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# Psychological Skills Training Manual for eSports Athletes

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Psychological Skills Training Manual

For eSports Athletes

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Master's Project

Submitted to the School of Human Movement, Sport and Leisure Studies

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In

Sport Administration

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## Abstract

eSports are a new category of competitive games, where groups of players compete against others in competitive video games on personal computers and gaming consoles. These games can be individually-based or team oriented. This project applies theoretical and empirical research in sports psychology to develop a psychological skills training manual for eSports athletes and coaches. In particular, tenets of Achievement Goal Theory and relevant research are reviewed and discussed. This manual focuses on the select psychological skill strategies of goal setting, imagery and positive self-talk with an aim to minimize potential adverse affects, cognitions, and behaviors in eSport athletes. eSports athletes have been found to report symptoms depression, anxiety, and difficulties with socialization. An athlete trained in imagery and other cognitive techniques (e.g., negative thought stoppage) can reduce performance-related anxiety typically associated with fear of failure. Also, appropriately short and long-term goals that are focused primarily on learning and self-referenced improvement (i.e., mastery-approach) have the capability of improving self-confidence and continued motivation. Thus, this manual, when successfully applied, will provide athletes with a selection of skills to enhance their functioning in achievement situations, and these more positive psychological states should be associated with an improvement in performance.

## Introduction

In sports, the physical strength and ability of the athletes is constantly on display and is the point of much discussion among sport reporters and commentators, but often the mental prowess of these athletes is not discussed. Athletes and coaches have a history of comparing the mental skills of their athletes to their physical gifts, often saying they are of equal importance to their success (DeSantis, 2016; Kredich, 2016). A Psychological Skills Training Manual (PST) offers the foundation for training athletes in mental skills where they previously have not been initiated and teaching them to leverage these skills to drive their performances to new heights.

Performance has been improved through the use of psychological skills such as goal-setting (Bortoli, Bertollo, Comani, & Robazza, 2011; Cervello, Rosa, Calvo, Jiminez, & Inglesias, 2007; Kingston, & Hardy, 1997) and imagery (Smith, Holmes, Whitemore, Collins, & Devonport, 2001). However, rather than focus on just one psychological skill, a PST manual should integrate a combination of skills to form a more comprehensive manual for learning a set of mental skills. These manuals have been demonstrated to have a greater effect on athletes than only learning one of these skills (Burton, & Keller, 2010; Van Guenther, Hammermeister, Blakeslee, & Goff, 2007; Thelwell, Greenlees, & Weston, 2006). It is important to note that these skills, and as an extension this manual, is not a miracle formula or quick fix. As with any other skill, they require practice, and as Frey, Laguna, and Ravizza (2003) put it, "just as physical skills require time, patience and practice, mental skills require demands as well" (p.112). While these skills are typically taught to those in the traditional sporting world, those are

not the only people who may benefit from them. New athletes are emerging from the entertainment industry, and this competitive setting is called eSports.

The entertainment industry is traditionally populated by music, television, movies and theater. However, over the past two decades or so a new genre has taken root in this industry and that is video games. The video game industry is the driving force behind eSports, the newest form of competitive gaming. Competitive gaming is nothing new. For example, Gencon (Lake Geneva Gaming Convention) existed from 1968, where games such as Dungeons and Dragons were played competitively for decades among hundreds and thousands of gamers (Laws, 2007). Eventually, these contests evolved into LAN (Local Area Network) tournaments where players would bring their 'rigs' (personal computers or consoles) to a central location to play against such like-minded individuals in games such as 'Starcraft' on PC, and 'Super Smash Brothers' on the Nintendo 64 (Bellos, 2007; Smith, 2016). However, eSports has made the transition from events held quarterly or yearly in these LAN formats, to full seasons of competition to mimic other professional sports. The current power three of online competitive gameplay are League of Legends (LoL), Defence of the Ancients (DotA), and Counter-Strike: Global Offensive (CS:GO). They are leveraging the changes in technology to allow teams from Asia-Pacific regions (Australia, New Zealand) to battle it out with European and North American teams every week online. They then cap off these seasons in the major live events, such as the Call of Duty Experience, and the League of Legends world championships. These events have been known to pack entire stadiums and theaters, including Madison Square Gardens and the Chicago

Theatre. (Hopper, & Asiedu, 2017; Porter, 2015).

This new format has allowed the players an opportunity for income by making use of the evolving technology provided by companies such as Youtube and Twitch. Both companies provide a way for competitors to live stream their gameplay during their weekly competitive matches and their practice hours. These live streams are archived and available anytime to fans, which provide tips and tricks of the viewer's favorite 'pro' plays. This video footage adds a dimension of audience involvement not seen in any other sport, and it forms the backbone of many professional player's incomes. The streaming services have different ways of generating revenue. For example, Youtube monetizes their videos by allowing advertisements to play before and during the videos. A percentage of this revenue is shared with the streamer who provided the content. Twitch provides a different model by allowing viewers to 'subscribe' to their favorite streamer at a cost prescribed by the streamer. This model allows the viewer to support their favorite personality, receive instant notifications when they begin streaming, and often provides access to unique chat options with the streamer. The rise of these streaming networks' user base has revealed the marketing potential of an industry that once garnered little attention. Brands such as Coca-Cola, Red Bull, and even Turtle Wax have taken notice of these events and begun sponsoring events as well as individual teams that compete in these events (Casselman, 2015; Gaudiosi, 2016). As corporate sponsorships increase, the prize money becomes larger, which typically draws higher skilled competitors and more viewers for these competitions.

Newzoo, a company specializing in market research for eSports and the broader

game industry, reports that eSports are now more highly viewed by 20-35-year-olds than baseball and hockey. The growth in viewers has shifted from two million viewers in 2010 to an incredible 35 million in 2015 (Gaudiosi, 2015). Revenues are increasing to match, with Newzoo reporting global revenues of \$493 million in 2016, and awarding \$61 million in prize money in 2015. Consequently, the prize money awarded at major competitions has increased, with million dollar prize pools available at many events for multiple games. While corporate sponsorship is often the primary source for the prize pool, crowdfunding may be a source in some instances as in the case of Halo (Lingle, 2015). As more money has entered the scene, competitive gaming organizations have formed that field teams to compete at every competition. These organizations recruit athletes to sign and play for their teams to enhance their performance at these major competitions. These competitors have been labeled eAthletes, and they are the stars of the eSport world.

Typical eAthletes are between the ages of 23 and 27, a median of around 24 years of age, with few being able to compete at this age as reaction times slow, and eyesight fades (DiChristopher, 2014; EEDAR, 2015). This environment has created massive payouts for athletes who before this shift, were more accustomed to gaming in a bedroom alone instead of in a stadium with thousands of live viewers, and millions more online. This has created a unique environment for these athletes who are looking to make more than the average Olympic athlete (Duran, 2016; The Guardian, 2012). Players competing at the professional level in some of these games stand to make millions. In fact, many of these gamers already have made over two million in prize

money alone, not counting corporate sponsorships and wages from their gaming organization. Their young age and high incomes can cause problems for these athletes, however, as many studies have found correlations between these gamers and introversion, as well as neuroticism, in the framework of the Big Five personality model (Bean, 2015; Braun, 2016; Montag, 2011).

In the big five model, an introvert is often considered shy and typically avoids the company of others (Costa, & McCrae, 1985). In group settings, introverts may also perceive lower levels of energy (Costa, & McCrae, 1985). Thus, the introvert may have a difficult time because all of these video games have one thing in common; they are team-based. In order to be competitive, teams must practice and communicate with many of them cohabitating and spending long hours (8+ daily) playing and perfecting their roles and playstyle. Neuroticism is associated with high levels of anxiety and depression. As the sport evolves and these players are thrust onto center stage with viewers around the world, these issues will only get worse for the introverted and neurotic athlete, especially when they lack the training/education in preparing for these events that more stereotypical athletes receive in their experiences. With this in mind, eSport athletes, coaches, and managers are beginning to seek ways to combat the adverse effects on the athletes. Based on sports psychology theory and research, a Psychological Skills Training manual would be helpful in this effort. These programs have been shown to provide beneficial increases to performance and lowered anxiety in athletes in stereotypical sports (Van Guenther et al. 2010; Thelwell et al. 2006). This PST manual will identify and discuss some skills for a consultant to teach to eAthletes,

to help prepare them for the emerging world of eSports.

A typical PST program will have a number of stages that the athlete may or may not be made aware of these stages. Typically, these steps include education, acquisition, and practice, in that order (Van Guenther et al., 2010). In the education stage, the sports psychology consultant aims to inform athletes about the goals and potential outcomes of a proper PST program. In this stage, the consultant may provide anecdotal evidence of major professional athletes using the skills and discuss how the skill(s) may be applied to them. In the acquisition stage, the consultant will help the individual learn the skills. Both the coach and athlete are often trained by the consultant in the skills they are to learn. In the practice stage, the individual begins to implement the learned skills. Ideally, implementation will be initiated in practices before applying them in a competitive scenario.

As with learning any set of new skills, it is important to dedicate adequate time, as well as a conscious effort towards practicing the skills and making adjustments when necessary. With this in mind, some research has suggested that periodization can be used to introduce new skills in stages, to allow adequate time to learn each skill and put it into practice. Periodization is a framework that divides the mental training program into phases. Periodization is aimed to combat some of the same negatives associated with physical training programs such as burnout, especially mental fatigue (Van Guenther et al., 2010). These periods are typically predetermined by the consultant upon initial meetings with the coaches and athletes, and these periods often correspond with pre-season training (education phases), in-season application (peak phases), and

post-season refining and feedback work (assessment phases) (Van Guenther et al., 2010). Periodization has also been suggested to produce better long-term adherence to a program as well as aid in hitting 'peaks' during specific competitive phases.

Periodization is left up to the discretion of the consultant, athletes and coaches and further discussion of this concept is outside the scope of the knowledge presented in this manual. Nevertheless, the types of goals that eAthletes set during practice and competition are important considerations for the successful implementation of a PST program.

Mental skills training for athletes is not a task that is accomplished quickly, or with little planning and forethought. Mental skills like those presented in this manual are the result of theory, and research over the past three decades. At the core of the manual exists the prevailing theory for achievement goals, which has influenced the selection of the skills and strategies presented in this manual. For a developed understanding of the information provided in the manual, a functional understanding of Achievement Goal Theory is also necessary.

## **Achievement Goal Theory**

### **Introduction**

The practical applications contained in this PST manual are based on the theoretical underpinnings of Achievement Goal Theory (AGT). This theory suggests that human behavior is driven, in part, by our motives to show competence on achievement tasks. In Nicholls paper (1984) the assumption is made that, "in achievement situations, each individual's purpose is to demonstrate high ability and avoid demonstrating low ability" (p. 332). Goal selection is often a subconscious series of thoughts that impacts how we as humans make choices towards tasks. Thus, a person will, typically, select tasks that are most likely to showcase his or her ability, as such they make subjective judgments upon their chance of success, and when an attractive goal is not present, they default to selecting a task that otherwise avoids highlighting incompetence.

How an athlete approaches and evaluates a task is influenced by that athlete's goal orientations, which may be considered task or ego-oriented. Task-oriented individuals base their success upon the mastering of skills related directly to the task. Ego-oriented athletes focus upon their displays of skill compared to those around them, such as winning a competition or outperforming particular opponents. Orientations are a disposition that directs our actions based upon our natural tendencies. However, these goal orientations are considered orthogonal constructs, meaning that an athlete may be high or low in either orientation at the same time. For example, an athlete can be ego-oriented, which would cause him to gravitate towards the use of ego-based

goals, but still be able to set and achieve task-based goals. How an athlete reacts in a situation is known as their involvement and can differ from their typical orientation.

Nicholls (1984) states, "When individuals are task-involved, they see more effort as leading to more mastery and higher ability... when individuals are ego involved, their chances of demonstrating ability depend on the ability of others" (p. 332-333).

This means that in the case of an athlete who is ego-oriented they will typically measure their relative success against the skills of their competition. When an athlete is task-oriented, they typically assess their success upon improvements on their past performances and their perceived mastery of the skill. A task-oriented individual will gravitate towards making improvements to themselves, while ego-oriented individuals will focus on the result of the competition with their peers along with other social comparisons. It has been suggested that being task-involved brings higher levels of enjoyment, and positive experience for athletes (Bortoli, Bertollo, Camani, & Robazza, 2011) which, given the increased likelihood of depression and anxiety within gamers, should be encouraged to help combat these effects within this community.

An athlete's involvement is often influenced by the environment an athlete competes and practices in, and this is referred to as the motivational climate. It is the role of the coach, as well as the athlete, to work to promote a task-involved environment for the athletes, when appropriate. In other words, having some ego involvement is not necessarily bad when coupled with task-based goals. For example, ego goals would be appropriate when trying to make a team tryout or when competing for a national championship. Though these two constructs may appear to be mutually exclusive to

each other, it is not the case. Many individuals form a fluid balance between the two involvements, regardless of their dispositional orientation, attempting to not only assess their abilities against themselves (controlling the controllables) but also striving to exhibit a higher degree of skill than their opponents. It has been suggested that there is a greater degree of positive effect in athletes who are more task-involved than those who are more ego-involved, but the athletes had some level of involvement of each type of goal (Bortoli, Bertollo, Camani, & Robazza, 2011; Duda, & Ntoumanis, 2005).

A task-involved motivational climate can be hard to promote in a professional sports arena because it takes the focus away from winning, which is where stakeholders will typically expect the focus to be. In a new sport, winning and making a name for an organization is paramount for stakeholders to make good on investments which make it especially hard to promote a task based environment. Team owners are seeking corporate sponsorships to expand their training facilities or to acquire the funds for team based housing. Without winning records, it is hard to attract the necessary attention from corporate sponsors. Therefore, it is important for coaches to understand how ego and task orientations, involvement, and motivational climates may foster a more task-involved environment as a way to promote skill improvement.

The following chapters of this PST handbook aim to teach a series of psychological skills for application to eSports. This manual is not intended to encompass all possible activities or to teach all the skills in a consultant's repertoire, but it does provide the groundwork for teams to improve the mental skills of their eAthletes.

## Review of Literature

There is a plethora of research examining Achievement Goal Theory in sports, stemming most notably from the work of Nicholls (1984) on the relationship of goal orientations and involvement on motivation and performance. Since this seminal work, there has been further research testing the implication of this theoretical framework, with researchers exploring potential links between goal orientation, goal involvement, and performance in task versus ego situations (Cervello et al. 2007; Spray, Wang, Biddle, & Chatzisarantis, 2006). Some of these works also examine the relationship between goal involvement and motivational climate and positive effects in youth sports as a way to increase continued participation in the sport (Bortoli, Bertollo, Comani, & Robazza, 2010; Cervello et al. 2007; Jaakkola, Ntoumanis, & Liukkonen, 2016).

**Youth sport and positive effects.** The works of Bortoli et al. (2010) and Jaakkola et al. (2016) reported that high levels of performance in youth athletes were associated with positive effects. Evidence presented in the work of Nicholls (1984) directed researchers attention to theorizing that a task that is moderate, or hard, to achieve would elicit high levels of effort and performance from task-involved athletes. This was supported by Bortoli et al. (2010) who found that athletes with greater task orientation and, specifically higher task involvement, had a higher chance of experiencing pleasant psychosocial states which were associated with high actual and perceived performance. Jaakkola also theorized that the path to enjoyment in youth sport would be through task orientation and task involvement. The findings supported this hypothesis but did not suggest that an ego orientation and involvement

resulted in poor, or lesser enjoyment. They theorized the conclusions regarding ego orientation and involvement was a result of their subject pool, who at the time of the study were used to competing in high risk, high reward scenarios with large amounts of pressure which were inconsistent with other research on the matter.

**Motivational Climate and Goal Orientation.** Motivational climate refers to the achievement environment created around the player by a number of social factors. In work by Cervello et al. (2007) researchers found that parents and friends could influence a motivational climate, but the primary source of influence (90%) was the coach. Motivational climates are described by Cervello et al. (2007) and Bortoli et al. (2010) as being either task-involved or ego involved. In task-involved motivational climates, athletes reported feeling best when they were putting in the maximal effort, or helping their teammates (Cervello et al., 2007). Ego-involved motivational climates put the focus upon performance, and carry the perception that the coach has favorites (Cervello et al. 2007), they also report instances of being encouraged to outplay their opponents (Bortoli et al., 2010).

**Goal orientation, involvement, and performance.** Nicholls (1984) made a number of assumptions towards the level of performance in his work comparing task and ego-involvements in differing states of perceived ability. They can be summarized as task-involved individuals typically reaching higher levels of performance than ego-involved students when perceptions of ability are small. Ego-involved individuals achieved equal, or greater, performance compared to task-involved individuals when the perception of ability was higher. These assumptions were tested in further correlational

and experimental studies with similar results.

Bortoli et al. (2010) reported findings that held true to Nicholls (1984) work with one caveat. In situations where an individual felt high pressure to perform that low perceived ability in the presence of greater task involvement produced a significantly poor performance as indicated by the psycho biosocial state. Spray et al. (2006) held that a task involvement facilitated higher levels of performance, and speculated it was as a result of the focus on individual skill components, but did note that this could have also been attributed to the novelty of the task which was noted as a weakness in the study. The researchers pointed out that the task, a one-meter golf putt, was novel in that the subjects had not previously had excessive experience in putting.

**Avoidance and Approach Dimensions.** As an extension to Nicholls (1984) work, where it is stated that individuals strive to achieve a particular goal so as to avoid displaying failure, a 2X2 framework has emerged. This framework indicates that not all goals are linked to approaching achievement, but some are to avoid failure (Elliot et al. 1997; Elliot et al. 2001). In a 2X2 framework, task and ego goals are crossed with a competency-based approach and avoidance goals. For task-approach goals, an individual will actively seek to display task mastery, and for task-avoidance, an individual will actively try to avoid showing a lack of task mastery. Ego-approach athletes strive to demonstrate competence by outperforming their competitors, while ego-avoidance athletes seek to not show incompetence relative to their opponents (Elliot & Harackiewicz, 1996; Jaakkola et al. 2016). Jaakkola and colleagues (2016) noted that in their experimental study, regardless of low or high perceived ability, athletes with

task-approach goals consistently reported higher levels of enjoyment. This finding was also among a group of high performing 17-year-olds on the cusp of national representation, which could be considered similar to eSports athletes just beginning to see global recognition. Conversely, however, the researcher note that an ego-approach in an ego-oriented climate did not have the negative impact theorized or held by other research. Jaakkola et al. (2016) suspect this may be due to the nature of this particular group of athletes, as they note they had been competing at a high level for ten to twelve years by the time of this study.

### **Conclusion.**

Current literature agrees on a number of theories and assumptions, most easily summarized by goals that make use of task and ego-approach involvements, especially in task-favorable climates, would appear to elicit higher levels of enjoyment, and performance in athletes of varying levels of perceived and actual competence. The literature does not establish that the use of all ego-involved goals necessitates reduced performance. Ego-involved goals and climates react differently to each particular athlete dependent on a number of factors such as perceived and actual ability (Jaakkola et al., 2016; Spray et al., 2006), and specific motivational climate (Bortoli et al. 2010; Cervello et al. 2007; Jaakkola et al., 2016). It was suggested that the nurturing of a task-motivated climate by coaches could supplant or minimize an individual's particular orientation (Cervello et al., 2007).

In the works of Elliot and colleagues (1997, 2001) the 2X2 framework holds that use of task approach and avoidance goals are beneficial to the accomplishment of

targets. They also note that ego-approach goals are, under the correct circumstances, and with the correct athlete, able to elicit similar effects on performance. The dark horse of the four-way relationship, however, being ego-avoidance. Ego-avoidance has shown to create lower levels of performance and to increase performance anxiety.

Achievement Goal Theory provides a framework that is built upon throughout this manual. It presents an understanding of how to approach the goals of athletes and types of environments that coaches can provide. Knowledge of AGT is beneficial for the skills presented in this manual specifically as it teaches coaches and athletes how to approach goal setting, with a focus on approaching mastery or achievements. It is also beneficial for imagery skills to promote a task-focus to continue building and nurturing a task-based environment. Self-talk skills can be used to maintain a task-focus in times of performance anxiety, or lengths of time during poor performance. AGT is the skeleton on which the meat of the manual builds from, providing a rigid framework to guide the direction of athletes and coaches.

## Goal Setting

Goal setting has been covered by countless authors, coaches and sports consultants over the previous decades, and rightly so, as it has been shown to influence the performance of athletes, and been linked to positive changes in the psychological states of athletes (Gould, 2015). Some Olympic legends have been quoted talking about their usage of goal setting and how they aim for the best. For example, multiple Olympic Champion Usain Bolt said "you've got to set goals in life... I try to set the highest standard that I can for myself," (ITV News, 2013). Shannon Miller (gymnast) alluded to the progressive steps with goal setting when she said, "... you have to set those short-term goals. Think about what you can do each and every day to make that long-range goal happen." (Keller, 2016). Setting goals is a way for athletes to plan their journey, establish goals that they can strive for, and accurately map out their improvements.

### **Review of Literature.**

Goal setting has been a topic of psychological literature since the late 20th century, with researchers Edwin Locke and Gary Latham. Since then there have been a number of findings, and revisions of the effectiveness of goal setting. Locke and Latham have made a number of observations about new directions in goal setting theory, and how the initial theory they proposed has evolved (2002; 2006). Some researchers have examined the relationship between goal setting styles and their effects on performance (Fairall, & Rodgers, 1997; Hardcastle, Tye, Glassey, & Hagger, 2014; Weinberg, Burke, & Jackson, 1997). Other studies have compared the

effectiveness of goal setting to a number of other psychological skills such as imagery and self-talk (Wright, O'Halloran, & Stukas, 2015). Other research has examined the effects of goal setting in youth and high-level athletes, taking a qualitative approach to explore trends in athlete's behaviors (Hardcastle et al., 2014; Maitland & Gervis, 2009)

**Types of Goals.** In goal setting literature, a goal is a broad term that can mean many things, so goals are divided into three typical types or styles. Kingston et al. (1997) refer to these three goal styles as outcome, performance, and process goals. Outcome goals are goals based on the results of performance. They are not self-referenced but instead depend on the performance of others (i.e., social comparisons). Performance goals are also based on the outcomes of performance but are self-referenced, for example, improving your score in a game of tenpin bowling. Process goals are based on the execution of specific skills or processes during play. For example, a process goal can be about a specific turn's approach and exit in a racing game. Kingston et al. (1997) make note that in typical goal setting intervention, individuals are taught to make use of performance goals, which they argue are not always the best to pursue solely. Locke et al. (2006) share this belief, stating that the use of performance only goals can often lead to a sort of tunnel vision where the goal is the only focus, while the skills that can help to reach the target are not given as much consideration. Both researchers suggest that process, or learning, goals should be used in equal measure with performance goals. By using the two together, it can help the individual to learn the specific skills required to achieve the level of performance they are striving for.

**Goal Setting and Performance.** Goal setting literature makes a number of observations when performance is concerned. The majority of research agrees that there is evidence to support the theory that goal setting results in increased performance in athletes (Hardcastle et al., 2014; Kingston et al., 1997; Locke & Latham, 2002; Lock et al., 2006; Weinberg et al., 1997). The effect of goal setting on performance may vary depending on environmental factors and the conditions under which goals were set (Fairall et al., 1997; Hardcastle et al., 2015; Weinberg et al., 1997).

Studies by Fairall et al. (1997), Hardcastle et al. (2015), and Weinberg et al. (1997) shared similar results regarding the conditions under which goals were set. Targets set autonomously, from the player, were associated with higher effort, and improved performance (Weinberg et al., 1997). Similar findings were reported by Hardcastle et al. (2015) who also found that the inclusion of outside social influences, like coaches, in goal setting could be beneficial. He held that including coaches in the goal setting process allowed them to provide reinforcement to the athlete and to offer plans to reach them. An athlete who is more involved in goal setting gave more effort during training and competition, and this was associated with improved performance (Fairall et al., 1997).

**Current Use of Goal Setting.** Although goal setting interventions are effective toward increased use on the short-term, results from qualitative studies have found that athletes were not likely to use the skill for extended periods (Hardcastle et al., 2015). A possible reason for this finding may be the lack of follow-up and reinforcement after the

initial goal setting intervention. Coaches reported that over the short-term athletes and coaches were excited by the prospect of crafting goals and utilizing them. However, many of these goals were forgotten as time progressed (Hardcastle et al., 2015).

Another coach reported that he believed the success his athletes had with the program were related to his reinforcement of the goal setting program and adjustment of goals at follow-up.

A study by Maitland et al. (2010) included qualitative data regarding the use of goal setting in youth football. The research reported that the majority of players interviewed used goals, but did not involve their coaches in these goals (Maitland et al., 2010). Many responded that the only individuals that had a say in their goal setting, and their goal setting process was themselves. This provides evidence in support of Hardcastle and colleagues (2015) in that outside influence could serve to improve goal setting effectiveness.

### **Practical Usage for eSports**

The reviewed literature provides a framework to formulate a group of successful goals for a typical athlete, and this same framework will be used to set goals for the eSport athletes this program seeks to educate. From the research, it is clear that the goals being set need to be clear and distinct while remaining moderate-to-highly challenging to achieve (Locke & Latham, 2002; Lock et al., 2006). The research has shown that reinforcement and revision of goals are important but underutilized (Hardcastle et al., 2015; Maitland et al., 2010) Therefore it is important to involve coaches in goal setting to help reinforce and revisit goals at regular intervals. The

literature also points towards the usefulness of process goals in concert with performance goals (Kingston et al., 1997; Locke & Latham, 2002; Lock et al., 2006).

Goal setting theory can benefit from Achievement Goal Theory by making use of the 2X2 framework of approach-avoidance. By setting goals that are task-involved and approach-oriented the focus will be towards seeking to display competency through mastery of specific skills, which is beneficial for setting and accomplishing process goals. The manual also incorporates the use of ego involvement for the setting of performance-based goals, encouraging ego-approach over ego-avoidance. The use of AGT allows for consultants and coaches to approach goal setting in a self-referenced manner, which can reduce the anxiety of potential failure that athletes can encounter.

This PST manual uses the findings of previous goal setting research coupled with the fundamentals of AGT to craft task-involved process, and ego involved performance goals via three key strategies. These strategies include the concept of SMART goals, setting process goals to accomplish long-term performance and outcome goals, and defining skill based process goals to strive for through regular refinement.

### **Strategy One - Performance Profiling.**

The process of performance profiling was first proposed in the early 20th century by Butler and Hardy (1992). Performance profiling is a useful tool to involve the athlete in the process of goal-setting. Performance profiling provides a method to visually represent the attributes that the athlete associated with positive performances.

Performance profiling is a multi-step process wherein the athlete will list a number of attributes, and then score their importance for high-performance. The athlete will also score their ability levels in relation to these attributes. The discrepancy between the ideal score and the athletes score highlights areas of focus for them.

To complete a performance profiling sheet as seen in Appendix A, allow an athlete as much time as they need to fill out the 'construct' column. When briefing the athlete on how to complete this, ask them to think of all the attributes that a successful athlete would have and to write those down. The second column labelled 'I' in this example is shorthand for 'importance.' In this column ask the athlete to score the importance that attribute has for performance. These scores will be on a scale of one-to-ten, one being of no importance, and ten being of high-importance. At this point, the athlete now has an idea of what attributes they believe the ideal athlete possesses.

The next column, labeled 'ISA,' represents the ideal score for the athlete out of ten. In this scale, ten would represent 'no way to do it better,' while one would represent 'no way to be worse.' The column after this, labeled SSA, is the athlete's' actual score in this skill. The following column represents the difference in scores, followed by the column labeled D, the discrepancy.

Once the entire worksheet is completed there is a visual representation of the athlete's strengths and weaknesses as defined by themselves. The higher a score in discrepancy, the more work is required. This worksheet brings the athlete self-awareness, allowing them to target specific areas to improve upon. These improvements can be targeted through the use of goal setting, or any of the other strategies put forth in this manual.

To measure improvement over intervention periods, it is also possible to re-administer the test. By keeping records of previous iterations of the trial, it becomes possible to map out the athlete's improvements. As the athlete's focus changes, these performance profiles will reflect these changes of focus. It is recommended to administer these tests at semi-regular intervals, to provide the athlete visual feedback on progress.

## Strategy Two - SMART Goals

SMART is an acronym that aids in the setting of goals, and turns a simple goal, such as “get better at Call of Duty,” into a well-defined, time-based, measurable outcome. SMART goal setting will form the underlying framework for all goals set using this manual. It is possible to use SMART goals to set short-term process goals, intermediate range performance goals, and even on long-range outcome and performance goals due to its flexibility. The acronym itself has a varied set of definitions across different authors and literature (Rubin, 2002), but the definition used for this handbook comes from both Rubin (2002) and Doran (1981).

‘S’ refers to setting *specific* goals. Goals should target a particular skill, action, or area for improvement. For example, in a gaming setting, the goal can be specific to improving headshot accuracy in a first-person shooter, lap time for a racing game, or your particular character's damage or healing statistic per minute in games such as League of Legends or Overwatch.

‘M’ refers to goals being *Measurable*. Goals should be readily measurable by some form of unit or indicator. In the examples above, the goal may be to achieve 75% headshot accuracy, a one-minute per lap decrease in racing games, and a 10% increase in per minute stats for League of Legends or Overwatch.

‘A’ refers to goals being *achievable* and ‘R’ being for *realistic*. These two factors integrate with each other. The goals an individual sets should be both achievable and realistic. Simply put, do not set a goal that is too far in advance of where you currently are and do not set a goal that is simply unrealistic in the realm of the achievement. For

example, a goal of 100% headshot accuracy in a first-person shooter, while technically possible, is not achievable or realistic for a majority of the players. Setting a goal to reduce a 90-second lap by 45-seconds is another example of a goal that may be technically achievable but may not be realistic. It is very important that goals are achievable and realistic as it allows the individual a feeling of success in accomplishing goals, even if the overall result was not a win.

'T' refers to goals being *timely*. Goals should have a time frame associated with them. Otherwise, they can often be dismissed with sayings such as, 'Oh well, I'll get there tomorrow,' or 'Maybe next time.' A goal with a time frame provides motivation to succeed and allows an individual to place markers along the overall timeline towards an end goal. For example, a goal for an overall headshot accuracy increase being 30% in three months provides the options for monthly check-ins where an individual would expect to see 10% increases each month.

Taking the initial example given, "Get better at Call of Duty," we can apply the SMART principle to transform it into "Get better at Call of Duty by increasing my headshot accuracy percentage by 15-points within the following three months." The goal changes its meaning by providing the athlete with a clear indication of what they want to achieve, and a timeline to achieve the goal. It removes the anger out of losses by providing a point of reference on a personal level, and will ultimately make the athlete a better player.

As mentioned above, SMART goals are not simply for short-term process goals. They actively work for the setting of intermediate and long-range performance goals too.

With the inclusion of time-sensitive measures, many athletes will set goals that are long term. An example of such a goal in eSports would be 'To compete at the world championships for League of Legends.' This is obviously a long-range performance goal, but within SMART goal framework, the athlete can design a plan to achieve this goal. This is where the next key strategy of this manual comes into play, staircase goal-setting, setting short-term process goals, to reach long-term performance or outcome goals.

### **Strategy Three - Staircase Goal Setting**

Staircase goal setting, as briefly mentioned in the SMART goals section, is the setting of short-term process goals to achieve long-term performance and outcome goals. This strategy is based on the findings of Locke et al. (2002, 2006) and Kingston et al. (1997) who both reported that process goals are effective in reducing the complexity of a task which can lead to increased performance. Kingston et al. (1997) noted explicitly that "Process oriented goals are often, by their very nature, the strategy for reducing the complexity of a given task, and hence may have double the value" (p. 289).

Staircase goal setting is a simplistic concept, but it allows complex long-range performance or outcome goals to be divided into smaller short-term process and performance goals. Attached as Appendix C is a blank example staircase goal setting sheet. This section of the manual will detail how to fill one of these sheets using SMART process goals and will use the example of a professional Call of Duty player. When completing a goal-setting staircase, an individual should begin at the top of the staircase and place on that step their long range outcome goal. When setting this end goal, remember to utilize the principles of SMART goal setting. In our example, this long range outcome goal will be to compete in the winner's bracket at the Call of Duty (COD) world championship in three months' time.

Each step below this end goal should be a necessary step to accomplish this goal. To qualify for the winner's bracket in a round robin style tournament, such as the COD world championships, a team must place in the top two of their pool of play. Thus,

the next step down from competing in the winner's bracket would be to place top two in their pool of play. These goals are both outcome goals, as they rely on an outcome that is not directly within the control of the athlete. The use of only outcome goals has been attributed to anxiety and fear of failure in athletes. Thus as we go lower on the staircase of goals, it is suggested to place more importance on setting process goals. For the next set of goals, the athlete should identify specific skills to lead to higher levels of team performance.

In this example, we now move down another step of the staircase and continue to build a plan to accomplish the goals. As a player filling the 'slayer' role in COD, the main objective is to control enemy pressure by killing enemies quickly. Improving the kill-to-death ratio of the player will lead to higher performance. The next step would therefore be to 'improve the average kill-to-death ratio by .6 over three months.' Another step down on the goal staircase will be a process to support improving the kill-to-death ratio, which in the case of COD, is headshot accuracy. Headshot accuracy reduces the average time-to-kill which in turn should increase the average number of kills per player life. Thus, the next step down on the goal staircase would be 'improve headshot accuracy percentage by 15 points in two months.'

An athlete would continue down the goal staircase, following this general concept until the athlete was content with the level of organization of their goal. The finished product (Appendix D) provides the athlete with a clear process toward the goals they want to achieve. Staircase goal setting may be used by any athlete who has been trained in SMART goal setting, at practically any age due to its simplicity.

## Imagery

In every sport, and at any event, there are any number of circumstances that can be less than ideal. Track athletes can have moisture on the track, archers, and shooters an unfavorable wind, and rugby players can compete in nearly any weather condition. These circumstances are often out of the athletes' control, and the stress of them can be compounded by anything more sport specific, such as being a pinch hitter in the 9th inning with the bases loaded. So how can athletes maintain composure and confidence in these impossible to predict situations? Some professional athletes might say they control the 'controllables' and let the rest simply happen; others prepare for them with mental training, specifically imagery. Day in and day out, these athletes will envision what they practice, and create the events in their mind's eye, preparing them for any outcome.

Imagery is a powerful tool in any athlete's repertoire and has been used effectively by the most successful Olympian in history, Michael Phelps. Perhaps the greatest example of the power of mental imagery was in Phelps' final of the 200m Butterfly at the 2008 summer Olympic Games. It became known, via an interview post-race, that he had lost vision in the race due to his goggles filling with water. The interviewer asked Phelps how it felt to swim blind. Phelps response was "like I imagined it would." In the following weeks through interviews and statements by both Bob Bowman, his coach, and Phelps, it was revealed that he had imaged this event numerous times before in his head. This is what he and Bowman referred to as his 'videotape' (Damani, 2013). Phelps had been in the routine of 'watching his videotape,'

imagining his race, down to the tiniest details since he was thirteen. Any possible deviations from the ideal plan had been thought out; there was no possible race he had not mentally prepared a solution for.

This level of mental preparation takes a strict regime of regular imagery sessions based on the theories of a number of researchers. For the past 30 years, imagery has been the topic of a number of research articles looking to discover the most effective way to prepare for competition and training.

## **Review of Literature**

**Imagery Propositions.** In Lang's 1978 work there are three propositions described in relation to imagery usage. Each of these propositions refers to a different 'bite' of information that is processed by the brain. These three propositions are stimulus, response, and meaning (Lang, 1978). Stimulus propositions are related to the stimuli surrounding an individual such as crowd noises, temperature on the field, etc. Response propositions are the feelings and actions an individual takes in a situation, for example, the follow through of the bat in a baseball swing. Response propositions are directly related to the actions performed by an individual in a given situation. The third type is meaning propositions, which relate to the inherent meaning of a situation. This can be an awareness of the score, for example, tied at the bottom of the ninth inning in baseball inherently means the next hitter could win the game. Meaning propositions are the information not immediately obvious from the stimuli (Lang, 1987; Smith, Holmes, Whitemore, Collins, & Devonport, 2001).

It has been suggested that each proposition can activate the motor program

behind the imagined actions with varying degrees of success (Smith et al., 2001). Lang (1987) and Smith et al. (2001) reported that in scenarios where the three propositions were tested that response propositions would create physiological reactions within the body.

**Imagery and Body Responses.** Some researchers have displayed results that suggest a link between the use of imagery and a physiological response in the body (Ay, Halaweh, & Al-Taieb, 2013; Lang, 1978; Smith et al., 2001). In the work of Ay et al. (2013) the use of imagery and the resulting effect it had on learning a new skill was examined. Findings provided evidence for a physiological reaction via the use of response propositions. Earlier work had also made similar connections in research, providing that there were physiological reactions present under the use of response and stimulus propositions (Lang, 1978). In the work of Smith et al. (2001) it was held that within the three groups in the study; control, stimulus proposition, and stimulus-response propositions, performance results formed a linear progression. Stimulus proposition alone scored significantly higher than the control, and stimulus-response propositions scored significantly higher than stimulus proposition alone. It was theorized that this linear set of increases owes to an increased activation of motor programs (Smith et al., 2001). Envisioning the event, and the associated actions and feelings involved with completing these tasks can mold the connections the brain makes in a way similar to, albeit less effective than, that which physical practice does.

**Imagery and Performance.** In work by Smith et al. (2001), Malouff et al. (2008),

and Ay et al. (2013) experimental studies investigated the effects of imagery under both stimulus and stimulus-response propositions. In their work, Smith et al. (2001) examined the relationship between an imagery program and performance of the 'penalty flick' skill of field hockey. The research followed a seven-week program where athletes underwent imagery sessions three times per week. The research used three groups, control who underwent no imagery training, a group that used an imagery script laden with stimulus propositions, and a group that used a script with both stimulus and response propositions. The findings showed statistically significant differences in performance of the skill following the seven-week program. The stimulus based imagery achieved better than control, while stimulus-response achieved higher again than stimulus alone.

While examining performance differences in learning a new skill, Ay et al. (2013) also had similar findings. Participants were in two groups, one control, and one experimental group. The experimental group was instructed to imagine the skill they were learning using a stimulus-response proposition, imagining the task being carried out but also the thoughts and feelings of the action being undertaken. The control group only undertook physical practice. Results showed a significant improvement in both conditions, however, the increase in performance shown by the imagery group was greater.

In the work of Malouff et al. (2008) an experiment was conducted using imagery directly preceding the practiced action. Subjects were split into three groups: control, imagery, and self-instruction. The imagery and self-instruction groups were instructed to

carry out their form of intervention directly before performing the task itself. In this experiment, the level of improvement was not considered significant. The researchers noted that this was likely due to the athletes reporting that they did not totally comply with the instructions during each iteration of the test, and due to no extensive teaching and learning of the relevant skills.

**Imagery and External Stimuli.** External stimuli are not out of the ordinary in most typical sport settings, with crowds being present at major games from high school through professional sports. The crowd presence has been known to affect an athlete (Calmels, Berthoumieux, & d'Arripe-Longueville, 2004). In the work of Calmels et al. (2004) researchers examined the effects that imagery could have on the selective attention of national softball players. The researchers were testing to see if imagery trained athletes could process higher amounts of external stimuli before overloading than athletes without the training (Calmels et al., 2004). The group undertook 28 sessions of pre-recorded imagery training sessions that were laden with stimulus response propositions. While the groups did report improvements in external stimulus processing, the results did not approach statistical significance indicating that there is the potential for improvements in athletes (Calmels et al., 2004).

### **Practical Usage for eSports.**

From the reviewed literature there are a number of factors that appear to contribute to a successful imagery program. From the studies that found statistically significant performance increases (Ay et al., 2013; Smith et al., 2001), the length of time the athletes were trained in imagery were longer than in studies that found insignificant

relationships (Malouff et al., 2008). This indicates that it would appear to be beneficial to regularly practice imagery, perhaps even taking a permanent training spot in a general training regime. Also, use of stimulus-response propositions were more effective in increasing performance, and in learning new skills (Ay et al., 2013; Lang, 1978; Smith et al., 2001). This suggests that the regular imagery sessions should make use of imagery that is not solely stimulus based but should incorporate the response propositions. Finally, the effects on external stimulus processing are of interest for eSports as the athletes must compete not only in online tournaments with no audience but also large arena audiences in the final rounds of their seasons. Incorporating the stimulus propositions regarding crowd noise and interference can provide some amount of extra processing benefit to the athletes (Calmels et al., 2004).

With this evidence, the manual presents three strategies for athletes and coaches to incorporate imagery usage into their regular training regime. These strategies will help to formulate an imagery script laden with response propositions, use imagery to minimize the effect of crowd distraction, and to use imagery to learn new skills in gameplay.

## **Strategy One - Basic Imagery Training**

Imagery is skill that can be harnessed by athletes to imagine different situations and the athlete's responses. Before an athlete can begin to image complex skills and processes, basic imagery training is necessary to develop an imaging mindset. To begin imagery training, it is common to start simple, as in this example.

To begin, pick a simple skill relevant to the athlete's role, for example, a COD player may pick a one-point toss in 'uplink.' Now ask the athlete to sit back, close their eyes and relax. Imagine completing the skill, feel each movement in your muscles. Feel the tactile feedback of the controller's joysticks, hear the light click as each button is depressed. Focus on each movement that makes up the skill, feel the muscles contract to carry out the commands.

Don't focus on any one particular sense, instead feel it as if you were completing it at that moment. Combine the incoming messages, the click of buttons, the feedback in the joysticks, and the sounds of the game audio. Imagine the perfect execution of this skill over and over again, feeling how each muscle works together to accomplish the goal.

This basic goal setting script is the base of which to build each image around. Imagine the sights, the sounds, and the feel of the action. The more vivid the image is, the more accurately it opens the motor pathways in the brain. This image script should be practiced regularly until the image is crystal clear, before moving on to build this simple skill execution image into reactions to other inputs. For example, once the basics of this image are concrete in the mind of athlete, ask them to introduce an enemy

player running a defensive play. Ask the player to imagine how to react, and how their muscles will adapt to this new play.

The slow build-up of imagery programs is important as it allows an athlete to master each skill in turn. By only introducing strategy and reactionary action to the images after mastery, it allows modification of techniques without risking the underlying skill.

## **Strategy Two - Imagery for Skill Acquisition**

Acquiring new skills is a reality in every sport. As an athlete advances, new skills and tactics are required to compete at the higher level of competence. Learning a new skill is often accomplished through physical practices, but this process can be enhanced through the use of imagery. In the vein of the basic imagery training presented in strategy one, it is simple to apply the power of imagery to the learning of new skills. In studies comparing traditional learning of skills and learning accompanied by imagery, researchers found that those who made use of imagery performed the skill to a higher level (Ay et al., 2013).

Imagery training for new skills involves a small amount of skill modeling before practicing imagery of the skill. Skill modeling is accomplished through the use of video footage of the skill being used, where in a coach will highlight the intricacies of the action. After a stage of modeling, imagery can begin, wherein the athlete places themselves into the image of the new skill. The process is simplistic, and each phase will be short, but the repetition establishes links in the brain to better perform the action before physical trials have even begun.

The first stage of using imagery for new skills is modeling. As briefly mentioned above, this is accomplished through the use of video footage. Before learning the new skill, the coach and athlete should sit down together and review footage of the skill being learned. In the case of eSports, this would be in Youtube or Twitch clips of other professional players. During these film sessions, the coach will highlight to the athlete the specific parts involved in the skill, drawing attention to each movement that makes

up the whole.

Once the athlete and coach are comfortable with the theoretical knowledge of the skill that the athlete has, it is time to move on to building an image for the skill. When building the image script, have a clear idea of each movement highlighted during modeling. Since each movement determines the feelings on the controller, each specific movement's effect on the joysticks and buttons has to be clear. Build each movement into a full image, including as many details as possible. The result should be a movie that plays out in the mind of the athlete; the athlete should be able to clearly envision each movement of their fingers, feel each muscle contract to accomplish it, and hear the click of the buttons as they watch the player on the screen complete the skill.

Once a full script of the skill is built in the player's head, the athlete can then move to incorporate this script into the training regime. This manual recommends that imagery used to learn new skills should be practiced at least once per day. When this imagery is completed is up to the athlete, but the authors suggest each night before bed when an athlete is most relaxed. The image can be practiced more than once per day, and it would be more beneficial to frequently envision the new skill. However, time and other commitments can interfere with this which is why the manual suggests once per day.

### **Strategy Three - Imagery Script for Competition.**

Combining the basic imagery lessons in strategy one and the knowledge in strategy two, it's possible for an athlete to craft their script specific to their competitive needs. As competitions can vary wildly, imagery is a useful tool to envision any of the many outcomes possible. Because of this volatility in competitive outcomes, this strategy will briefly provide key points to remember when crafting a script for a competition.

As mentioned above competitions do not follow a script, they are by their very nature random. In competitions nearly anything can happen, that's why imagery can aid in preparing for situations which are hard to physically practice, due to their unlikelihood. When using imagery to envision these events, it is important to remember a number of key factors. These factors make up the vivid nature of the image, and they are the senses of the body. When crafting images, involve as many senses as possible. If an athlete is aware of and competed in the arena before, then have them recall specific smells or how the crowd echoed around that particular arena. These specific sounds and smells can be different from the training room, so involving them in the image allows the brain to link the location to those skills even before a controller is in hand.

Touch, remember the feelings of the tables, the floor, and the provided chairs at the arena. Were the chairs particularly uncomfortable, or did they click when you sat forward? Involve these features in the image, as again they add to the reality induced by the images. Finally remember the feel of the controller, how the muscles in your hands and arms co-operate to accomplish the goal. Remember the specific movements

required by this competition.

By building the images around the sights, smells, and sounds of the competition arena an individual is preparing the mind for competition there. Imagine carrying out the skills practiced to perfection, in that arena. Imagine the noises of the crowd as the athlete correctly runs the play. Continue to overlap the senses into the image of the skill to be completed.

Imagery for competition settings is similar to imagery for skill acquisition. It is just modified to be envisioned in the area of competition. It allows the athlete to become aware of factors that are not present in the training rooms, like the crowds and equipment that they may not use at their regular facilities. The more of the competition environment that is brought into the image, the better prepared the athlete will be for competition.

## Self-Talk

Self-talk is an interesting concept that has been attracting a lot of attention over the last twenty or so years, especially in sport psychology (Hardy, Gammage, & Hall, 2001). Self-talk is most readily described as any time an individual thinks about a specific thing. This definition is broad and hard to make use of in a functional sense. A working definition for self-talk is internal (overt or covert) dialogue offering instruction or motivation where the primary audience is the one talking (Hardy et al., 2001). Self-talk is often practiced in sport, whether it is due to prior knowledge of its benefits or in a spontaneous manner is open to interpretation (Hatzigeorgiadis, Galanis, Zourbanos, & Theodorakis, 2014). There is also evidence to support the theory that self-talk of a positive, motivational, or instructional tone can increase a number of facets of performance (Barwood, Corbett, Wagstaff, McVeigh, & Thelwell, 2015; Blanchfield, Hardy, Morree, Staiano, & Marcora, 2014; Hatzigeorgiadis et al., 2014).

Self-talk is not limited to the positive usage; there are cases of negative self-talk, or the attempt to stifle negative self-talk (Dugdale & Eklund, 2002). In some cases of negative self-talk, an athlete may attempt to ignore this negativity which can bring forth the irony effect. The irony effect being the harder an individual tries not to do something, the more likely they are to do that thing. Dugdale et al. (2002) provide alternatives to ignoring the negatives which can lead the individual to maintain a more task-focused outlook and involvement. Overall, the trend in the literature points to use of motivational, positive self-talk being associated with performance increases and a task involvement.

## **Review of Literature.**

**Use of Self-Talk.** In the work of Hardy et al. (2001) researchers examined the general usage of self-talk in sports in a qualitative study. The study encompassed 150 collegiate athletes in a descriptive analysis of their usage of self-talk in both training and competition settings. Furthermore, the study examined what it referred to as the 4 W's; where, when, what and why of the self-talk use. The 'where' of self-talk usage showed that athletes split their usage between either sport related locations or non-sport related locations. The overall trend was clearly towards usage at sport-related venues (Hardy, 2001). 'When' revealed that the overwhelming majority of the interviewed athletes used self-talk during both practice and competition settings, with a majority being during competition settings (Hardy, 2001). 'What' and 'why' revealed a number of more in-depth observations revolving around the specific reasoning as to the usage of self-talk. It revealed that the majority of respondents were using self-talk that covered task instruction with varying structures. Responses showed that athletes used a mixture of cue words, phrases, and sentences to process their thoughts. The final W, 'why,' revealed that the majority of the respondents were using self-talk for motivational purposes, including motivation towards task-mastery (Hardy, 2001). The study gives a particularly well-rounded view of typical self-talk usage at least within the community of collegiate-aged athletes, who are typically among the highest performing individuals in their chosen sport.

**Performance and Motivational Self-Talk.** There is evidence in the literature to support a link between motivational self-talk and increases in performance (Barwood, et

al., 2015; Blanchfield, et al., 2014; Hatzigeorgiadis et al., 2014). Some researchers examined the relationship between self-talk and performance (Blanchfield et al., 2014). In the study, cyclists were tested on a time-to-exhaustion test on standing cycles. The researchers then split the cyclists into two groups, and over a 14 day period, ran a self-talk intervention. One group completed the intervention along with regular exercise, while the second group only completed regular exercise. The results showed that not only were the athletes who practiced self-talk able to extend their time-to-exhaustion, but they were even able to decrease their perceived exertion during the test (Blanchfield et al., 2014). The control group's time-to-exhaustion showed no significant differences, nor any changes to perceived exertion.

In the work of Barwood et al. (2015) researchers examined the differences in performance levels comparing motivational self-talk to neutral self-talk. In the study, two groups were defined after two initial 10km cycle time trials. These two groups were motivational self-talk or neutral self-talk. A third-time trial occurred after groups were defined. Following these three time trials was the self-talk intervention, where each group was schooled on their respective style of self-talk (Barwood et al., 2015). A final time trial was conducted after the completion of the self-talk intervention, and results showed a significant reduction in time to complete the 10km time trial in the group who practiced motivational self-talk. The neutral self-talk group saw no difference in any facet of their performance. Interestingly, the motivational self-talk group also saw significant increases in power output during the 10km time trial (Barwood et al., 2015). This study supports the findings of Blanchfield's earlier work (2014) under similar

settings. However, it did not hold the same effect on perceived exhaustion.

While examining the relationship between self-talk and performance in professional swimmers, Hatzigeorgiadis et al. (2014) staged a motivational self-talk intervention. The intervention program undertaken in this study lasted for ten weeks, while also continuing regular practice with one group learning to use motivational self-talk, and the control group did not. The results showed a statistically significant increase in performance for athletes who underwent the self-talk experimental treatment. The researchers controlled for event distance and sex in this study to minimize extraneous variables that may otherwise affect the increase (Hatzigeorgiadis et al. 2014). This is another example of empirical data suggesting a link between increases in performance and the use of motivational self-talk.

**Self-Talk and Task Focus.** As noted in Hardy's (2001) work, the majority of athletes surveyed responded that they used self-talk to maintain a focus on skill mastery. Skill mastery is synonymous with the task-involved goals and climates Achievement Goal Theory (AGT) describes, and that this manual recommends. This tendency among athletes to use self-talk to focus on maintaining and furthering skill mastery is focused upon in the work of Miles and Neil (2013). Miles and Neil focused their research on gaining qualitative information from a group of professional cricket players during batting performance. The research combined an interview with video footage of the batsmen and encouraged them to explain their use of self-talk during the situations the footage showed. An overwhelming theme of the respondents was the use of self-talk during spells of poor performance to refocus upon the fundamental skills.

The athletes reported that this would also help them to reduce performance anxiety during competition, which was theorized by Nicholls in his AGT work (1984). This study works well to show the relationship between the skill and the underpinning theory of this manual.

**Negative Self-Talk and Thought Suppression.** Needless to say, where there are positives of a given skill, there are often negative sides to be covered. The work of Dugdale et al. (2002) examined the role that ironic awareness had in self-talk situations. Ironic awareness is the concept that entails the more you endeavor to not do something, the more likely it becomes that you will do that thing; a common example is being told to not imagine a giant pink elephant for one whole minute. It is very easy to find yourself imagining that giant pink elephant very quickly. Researchers found that in sport situations an amount of negativity would enter the heads of players from the umpires or referees, and in his first experiment, he suggested that the athletes were to ignore this at first. Results of experiment one showed that ironic awareness was involved as the athletes were unable to ignore the negative aspects of the officials' involvement (Dugdale et al., 2002). The second experiment took a different approach to suppressing (stopping) the negative thoughts, by replacing them with an unrelated cue. Respondents in the second experiment reported having a much easier time refocusing from the negative thought by replacing it with this unrelated cue. Dugdale theorized that this could be extended to include the use of a task-related cue, to refocus the athlete's attention back to the task at hand rather than the negative thoughts.

**Practical Usage for eSports Athletes.**

The information presented in the literature provides evidence for the inclusion of self-talk modules in the coaching regimes of any sport, including eSports. What can be gleaned from the literature is that these self-talk modules should include training in the use of motivational self-talk. The strict performance benefits are one thing. However, it is also worth investigating the benefits on performance anxiety of thought stoppage as discussed in Dugdale et al. (2002). This manual focuses on the findings leading to higher performance, and as such, offers two strategies to improve the use of motivational self-talk. It also offers one strategy to make use of negative thought stoppage, including replacement of negatives with task-based cues, which can be extremely helpful given the effects of close crowds in many eSports competitions.

## **Strategy One - Instructional Self-Talk**

Instructional self-talk is a form of positive self-talk used to center focus of an athlete towards specific skills or processes. It has been theorized by some researchers that instructional self-talk is more useful with tasks requiring fine motor skills (Malouff et al., 2008). Instructional self-talk can be used by athletes at a number of times during competition and practice, including directly before the skill, before the competition, or only during specific skills. This is up to the discretion of the athlete, but this manual recommends to use imagery as often as possible in early stages of learning.

Instructional self-talk takes the form of cue words that are directly related to the performance of the skill. For example, in golfing, individuals may focus upon their putt, so their cue words may be, 'still body.' This is a conscious reminder to the athlete of what is required to complete the task. Another example in eSports is in a racing game, a particularly tight curve in the track is ahead, and so the athlete instructs themselves to 'break in, accelerate through and out.' These small bite size bits of information provide instruction and provide direct focus on the skill.

To create instructional self-talk cues, an athlete should first target a number of skills they feel they could improve upon, or that they feel often do not go as well as planned. Once the athlete has chosen these skills, break each skill down with them. For example, in a first-person shooter if an athlete is having trouble moving between cover objects without being shot, ask him to identify the most important movement aspect to move between these objects. The athlete may return answers related to 'staying low,' 'moving quickly,' or 'hugging walls.' Without any specific instruction, the

athlete has just defined their cue words. Tell the athlete to write these cue words out, and begin to make use of them in practice scenarios first. Instruct the athlete to use one of these cue words each time they intend to move between cover objects, whether they believe there is an active threat or not. This is about establishing routine use of the cue words. If the athlete feels they need to use the cue words out loud, re-iterate that this is a perfectly acceptable way to make use of the instructional self-talk. In the case that the athlete comes up with in-depth responses, for example, 'Stay low, use your slide-dash to cover ground quickly while hugging walls and other half-cover objects,' the this response is not a viable cue for instructional self-talk. Using a phrase this long and complex may induce 'paralysis by analysis.' This phrase describes the feeling when there is too much information to process in a short period. The resulting feeling often 'locks up' the athlete, stopping them from carrying out any action, and can even result in decreases in performance. In the case of instructional self-talk, it is important to keep it simple. Short and easy to repeat cue words, or small phrases, are ideal.

## **Strategy Two - Motivational Self-Talk**

Motivational self-talk is another style of self-talk intervention that does not use skill specific words or phrases. In much the same way as instructional self-talk, it remains important to keep these phrases or cue words short and simple. Where instructional self-talk appeared to increase the performance of fine motor skills, motivational self-talk has showed increased performance and endurance in long distance endurance athletes (Barwood et al., 2015; Blanchfield et al., 2013). The recommendations of this manual are to practice motivational self-talk as frequently as instructional, especially during learning phases.

Motivational self-talk often takes the form of general motivational cue words and phrases. These phrases and cue words used in motivational self-talk are not skill or sport-specific and aim to increase performance and positivity in athletes through continued positive attitudes. Some athletes unknowingly already use motivational self-talk, by repeating phrases like 'You've got this' before races or performances. What many athletes are not aware of is that these small phrases can have tangible benefits when practiced regularly.

To begin the use of motivational self-talk, instruct athletes to pick out a number of phrases that are short, but motivating. For example, 'You've got this,' 'Pick it up,' 'Push it harder,' are all phrases of motivational self-talk that can aid in continued performance through positivity. Once the athlete has a number of these phrases written down, the athlete can begin using these phrases during practice. Use in practice can be overt, spoken out loud, or covert in the athlete's head.

Some researchers have suggested that motivational self-talk phrases can be used early on in the task, or more specifically during difficult times in the exercise (Blanchfield et al., 2013). This manual suggests making use of both by using motivational cues early in the exercise to maintain early stages of energy output, but also to maintain effort during difficult mid-sections of effort when exhaustion may be beginning to set in. In any of these situations presented, remember the fundamentals of the self-talk. Use the self-talk to remain positive, keep it simple, and keep it motivational. Deviating from these simple ideals can skew the meaning and therefore the effects of the self-talk.

### **Strategy Three - Negative Thought Stoppage**

Negative thoughts are a natural addition to difficult tasks. When performing at maximal levels of exertion, either mentally or physically, the allure of a way out will be present. Negative thought-stoppage is introduced to combat these thoughts, to help the athlete remain positive. When approaching negative thought-stoppage, it is important to approach it in a way that avoids the irony effect discussed in Dugdale et al. (2002). As such, this program implements the use of replacing negative thoughts or modifying them instead of attempting to suppress them entirely.

Replacing negative thoughts is a basic process involving, at first, the awareness of negative talk. When the athlete is aware of negative self-talk, they should acknowledge the messages, and replace them with a phrase that combats the negative information presented. For example, if the negative message of 'We're too far behind, we can't win this' seeps into the thoughts of the athlete, they can replace this message by repeating a positive counter to it. For example, a positive counter could be 'Two points can be scored in 5 minutes and we have 25 left, we will come back!' This acknowledges the negative message and replaces it with a positive process. This operates similarly to negative thought modification. Negative thought modification takes the incoming negative messages and modifies them to be positive. In the example given above, the message of being too far behind gets modified to 'We're not too far behind, we can win this.' By not replacing the entire message, it is easier for the athlete to modify negative thoughts 'on-the-fly.'

Negative thoughts are a constant in the sporting world. Regardless of the sport or

athlete, negative thoughts have a way of making their way into the minds of athletes. By learning techniques to manage these thoughts, reflecting them back into positive motivations, an athlete can better manage the pressures of games and poor performance. Thought stoppage in the manners discussed above are more effective than attempting to ignore the messages completely and should be practiced at every opportunity available for athletes. The strategy can be used in practice and competition situations, but it is recommended by this manual, to begin with practice situations before moving on to competitive settings.

## Conclusion

A psychological skills training manual has benefits for athletes of every sport. These findings can easily be extrapolated towards its application to emerging eSports athletes. By making use of a number of specific strategies inside each skill covered, this manual provides a guide for coaches and athletes into the world of sports psychology consulting and the skills employed within. Addressing Achievement Goal Theory also conveys to coaches the idea of motivational climates within training environments and how these climates can affect the performances of athletes.

Achievement Goal Theory (AGT) highlights the basic motivations towards goal achievement in humans. Athletes' goals exist in a 2x2 framework, horizontally from ego (performance) to task (skill) and vertically from approach to avoidance. An athlete, therefore, may establish four different goal orientations. The difference between ego-avoidance or ego-approach is if an athlete is determined to achieve success by beating the competition (approach) or to avoid looking bad, compared to competition (avoidance). The difference between task-approach and avoidance is if an athlete is seeking to improve on the athlete's current skillset (approach) or to avoid being incompetent based on self-referenced performances (avoidance).

All of these different goal orientations of athletes have advantages and disadvantages when it comes to setting goals and achieving them in their sports. Research supports, as highlighted above, that typically task-approach and avoidance in concert with ego-approach goals lead to higher performance. Athletes who exhibit tendencies towards ego-avoidance will not always have the same positive results from

goal setting or other mental training skills.

It is for this reason that the manual has made the recommendation towards fostering an environment that is high on task involvement while acknowledging the benefits of ego-approach tendencies. When fostering the environments suggested by this manual, it is beneficial to apply the foundations of AGT to each of the skills and specific strategies this manual expands on. By maintaining a focus on skill, while striving for high levels of performance, an athlete stands to benefit the most from the manual. The specific skills and strategies presented in this manual are easily applied in a variety of situations and have evidence to support a link between their usage and performance increases.

The use of goal-setting, imagery and self-talk in the literature point towards increases in performance. Goal-setting has been used by athletes to create a plan of action towards achieving long range goals in sports. Used in concert with imagery and self-talk, athletes can maintain high levels of positivity and motivation to achieve goals and learn new skills. While this manual makes use of simple methods and instructions, its results and the theories that underpin them are not. Mental skills training for athletes is simple to start, but difficult to master, and this manual provides a starting point for athletes and coaches looking to increase their performance now and into the future.

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Appendix A: Example Performance Profile (Adapted from Jones, 1993)

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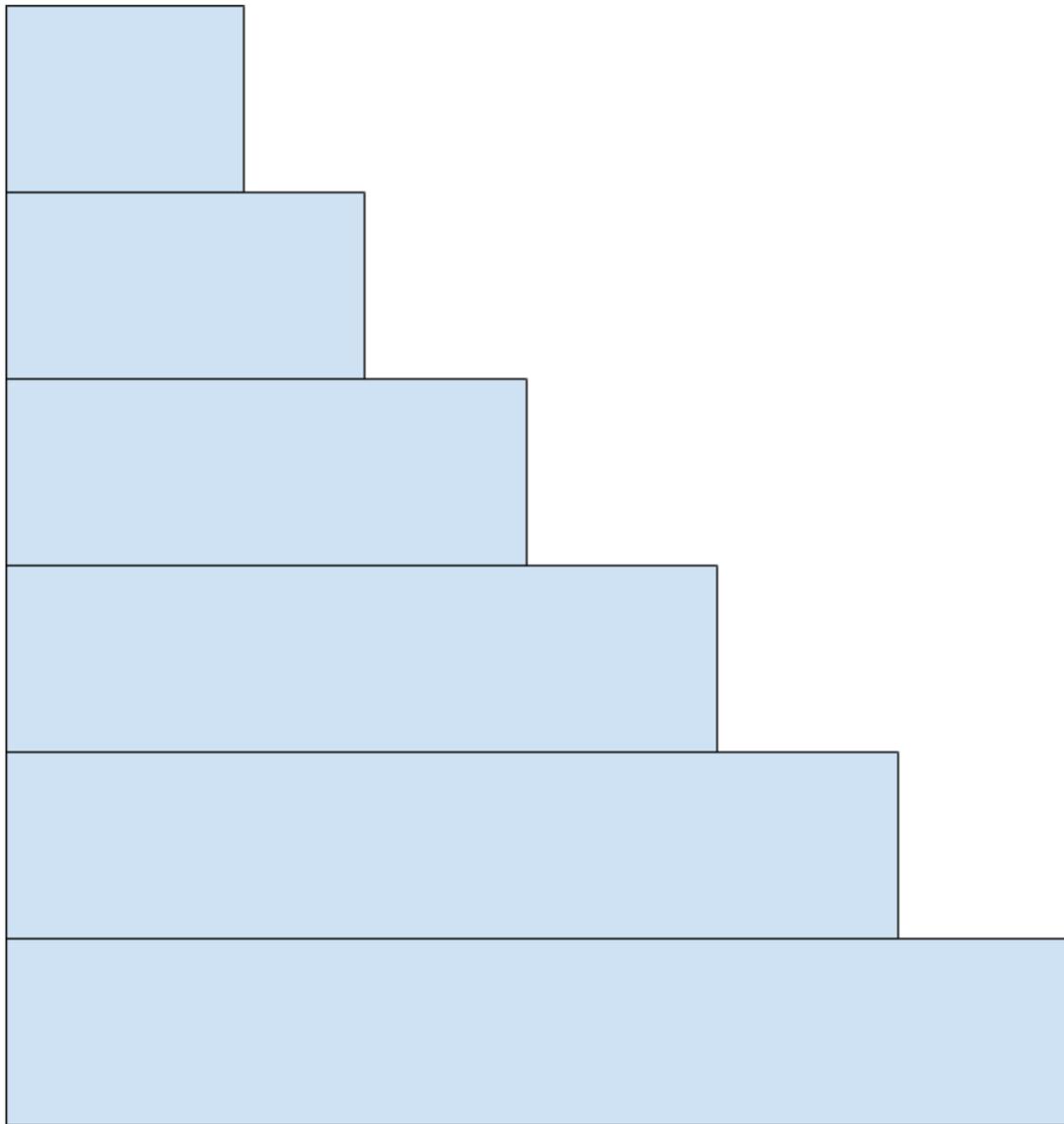
Construct	I	ISA	SSA	ISA-SSA	D (ISA-SSA) x I
Confidence	10	10	5	5	50
Concentration	10	10	8	2	20
Composure	10	10	5	5	50
Commitment	10	10	8	2	20
Organization	8	10	4	6	48
Discipline	9	10	6	4	36
Will	6	10	8	2	12

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## Appendix B: SMART Goals Worksheet

<b>S</b>	<b>Specific:</b> What do you want to accomplish?	
<b>M</b>	<b>Measurable:</b> How will you know when you have accomplished it?	
<b>A</b>	<b>Attainable:</b> Can I reach this goal?	
<b>R</b>	<b>Reasonable:</b> Is it reasonably likely that I will be able to reach this?	
<b>T</b>	<b>Timely:</b> In what period of time will I accomplish this?	

Appendix C: Staircase Goal Setting Sheet (Blank)



Appendix D: Staircase Goal Setting Sheet (Completed Example in Text)

