
3.	Barrier: Playing more ranked games than usual results in burnout. Solution: Find a way to reward yourself for taking steps towards your final goal and take the time to relax and unwind after stressful games.

You must frequently revisit the goals to ensure that you are on the right track and update them if needed. You can track your goals below.

	GOAL FOR THE WEEK	HAVE YOU MADE PROGRESS FOR THE WEEK?	NOTES
WEEK 1	Play 4 ranked games on Saturday evening	Y/N	
WEEK 2	Play 5 ranked games on Saturday evening	Y/N	
WEEK 3	Play 6 ranked games on Saturday evening	Y/N	
WEEK 4	Play 7 ranked games on Saturday evening	Y/N	

Goal Setting Tracking Sheet

Individual Goal(s)

Goal Statement:

Process Goals

1.	
2.	
3.	

Barriers and Solutions to Them

1.	
2.	
3.	

You must frequently revisit the goals to ensure that you are on the right track and update them if needed. You can track your goals below.

	GOAL FOR THE WEEK	HAVE YOU MADE PROGRESS FOR THE WEEK?	NOTES
WEEK 1		Y/N	
WEEK 2		Y/N	
WEEK 3		Y/N	
WEEK 4		Y/N	

Workshop 2: Arousal Regulation

Structure:

1. Welcome participants and distribute the **Arousal Regulation Information Sheet**, the **Breathing Worksheet** and the **Pre-competition Planning Worksheet**.
2. **15-25 min:** Introduction to Arousal Regulation.
    a. **3-5 min:** Differences between arousal and anxiety.
    b. **10-15 min:** Introduce Increasing Self-Awareness of Arousal Activity.
        i. The players perform a retrospective analysis of what they felt and thought prior to their best and worst performances using the Checklist of Performance States.
    c. **3-5 min:** Introduction of techniques for regulating anxiety.
3. **20-25 min:** Introduce Breathing Technique Activity.
    a. **3-5 min:** Introduce breath control as a way to achieve relaxation.
    b. **3-5 min:** In a group (3-5 participants), the players identify game situations in which they experience the greatest amount of anxiety.
    c. **2-3 min:** Players record their personal top 3 most anxiety-provoking situations in esports.
    d. **7-10 min:** Walkthrough of a diaphragmatic breathing activity:
        i. Take a deep breath (dig down into the belly) and imagine your lungs are divided into three levels.
        ii. Begin by filling the lower level of the lungs with air.
        iii. You will notice the diaphragm moving down slightly and forcing the abdomen out.
        iv. Next, fill the middle level of the lungs by expanding the chest cavity and raising the ribcage.
        v. Finally, fill the upper level of the lungs.
        vi. Notice a slight rise in the chest and shoulders.
        vii. Hold the breath for several seconds; then exhale slowly.
        viii. Repeat this exercise until you feel comfortable with this breathing technique.
        ix. To help enhance this technique, you may want to consider rhythmic breathing, in which you inhale for a count of four and exhale for a count of eight (a 1:2 ratio).
        x. This helps to slow the breathing and allows you to focus on the exhalation.
    e. **3-5 min:** Players record how they would use this breathing technique to help reduce anxiety for 1 of the 3 situations they listed.
        i. Where would they use it?
        ii. When would they use it?
        iii. What steps would they take to use this technique?
        iv. Repeat for the other 2 situations as homework on their own time.
        v. Emphasize that their practice of this technique could be used both in the leadup to the game, as well as during the game to refocus.
4. **15-25 min:** Introduce Pre-competition Planning Activity.

a. **5-7 min:** Individually, the players identify and record the things they do leading up to competitions, specifically how they prepare for these competitions, keeping in mind their retrospective analysis.
    i. How the players physically prepare for competitions (behaviors).
    ii. What the players think about while preparing for competitions (cognitions).
    iii. What the players feel leading up to the competitions (emotions).
b. **5-10 min:** As a group, the players share and discuss the ways in which they prepare for their competitions. They also discuss and take note of any additional actions or thoughts that they may like to add to their pre-competition routine (mention reviewing goals from last week and employing diaphragmatic breathing to reduce arousal).
c. **5-7 min:** The players write out their pre-competition plan using the provided timeline as an example:
    i. Shortly before the game (1-2 hours).
    ii. During the drafting/planning phase (10-30 min).
    iii. Right before the game.
    iv. During the game itself.
5. Remind the players that they are free to get help from the primary investigator at any point, and that they should continue tracking their goal setting, as well as practicing deep breathing and pre-competition planning.

Arousal Regulation Information Sheet

Arousal and Anxiety

What is arousal? – *A person's experience of physical and mental stimulation.*

- Includes things like a racing heartbeat, shallow breathing, sweaty palms, and tunnel vision.
- Both positive and negative events can trigger arousal.
- When a person experiences high arousal, they may interpret this arousal in a negative manner, which results in feelings of anxiety.

What is anxiety? – *A negative emotional state a person experiences that is characterized by worrying, apprehension, and high arousal symptoms.*

Useful Information About Arousal and Anxiety

- Performers at all competitive levels, ages, and in all contexts experience anxiety.
- Symptoms of anxiety aren't always a bad thing.
- Elite performers try to maintain their arousal level yet commonly use psychological skills (e.g., goal setting and self-talk) to interpret these symptoms as helpful rather than harmful.
- Performers who set only outcome goals (focus on competition and result) report higher levels of anxiety in comparison to performers who have performance or process goals.
- Performers experience greater anxiety at more important/critical games.
- Different performers require different levels of arousal for peak performance, and it is important that they learn to identify their own optimal level of arousal.

Self-Awareness of Arousal Activity

The first step toward controlling arousal levels is to be more aware of them during practices and competitions. This involves self-monitoring and recognizing how your emotional states affect your performance. As a player, you can probably identify certain feelings associated with top performances and other feelings associated with poor performances.

Instructions:

1. Think back to your best performance.
2. Try to visualize the game as clearly as possible, focusing on what you felt and thought at the time. Take some time to relive the experience.
3. Complete the items in the Checklist below.
4. After completing the Checklist for your best performance, repeat the process for your worst performance.
5. Compare your responses between the two performances.

If you wish to better understand the relationship between your thoughts, feelings, and performance, monitor yourself by completing this checklist immediately after each practice or gaming session over the next few weeks.

Checklist of Performance States – Best Performance

Played extremely well	1☐	2☐	3☐	4☐	5☐	6☐	Played extremely poorly
Felt extremely relaxed	1☐	2☐	3☐	4☐	5☐	6☐	Felt extremely anxious
Felt extremely confident	1☐	2☐	3☐	4☐	5☐	6☐	Felt no confidence at all
Felt in complete control	1☐	2☐	3☐	4☐	5☐	6☐	Had no control at all
Body was relaxed	1☐	2☐	3☐	4☐	5☐	6☐	Body was tense
Felt extremely energetic	1☐	2☐	3☐	4☐	5☐	6☐	Felt extremely fatigued
Self-talk was positive	1☐	2☐	3☐	4☐	5☐	6☐	Self-talk was negative
Felt extremely focused	1☐	2☐	3☐	4☐	5☐	6☐	Felt extremely unfocused
Felt effortless	1☐	2☐	3☐	4☐	5☐	6☐	Felt great effort
Had high energy	1☐	2☐	3☐	4☐	5☐	6☐	Had low energy

Checklist of Performance States – Worst Performance

Played extremely well	1☐	2☐	3☐	4☐	5☐	6☐	Played extremely poorly
Felt extremely relaxed	1☐	2☐	3☐	4☐	5☐	6☐	Felt extremely anxious
Felt extremely confident	1☐	2☐	3☐	4☐	5☐	6☐	Felt no confidence at all
Felt in complete control	1☐	2☐	3☐	4☐	5☐	6☐	Had no control at all
Body was relaxed	1☐	2☐	3☐	4☐	5☐	6☐	Body was tense
Felt extremely energetic	1☐	2☐	3☐	4☐	5☐	6☐	Felt extremely fatigued
Self-talk was positive	1☐	2☐	3☐	4☐	5☐	6☐	Self-talk was negative
Felt extremely focused	1☐	2☐	3☐	4☐	5☐	6☐	Felt extremely unfocused
Felt effortless	1☐	2☐	3☐	4☐	5☐	6☐	Felt great effort
Had high energy	1☐	2☐	3☐	4☐	5☐	6☐	Had low energy

Techniques for Regulating Anxiety

Goal Setting (remember from Workshop #1): In order to reduce heightened states of anxiety, performers should set small (process goals) that allow the performer to concentrate on the smaller tasks they need to accomplish that will lead to larger accomplishments. Additionally, performers should avoid outcome goals (emphasis is on competition with others) because the opponents' performance is out of their control.

Pre-competition Routines: Refers to a series of actions and thoughts a performer carries out prior to the actual competition. Pre-competition routines are often used by performers to help them interpret the anxiety symptoms they experience as helpful.

Breathing: A breathing technique that has been labelled controlled breathing, diaphragmic breathing, or deep breathing has been reported to be beneficial for reducing anxiety in performers. In short, the technique requires that as the performer inhales their abdomen rises slightly, and then when they exhale their abdomen and chest goes down slightly. This technique reduces anxiety by allowing the performer to take longer and deeper breaths and potentially by diverting their attention from the elements that are making them feel anxious.

Benefits of Anxiety Regulation May Include:

- Reduces physiological symptoms of anxiety including: increased heart rate, quick and shallow breathing, and sweaty/clammy skin
- Decreases anxiety or nervousness
- Reduces negative thoughts
- Increases self-confidence
- Increases performance
- Goal attainment

Breathing Worksheet

What is Diaphragmatic Breathing?

Diaphragmic breathing, also called centered breathing, belly breathing, or deep breathing is essentially a more efficient way of breathing that helps to slow down someone's breathing when they are feeling anxious. This means that when you inhale, the diaphragm contracts and your stomach should rise slightly. When you exhale, your chest and stomach should fall slightly. Many adults do this incorrectly, while children innately breathe the proper way.

Why should performers use Diaphragmatic Breathing?

This breathing technique is an easy technique that performers of all ages can do with limited training to reduce feelings of anxiety by decreasing the physical symptoms of anxiety.

What are the benefits of Diaphragmatic Breathing?

- Decreases negative symptoms of anxiety including fast heart rate, quick and shallow breathing, sweaty palms.
- Reduces anxiety and nervousness.
- Distracts the performer from negative thoughts.
- Improves performance.

How can you maximize the effectiveness of Diaphragmatic Breathing?

- First practice this technique when you are calm.
- Find a quiet place with limited distractions.
- Sit down and take the weight off your shoulders, but try not to slouch.
- Inhale twice as long as you exhale.

Step-by-step walkthrough of Diaphragmatic Breathing:

1. Take a deep breath (dig down into the belly) and imagine your lungs are divided into three levels.
2. Begin by filling the lower level of the lungs with air.
3. You will notice the diaphragm moving down slightly and forcing the abdomen out.
4. Next, fill the middle level of the lungs by expanding the chest cavity and raising the ribcage.
5. Finally, fill the upper level of the lungs.
6. Notice a slight rise in the chest and shoulders.
7. Hold the breath for several seconds; then exhale slowly.
8. Repeat this exercise until you feel comfortable with this breathing technique.
9. To help enhance this technique, you may want to consider rhythmic breathing, in which you inhale for a count of four and exhale for a count of eight (a 1:2 ratio).
10. This helps to slow the breathing and allows you to focus on the exhalation.

Breathing Worksheet

Instructions

Please list 3 situations related to your performance in *League of Legends* that make you feel most nervous.

1.	
2.	
3.	

For each situation listed above, explain how you would use the breathing technique you learned to reduce the amount of anxiety you feel.

Situation #1:

Where would you use it?

When would you use it?

What steps would you take to use this breathing technique?

Situation #2:

Where would you use it?

When would you use it?

What steps would you take to use this breathing technique?

Situation #3:

Where would you use it?

When would you use it?

What steps would you take to use this breathing technique?

Breathing Example

Instructions

Please list 3 situations related to your performance in *League of Legends* that make you feel most nervous.

1.	At the start of/leading up to the match.
2.	During the late game fights/pushes.
3.	When giving up unnecessary deaths.

For each situation listed above, explain how you would use the breathing technique you learned to reduce the amount of anxiety you feel.

Situation #1: At the start of/leading up to the match.

Where/when would you use it?

Just prior to the game starting, after the drafting phase has finished.

What steps would you take to use this breathing technique?

Take off headset, look away from the screen, perhaps out the window into the distance. Perform the diaphragmatic breathing technique for 3-4 cycles.

Situation #2: During the late game fights/pushes.

Where/when would you use it?

During a quiet moment in the game, between teamfights/pushes.

What steps would you take to use this breathing technique?

While keeping an eye on the state of the game, take a few diaphragmatic breaths, remembering to focus on what must be done to win the game.

Situation #3: When giving up unnecessary deaths.

Where/when would you use it?

Right after giving up an unnecessary death.

What steps would you take to use this breathing technique?

If the game status allows, take off headset, look away from the screen and use diaphragmatic technique for 3-4 cycles to reset. Accept that misplays happen and focus on what must be done to win the game.

Pre-competition Planning Worksheet

What are Pre-competition Routines?

- Sequence of actions or thoughts that you carry out before a competition.
- These actions or thoughts must relate to the activity you are about to perform.
- How do you prepare physically? How do you prepare mentally?

What are the Potential Benefits of Using Pre-competition Routines?

- Improved performance.
- Increased consistency of skill execution.
- Enhanced ability to focus.
- Improved concentration.
- Decreased impact of distractions.
- Stops performers from dwelling on the negatives.
- Replaces irrelevant thoughts with relevant thoughts.

Tips for How to Make the Most of Pre-competition Routines

- Be consistent in what you do and think.
- The actions and thoughts in your routine should relate to your actual performance.
- Pre-competition routines should be individualized to you.
- You should practice your routines in training leading up to competition.
- It is completely normal to adjust your routine based on changes you make to your technique or to try a new strategy that may work better for you.

Instructions:

Individually, identify the ways in which you prepare for your games and competitions (your pre-competition routine), focusing on what you **do**, **think**, and **feel** leading up to and during competitions (your Checklist of Performance States may help you in this). The following questions may also help you:

- What is the purpose of your preparations (raising or lowering arousal)?
- Do you listen to music to relax or get psyched up?
- Do you play a game to warm up?
- Do you review previous games?
- Do you look up the stats of your opponent?

What do you do?	
What do you think?	
What do you feel?	

As a group, share and discuss the ways in which you prepare for your games and competitions with your teammates. Discuss and take note of any additional actions or thoughts that you would

like to add to your pre-competition routine (e.g., reviewing goals, employing diaphragmatic breathing).

Once you've finished your team discussion, write out your pre-competition plan using the provided timeline as a template. You can personalize the time points to suit yourself.

	Shortly before the game/competition (1-2 hours)	During the drafting/planning phase (10-30 min)	Right before the game/competition	During the game/competition itself
Doing				
Thinking				
Feeling				

Pre-competition Plan Example

	Shortly before the game/competition (1-2 hours)	During the drafting/planning phase (10-30 min)	Right before the game/competition	During the game/competition itself
Doing	Make sure the hardware/internet is ready to go. Listen to calming or exciting music. Ensure no distractions will happen during the game itself. Scout out the opponents' strong heroes, frequent picks.	Warm-up for the upcoming game using the practice tool. Discuss drafting and play strategies with the team.	Finalizing the game strategy with the team. Picking appropriate runes. Use the diaphragmatic breathing routine.	Executing the game strategy. Communicating with the team. Use diaphragmatic breathing if feeling too stressed.

Thinking	Begin thinking through each plan of my game (start/middle/end).	Thinking of opponents' and own team's strategies, potential goals to achieve during the game.	Visualize/think about the coming game. Think Positive.	Planning around any obstacles or difficulties. Focus on what you need to do to win the game.
Feeling	Calm.	Confident.	Confident. In tune with the team. Prepared. Sharp.	Confident in self and team. In the Zone.

Workshop 3: Self-Talk

Structure:

1. Welcome participants and distribute the **Self-Talk** info sheet, the **Self-Talk Worksheet**, and the **Self-Talk Tracking Sheet**.
2. **10-15 min:** Deliver Presentation: Introduction to Self-Talk.
   a. What is self-talk?
   b. Functions of self-talk:
      i. Instructional self-talk.
      ii. Motivational self-talk.
   c. Recommendations for using self-talk:
      i. Six self-talk dimensions:
3. **10-15 min:** Introduce Increasing Awareness of Self-Talk Activity.
   a. **5-7 min:** Individually, the players reflect on what types of self-talk statements they've made prior to and during their best and worst performances in the past (building on the Increasing Self-Awareness of Arousal Activity from Workshop #2).
      i. What did the players say exactly?
      ii. At what points in the game did they say it (i.e., when did they say it)?
      iii. Why did they say it?
      iv. How did the statements impact them personally? The team as a whole?
      v. Was the self-talk overt (i.e., out loud) or covert (i.e., in their minds)?
   b. **5-7 min:** As a group, the players discuss the ways they used self-talk in their past performances. Was it helpful or harmful to their gameplay/performance? What about the performance of their teammates (if overt)?
4. **5-10 min:** Introduce Creating Personal Self-Talk Statements Activity.
   a. Players think about and discuss different situations where they can use self-talk, and create specific self-talk statements they'll use.
      i. The players should fill out 1-2 positive self-talk statements to use in the future.
5. **5-10 min:** Introduce Dealing with Negative Self-Talk Activity.
   a. Negative Thought Stopping exercise.
   b. The players should fill out 1-2 strategies for dealing with negative self-talk.
6. **5-10 min:** Introduce the Self-Talk Tracking Activity.
   a. A tool to track future uses of self-talk to give the players a better understanding of their current use of self-talk.
      i. What do they say?
      ii. When do they use it?
      iii. Why do they use it?
      iv. The effect self-talk has on their behaviours, cognitions, and feelings. The more detail, the better.
7. **3-5 min:** Addressing questions/concerns, reminding the players that they should be tracking goal setting, practicing deep breathing, and now self-talk. Also remind them that

they are free to get in contact with me at any point if they need help regarding the information in any of the workshops.

Self-Talk Information Sheet

Overview of Self-Talk

What is self-talk? – *Put simply, it is all of the things you say to yourself.*

You engage in self-talk any time you carry on an internal dialogue with yourself, such as giving yourself instructions and reinforcement or interpreting what you are feeling or perceiving. This dialogue can occur out loud (i.e., overt) or inside your head (i.e., covert). Self-talk becomes an asset when it enhances self-worth and performance. Such talk can help the performer change cognitions, generate positive emotions, stay appropriately focused, and cope with difficulties.

Functions of self-talk. Self-talk serves two basic functions in any performance setting:

1. **Instructional** self-talk is used by performers for skill development, skill execution, strategy development, and general performance improvement. Instructional self-talk statements remind the performer to pay attention to the details of their performance (e.g., cue words "flash and stun" or "Q then R").
2. **Motivational** self-talk is used for three purposes:
    i.   For mastery – building self-confidence, staying focused, being mentally ready, coping in difficult circumstances (e.g., "we got this");
    ii. For arousal – psyching up, relaxing (e.g., "LET'S DO THIS!" or "breathe"); and
    iii. For drive – increasing effort, increasing drive, reaching their potential (e.g., "let's keep it up!").

Six dimensions of self-talk. These should be considered when designing a self-talk plan and coming up with your own self-talk statements.

1. **Valence (negative or positive):** There is a common belief that positive (upbeat and self-validating) self-talk is desirable as it tends to facilitate greater motivation, and goal achievement. In contrast, negative (harsh and critical) self-talk is thought to have crippling effects.
2. **Verbalization (overt or covert):** There are no large differences between the effectiveness of overt self-talk (i.e., statements expressed out loud) and covert self-talk (i.e., statements expressed only in your head), however it is known that both coping statements and goals are more effective if they are publicly known. Therefore, it's recommended that some of the self-talk statements be overt.
3. **Self-determination (assigned or freely chosen):** Statements can be conceptualized as assigned (usually by a coach or a consultant) or freely chosen by the performer. It is recommended that the coach, the sport psychology consultant, and the performer collaborate in the development of the performer's self-talk statements.
4. **Directional interpretation (motivating or de-motivating):** Self-talk statements can be motivating or de-motivating to a performer. It is recommended that performers use self-talk they perceive as motivating to their performance and goals.
5. **Directional intensity (not at all or very much so):** In addition to being motivating, self-talk statements should also be interpreted as *very* motivating in order to have the greatest positive effect on performance.
6. **Frequency (often or never):** This final dimension pertains to how often performers use self-talk. As self-talk is a skill, it must be practiced in order for the performer to make the

greatest use of it. Therefore, it is recommended that self-talk statements are used as much as possible in both practice and competition.

How to Maximize the Effectiveness of Self-Talk

- Use positive self-talk.
- The verbal cues (words or phrases) performers use should be brief, simple sounding words, that are logically associated with the task being performed, and flow with the rhythms and/or timing of the task.
- The verbal cues performers use should also be MEANINGFUL to them.
- Use it as frequently as possible.
- Performers should seek assistance in designing their self-talk program, especially when new to using self-talk or to a particular skill or strategy.
- Use both instructional and motivational self-talk.
- Self-talk should be used in conjunction with other psychological skills, such as goal setting (Workshop #1) or arousal regulation (Workshop #2), in order to direct focus.

Benefits of Self-Talk

- Enhanced skill development, skill execution, strategy development, and strategy execution
- Improved attentional focus
- Increased self-confidence
- Decreased cognitive anxiety and increased relaxation
- Helps performers get psyched-up
- Increased drive, motivation, and effort
- Helps cope with difficult circumstances

Self-Talk Worksheet

Increasing Awareness of Self-Talk

Similarly to controlling your arousal level, the first step in gaining control of *self-talk* is to become **aware** of what you say to yourself. Most people aren't aware of their thoughts, much less the impact they have on their feelings and behaviors. As a player, you can probably recall what you've said or thought both during your best performances as well as during your worst performances.

Instructions:

1. Individually, think back to your best performance.
2. Try to imagine the game as clearly as possible, focusing on what you said and thought prior to and during the performance. Take some time to relive the experience. Use the following questions for guidance:
   a. What did you say exactly?
   b. At what points in the game did you say it (i.e., when did you say it)?
   c. Why did you say it?
   d. How did the statements impact you personally? The team as a whole?
   e. Was the self-talk overt (i.e., out loud) or covert (i.e., in your mind)?
3. Write down the self-talk statements you've used in the appropriate space below.
4. After doing this for your best performance, repeat the process for your worst performance.
5. Then, as a group, discuss the ways you've used self-talk in your past performances. Was self-talk facilitative or debilitative to your gameplay/performances? If it was overt, what effect did it have on the performance of your teammates?

Best Performance

What?	When?	Why?	Impact?	Overt or Covert?

Worst Performance

What?	When?	Why?	Impact?	Overt or Covert?

Creating Personal Self-Talk Statements

Now that you have some awareness of the self-talk you've employed in the past, you can create 1-2 of your own self-talk statements to be used in the future practices and games. Refer back to **Self-Talk Information Sheet** for how to best design your self-talk statements.

Quick tips for creating self-talk statements:
- Phrase self-talk positively: "I can...", "I will..." "I am..."
- Use words or phrases that are brief and simple to say.
- Use commands that trigger your goal behaviours: "Breathe" or "Relax"
- Use words that are meaningful to you personally.
- Use both motivational and instructional self-talk.

What should I tell myself?

- If you're not sure of what sorts of things to tell yourself, start by making a list of the affirmations (positive statements) you can make about yourself, your team, your abilities, your training (e.g., I know this champion like the back of my hand. We play this comp all the time. We are prepared. Nerves before a game mean that I am excited and motivated to compete). These affirmations can be turned into short phrases or words that will motivate you before and during the game.
- Create a list of technical cues and strategic cues you want to remember (e.g., Keep an eye on cooldowns. Watch for openings. Call out the timings). You can condense these cues into short instructional phrases or words that will remind you what you need to do during the game.
- You may brainstorm your options as a group; however, you should remember that these self-talk statements **must be specific to you**.
- These statements may relate to the specific goals you've designed in Workshop #1.
- These statements can also be used in tandem with the Diaphragmatic Breathing exercise you learned in Workshop #2.

Statements I will use:	When I will use them:	Purpose of the statement:

Personal Self-Talk Statements Example

Statements I will use:	When I will use them:	Purpose of the statement:
(Motivational) "We can bring it back."	When I feel myself getting tilted from losing important team fights.	To calm myself and re-focus on winning the game.
(Instructional) "Blink, Shackle, Ult, Silence"	When initiating a combo while playing a specific hero/champion.	To remember to use the abilities and items in the right order.

Dealing with Negative Self-Talk

If you find that your self-talk distracts you, is detrimental to your performance, or that it has a negative impact on your teammates, it must be dealt with. Here you can learn how to deal with negative self-talk.

Negative Thought Stopping

Negative thought stopping involves briefly concentrating on undesired thoughts/expressions, and then using a cue or trigger to stop the thought and switch to a positive or more appropriate thought. The trigger can be a simple word like "Stop" or an action like snapping your fingers. Some performers also try imagining a big flashing red light or stop sign, or incorporate a few deep breaths to clear their mind. The most effective cues are the ones that work best for you.

When you become aware of negative self-talk, you should acknowledge the message, and replace it with a phrase (a positive counter) that combats the negative information presented, reflecting it back into positive motivation. The positive statements must bring you back to the present time and personal control of the situation.

Coupling some type of relaxation (see Workshop #2) with this technique may be helpful, considering that negative thoughts often occur when you are stressed. For example, you might stop your negative thoughts, take a deep breath, and substitute the positive statement as you feel relaxation spreading with the long exhalation.

Using the instructions and the table below, fill out 1-2 strategies for dealing with negative self-talk.

Instructions:

1. Think about some of the negative self-talk you might have said to yourself or expressed while playing (e.g., "I am inting" or "Cringe game").
2. Identify a helpful, positive statement (positive counter) that you will use instead (e.g., "We're within reach, we can win this").
3. When you catch yourself using negative self-talk, try saying "Stop" (or whatever cue you have chosen) either overtly or covertly.
4. Repeat the positive counter. This also can be done either overtly or covertly, however for statements that concern the whole team, an overt positive counter can help the entire squad.

Negative Self-Talk	Cue Word or Trigger Action	Positive Counter

Negative Thought Stopping Example

Negative Self-Talk	Cue Word or Trigger Action	Positive Counter
"I am inting"	Clap your hands, take a few moments to breathe.	"Think forward." (Accept that the deaths have happened and refocus on what you need to do at this moment.)
"Teammates are making misplays"	Crack your knuckles, imagine a stop sign.	"We're still in this." (Accept that mistakes and misplays happen, but that dwelling on them isn't going to help you now. Focus on what you need to do now, and how you can coordinate with your teammates so you all can succeed.)

Self-Talk Tracking Sheet

While this workshop presented you with an initial introduction to self-talk, you must continue to practice this skill and track how you employ self-talk in your gameplay. Tracking your use of self-talk is an essential part in becoming more proficient in its application. This tracking activity is designed in order for you to get a deeper understanding of your current use of self-talk, including: What do you say? When do you use it? Why do you use it? And the effect it has on your behaviours, thoughts, and feelings. Remember, the more details you include, the better.

Instructions:

1. Use the attached worksheet to record your self-talk across a typical week. Depending on how much self-talk you do, you may need to use more than one sheet.
2. Record WHAT DO YOU SAY to yourself when playing *League of Legends*. This includes what you say to yourself either in your head or out loud. Be sure to include all self-talk you used whether positive or negative, instructional or motivational and anything that may have distracted you.
3. Record WHEN DO YOU SAY IT. Include whether it was in training or competition. When you said it in relation to the actual gameplay (e.g., prior to the game, during the game, at a specific point in the game, after the game, etc.).
4. Record WHY DO YOU SAY IT. This may be more challenging, but try to identify why you used the self-talk, were you trying to focus? Were you motivating yourself? Were you trying to relax yourself?
5. Record the EFFECT self-talk has on your behaviors, thoughts, and feelings.
6. If the self-talk statements you record are awkward, unhelpful, or negative, consult the earlier sections of this workshop for information on how you can alter the self-talk statements into positive, helpful forms.

Self-Talk Tracking Sheet

What do you say?	When do you use it?	Why do you use it?	How effective is it?

Self-Talk Tracking Sheet Example

What do you say?	When do you use it?	Why do you use it?	How effective is it?
"This sucks." (Example of Negative Self-Talk)	Game is not going my way, losing in objectives and deaths.	Expression of frustration with the game state. A way to let out frustration.	I become more frustrated and negative thoughts tend to increase.
"Relax." (Example of Motivational Self-Talk)	Before an important match	To calm myself down before the game.	A way to remember to slow down my breath, think about I want to do in the game.
"Blink, Shackle, Ult, Silence." (Example of Instructional Self-Talk)	When initiating a combo while playing a specific hero/champion.	To remember to use the abilities and items in the right order.	It reminds me to use the proper sequence of abilities and items when playing my hero/champion.

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