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CARDIFF METROPOLITAN UNIVERSITY
Prifysgol Fetropolitan Caerdydd

CARDIFF SCHOOL OF SPORT

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**Psychological skill usage and its impact upon
elite and non-elite athletes in non-contact
sports.**

**(Dissertation submitted under the psychology
area)**

Kate Mackey

ST20018717

**PSYCHOLOGICAL SKILL USAGE AND ITS
IMPACT UPON ELITE AND NON-ELITE
ATHLETES IN NON-CONTACT SPORTS.**

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Abstract

The main purpose of this study was to examine the psychological skill usage between four elite and four non-elite athletes, participating in non-contact sports. A qualitative approach was used to examine the effect of the 4 psychological skills of goal setting, imagery, self-talk and relaxation, in training and competition.

Two semi-structured interviews were completed by eight athletes, which allowed the athletes to provide detailed responses of how they use psychological skills in training and competition. Interviews were transcribed and inductive and deductive analysis took place, enabling themes and patterns to be identified. The data was presented via causal networks showing the relationship that each psychological skill had upon performance in training and competition, between elite and non-elite athletes.

All athletes reported that they use self-talk during competition to increase their performance. However, not all participants reported using all of the psychological skills.

One non-elite athlete stated that they used all of the psychological skills in competition, resulting in improved performance. Furthermore, elite athletes also used imagery during competition to enhance performance.

The findings state that elite and non-elite athletes, experience improved performance using psychological skills in training and competition. However, results revealed that elite athletes place more thought prior to competition of why, how and when they would use them, compared to non-elite, who use them when they “feel the time is right”. Psychological skills need to be fully understood by athletes, coaches and psychologists to ensure they are used appropriately and to understand which ones are best, to enhance the likelihood of improving an athlete’s performance.

CHAPTER 1: INTRODUCTION

1.0 Introduction

Athletes try to improve their performance in order to excel in their sport. However, during training and competition, athletes will encounter a number of barriers they need to overcome such as, mental, physical and social (Fournier, Calmels, Durand-Bush and Salmela, 2011), which can result in skill weakness. The use of psychological skills can help athletes overcome weakness and enhance performance (Silva & Stevens, 2002). Psychological skill usage is a method that can have a positive impact upon improving sport-specific tasks, increase self-confidence, motivate the performer and enhance the athlete's overall performance (Thelwell, Greenless & Weston, 2006; Wadey & Hanton, 2008; Weinberg & Gould, 2007; Silva & Stevens, 2002). Not all athletes are knowledgeable about the skills that they use in performance and may not be aware that they are using these methods (Wang, Huddleston & Peng, 2003).

Psychological skills are used in athlete's minds to increase performance (Epelbaum, 2012). There are numerous psychological skills, including: emotional control, anxiety control, attentional focus and control and self-efficacy to aid performance (Hardy, Jones & Gould, 1996). The psychological skills reviewed in this study are: goal setting; imagery; self-talk; and relaxation, which are known as the 4 basic psychological skills (Hardy *et al.*, 1996).

Goal setting research is expanding and setting goals can enhance an athlete's performance and motivation (Fournier *et al.*, 2005). Athletes set different types of goals for different purposes throughout performance (Wadey & Hanton, 2008). A common technique to enhance performance is imagery, which enables athletes to recall pieces of information that have been stored in the brain to produce images (Weinberg & Gould, 2007; Defrancesco & Burke, 1997). Self-talk occurs anytime an individual thinks about something (Bunker, Williams & Zinsser, 1993). It is a multidimensional occurrence that has been linked to verbalisations and is either a cognitive or motivational function (Hardy, 2001). Relaxation involves the release of muscular and cognitive

tension for an athlete to facilitate their performance (Hardy *et al.*, 1996). Relaxation can be structured and unstructured and can regulate an athletes arousal levels (Williams & Harris, 2006).

Psychological skills are used in a number of situations including: training sessions and competitive environments (White, 1993), which help facilitate the athlete's performance (Vealey, 1988; Weinberg & Comar, 1994). They can be used in isolation or in combination with other psychological skills (Hanton, Wadey & Mallalieu, 2008). For several years psychological skills have been researched in studies to view how they improved performance and how they lead to an athletes' success (Bebetsos & Antoniou, 2003).

Over recent years there have been advances in sport performance, attributable to a variety of factors and approaches. They are methods that have been designed to enhance an athlete's performance and psychological training is now considered to be almost as important as physical training (Weinberg and Gould, 1999). Weinberg and Gould (1999), stated that 50-90% of an athlete's success came from their psychological skill usage. Past research has concluded that psychological skill usage does have a positive influence upon performance (Defrancesco & Burke, 1997). Even though psychological skills do enhance performance it should not be presumed that all athletes have an understanding about how to use them correctly and effectively in their sport (Wang, Huddleston and Peng, 2003). A greater understanding of how to benefit from the use of psychological skills should be a major advantage to athletes.

Throughout research into psychological skill, studies have stated that, psychological skills are used more effectively with more successful athletes rather than the less successful athletes (Tanaka & Gould, 2014). The aim of this study is to examine the psychological skills that are used by athletes and how the results differ between elite and non-elite in training and competition in non-contact sports.

CHAPTER 2: LITERATURE REVIEW

2.0 Review of Literature

2.1 Introduction

The pursuit of perfection in sport was initially related to the individual's physical activity; however, for many years the psychological aspects of sport have been considered and studied to aid improved performance (Bebetsos & Antoniou, 2003). There have been situations where athletes have failed to achieve their expected performance due to pressure the athlete faces in a competitive environment and external factors beyond the athlete's control (e.g., personal issues). Psychological skill usage in competitive sport varies between different performance levels (Weinberg & Gould, 2007; Hardy *et al.*, 1996). Psychological skill is defined as, the cognitive behavioural techniques that are used for dealing with stress management in sport (Jarvis, 2006) or to aid the athlete's performance.

Psychological skills can be classified as basic or advanced (Hardy *et al.*, 1996). This research investigated 4 basic types of psychological skills; goal setting, imagery, self-talk and relaxation. These psychological skills have been researched separately and may have a lesser or greater impact within certain sports and/or environments. This review will examine previous research to identify which psychological skills athlete's use during training and competition and their impact upon performance.

The literature examined focuses upon psychological skill usage linked with competitive anxiety responses and the potential debilitating effect upon performance (Hanton & Wadey, 2008). Fletcher & Hanton (2001) found that psychological skill usage, by performers, would lead to a facilitative perception of pre-competitive anxiety and lead to increased performance. Whereas, Hanton & Wadey (2008) stated that there had been no information to explain why or how these mechanisms of basic psychological skills were used, so they investigated the underlying mechanisms.

The purpose of this chapter is to review previous literature undertaken in how psychological skills of goal setting, imagery, self-talk and relaxation are used to enhance performance. This review focuses upon the types and functions of each psychological skill and concludes which psychological skill has the greatest impact upon performance. The first psychological skill reviewed is goal setting.

2.2 Goal setting

Goal setting is defined as: the process, which helps athletes understand where they are currently at and where they want to reach (Kornspan, 2009). To ensure a goal setting programme is effective and the influence that it has upon enhancing performance, it needs to consider: goal temporality and goal focus. Goal temporality influences an athlete's performance by seeing the changes in the athletes' levels of attentional focus, self-confidence, effort and motivation (Gould, 2006) and the impact of short term and long term goals (Burton & Vidic, 2010). Goal focus identifies different goal types: outcome, process and performance goals which are important to consider when designing a goal setting programme (Burton & Vidic, 2010). Outcome goals are the end result in a competitive environment and are uncontrollable (e.g., winning a race) but can be influenced by an opponent's ability (Weinberg & Gould, 2007). Process goals focus upon the execution of behaviours, skills and strategies (e.g. techniques that facilitate performance) (Burton & Vidic, 2010; Munroe-Chandler, Hall & Weinberg, 2004). Performance goals are defined as achieving specific performance standards independent of other competitors, with comparison to previous performances (Weinberg & Gould, 2007; Munroe-Chandler, Hall & Weinberg, 2004). (e.g. swimming a distance in a given time).

Burton and Vidic (2010) investigated goal setting used by tennis players and found that it was more effective to use several goal types. They found that process and performance goals combined, helped to increase an athlete's motivation, boost their confidence and enhance performance more than outcome goals due to task and mastery orientated climates being promoted (Burton & Weiss, 2008) Zimmerman and Kitsantas (1996) stated

process goals were more effective than performance goals in developing technique.

Goal setting identifies the relationship between goals and performance, in non-contact sports as athletes plan when they should set certain goals into different aspects of their training program to enhance their performance (Burton & Vidic, 2010). However, different research suggested that certain goals are more important if the performance aspects are different. This would depend upon the athlete's interpretation of those goals and whether they see it as success or failure towards performance (Kingston and Wilson, 2009).

Research (Silva & Stevens, 2002; Burton & Vidic, 2010; Jarvis, 2006) proposed, that setting goals increases motivation and leads to an improvement in performance because goals can be motivation specific, where their main function is to increase standards of performance, that regulate an athlete's behaviour (Kingston & Wilson, 2009). Setting goals allows the athletes to direct their behaviours towards their goals (Silva & Stevens, 2002) and allows the athlete to have something to work towards. Weinberg and Weigand (1993) identified those athletes using goal setting, set by a coach, had a better performance outcome than goals set by themselves. Weinberg, Yukelson, Burton and Weigand (2000) investigated 328 Olympic athletes to review their use of goal setting in performance. They found that using goal setting was effective in improving their performance.

Weinberg, Butt and Knight (2001), followed this up with a further study, interviewing high school coaches' on their perceptions of goal setting. They argued against the findings, stating that goal setting, used by Olympic athletes, was effective but the study was only conducted on Olympic athletes. However, the coach's perceptions of goals were that they were meant to provide a structure and focus for the athletes. Therefore, the most effective goals were short-term goals that were discussed with the athlete. Some coaches do not agree with this approach, believing goals should be stated and given to the athlete by the coach (Jarvis, 2006). Long-term goals are defined as an end point for performance; whereas, short-term goals are

instant stepping-stones to reach the long-term goal (Burton & Vidic, 2010). It is hard to test whether short term and long terms goals have a positive effect in improving the athlete's performance due to athletes setting personal goals which are different from the short and long term goals (Weinberg & Weigand, 1993). Studies (Hall & Byrne, 1988; Weinberg et al., 1988) found that athlete's using a combination of both had better performance (Kingston & Wilson, 2009).

Simply setting the goals does not guarantee improved performance. The goal setting process does not ensure that the athlete achieve their goals (Hardy *et al.*, 1996). Having considered goal setting the next psychological skill to be considered is imagery. Imagery is different; in that goal setting is structured i.e. the goals have to be set; either by the coach or the athlete. Whereas, imagery can be structured or unstructured, depending upon whether the athlete is thinking about a future sporting event, (Hardy *et al.*, 1996).

2.3 Imagery

Imagery is the creation or re-creation of an experience athletes create in their mind, requiring them to recall pieces of information from memory to produce images (Weinberg & Gould, 2007). Imagery is used by athletes to facilitate sport performance. Weinberg and Gould (2007) stated that imagery is gathering pieces of information, collected from different experiences and processing this information into meaningful images to help athletes performance (Munroe, Giacobbi, Hall & Weinberg, 2000). Imagery is not just limited to those concerned in the athlete's mind, imagery is a specific mental process that can be mentally practiced (Cumming & Ramsey, 2009). Imagery type, function and outcome are identified in table 1 and are interchangeable (Martin *et al.*, 1999; Murphy *et al.*, 2008).

<u>Imagery type</u>	<u>Imagery function</u>	<u>Imagery outcome</u>
Description of content of image	Reason for using that image	Result of the image
e.g. what	e.g. why	e.g. improved skill performance

Table 1. Imagery type, function and outcome. (Murphy et al., 2008).

Imagery can be viewed either internally or externally. Mahoney and Avener (1977) defined internal imagery as “an approximation of the real life phenomenology where the person actually imagines being inside their body and experiencing those sensations which might be expected in the actual situation” (p.137). Alternatively, external imagery is defined as when people view themselves from an external source (Weinberg & Gould, 2007).

Martin *et al.*, (1999) developed a model of imagery showing ways in which athletes use imagery to achieve cognitive, effective and behavioural outcomes, “What you see, really is what you get” (Martin *et al.*, 1999 p.260). For example, if an athlete wants to see an improvement in performance in that skill, then they need to image themselves accomplishing that skill. Other research (Murphy *et al.*, 2008; Cumming & Ramsey, 2009) stated, that these concepts are not identical and are required to separate the function of why athletes image, from the content of what they image because images can aid more than one function (Williams & Cumming, 2011).

Imagery is most commonly used before competition (Weinberg and Gould, 2007) and it is believed that everyone has the ability to develop images in their minds but the quality of the images vary (Hall, Mack, Pavio & Hausenblaus, 1998). A survey completed by US Olympic athletes found that 90% used imagery in practice and competition (Hardy *et al.*, 1996). This is expected, as Olympians are likely to be at the peak of their sport and may have received support from sport psychologists on imagery usage to enhance performance. Cumming and Hall (2002) found that athletes at this level of

performance used all of the five functions of imagery in both training and competition (Gregg, Nederhof and Hall, 2005).

Early research by Pavoio (1985), found that imagery types were explained through an analytic framework using five cognitive and motivational functional roles (see table 2).

Imagery type	Usage
Cognitive general	Strategies of play
Cognitive specific	Visualising sport specific skills
Motivational specific	Imaging goals set and outcomes of them
Motivational general arousal	Physiological and emotional arousal
Motivational general mastery	Associated with athletes confidence

Table 2. Imagery functions (Pavio, 1985).

They can be either general or specific level (Cumming and Ramsey, 2009). Using this framework it identified that athletes use all five types to enhance their performance but a higher amount for motivational purposes as opposed to cognitive reasons (Hall *et al.*, 1998). Based upon Pavoio (1985), Hall *et al.*, (1998), developed the Sport Injury Questionnaire (SIQ) containing questions regarding the frequency that the athlete uses different types of imagery in performance (Weinberg & Gould, 2007). The SIQ was further developed to include, an extra subscale; the motivational general function, which splits into two further subscales; motivational general arousal and motivational general mastery (Table 2) (Short & Short, 2005). Current literature does not have a measure that is reliable and valid to assess imagery content using these five imagery types (Williams & Cumming, 2011).

Over 200 studies have been undertaken looking at imagery in sport and developed frameworks of how imagery usage works (Short & Short, 2005). In order for imagery to be effective for enhancing an athletes' performance, it must match the imagery function. Different types of imagery

will be more effective in certain situations (Short et al., 2004). These studies have looked at the 4 W's of imagery; what, when, where and why (Short & Short, 2005). By understanding the usage of the 4 W's it helps practitioners when designing imagery training programmes of what, why, when and where athletes use imagery and how it enhances performance through improving physiological and mental perspectives (Weinberg & Gould, 2007). Imagery can be implemented to enhance an athletes' performance during, before and after competition or training (Gregg, Hall, McGowen & Hall 2011). Gregg *et al.*, (2011) stated athletes who used imagery more frequently found it improved performance. These athletes would have had the practice to generate their images to a higher quality maximising the effectiveness of imagery usage.

Imagery content must match the function it is serving (e.g., skill refinement) in order to be effective (Martin *et al.*, 1999. Short *et al.*, 2004). Imagery is influenced by the sporting situation (Martin et al., 1999). Martin et al., (1999) suggested that imagery serves both cognitive and motivational roles at either a specific or general level (Gregg *et al.*, 2011; Cumming & Ramsey, 2009). However, it does not identify the purpose of the imagery type and it assumes that imagery should be classified into one of the 5 categories. This research proposed that an improvement in imagery ability allows athletes to perform sport specific images in a short training period (Gregg et al., 2011).

The SIQ identified all five types of imagery but use it for motivational purposes rather than for cognitive usage. Short *et al.*, (2004) modified it to look at differences between high and low confidence footballers, on imagery functions. The SIQ required modification to include questions about the perceived function and direction of the image (Short & Short, 2005). However, the athlete may not know why they are using imagery and a question was proposed "did the athlete know what function they were affecting through their imagery efforts" (Short & Short, 2005). Therefore, the SIQ does not look at the athlete's perception of their imagery function so using this quantitative approach may not be useful (Short & Short, 2005). Currently a gap exists in

the research between the content of imagery reported by athletes and how to assess their ability content (Hall et al., 1998).

Most research into imagery usage is quantitative, a limitation of this approach was that athletes perception of imagery function was not considered (Short & Short 2005). Therefore, a qualitative study asks questions about what the athlete perceives as the imagery functions, ensuring that this is incorporated into the research. Weinberg and Gould (2007) stated imagery usage should be tested before competition because afterwards they would have a clear image in their heads of performance. Imagery is the psychological skill that research has suggested is most commonly used by athletes. Self-talk is the next psychological skill.

2.4 Self-talk

It is known that top elite athletes use self-talk to improve their performance (Van Raalte, 2010). Andy Murray in 2012 won the US Open and stated that self-talk made a positive contribution to his performance during the US Open Final, when he went into a small room off court and stated, "I started out a little tentative but my voice got louder. You are not going to let this one slip. This is your time" (The Observer, 2013).

Hardy *et al.* (1996) stated that an issue with self-talk was reaching an agreement within the definition. One definition by Bunker et al., (1993), stated self-talk was an entirely cognitive function that occurs constantly when an individual is continually thinking. This definition is limited and vague as it includes any type of thoughts in general that an athlete can have. It also makes the measurement of self-talk difficult, as thoughts are too general (Hardy *et al.*, 1996) due to definitions being extensive and including other aspects such as mental imagery (Gammage *et al.* 2001). Therefore, defining self-talk using this definition is potentially problematic. Due to limited scope, a further definition was produced by Hackfort and Schwenkmezger (1993) which was functional based and proposed that self-talk was a dialogue in which an athlete 'interprets feelings and perceptions, regulates and changes evaluations and convictions. They give themselves instructions and

reinforcement” (p.355). This definition also provides the uses, where self-talk is effective and would need to consider the breadth and scope of a variety of the different definitions.

Self-talk definitions vary in breadth and scope (Van Raalte, 2010). Van Raalte (2010) defined self-talk as “what athletes say to themselves out loud or internally and privately” (p.510). Hardy (2006), determined that an effective definition for self-talk requires a working definition viewing five aspects of self-talk: “verbalizations addressed to self; multidimensional in nature; open to interpretation by virtue of its content; somewhat dynamic and instructional; and/or motivation for the athlete” (P. 84). Therefore, a working definition would be more effective when talking about self-talk, due to its continuous shifting over time and its multidimensional nature (Hardy, Oliver & Tod, 2009) hence it will constantly need modifying (Hardy, 2006).

Self-talk can be: positive or negative; instructional or motivational; and internal or external (Van Raalte *et al.*, 1994; Hardy, Hall and Hardy, 2010; Landin & Herbet, 1999). Positive self-talk can be defined as the encouraging statements that athletes say to themselves, (e.g. “you can do it”) (Van Raalte, 2010). It encourages the athlete and helps them with the effort they put into a session (Rushall, 1984, cited by Landin & Herbet, 1999). Alternatively, negative self-talk is defined as negative statements and any anger or discouragement they say to themselves such as, “you are slow” (Van Raalte, 2010). Instructional self-talk provides a focus for the performances of a particular skill (e.g. move your feet) and motivational self-talk refers to statements looking to build athletes confidence and positive moods in a sport setting (Hatzigeorgiadis, Zourbanos & Theodorakis, 2007). It includes statements such as, “come on” (Van Raalte, 2010). Goodhart (1986) stated, that athletes that had used negative self-talk had more reason for the need to avoid failure in performance and that by using negative phrases it can increase performance (Hardy *et al.*, 2009). The research by Van Raalte (2010), offers equivocal findings between the type of self-talk and performance. For example, Dagrou, Gauvin and Halliwell (1992) investigated self-talk in non-contact sports and suggested that negative self-talk resulted in

similar performance results to positive self-talk. Van Raalte *et al.*, (1994), found that although negative self-talk was related to losing, positive self-talk was not directly linked to winning. In contrast Hardy *et al.*, (2001b) found that a number of high school athletes stated that negative self-talk before training and competition helped motivate performance.

Hardy *et al.*, (2001) found in a qualitative study that self-talk provides two functions: instructional and motivational. Due to its emphasis on technical aspects, instructional self-talk was found to improve accuracy and timing. Motivational self-talk focuses upon the goals they are trying to achieve. However, this is difficult to measure as self-talk can include any type of thought, as the definition is vague (Hardy *et al.*, 1996).

The current research states when and where, self-talk is used. Hardy *et al.*, (2004) suggests that self-talk is utilised before, during and after practice and competition but was used more in competition. However, there may be shortfalls in self-talk research, in terms of how self-talk is used and further research will need to consider these factors as it is unknown how athletes use self talk across the season (Hardy *et al.*, 2004). The final psychological skill is relaxation.

2.5 Relaxation

Relaxation is defined as a way to reduce the body's arousal levels (Jarvis, 2006). There are two types of relaxation techniques: Physical and Cognitive. Physical relaxation includes, progressive relaxation, breathing control and biofeedback, whereas cognitive techniques include meditation and imagery. These skills have to be practiced in order to work in competitive situations (Silva & Stevens, 2002).

Progressive muscular relaxation (PMR) is the tension and relaxation of a muscle group. This requires the contraction to be held for a number of seconds then relaxing and moving onto the next muscle group. This will be continued until the body reaches a state of psychological and physical

relaxation (Silva & Stevens, 2002). PMR provides awareness to athlete's arousal level enabling them to relax their body and mind, which in turn reduces muscular tension facilitating relaxation, aiding performance (Hardy *et al.*, 1996). PMR does have some limitations, in that physical relaxation techniques require a quiet and comfortable environment, where athletes can spend 30-40 minutes tensing and relaxing (Silva & Stevens, 2002). In sport this technique would need to be readily available during sporting situations, thus difficult utilising this technique during competition.

Ost (1988) developed a programme in which individuals proceed through a number of different stages in a quicker space of time to reach a relaxed state. A hockey, Olympic bronze medallist used this technique during competition, when feeling under pressure. It allowed her a moment to physically relax before being under pressure (e.g. receiving a short corner). This technique, may involve a few breaths and repetition of a mantra, could be used prior or during competition to regain focus and help improve performance (Hardy *et al.*, 1996). Jacobson (1976) study proposed that to be relaxed, the body would need to recognise when it is tense and use the physical relaxation to move to a relaxed state (Newmark & Bogacki, 2005). This technique can be used when an elite athlete will have the ability to use their muscles effectively, which is important in high-speed complex tasks such as sprinting. (Joyce & Lewindon, 2014).

Biofeedback has been used in practice in Petruzello, Flanders and Salazar, (1991) study where they viewed studies using biofeedback related to performance. They suggested that, measurements in heart and breathing rate, are effective in improving an athlete's performance. By an athlete being more aware of their arousal levels, an individual can detect when the equilibrium is out of balance and subsequently control the impact of such an occurrence (Weinberg & Gould, 2006).

Meditation is an example of cognitive relaxation, it is not known how effective it is in sporting situations, as little research has been documented (Silva & Stevens, 2002). It requires the athlete to be in a quiet environment,

comfortable position and to repeat a word. Findings state that, meditation shows a change in physiological states, (e.g., reduced heart rate) can be related. Thus meditation can help an athlete relax (Silva & Stevens, 2002).

Relaxation is used in situations where an athlete would be under stress and the ability to deal with these situations is vital (Hardy *et al.*, 1996). Relaxation must be integrated into the practice of skills because if muscles are tight, then it is difficult for the athlete to start the movement, thus impacting upon performance levels (Joyce and Lewindon, 2014). Studies have examined athletes using relaxation in order to cope with competitive anxiety. Kudlackova, Eccles and Dieffenbach (2013), studied 50 participants and undertook a survey to see how an athlete used relaxation to cope with anxiety. The findings from this study are similar to the ones that were found in Cumming and Hall's (2002) study looking at imagery. These studies found, "relaxation activities were perceived as at least moderately relevant to performance, requiring at least moderate levels of concentration and moderately enjoyable" (Kudlackova *et al.*, 2013, P.473).

Having reviewed the four psychological skills it appeared there was much research available on imagery but less reliable data on how psychological skills impact upon non-contact sports for elite and non-elite athletes.

2.6 Purpose of the study

Most research that has investigated the impact of psychological skills, has examined them individually identifying how an athlete uses them to deal with competitive anxiety in performance (Fletcher and Hanton, 2001; Wadey and Hanton, 2008). These previous studies used mostly quantitative methods to collect their data. However, as a result of using quantitative methods the data collected struggles to measure the athlete's thoughts and feelings (Gratton and Jones, 2010). This research adopted a qualitative approach using semi-structured interviews to investigate the impact upon performance between elite and non-elite athletes participating in non-contact sports. This enabled athletes to expand upon their answers and facilitate flexibility in

providing their unique experiences. There have been qualitative studies into the broad spectrum of psychological skills used in competitive sport and qualitative research will be an effective way of collecting data for this type of study (Gratton & Jones, 2010).

The main purpose of this research is to examine how the four psychological skills when used in training and competitive environments, varied between elite and non-elite athletes in non-contact sports. This will be derived through qualitative interviews to determine the best psychological skill. Finally, this research will look at how these psychological skills may affect the outcome of an athlete's performance and if there are any common trends in the results.

CHAPTER 3: METHODOLOGY

3.0 Method

3.1 Introduction

From looking at early research it was established that psychological skill usage was used with competitive anxiety responses (Fletcher and Hanton, 2001) and most previous studies used a quantitative approach in order to gather the data. A qualitative research method approach was used to allow the emergence of new topics developing throughout the data collection (Gratton and Jones, 2010) and thus provided a richer source of information (Denzin and Lincoln, 1998).

3.2 Criteria

Eight athletes were approached and informed of the purpose of the research and how their input would be beneficial. The sample consisted of male and females, competing at varying levels. Participants tested were aged over 18 and provided consent prior to interviews (Appendix A). They all participated in non-contact sports at a competitive level for over 6 years. An elite athlete was one that had competed internationally for their country and a non-elite athlete, was one who played regularly with a club/team at a competitive level (e.g., weekly games/competitions). Participants received a Participant Information Sheet, which provided details of what the research would involve (Appendix B).

3.3 Participants

The eight participants in the study ranged from age 18 to 21 ($M = 20.4$ $SD = 1.06$). All participants gave their informed consent and were in agreement for the data to be used for this study. These participants were chosen through snowball sampling, by locating participants, and they identifying further potential participants for the study (Gratton and Jones, 2010). This enabled trust between participant and researcher, helping to improve the quality and validity of the data obtained (Gratton and Jones, 2010). A small sample was used due to the study being of a qualitative nature. The participants were interviewed regarding the use of psychological

skill used in training and competition and the impact they had upon their performance.

3.4 Instruments

3.4.1 Consent and Participant Information Forms

Interviews were chosen as they allowed the researcher to gain richer data from a small sample size (Gratton and Jones, 2010). It facilitated further research to be identified and helped to highlight areas for further investigation. Semi-structured interviews were developed to collect the data.

A consent form was completed (Appendix A) with each athlete, prior to undertaking interviews, to ensure that participants fully understood the purpose of the study and the purpose for which the data collected would be used. The athletes in the study were also provided with a Participant Information Form (Appendix B). This form provided an overview of the purpose of the research.

3.4.2 Interview guide

Two semi-structured interview guides were developed using open-ended questions, which enabled the researcher to adopt a more flexible nature when asking questions. This facilitated probing the participant further to obtain greater insight into the answers (Gratton and Jones, 2010). The interview process consisted of two interviews: first interview identified the psychological skills used by the athlete; the second interview investigated in greater depth the psychological skills identified in the first interview.

The first interview consisted of three sections: section one was the introduction, introducing the important information and set the scene for the interview that was about to commence; section two started with general questions about the skills they used in training and competition in order to identify the relevant psychological skills; section three collates feedback about how the interview had been conducted.

The second interview was developed from the responses of the first interview, allowing more specific questions to be asked, based upon the psychological skills that had previously been identified.

This second interview was split into 5 sections (Goal setting, imagery, self-talk, relaxation and conclusion) and investigated specific psychological skills that were used in training and/or competition. The questions were specific to the individual athlete's psychological skills that were mentioned in the first interview. Definitions were provided for each of the psychological skills in the second interview to guide them through the interview and help them develop their answers in line with what was required. Furthermore, examples of the types of psychological skills applicable to each of the four being investigated were provided to the interviewees in each section.

3.5 Procedure

Prior to the interview, participants were contacted via email, or in person and asked if they would give their consent to take part in the study. All participants were informed that their information will remain strictly confidential and that they had the right to withdraw at any time.

3.5.1 Pilot study

A pilot study took place before the interview commenced to provide feedback on the questions and enabled the interviewer to have a run through of the questions before conducting the actual interview. From this pilot study, further refinement was undertaken before the real interviews commenced. The pilot study was also beneficial as it allowed the interviewer to listen to the recording and aided checking the questioning style and where/if the interviewer had interrupted the speaker (Sparkes and Smith, 2014). This will help improve interviewing technique before conducting the actual interviews.

The participants who agreed to take part fully understood that there were two interviews: first interview identifying the psychological skills (Appendix C); and the second interview the psychological skills that had been mentioned initially were worded into more specific questions in a semi-

structured interview format to see what impact those psychological skills had upon performance in training and competition (Appendix D).

3.5.2 Interview process

A week prior to the date of the interview, a copy of the interview format was sent out to the participants. This allowed the participants to think about the answers and prepare their responses prior to the interview. Questions for the 2 interviews were developed from previous research studies into psychological skill usage, to investigate how they are used in training and competition between elite and non-elite performers.

The two interviews were carried out with no more than a two-week gap between each interview. The first interview started with structured questions to ensure the participant was comfortable and relaxed in the interview environment. Towards the end of the first interview the questions became more open-ended. Open-ended questions assisted the responses to be more facilitative and enabled the athlete to talk freely, thus allowing new ideas to be identified and rich data to be gathered (Sparkes and Smith, 2014). A copy of the second interview was sent out to participants 2/3 days prior to commencement. This enabled the athletes to think about their responses to the questions before the interview took place and write down comments. The second interview took a semi-structured interview style to enable a flexible approach to interviewing. Semi-structured interviews still have a standardised set of questions to collect the required information. However, it enabled the interviewer to ask questions in slightly different ways for each interviewee to ensure they understand what is required of them but all the information on the topic being questioned was still able to be collated (Gratton and Jones, 2010). Gratton and Jones, (2010), stated that semi-structured interviews which enabled the participant to have a greater degree of flexibility, to expand upon their experiences and knowledge during the interview and it enabled the interviewer to explore newly emerging themes.

The interviews were conducted in person and carried out by the same interviewer ensuring consistency. The interviewer listened carefully to the

responses and they were knowledgeable about the research that they had undertaken in the topic area being discussed. This helped follow up questions to be explored, leading to greater in depth conversation. The two interviews combined together lasted around a total time of 30 minutes, with the second interview being generally longer.

In addition, the interviewer ensured that they did not interrupt the interviewee and allowed them to speak for as long as they required, so that rich and valid data could be gathered. Probing was required during some of the interviews to ensure that the interviewee was able to expand and elaborate on certain points to gain additional information (Gratton and Jones, 2010). Prior to the interview the researcher became proficient with the dictaphone, to ensure that the interview recording ran smoothly. The interviewer made the interviewee aware that the interview was recorded via a dictaphone, which would only be used for research purposes. Dictaphones can facilitate greater rapport to develop and enabled more information to be gathered from the interviewee (Gratton and Jones, 2010). Recording of the interview was deemed the best way to collect the data as it provided the interviewer with time to listen to the information given in the interview at a later date and as many times as necessary.

The interview environment was important to consider when designing the interview guide. Interviews took place in an environment where the interviewee felt comfortable. The location was reasonably private, (e.g. a private study room) so that the information the interviewee gives could not be taken and used by someone else and there would be no influence from other people, which can be distracting for the participant. This also increases the validity of the information given (Gratton and Jones, 2010). When considering the location, other external factors such as background noise had to be taken into consideration, due to the interviews being recorded; background noise could cause disruption on the recording.

Once all the data had been recorded and transcribed verbatim through the recording of interviews, the findings were written allowing themes and

patterns to be identified. Once interviews had been transcribed they were then sent back to the interviewee to check and make sure they were in agreement with the information provided. At this stage the participants were offered the opportunity to remove any data they wished before data analysis took place.

3.6 Data analysis

Data was analysed to ensure that evidence could be obtained to help answer the research questions (Gratton and Jones, 2010), and see if any consistent psychological skill usage between elite and non-elite athletes emerged. Causal networks were used to identify the relationship between psychological skills used in training and competition and how that varied between elite and non-elite athletes. Miles and Huberman (1994) stated, “a causal network is a display of the most important independent and dependent variables in a field study and of the relationships among them” (p.153).

Inductive analysis enabled the emergence of key themes from the raw data that was derived through the interview transcriptions (Patton, 2002). It enabled an explanation into how the psychological symptom they talk about influenced performance and see patterns that have emerged from the interviews. Deductive analysis was used to compare these new findings that have been proposed from the interviews with previous research that had already been proposed (Patton, 2002). It allowed previous research into psychological skills to be tested to see if what has been found from inductive analysis was correct.

After the interviews had been transcribed, they were then sent back to the participants so they could check the transcriptions, ensuring they were correct, confirming which psychological skills that they had discussed.

3.7 Reliability and validity

The issues of reliability and validity in research are important in order to consider how “truthful” your research actually is. Reliability ensures that the findings from the interviews were consistent, whereas, validity looks at how

correct the measurement is and the accuracy of the conclusions that have been drawn from the findings. (Gratton and Jones, 2010). To ensure reliability and validity in the study a number of factors needed to be considered:

- Interviews were conducted in a private room with the same interviewer, where athletes would feel comfortable to give out information about the psychological skills they use confidentially
- Interviews were conducted consistently through using the same interviewer, so that questions were asked in the same way to all the athletes, in order to get the required results.
- A pilot study was undertaken to correct any issues with the interview transcript that stated that questions were clearly understood and effective responses given.

CHAPTER 4: RESULTS

4.0 Results

4.1 Introduction

The data was analysed through an inductive and deductive process separately for elite and non-elite participants. The findings were presented via causal networks, exploratory text and supportive quotations. Results were presented in relation to four psychological skills and their impact upon performance in training and competition. Within each psychological skill, themes emerged to illustrate how psychological skills impacted upon performance in training and competition.

Fourteen causal networks were produced, seven for elite and seven for non-elite athletes, within training and competition. Arrows, from left to right, linked each causal network, indicating relationship direction. Each causal stream displayed a number of how many people identified that theme (Miles and Huberman, 1994).

All causal networks identified different psychological skills improved performance in a competitive environment. All of them, apart from relaxation, were used in both training and competition. Within each causal network, different themes were identified and shown how they influenced performance. The causal network presented in figure 1, displayed how process goals were used to have a perceived increase in performance during training. The results below were presented through a causal network, followed by a description and quote to explain what the participant stated, see table 4.

Table 3

	Psychological skill	Participants (Elite and Non-Elite)								Total
		1 E	2 NE	3 E	4 NE	5 NE	6 E	7 NE	8 E	
Training	Goal Setting		x		x		x			3
	Imagery			x	x			x		3
	Self-talk	x		x		x				3
	Relaxation									0
Total training		1	1	2	2	1	1	1	0	9
Competition	Goal setting		x	x	x		x			4
	Imagery	x	x	x	x		x	x	x	7
	Self-talk	x	x	x	x	x	x	x	x	8
	Relaxation		x		x			x	x	4
Total competition		2	4	3	4	1	3	3	3	23
Overall Total		3	5	5	6	2	4	4	3	32

Table 3. Shows frequency of psychological skill usage in training and competition per participant, by elite (E) and non-elite athletes (NE).

4.2 Causal Networks on Goal Setting

4.2.1 Causal Network A – Goal Setting (Elite training)

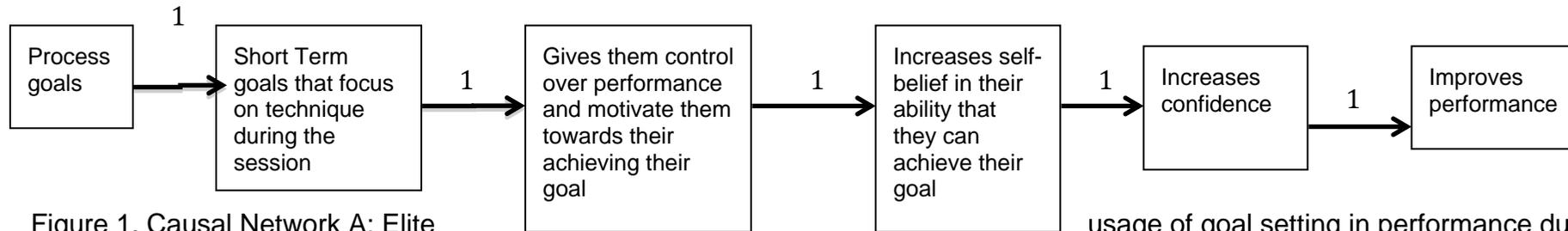


Figure 1. Causal Network A: Elite training.

usage of goal setting in performance during

4.2.2 Causal Network B – Goal Setting (Elite competition)

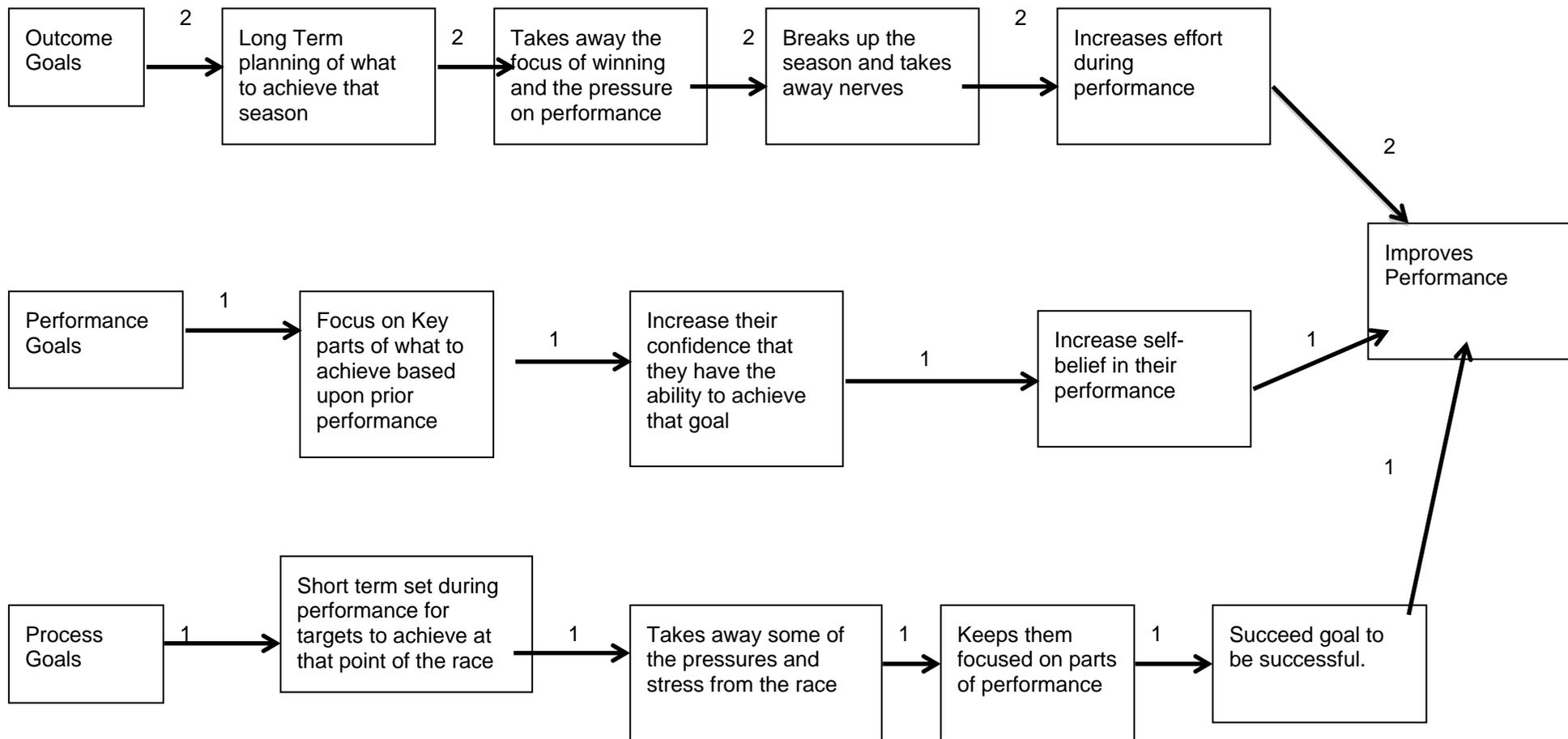


Figure 2. Causal Network B: Elite Usage of goal setting in performance during competition.

Figure 1, displays how elite athletes used process goals during a training session and its perceived effect upon their performance. Short-term process goals are used to help with technique improvement; it gives them control within their performance and is motivating towards achieving their goal. This increased their self-belief and their confidence in their ability, which improved their performance. Participant 6 stated they used process goals in training and a quotation can be seen in table 4, row 1, column A. Causal Network B presents the use of goal setting used by elite performers during competition.

Figure 2, displays the usage of different types of goals elite athletes used during competition and the perceived effect upon performance. Two elite performers stated they use outcome goals to plan the season. This took away the main focus of winning and broke it down into more manageable parts. Therefore, it is perceived to reduce the athlete's nerves, increase their effort during competition and improve performance. A quotation of what participant 3 stated can be seen in table 4, row 2, column A. One elite performer reported using performance and process goals along with outcome goals. Performance goals were based upon prior performance, to focus upon what was achieved to increase confidence in their ability and belief in their performance. Resulting in a perceived improvement in performance. A quotation of what participant 3 stated is noted in table 4, row 2 column B. Process goals also help to target certain parts of the competition. These process goals were short term during different stages of competition taking away the pressure of the race as a whole. It enabled the participant to focus on certain aspects at that point of the race and was perceived to improve performance. A quotation of what participant 3 stated can be seen in table 4, row 2, column C. Causal Network C identified how non-elite athletes use goal setting during training.

Column	A	B	C
Row			
1	I set short-term goals as its something to work towards during training. It helps me to keep my focus on what part my technique I am in need of improving and that then gives me the ability that I would be able to ensure I do it in a competition so motivates me to succeed. So yeh I think it does have a positive effect on my performance.		
2	So obviously my main goal of the season would be to set an outcome of winning events. Depending on how many I enter I state out of that how many I want to win and would need to consider if this is realistic depending upon my competitors. By doing this it takes away the focus of the season as a whole and breaks it down kinda into sub components of what I need to do for the next race coming up and not one a month away. This then allows me to put more effort and more focus into achieving the best I can in that race and when I have a good race it can show that I'm improving by the times getting better.	Every athlete obviously has their outcome goals that they are working towards but you need a focus on how to reach this goal. So by setting performance goals it helps me reach that goal as it breaks up the race and in my I have a clear idea of what I need to do at that point rather than what I need to do in a hours time of the race either mainly focusing on tactical or technical aspects depending on which point of the race I am at.	Within performance goals I also set process goals which I have set as ST during the race. E.g. during the bike I need to keep my wheel right up with the leaders pack. By setting ST goals like these throughout the race I feel for me it takes away the stress and pressure of the importance of that race and allows me to just focus on certain aspects at certain parts when required. This then focuses to think about I feel it does have a positive effect upon performance.

Table 4. Causal Network A and B participant's quotations.

4.2.3 Causal Network C – Goal Setting (Non-elite training)

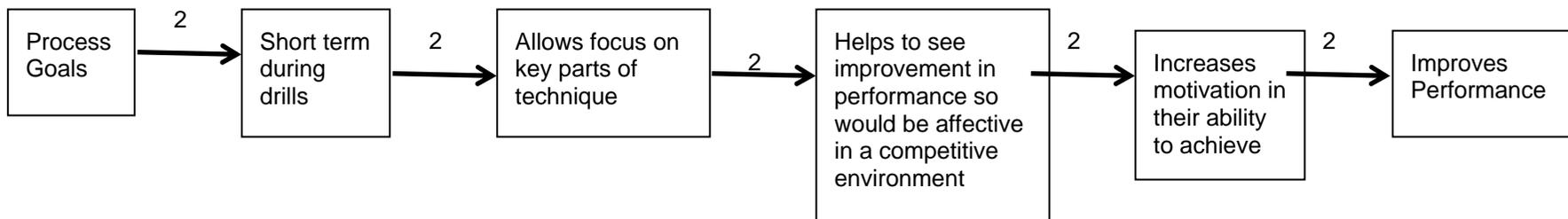


Figure 3. Causal Network C: Non-elite usage of goal setting in performance during training.

4.2.4 Causal Network D – Goal Setting (Non-elite competition)

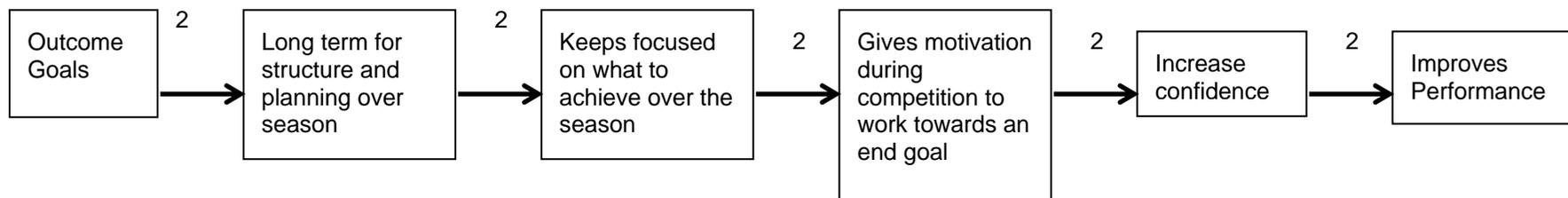


Figure 4. Causal Network D: Non-elite usage of goal setting in performance during competition and its perceived affect upon performance.

Figure 3, displays how non-elite athletes used process goals during training. Two non-elite athletes stated that using process goals allowed them to have a short-term focus on key parts of the technique needed to be improved during that drill. This increased the athlete’s motivation to perform the drill effectively and perfect the technique so that it can be used in competition, improving performance. A quotation of what participant 4 stated is noted in table 5, row 1, column A. Causal Network D presents how non-elite athletes use goal setting during competition.

Figure 4, displays non-elite athletes using goal setting in competition. Only 2 non-elite athletes stated they used goal setting in competition, they used outcome goals. Outcome goals were used for long term planning over a season. This allowed them to focus upon what they wanted to work towards during that competition, giving them the motivation to achieve the goal they set, by having an end target. This provided athletes with confidence in their performance, as they had a clearer direction of their targets. This helped them to achieve a perceived improvement in performance. A quotation of what participant 2 stated during competition can be seen in table 5, row 2, column A. Causal Network E identifies how elite athletes used imagery during training.

Column Row	A
1	During a training session the coach lays out what he wants us to achieve during that session/drills so for example he will tell us what time he wants us to hit for every 100m. He also states the goal of session of what we are looking at technique wise so this morning for example we were looking at ensuring that when getting fatigued it doesn't have an affect on our performance when in a competitive environment. So by practising this in training it allows us to see improvement in our performance during training so gives me

	motivation to keep going to get better ready for competition.
2	My goals for competition focus mainly around winning, as this is what motivates me during competition. It allows me to have something to work towards. It also gives me a bigger overall outlook on what I want to achieve that season e.g. improving my ranking by the end of the season and this shows me that my performance has increased and that I am working towards my goal so that also gives me the confidence in my ability to succeed.

Table 5. Causal networks C and D participant's quotations.

4.3 Causal Networks of Imagery

4.3.1 Causal Network E – Imagery (Elite training)

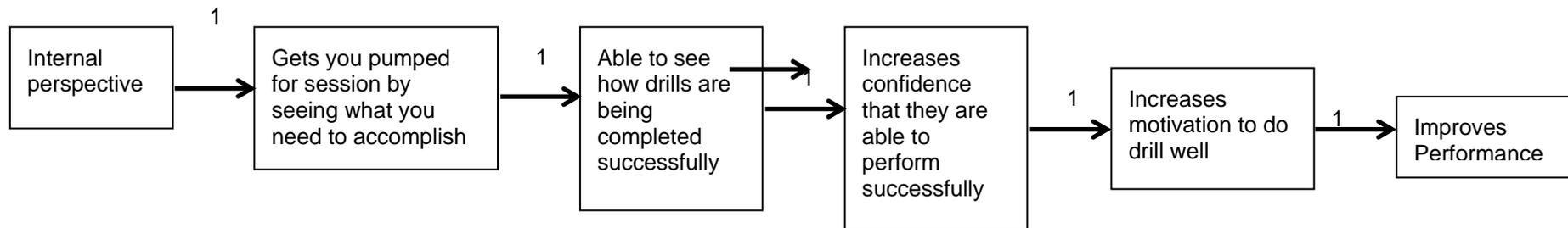


Figure 5. Causal Network E: Elite imagery usage during training.

Figure 5, displays the use of internal imagery used by elite athletes in training. Internal imagery allowed the athletes to focus for that session by visualising what they needed to accomplish. It allowed them to see how the drill will be completed and increased their confidence levels, which can see what they needed to do to have an effective performance. Therefore, it increased their motivation to accomplish the drill and gives a perceived effect of improved performance. Participant 3 stated they use internal imagery and a quotation can be found in table 6, row 1, column A. Causal Network F displays imagery usage of elite athletes in competition.

Column	A
Row	
1	It helps me get pumped for a session that I know is going to be hard. It allows me to visualise what I need to do in that training session in order for that session to be done successfully with performance benefits and therefore gives me the confidence that I can use it in competition if I am struggling with a certain part I can visualise back to a training session if required during competition.

Table 6. Causal Network E participant's quotations.

4.3.2. Causal Network F – Imagery (Elite competition)

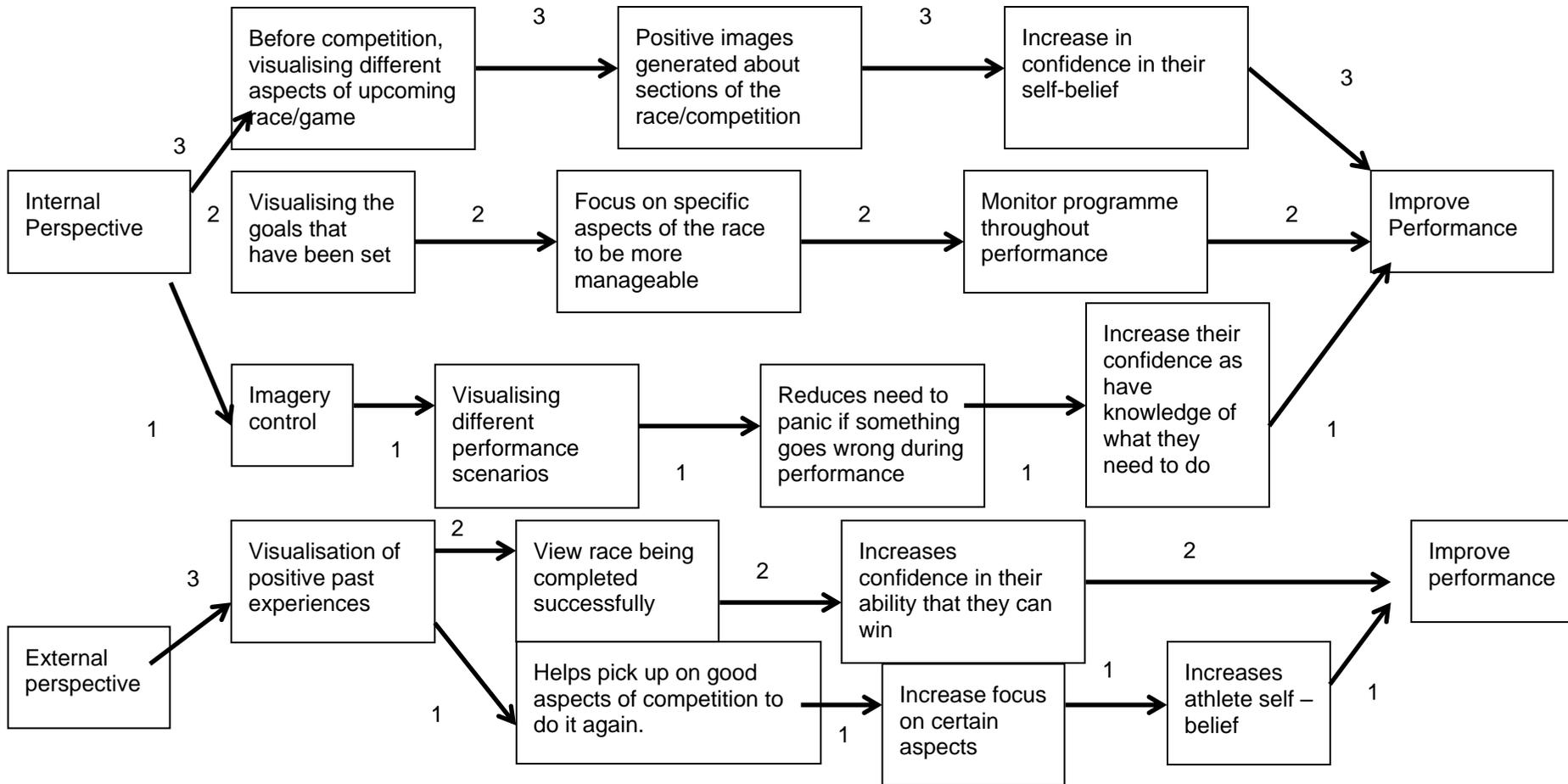


Figure 6. Causal Network F: Elite imagery usage during competition.

Figure 6, displays internal and external imagery used by elite athletes throughout competition and its effect upon performance. All 4 elite athletes used imagery: internal, external, or both during competition. Three athletes stated that they use internal imagery prior to starting the competition/match as it generated positive images of certain parts of the race. Their belief in themselves increased their confidence, enabling them to perceive an increase in performance. A quotation of what participant 8 stated can be seen in table 7, row, 1, column A. Two elite athletes reported using internal imagery to visualise achieving their goals, allowing them to focus on specific sections of the race, which broke the race down. The athlete is able to see themselves achieving their goals due to continuous improvement throughout their performance during competition, which showed a perceived increase in performance. A quotation of what participant 3 stated can be seen in table 7 row 1, column B. Only one athlete described internal imagery as a performance enhancer, visualising different scenarios of the potential performance outcomes, to avoid panic and enhance confidence in their ability to deal with different outcomes. This is perceived to increase their performance. A quotation can be seen in table 7, row 1, column C of what participant 1 stated.

Three elite performers used external imagery during competition. Two elite athletes visualised themselves and their opponents completing competitions (e.g., crossing the line successfully). This provides athletes with confidence that they need for successful performance and gives them the confidence in their ability of what they can achieve and a perceived increase in their performance. A quotation of what participant 1 stated can be seen in table 7, row 2, column A. One elite athlete used external imagery to visualise positive past experiences but helped to pick up aspects of competition of what they did well in previous performance and use it again during competition. This allowed a clear focus on aspects of the competition and gives the athlete belief in their performance and a perceived effect to increase performance. A quotation of what participant 1 reported can be seen in table 7, row 2, column B. Causal Network G displays non-elite athletes using internal imagery during training.

Column	A	B	C
Row			
1	Prior to competition I have already visualised how I want the game to plan out watching myself play the winners I want to play and actually going through movements I need to do to achieve this gives me the confidence before starting.	Using imagery backs up the goals that I have set and allows me to see them more clearly. It gives me something to focus on at certain parts of the race because the race can be a long time and I don't want to visualise something that's going to happen in about an hours time when I've only just started off.	Having a plan b scenario in my head so if something did go wrong with my performance, it makes sure that I don't panic and think right I can still have a positive outcome just by changing my plan. This allows me to know what to do and going into a race with this in mind gives me confidence as I cover all aspects of performance and it usually works in my favour.
2	I only use external imagery when visualising a successful outcome of myself running down towards the finishing line against others.	At certain parts of the race I use previous races to picture myself in those parts of my race so it increased my self-belief of that I was able to do that again and improve performance.	

Table 7. Causal Network F participant's quotations.

4.3.3 Causal Network G - Imagery (Non-elite training)

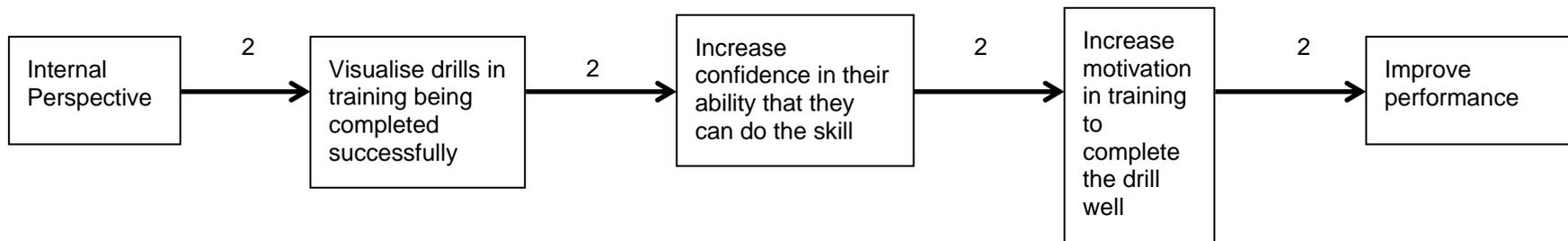


Figure 7. Causal Network E: Non-elite imagery usage during training.

4.3.4 Causal Network H – Imagery (Non-elite competition)

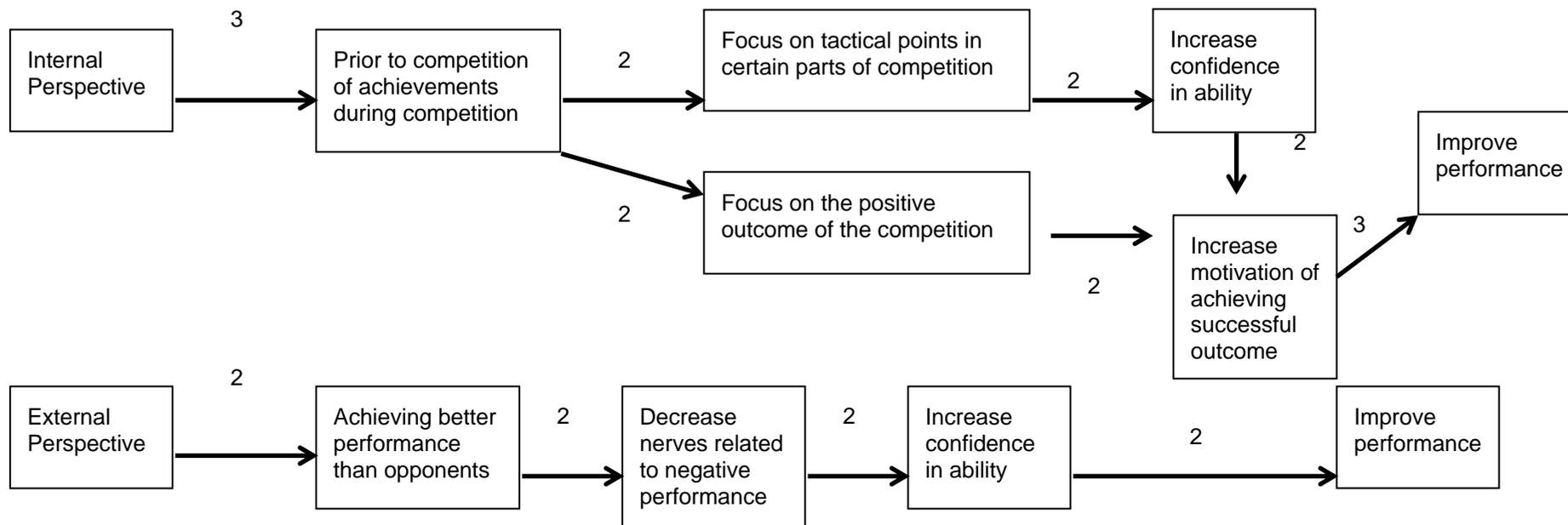


Figure 8. Causal Network H: Non-elite imagery usage during competition.

Figure 7, displays two non-elite athletes using internal during training. Internal imagery allowed them to visualise themselves going through the drill successfully. Therefore, increasing the athlete's confidence in their ability that they can perform that skill well in training so should be able to apply during competition. This increased an athlete's motivation to work hard during the training session and a perceived improvement in performance. A quotation of what participant 7 stated can be seen in table 8, row 1, column A. Causal Network H displays imagery usage of non-elite athletes in competition.

Figure 8, displays non-elite athletes using internal and external imagery in competition and the effect upon performance. Three participants used internal imagery prior to competition. Two stated it helped them focus upon tactics (e.g., winners at certain points of competition), which increased confidence in their ability. This increased motivation during competition, as they knew they had the ability to achieve a successful outcome. Therefore, a perceived improvement in performance. Two also stated (one being the same participant as previous athlete) that by visualising the positive outcome of performance, it could increase their motivation to achieve a successful outcome and have a perceived improvement in their performance. A quotation of what participant 2 states can be seen in table 8, row 2, column A.

Two non-elite participants also used external imagery, picturing themselves against opponents and achieving a better performance outcome. This decreased the nerves that the athletes got that relate to negative performance so increased the confidence in their ability and subsequently a perceived improvement in performance. A quotation of what participant 4 stated can be seen in table 8, row 2, column B. Causal Network I presents the usage to self-talk used by elite athletes during training.

Column	A	B	C
Row			
1	So during training sessions when doing timed sets in my head I visualise myself from the outside watching myself come through a certain point at a certain time on the clock. This then gives me then confidence in a competition that I can achieve that time and motivates me in training to either always get that time or close to it		
2	Before competition I go through in my mind how I want to play my winners in this game. I visualise my tactics based around different scenarios e.g. where my opponent and myself would be and how I could win from being in that position on court. This gives me confidence in my ability to use my tactics that I know about and have been taught effectively when required and by visualising what I want to do usually results in a positive outcome rather than a bad shot being played.	So prior to competition you know who your most probably going to be racing against so I picture myself standing in the stand of the pool watching myself and opponents swim this race that I have coming up and it would be from a previous race that this visualisation would come from and a previous race that I have had a positive outcome from it. I do this because before any competition you'll obviously be nervous but by seeing the positive outcome prior it can reduce these nerves and any negative thoughts. So by visualising this it gives me the confidence that I can do something and therefore helps me to achieve.	

Table 8. Causal Network G and H participants quotations.

4.4 Causal Networks on Self-Talk

4.4.1 Causal Network I - Self-Talk (Elite training)

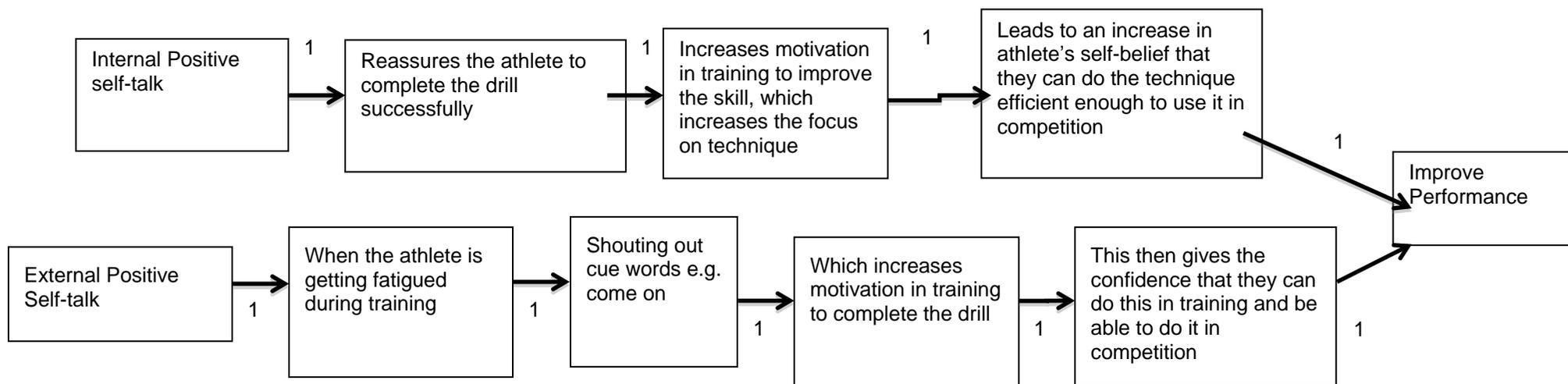


Figure 9. Causal Network I: Elite Self-Talk usage during training.

Figure 9, displays elite athletes using self-talk in training and its effect upon performance. One elite athlete used internal self-talk positively, this reassured them that they can complete the skills successfully. It increased their motivation to improve their skill during training, which can then be applied in competition. This allowed the athlete to focus upon aspects of their technique, resulting in improved self-belief, which they used in competition and hence improved performance. A quotation of what participant 3 stated can be seen in table 9, row 1, column A. One athlete stated they used external positive self-talk during training when they are getting fatigued. The athletes shouted out words to release tension and motivation would then increase, to complete the drill effectively. This enhanced confidence to apply it in competition and improve performance. A quotation of what participant 1 stated can be found in table 9, row 1, column B. Causal Network J displays self-talk usage of elite athletes in competition.

Column	A	B
Row		
1	I use internal self-talk when finding a drill challenging to help me complete it to a high standard successfully this then helps me during competition when I'm finding a section in the race successful. It allows me just to focus on what I need to do and gives the belief that I can do something	When in training and I feel I'm getting a bit tired getting towards the end of a session I shout out loud and talk to myself saying "come on, keep going not much further". This increases my motivation to keep going and not give up and can take what I've learnt and use it successfully then in competition

Table 9. Showing Causal Network I participants quotation.

4.4.2 Causal Network J - Self-Talk (Elite competition)

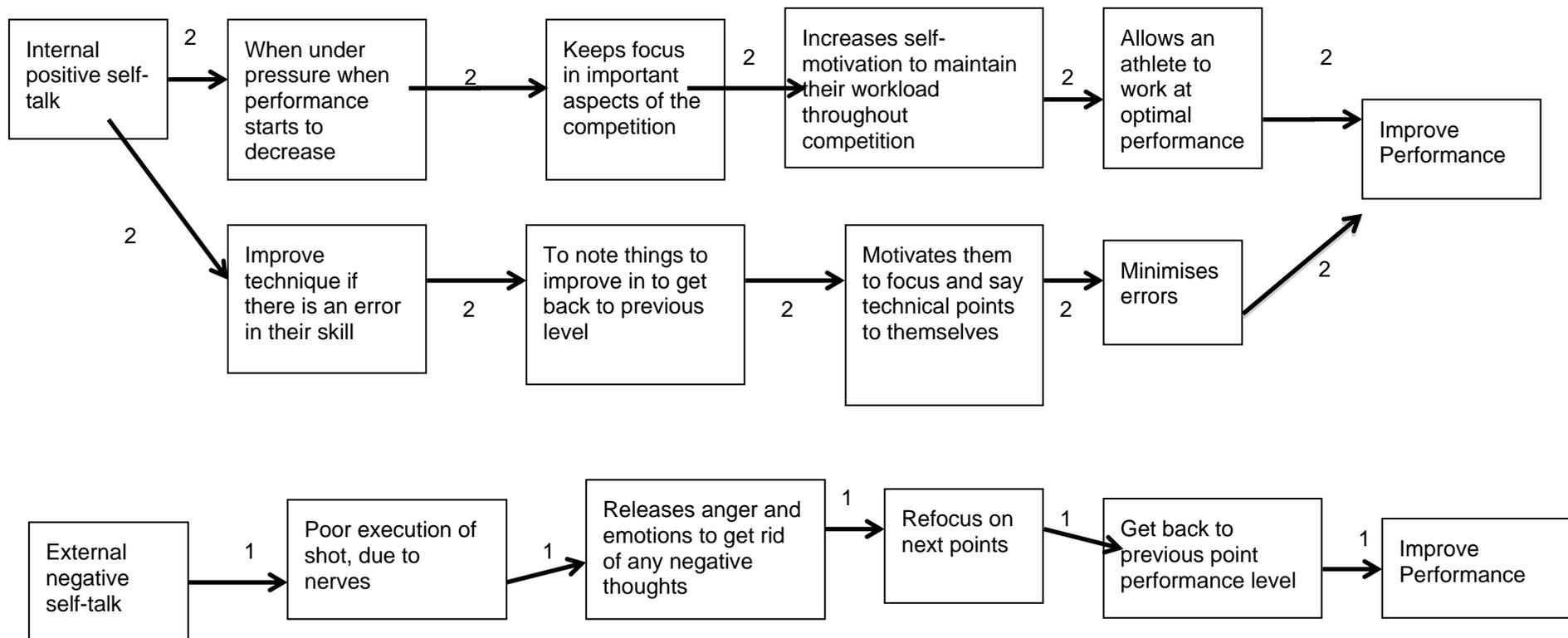


Figure 10. Causal Network J: Elite Self-Talk usage during competition.

Figure 10, displays athletes using internal and external self-talk in competition. All 4 elite athletes used positive internal self-talk during competition. Two participants stated they used it when they saw a decrease in performance, to ensure they keep focused for the important parts of competition. This helped increase motivation to keep going when there was deterioration in performance and so they worked at optimal performance level and improved performance. A quotation of what participant 2 stated can be seen in table 10, row 1, column A. Two other participants used internal positive self-talk to improve their skill when an error occurred, allowing them to note aspects to improve upon, to reach previous performance levels. This motivated athletes to maintain effort during competition, to correct the technical points and minimise errors throughout performance. It is perceived to improve performance, a quotation of what participant 6 stated can be seen in table 10, row 1, column B.

One athlete reported use of negative external self-talk due to poor execution of a shot caused by nerves, resulting in a release of anger to remove any negative thoughts in their mind. Therefore, refocusing for the next shot, eliminating negative thoughts to return to prior performance levels. Improved performance is perceived, as participant 8 stated in table 10, row 1, column C. Causal Network K identifies how non-elite athletes use self-talk during training.

Column	A	B	C
Row			
1	<p>So during a game after I have lost a previous point I tell myself how I need to refocus because if I don't I could lose so therefore I state that I need to "Come on" and "Keep going" in order to get my performance back to win this next point.</p>	<p>So an example I will give when using internal positive self talk was during a race when I was coming fourth and I could see 1st, 2nd and 3rd place just in front of me and before the race I had decided that I wanted to win this race so I thought and told myself what changes I should make due to my technique in order to improve to get back to pre performance level. This then pushes me and gives myself that one last bit of motivation to keep going and succeed and in this case it work I went on to win the race. So if getting into a situation like this again I know I can do this again and hope it'll bring the same positive outcome.</p>	<p>When I'm losing I tend to shout out a lot after I play a bad point and it's almost as if I say it automatically as the words tend to just spill out my mouth from doing badly but after I've shouted out something negative I am then able to recompose and refocus for the next shot and forget about previous performance and continue to carry on playing like I should.</p>

Table 10. Causal Network J participant's quotations.

4.4.3 Causal Network K – Self-Talk (Non-elite training)

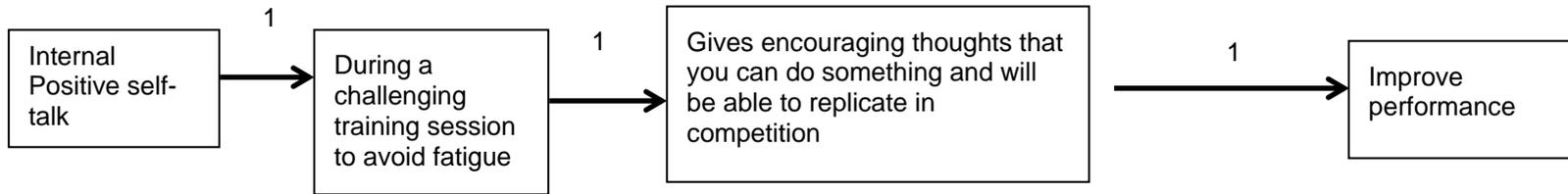


Figure 11. Causal Network K: Non-elite Self-talk usage during training.

4.4.4 Causal Network L – Self-Talk (Non-elite competition)

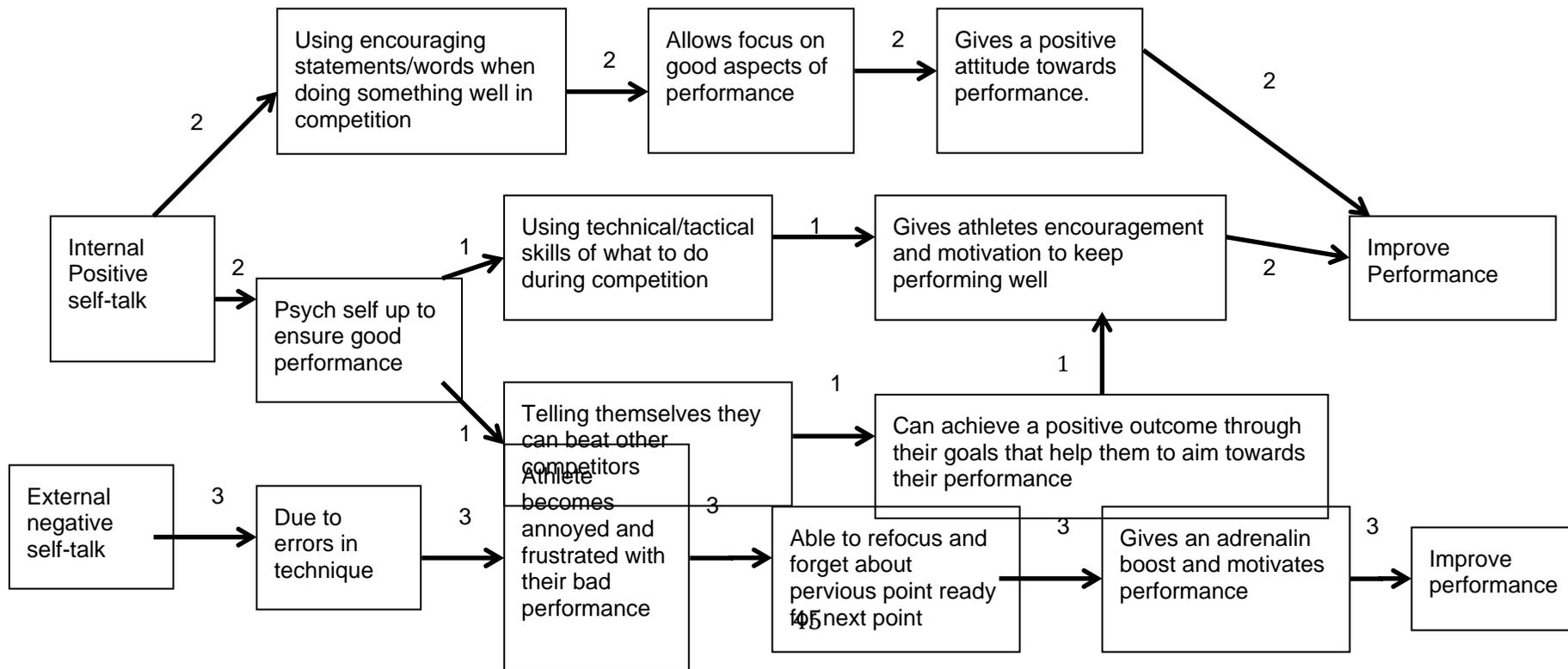


Figure 12. Causal Network L: Non-elite Self-Talk usage in competition.

Figure 11, described non-elite athletes using positive self-talk during training when a session is tough and the athlete is starting to get fatigued. Encouraging phrases are used, which can then be used in competition when/if in the same situation to facilitate performance. A perceived increase in performance is identified as participant 5 stated in table 11, row 1, column A. Causal Network L displays how non-elite athletes use self-talk in competition.

Figure 12, displays all non-elite athletes using internal and external self-talk during competition. Two participants (4 and 5) used it during competition when succeeding. Using encouraging phrases from the coach, it enables a focus of what to keep doing to improve. This provides a positive attitude to focus upon good performance aspects to improve performance. A quotation of what participant 4 stated during competition can be seen in table 11, row 2, column A.

Participants 2 and 7 reported using it to psych themselves during competition. Participant 2 used it to help with improve technical or tactical aspects of performance. This encourages them to do what they tell themselves to do and can motivate their performance. Participant 7 uses internal positive self-talk to compare their performance to their fellow competitors. This helps to achieve goals during performance as it gives them something to aim towards. Consequently, both help to encourage the athlete and motivate them to achieving a perceived improved performance. A quotation of what participant 7 stated can be seen in table 11, row 2, column B. Three non-elite athletes identified negative external self-talk when errors occur during performance causing the athlete to become annoyed with themselves. After bad performance, negative emotions are released and enable the athlete to refocus and forget about negative aspects to increase motivation to continue with improved performance. A quotation can be seen in table 11, row 2, column C of what participant 2 stated. Causal Network M identifies how elite athletes use relaxation techniques during competition.

Column	A	B	C
Row			
1	During training I use self-talk to help me and encourage me through performance when drills are challenging and I'll just repeat well done every time I do something well in order to tell me that I can do things correctly and I can then think back to this then during a competition of the positive statements I say.		
2	During competition I continually especially on a long race when I'm getting tired to say keep going your in a good position in this race you can keep doing well and get the achievement you want this allows me to just focus on what's happening at that point of the race.	Prior to competition I know who I'm racing against and how they would perform against me so I tell myself look if I can stay with so and so during this race then you can achieve the goal you have set for the competition by using tactics when coming to the end to push through and win. This encourages me to keep going and doing well.	During a match when I make errors I tend to get really annoyed with myself as I see them as silly careless mistakes so I shout out phrases for example "That's stupid" in order to get rid of my negative thoughts so I can re compose and get focused ready for my next point and play it well.

Table 11. Causal Network K and L participant's quotations.

4.5 Causal Networks of Relaxation

4.5.1 Causal Network M – Relaxation (Elite competition)

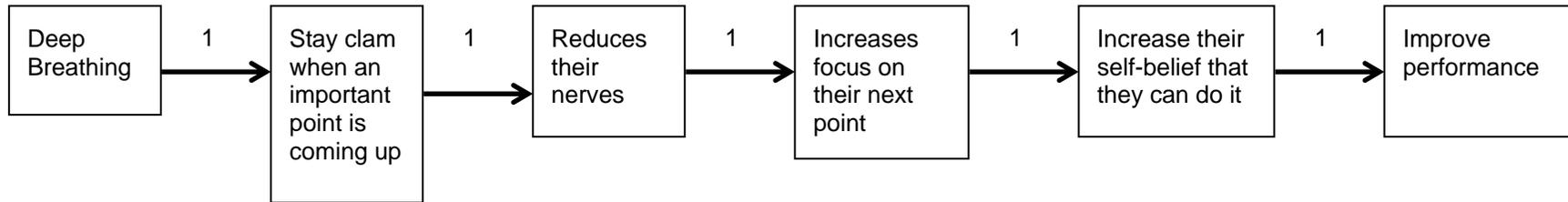


Figure 13. Causal Network M: Elite Relaxation usage in competition.

4.5.2 Causal Network N – Relaxation (Non-elite competition)

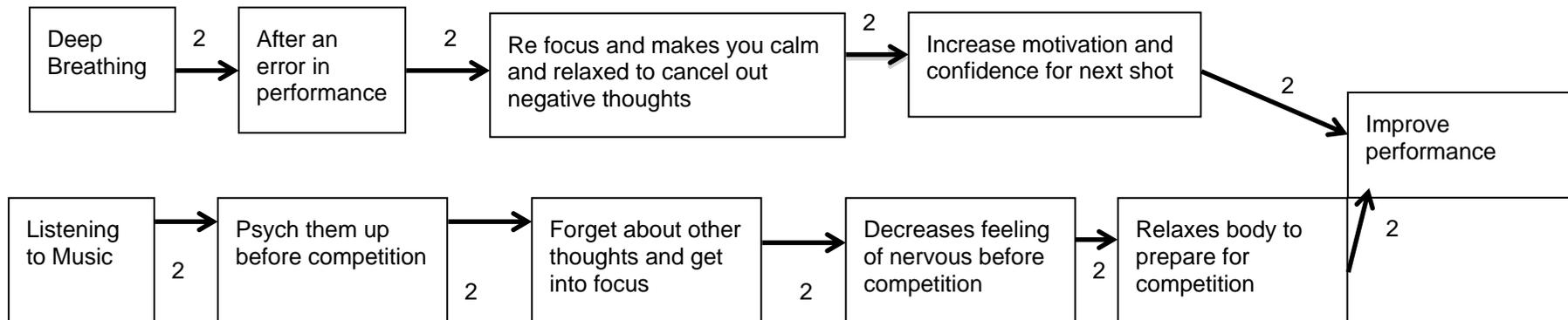


Figure 14. Causal Network N: Non-elite Relaxation usage in competition.

Figure 13, identifies relaxation usage with elite athletes and only 1 elite athlete used relaxation during competition and this participant used it when an important part of competition is coming up to reduce their nerves. Allowing the athlete to keep focused ready for the next important phase of performance and giving themselves belief they can do it and a perceived improvement in performance can be seen. A quotation of what participant 2 stated can be seen in table 12, row 1, column A. The final Causal Network displays non-elite athletes using relaxation during competition.

Figure 14, stated that three non-elite athletes use relaxation in competition. Participant 7 used music and deep breathing, participant 2 used deep breathing and participant 4 used music. Deep breathing was used due to an error in performance to help refocus and be calm and relaxed before the next part of competition. It cancelled out any negative thoughts that the athlete had, to increase confidence in their ability and motivation to continue to succeed. This then has a perceived improvement in performance. A quotation can be seen in table 12, row 2, column 1 of what participant 2 stated. Two athletes used music, enabling them to get psyched up before competition. It helped them to block out any other thoughts keeping focused upon the forthcoming event. This reduced nerves they experienced prior to competition and helped them relax, improving performance. A quotation can be seen in table 12, row 2, column B of what participant 7 stated.

Column	A	B
Row		
1	So during a competition when changing in ends at the end of a set say for instance its 5-6 to myself I know then that I need to win the next game to win so this puts a lot of pressure on myself. I find that deep breathing then just composes me for those couple of minutes before going back out onto the court to hopefully and usually go and win the next game.	
2	Used when you know you need to stay calm to keep up	I use music before a competition just to make

	with the good performance and it calms me down to re prepare ready for next shot after the error has been made.	sure that I am only concentrating on one thing – the competition so it helps me psych myself up and tries to calm me down and reduces my nerves so that it don't affect my performance.
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Table 12. Causal Networks M and N participants quotations.

CHAPTER 5: DISCUSSION

5.0 Discussion

5.1 Introduction

The purpose of this study was to investigate whether athletes (elite and non-elite) use psychological skills during training and competition and the impact psychological skills had upon an athlete's improvement in performance. Furthermore, the study determined which of the four psychological skills are used most frequently in training and competitive environments and whether there is any difference between psychological skill usage for elite and non-elite athletes. This section will identify the theoretical implications of goal setting, imagery, self-talk and relaxation. Practical implications will be acknowledged and discussed between the psychologist, the coach and the athletes. Strengths and limitations of the present study will be stated with an explanation of what future improvements would need to be considered for further studies.

5.2 Theoretical Implications

5.2.1 Goal setting

Goal setting was found to be used by both elite and non-elite athletes in training and competition. It was not the most frequently used by participants, which maybe due to a lack of understanding by the athletes in this study of the goal setting process. One performer stated that successful goal setting was used via a mixture of different goals set during performance leading to an improved performance outcome. Setting different goals enables the athlete to focus upon certain points at certain times during performance. These findings support Jones and Hanton (1996) study identified different types of goals swimmers set during performance. Their findings revealed that swimmers using at least two types of goals in combination with each other were found to improve performance. This had a number of psychological benefits, such as increased motivation and confidence, which in turn were found to help, improve performance when linked to competitive anxiety. These findings support what South (2005), stated in Vidic and Burtons (2010) study, which also found that setting process goals in combination with outcome goals led to an increased focus upon progression during competition. In terms of type of goals between elite and non-elite athletes, the findings revealed that during

training, process goals were the most common type to have an impact upon improved performance. These findings supported Zimmerman and Kitsantas (1996), who stated that by setting process goals it can help influence certain sections of performance, such as reducing task complexity. Alternatively, these findings do not support Master (1992) which stated, by getting athletes to focus their attention upon specific parts of the competition/movement it may in fact have a debilitating effect upon performance (Hardy *et al.*, 1996). During competition outcome goals were found to be used to improve performance because they have an end target to achieve. Weinberg *et al.*, (2001) study supported this, which looked at athletes focusing upon winning as a major outcome goal. However, Burton and Naylor, (2002) believed that athletes become more aware when using process and performance goals to help secure their outcome goals. In the present study for athletes to achieve successful outcome goals, performance and process goals would be required to help them reach their outcome goals. Vidic and Burton (2010) supported this in their study stating, outcome goals when used alone are not as effective as when used in conjunction with process and performance goals, when considering enhanced motivation and confidence.

5.2.2 Imagery

Imagery was a frequently used method by both elite and non-elite athletes particularly in competition and was used, to a lesser extent in training. All elite athletes used a mixture of internal and external imagery in competition because this is a skill that they have been trained in, as a result of the support they received as elite athletes. These findings support those of Munroe-Chandler *et al.*, (2007) who examined the use of imagery and found it was effective in facilitating an athlete's improvement in performance. In contrast, Short & Short, (2005) found that in order for an athlete to improve their imagery ability, the athlete would need to understand the benefits of imagery usage. Gregg *et al.*, (2011) stated that imagery would need to be taught effectively to help improve their ability to be able to improve both visual and kinaesthetic imagery ability. Research by Cumming and Hall (2002), support the findings from this research in that elite athletes were found to use more imagery than non-elite athletes and had a positive effect upon performance.

The findings of the present study indicated that imagery in competition was a well used psychological skill used by the athlete's, which is a finding supported by previous research undertaken by Weinberg and Gould (2007), who also found that imagery was used before competition to aid improved performance.

Throughout the present study both elite and non-elite athletes benefited from using internal imagery in training, which in turn helped to improve performance. These findings do not support Mahoney *et al.*, (1977) which stated that elite athletes use more internal imagery than non-elite athletes but the present study indicates no difference between the imagery used by elite and non-elite athletes in training. However, it has been found that elite athletes have physical reasons why they use imagery, whereas, non-elite just use it to help them view the outcome.

5.2.3 Self-Talk

The most common psychological skill found to be used in this study was self-talk. All eight athletes used this psychological skill during competition and some athletes during training, to help improve performance. Elite athletes stated they use a mixture of internal and external self-talk depending upon their circumstances they face (E.g., are they winning or losing). Due to a loose definition of what constitutes self-talk, it is hard to determine whether an athlete is intentionally using self-talk or just speaking aloud or in their mind. Bunker *et al.*, (1993) defined self-talk as occurring anytime an athlete thinks about something. In contrast Hardy *et al.*, (2009), stated that there is relatively little research of self-talk during competition, so potentially the findings in the current study are difficult to analyse from a comparative self-talk competitive angle. This resulted in the measure of self-talk not being a consistent measure, as they do not know whether the athlete is using self-talk or is it just a general thought.

Hardy *et al.*, (2009) stated that self-talk usage during competition is the most common. This is consistent with the findings of the present study as all

eight athlete's reported using self-talk during competition. However, the degree to which athletes use self-talk will vary between each participant, depending upon the level at which they are competing. Non-elite athlete's stated they used positive internal self-talk during training, when they are struggling (e.g., getting fatigued or improving technique). They use the self-talk to encourage themselves to continue with the session and it can then be adapted into competition in order to increase motivation of the athlete. They did not use negative self-talk during training as they stated it could be debilitating towards performance. Evidence stated by Van Raalte (1995) supports this view when looking at trying to fine-tune a technique of a dart throwing, using positive self-talk to help improve performance.

5.2.4. Relaxation

The least popular psychological skill was relaxation, which was not used at all by elite and non-elite athletes in training but was used by elite and non-elite athletes in competition. They used it in situations such as when an error is made in performance to help them cancel out negative thoughts. Even though relaxation techniques are quite complex to use, non-elite performers do use them. These findings of non-elite using relaxation techniques were supported by Fletcher and Hanton (2001), study that non-elite performers can use relaxation techniques to improve their performance, however, in this study the relaxation was more closely aligned with anxiety rather than improved performance. Furthermore, it was noted that some relaxation techniques require a time and quiet environments in order to be effective and therefore, this can partially explain the total lack of uptake in this during training and the limited uptake during competition. This can be supported further by Kudlackova *et al.*, (2013), who examined the amount of time spent during a training week using relaxation to cope with demanding practices and found to be very time consuming thus resulting in less frequent usage of this psychological skill.

5.3 Practical implications

The present study identified all four psychological skills when used effectively, can improve an athlete's performance. The eight athletes in this

study now have greater knowledge about the various psychological skills, as a consequence of the two interviews and discussions they undertook. It identified that athletes would need education programmes allowing them to understand how to use psychological skills in training and competition. Even though the usage of the psychological skills was noted in both elite and non-elite athletes, it was in the competitive environment where both elite and non-elite athletes made greater use of goal setting, imagery, self-talk and relaxation. The influence of the coach upon the athlete's utilisation of psychological skills and how coaching preferences may influence the athlete was not covered in depth as part of this research.

The importance of using such psychological skills can help psychologists gain a greater understanding of their application and how they can best be utilised. It is important when dealing with a mixed group of elite and non-elite athletes, for sports psychologists to recognise the differences between the two groups and respond and challenge the athletes according to their level of ability, experience and maturity. This study suggests that elite athletes who have had more training in psychological skill usage have a greater understanding of how to apply them into training and competition.

This study has implications for athletes, coaches and sport psychologists. They need to have a greater understanding of the approaches required for each psychological skill to be implemented and also an understanding, which athletes would benefit most from each of the four proposed psychological skills. It is important for athletes, coaches and sport psychologists to facilitate an athlete's use of psychological skills that are most appropriate for the athlete and the situation being encountered, to try and maintain a continuous improvement in performance levels.

5.4 Strengths and Limitations

All research studies will have strengths and limitations that will need to be considered. A strength of the present study was its uniqueness (to the author's knowledge) that all four psychological skills were considered in a single study undertaken. Previous research studies undertaken identified

specifically one psychological skill in isolation and not in combination when used in conjunction with other psychological skills. Another strength of the present study was that a qualitative approach was chosen using semi-structured interviews. This enabled athletes to provide greater insight and detail into their own usage when using psychological skills (Patton, 1990).

A small sample size can sometimes mean that they are potentially unreliable and makes extrapolations for larger populations uncertain. A small sample size was chosen because of the amount of time available to complete the research and transcribe the interviews. This resulted in the research findings being challenging when identifying patterns and themes in the results. However, a small sample size facilitated the ability to gather detailed information on each athlete (Miles and Huberman, 1994) This study did not consider or conduct interviews with coaches due to research design. However, there maybe merit in such research being considered. The study only considered non contact sports so no comparison produced with contact sports. Furthermore, gender differences were not part of the remit but may merit consideration for future research.

5.5 Future Research

To further develop this study in psychological skill usage, future research could consider larger sample sizes to improve validity of findings. Consider the potential difference between male and female usage, in both elite and non-elite athletes, enabling greater gender reliance to enable comparative results. It would be interesting to identify team sports usage of psychological skills to improve performance. This study only considers non-contact sports but a deeper understanding of psychological skill usage within specific sports, may also be an area of consideration. Greater emphasis upon the influence that coaches and psychologists impart upon the athletes they are coaching and the specific psychological skills that they recommend maybe worthy of consideration. A further point for research is that this study only identifies the perception of psychological skill usage. To develop further, a follow up interview would be required to see if by using psychological skills it did increase performance. Finally, it would be beneficial to undertake

research to determine if the coaches and psychologists significantly changed their approach between elite and non-elite athletes and between training and competitive environments.

5.6 Conclusion

This discussion has explained the key findings from this study, which is that elite and non-elite athletes do use psychological skills during training and competition. It was found that the athletes believed that using such psychological skills improved an athlete's performance between elite and non-elite athletes. It was also found that there was a predominance of psychological skill usage in competition compared to training. This study supports the previous research, in that psychological skills are considered to help improve performance. The most frequently used psychological skills were found to be self-talk and imagery. Key practical implications, applicable to both elite and non-elite athletes, are for both groups to have a greater understanding via an education programme in how to use psychological skills effectively. The influence of the coach and the psychologist can be critical. Coaches, psychologists and athletes all need to have a greater understanding of which particular psychological skills are most effective at improving performance for a particular athlete. Finally, some of the strengths and limitations were outlined, with suggestions for areas to be considered for further research.

CHAPTER 6: CONCLUSION

6.0 Conclusion

The purpose of this study was to examine how the different psychological skills of: goal setting; imagery; self-talk; and relaxation were used in training and competition, by elite and non-elite athletes, to help improve their performance. A qualitative approach was taken to this study, as the majority of previous research into this subject was of a quantitative nature. The reason for taking this approach was to enable more in depth understanding of the four psychological skills being considered. This approach helped to generate data that would otherwise be less likely to be established.

The main findings of the study were: psychological skills were used by elite and non-elite athletes; psychological skills are used in both training and competitive environments but are more frequently used in competition; the frequency of psychological skills usage was self-talk followed by imagery, followed by goal setting and then relaxation; relaxation was not used by any of the athletes in training situations, due probably to the time required for this psychological skills to be truly effective; there was little difference between elite and non-elite athletes in training and competition; and also little difference in each of the psychological skills considered.

The results from this study should help to expand the understanding of this subject, through the greater detail provided via in depth qualitative interviews. Furthermore, this study has started to provide athletes and coaches with some initial comparative analysis of four different psychological skills. Due to the relative small sample size, in this study, further follow up research with a larger sample is recommended and also sampling to determine if there is a difference in psychological skill usage by gender.

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APPENDICES

APPENDIX A: CONSENT FORM

UREC REFERENCE NUMBER:

TITLE OF PROJECT: Psychological skills usage and its impact upon elite and non-elite athletes in non-contact sports.

NAME OF RESEARCHER: Kate Mackey

STUDENT NUMBER: ST20018717

Participant to complete this section:

Please initial each box.

1. I confirm that I have read and understand the terms and conditions of the study sheet given by the researcher. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that the participation is voluntary and that it is possible to stop taking part at any time, without giving a reason.

3. I understand that information from the study may be used for reporting purposes.

4. I understand that my privacy will be kept throughout this study

5. I agree to take part in this study

Name of Participant:.....

Signature of Participant:

Date:

APPENDIX B: PARTICIPANT
INFORMATION FORM

Title: Psychological skill usage and its impact upon elite and non-elite athletes in non-contact sports?

Background

This research project is an attempt to understand how psychological skills affect an athlete's performance in a competitive environment. Interviews will take place to find out which psychological skill athlete's use the most in a competitive environment. This interview will also ask general questions to make them feel comfortable throughout the interview and will help myself gain more information about the athlete.

The study looked at whether one of the mental / psychological skills has more of an impact than others in training and competition. The study will use elite and non-elite athletes competing in non contact sports.

Why have you been asked?

You have been asked to take part due to your level of competition in non-contact sports. Previous research has looked at psychological skills specifically in relation to how they effect athletes in training and competition. This study will identify which is the most common psychological used in training and competition between elite and non-elite athletes.

What would happen if you agree to take part?

If you agree to join this study you will be required to put aside at least an hour free time in order to complete the interviews. You will be asked to talk about ethically approved questions with a chance to input as much information as they require. The findings of both the interviews will be available for you if they require.

Are there any risks?

There are no significant risks involved in this research study.

Your rights

You have the right to withdraw from the study at any time. You also have the right not to answer questions you feel you should not answer.

What happens to the results of the evaluation?

The findings taken from this research will be analyzed through transcript verbatim and presented via causal networks which identifies themes in the data collected from the interviews. Participants names will not be used so your information you provide in the interviews will be strictly confidential. It will identify the relationships between the different types of psychological skills used in training and competition. Any findings would be available to yourself upon request.

Are there any benefits from taking part?

You will gain knowledge and have a better understanding of what psychological skills you used in training and competition and how effective they are.

What happens next?

With this information sheet a consent form is attached to it and you are required to fill it out which gives you permission to take part in this study. By reading the information provided and signing the consent form you are fully aware of what is expected in the process from both yourself and myself taking part.

How we protect your privacy?

Throughout the study we will protect your privacy. You will remain anonymous and no information that you have given us to use in this study will be available to anyone for you to be identified. All forms will be stored securely under password protected software and at the end of the study all forms that you have completed will be destroyed.

Further information

If you have any questions with regards to this study please contact me.

Kate Mackey

Email: st20018717@outlook.cardiffmet.ac.uk

Appendix C: Interview Guide 1

Psychological skills usage and its impact upon long duration performances in non-contact sports?

Interview Guide 1

Name:

Subject:

Date of Birth/Age:/.....

Sport:

How long been playing the sport for:

Address:

.....
.....

Contact number:

Interview Date:

Start Time:..... Finish time:

Hello, my name is Kate Mackey and I am student at Cardiff Metropolitan University. I am a third year undergraduate studying a BSc in Sport Coaching. Thank you for taking the time and agreeing to take part in this study. In this study I am looking at how athletes use psychological skills (e.g., goal setting, self talk, relaxation and imagery) and the impact of such psychological skills in long duration non-contact sports (e.g., Tennis and

swimming). I will be interviewing a mixture of elite and non-elite, mix gender sports performers to see if there are any differences between what psychological skills elite athletes use compared to non-elite. Interviews are going to be used to help me gather the information that I require on the different psychological skills that are used in sports performance. The interview will ask general questions to start off to ensure that you feel comfortable in the interview environment and this allows me to then start to gather information about the psychological skills that you use.

Rights

The information will be used for my own dissertation study and will help me have more insight to the psychological skills used in sport. This interview is voluntary; therefore, you have the right to withdraw from the interview at any time. You also have the right to refrain from answering any questions you feel you should not answer. There are no right or wrong answers to the questions that I will ask you during the interview. I am interested in your views on what psychological skills you use in training and competition and how they help you in performance.

By agreeing to take part in this study, your information will remain completely confidential. I will use the information solely for research purposes and your identity will be protected, your names will not be used and any information (e.g., club names) will be changed so there could be no link, to your identity.

Collection of data

To collect the data I will use a dictaphone, this will give me accurate information and make the interview process more efficient. It also allows me to replay the interviews multiple times when analysing the results. Once the interview is complete I will be able to send it back to you to make sure you are happy with the information that you gave me.

Instructions

There will be two parts to the interview. You will be required to identify psychological skills by answering general questions about their use in practice. I will ask questions to see what psychological skills are used in training and then what psychological skills are used in competition.

Questions will look at how you use these psychological in the lead up to competition and whether different psychological skills are used at different times of training, lead up to competition and competition.

Psychological skills can have a positive impact on motor skill learning and performance, they can help athletes mentally prepare and the use of mental skills has been associated with better performance. (Wang, Huddleston and Peng, 2003).

Psychological Skill Definition:

“Psychological skills are the desired outcomes (e.g. increased self confidence, reduced anxiety) associated with the implementation and practice of psychological methods.” (Hardy, Jones and Gould, 1997, P.11)

Sport friendly Definition:

Thought strategies you use in training and competition to aid your performance.

Section 1

We will start off with a couple of general questions just to get you into the flow of the interview.

Section 1

1. Hello, how are you today?
2. How long have you been playing that sport for?
3. How much training for the sport do you do per week?
4. How often do you play competitively?
5. What level do you play at? Socially/ competitively at club level/ competitively at county level/ international level.

6. Do you enjoy competing at this level?

Section 2

1. What skills do you use in training?
2. What skills do you use in competition?
3. Where did you learn about using psychological skills?
4. How do you prepare before training and what sort of preparation in this?
5. How soon before a major competition do you prepare? What sort of preparation do you use? Week/month/day? How do you use psychological skills to do this?
6. Do you use Psychological skills during performance and how?
7. Can you talk through how you prepare on the day of a competition/match/game? – will talk about psychological skills
8. Talk about how you prepare yourself before you go into a training session?
9. If you do not use skills in training then why not? And do you only use them in competition?
10. When under pressure in a competitive situation how do you cope with this mentally?

List of psychological skills used:

-
-
-
-

Goal setting – “a goal is that which an individual is trying to accomplish, a standard of excellence.” (Gill, 2000, P.171)

Imagery – “the process involves recalling from memory pieces of information stored from experience and shaping these pieces into meaningful images.” (Weinberg and Gould, 2007, P. 296).

Self talk – “the voice or internal dialogue that takes place in the mind of an individual.” (Silva and Stevens, 2002, P. 216)

Relaxation – “a way in which to reduce the body’s arousal level.” (Jarvis, 2006, P. 127)

Conclusion

1. How did you think the interview went?
2. Did you feel that you were able to tell me how you use psychological skills?
3. Do you feel that we managed to discuss all the important factors of psychological skill usage?
4. Have you any comments or suggestions about this interview?
5. How did you find the process of the interview and the experience of taking part?
6. Any advice that you would give me for future research?

Thanks for taking part in the interview.

Appendix D: Interview Guide 2

Psychological skills usage and its impact upon long duration performances in non-contact sports?

Interview Guide 2

Name:

Subject:

Date of Birth/Age:/.....

Sport:

How long been playing the sport for:

Address:

.....
.....

Contact number:

Interview Date:

Start Time:..... Finish time:

Hello, my name is Kate Mackey and I am student at Cardiff Metropolitan University. I am a third year undergraduate studying a BSc in Sport Coaching. Thank you for taking the time and agreeing to take part in this study. In this study I am looking at how athletes use psychological skills (e.g., goal setting, self talk, relaxation and imagery) and the impact of such psychological skills in long duration non-contact sports (e.g., Tennis and swimming). I will be interviewing a mixture of elite and non-elite, mix gender

sports performers to see if there are any differences between what psychological skills elite athletes use compared to non-elite. Interviews are going to be used to help me gather the information that I require on the different psychological skills that are used in sports performance. The interview will ask general questions to start off to ensure that you feel comfortable in the interview environment and this allows me to then start to gather information about the psychological skills that you use.

Rights

The information will be used for my own dissertation study and will help me have more insight to the psychological skills used in sport. This interview is voluntary; therefore, you have the right to withdraw from the interview at any time. You also have the right to refrain from answering any questions you feel you should not answer. There are no right or wrong answers to the questions that I will ask you during the interview. I am interested in your views on what psychological skills you use in training and competition and how they help you in performance.

By agreeing to take part in this study, your information will remain completely confidential. I will use the information solely for research purposes and your identity will be protected, your names will not be used and any information (e.g., club names) will be changed so there could be no link, to your identity.

Collection of data

To collect the data I will use a dictaphone, this will give me accurate information and make my interview process more efficient. It also allows me to replay the interviews multiple times when analysing the results. Once the interview is complete I will be able to send it back to you to make sure you are happy with the information that you gave me.

Instructions

I will then use the information obtained from the first interview to meet you (the participant) to do a further interview, where you will have questions focusing on more specific psychological skills that you had identified in your

first interview. At the end of the interview there will be a chance for you to add anything extra that you feel is important and was not covered during the interview.

Definitions

Goal setting – “a goal is that which an individual is trying to accomplish, a standard of excellence.” (Gill, 2000, P.171)

Imagery – “the process involves recalling from memory pieces of information stored from experience and shaping these pieces into meaningful images.” (Weinberg and Gould, 2007, P. 296).

Self talk – “the voice or internal dialogue that takes place in the mind of an individual.” (Silva and Stevens, 2002, P. 216)

Relaxation – “a way in which to reduce the body’s arousal level.” (Jarvis, 2006, P. 127)

Interview 2

After reviewing your previous interview, I see that (.....) are the most common psychological skills that you use when competing in a competitive environment.

Section 1

Goal setting

1. When do you set goals? – how do you plan how you will set them?
(Jarvis, 2006)
2. How do you separate the goals you set for training and competition?
3. In what situations do you set goals?
4. Why do you set yourself these goals?
5. What type of goals have you set yourself?
Outcome/performance/process/ST/LT/specific (Silva and Stevens, 2002, P.199) (Weinberg and Weigan, 1993)
6. Who do you set goals with? i.e. coach/yourself

7. How do you know your goal is realistic and achievable? Who do you discuss this with?
8. How do you track your progress towards achieving the goal/s?
9. When do you know you've achieved your goal? (performance improvements) (Burton and Weiss, 2008).
10. How often do you evaluate goals? (Feedback) (Weinberg and Weigan, 1993)

Training

1. What type of goals do you set in training?
2. Do you find goal setting effective in training? (Weinberg and Gould, 2007) (Jarvis, 2006)
3. During training once goals are set does it have an impact on performance?

Competition

1. What type of goals do you set in competition?
2. Do you find goal setting effective in competition? (Weinberg and Gould, 2007) (Jarvis, 2006)
3. When setting goals does it show in your outcome of competition?

Definitions

- Outcome goals – target winning and outperforming others (Vidic and Burton, 2010)
- Performance goals - focus on attaining specific performance levels (Vidic and Burton, 2010)
- Process goals – Focus on aspects of the task e.g., improving form, technique and strategy (Vidic and Burton, 2010)
- Short term goals – provide immediate incentives and feedback (Hardy, Jones and Gould, 1996).
- Long term goals – end point for performance (Vidic and Burton, 2010).

Section 2

Imagery/Mental rehearsal

1. Where do you use imagery? (Training/competition)
2. What do you visualize? (e.g. the shot/how you will perform the race?)
3. Why do you use imagery? (Munroe, Giacobbi, Hall and Weinberg, 2000).
4. When using imagery do you break it down into its component parts? (match/shot/performance/dive/race etc)
5. Do you use internal or external imagery? (Hardy and Callow, 1999, P.96)
6. If internal, how?
7. If external, how?
8. What sort of movement do you do you visualize? (Are they still images or real life/colour/black and white?)
9. Do you use positive and negative mental rehearsal?

Training

1. When during training do you use imagery?
2. Does it help you to train? E.g. for using drills?
3. Do you use imagery to control the physiological aspects of your performance during training? (motivational general arousal MG-A, Motivation general mastery MG-M and Motivational specific M). Hall, Mack , Paivio and Hausenblaus, 1985, P. 93)

Competition

1. When during competition do you use imagery?
2. What do you visualize in competition? (e.g. outcome of race)
3. How do you use mental rehearsal before a competitive event (Cognitive general CG and Cognitive specific CS)? (Hall, Mack Paivio and Hausenblaus, 1985, P.93).
4. Do you use imagery to control the physiological aspects of your performance during competition? (motivational general arousal MG-

5. A, Motivation general mastery MG-M and Motivational specific M).
Hall, Mack , Paivio and Hausenblaus, 1985, P. 93)
6. When during competition do you use imagery? (before/during/after)
7. If before, how long before?

Definitions

- Internal imagery – an approximation of the real life phenomenology such that the person actually imagines being inside their body and thus experiencing those sensations, which might be expected in the actual situation (Mahoney and Avenner, 1977, P.137).
- External imagery – is defined as when people view themselves from an external source (Weinberg and Gould, 2007).

Section 3

Self-talk

1. Where do you use self-talk in exercise?
2. When do you use self-talk? (positive/negative)
3. Do you use negative self-talk with better performance? (Van Raalte, et al., 1994).
4. What positive thoughts did you have?
5. What negative thoughts did you have?
6. Are you able to change any negative thoughts into positive ones?
7. Do thought stopping cues cancel out negative performance? (e.g. stop, Van Raalte, et al., 1994)
8. Does the self-talk you use motivate your performance? Or is it more instructional based of telling you what to do? (Landin and Hebert, 1999)

Training

1. Do you talk to yourself throughout training?
2. What do you say to yourself? How do you use it during training? (positive/negative/internal/external)

3. Did what you said to yourself during training have an outcome on how well you trained? (If so how did self talk affect training – good or bad? – explain) (Van Raalte, et al. 1994).
4. Why do you decide to use self-talk in training? (Munroe, Giaocobbi, Hall and Weinberg, 2000)

Competition

1. Do you talk to yourself throughout competition?
2. What do you say to yourself? How do you use it during competition? (positive/negative/internal/external)
3. What else (if anything) were you thinking about during your competition? – (instructional thoughts)
4. Did what you said to yourself during competition affect the outcome of the match? If so how did self talk affect match – good or bad? – explain Van Raalte, et al. 1994).
5. Why do you decide to use self-talk in competition? (Munroe, Giaocobbi, Hall and Weinberg, 2000)
6. Can self talk change the way you play throughout your competition? – (if performing badly then can self talk change the outcome of your game? Gammage et al, 2001).

Definitions

- Positive self talk – defined as the encouraging statements that the athlete says to themselves, e.g. “you can do it” (Van Raalte, 2010).
- Negative self talk – defined as negative statements the athlete says and any anger or discouragement they might say to themselves such as, “your slow” (Van Raalte, 2010).
- Internal self-talk – this comes from saying within your mind, only you can hear what you are saying.
- External self-talk – saying something out loud so other people are able to hear you

- Instructional self-talk – a focus for the performances of a particular skill e.g. move your feet (Van Raalte, 2010).
- Motivational self-talk - is also beneficial in a sport setting. It includes statements such as, “come on” (Van Raalte, 2010).

Section 4

Relaxation

1. Where do you use relaxation? Training/competition/prior to competition
2. When do you know when to use relaxation? What type of situations? Do you use it because you are under pressure/stressed? (Kudlackova, Eccles and Dieffenback, 2013).
3. What relaxation techniques do you use? Physical/mental (Define)
4. Do you use any relaxation techniques such as; deep breathing/PMR/yoga/meditation (Jarvis, 2006)
5. Any other relaxation techniques that you use?

Training

1. When in training do you decide to use relaxation?
2. Why do you decide to use it at this point? (Munroe, Giacobbi, Hall and Weinberg, 2000)
3. When using relaxation techniques, how effective is it on your training?
4. By using relaxation techniques is the outcome of your training more enhanced?

Competition

1. When during competition do you use relaxation?
2. Why do you decide to use it at this point? (Munroe, Giacobbi, Hall and Weinberg, 2000)
3. When using relaxation techniques, how effective is it during competition?

4. How long before competition do you use PMR technique? (squeezing of the muscles) (Jarvis, 2006).
5. When becoming stressed during competition, are you able to relax your body to continue playing?
6. By using relaxation techniques is the outcome of your competition enhanced?

Definitions

- Physical relaxation – where relaxation is achieved via regulation of a physical parameter such as breathing
- Mental relaxation – relaxation that is achieved via regulation of thinking
- Deep breathing – is a form of physical relaxation
- Progressive muscular relaxation – involves tensing specific muscle groups and then relaxing them to create awareness of tension and relaxation.
- Meditation – when repeating a word over and over again

Section 5

Conclusion

1. How did you think the interview went?
2. Did you feel that you were able to tell me how you use psychological skills?
3. Do you feel that we managed to discuss all the important factors of psychological skill usage?
4. Have you any comments or suggestions about this interview?
5. How did you find the process of the interview and the experience of taking part?
6. Any advice that you would give me for future research?

Thanks for taking part in the interview.

Advice you give for others?

-
-

Appendix E: Interview transcription 1

M: Hello, how are you today?

P: I'm very good thank you.

M: And how long have you been doing triathlon for?

P: umm 6 years this year.

M: And how much training per week do you do?

P: umm training varies but roughly umm 30 hours a week I average.

M: How often do you play competitively?

P: umm competition we compete from March through to October umm on average I'll have 2 races a month

M: Ok. And what level do you compete at?

P: Internationally

M: And do you enjoy competing at this level?

P: Yes.

M: Ok I'm going to ask you now what skills you use during competition and training. So could you tell me what skills you use in training?

P: In training I try and mentally prepare for the session. I use imagery to for this umm so I like I visualize myself doing the session, umm as I set out and I use goal setting as well as imagery and to put the two together to the time. Especially for key sessions where you need to deliver on intensity and you know so hit the times etc and so.

M: And what skills do you use in competition?

P: umm again a lot of goal setting rather than thinking of the race you know from start to finish, you know, I know you break it up and set goals within the race that you know if you know I'm able to follow these goals I should get me to the end in the position I need to be, to be competitive for either a win or the performance I want.

M: Ok. PROBE:- And do your goals vary for each competition?

P: Yes they will, on certain occasions I will use a race to practice these goals, umm it could be tactical, or you know going through different processes or learning from them and getting used to them as well.

M: Ok. And where did you learn about using these psychological skills?

P: Umm I learnt them from a psychologist within the British triathlon whom sort of taught me how to do it and give me a better understanding of it so that I was able to apply it and use it myself. I make it sort of personal to what I do.

M: Ok. And how often, how do you prepare before a training session and what sort of preparation is this?

P: Umm it's a lot of things I do before a session, you know everything matters like nutrition, making sure your well rested and ready to deliver on what your coach has asked you to do. And a lot of this is actually mental as well because you know a lot of the things we do within training is physically demanding you and you have to suffer quite a lot and its sort of either learning how to deal with it, you know the voice in your head, ignoring it or you know just...

M: PROBE:- How do you like deal with it then, how do you deal with the pressures of it being demanding?

P: umm its breaking it up again, so setting goals within the session, umm as an elite athlete your capable of it a lot of the time you just got to break it down so you can understand the session as well.

M; Ok. And how soon before a major competition do you prepare?

P: Training prepares months out but psychologically speaking I would generally sit down with my coach and the week of the race, to discuss what training has been like and all the background stuff leading into the competition and then a couple of days before leaving if I'm having to fly away, we'll sit down and go through a goal process of the race and break up the race from you know, with my sport being triathlon, swim, bike and run we'd break the swim down, setting goals, not only the ones I want to aim for but if things go wrong how would I then adapt my race the way that I approach things.

M: Ok and do you use psychological skills during your performance?

P: Umm definitely yeh I try to visualize what's going to happen further ahead the race sometimes, umm not always but a key point for example when you getting off the bike onto the run umm visualize yourself being up the front of the bike so that you don't get yourself into trouble early, when your wrecking the course and that you can visualize yourself at that moment in time where in a specific area to what's quite relevant to what your doing at that time.

M: PROBE:- Ok and any other skills you'd say you would use?

P: umm talking to myself as well, so you know giving yourself confidence and ...

M: Can you talk me through how you would prepare on a day of competition?

P: umm yeh umm on the day of a competition obviously there are a lot of times we have to stick to umm that not only the time of the race but there are a lot of processes that you have to go through before. For example checking in the bike and registering and things like and for me I tend to write down a timed schedule of what I plan to do in the day so that I can stick to something and that I'm not flustered and a bit of you know worry if I'm going to miss things and be late and generally when I stick to my plan I'm quite confident then in that I've prepared myself as best as I can leading into the race.

M: PROBE:- How would you say you've prepared yourself would that be due to your plan?

P: Yeh so again I'd set a plan like goal like set goals within the day and to ensure that I'm at places on time but then I'd also sort of psych myself up using imagery for the race, you know there's always time where your sitting out in the sun or trying to relax umm and then I'll just visualize myself racing but actually completing the goals that I've set within the race.

M: Ok. And can you talk about how you prepare yourself before you go into a training session?

P: Umm before a training session I tend to go through the warm up but I'll sort of imagine knowing what the sessions going to be like, you know if something's we do week in week out so I know what's going to be asked of me and you know the environment and where I'll be and what I'll be doing, I tend to sort of visualize myself doing it as best as I can or better. And I tend to find that it sort of sets a standard or an aim for my during that session as well which I try and follow.

M: Ok. And when under pressure in a competitive situation how do you cope with this mentally?

P: umm for myself I mean its something that I prepare for, so you know when I say I'm setting goals within the race I'll also sort of discuss with my coach and plan for the "What ifs" if things go wrong how I'm going to deal with that and you know without being negative and sort of letting everything go to waste its making the most of opportunities then in that and how can you get back in the race or you know change your tactics and things like that. And this is a thing we discuss and you know there are a million things that could go in the race

but roughly its sometimes quite straight forward in what you need to do then. And it keeps you sort of mentally focused rather than thinking what to do, you know what you need to do and can just focus on what you doing at the time then what's going to happen in 10 minutes time.

M: Ok.

So how did you think the interview went?

P: Yeh it went really well.

M: Did you feel that you were able to tell me how you use psychological skills?

P: Umm I think so yeh.

M: Do you feel that we managed to discuss all the important factors of psychological skill usage?

P: Umm yeh I think its very important so yeh

M: Have you any comments or suggestions about this interview?

P: no comments

M: How did you find the process of the interview and the experience of taking part?

P: enjoyable

M: Any advice that you would give me for future research?

P: keep it up

M: Thank you.

Appendix F: Interview transcription

M: Hello thank you for coming back to take part in the second interview, I have noted that you, and reviewed that you stated in your first interview that you use goal-setting and imagery and then you use self-talk more so in competition. So umm, we'll start off with goal setting. So when do you set goals and how do you plan you will set them?

P: Umm so for myself I set goals over a range of things not only you know periodising the year so setting goals you know what I'm looking to do within my training you know for what ever time of the year I'm at.

M: Yeh.

P: Know that the winter training is leading into the pre-season and then into the season itself. Umm then I'll also set goals within the session so you know like what I'm trying to get out of that umm and then leading into competition you know a lot of the goals setting is being realistic and know what we want the result to be and what do we want to get out of that race or competition and then I'll also set goals then to set me up for the race. So I'll set goals within the race and I'll have a plan then to execute what I'm trying to do.

M: Ok and is there any reason why you decide to set goals?

P: Umm for myself it takes a lot of the focus off, you know the outcome, so you know I think of every athlete or everyone who's competing you know they're is something they're aiming for. So for myself setting goals helps me to reach that part of it or what I'm aiming to do so I think it breaks it up and it keeps you clear headed as well so I get out of it myself, so it takes the nerves away, its something for me to focus on, I'm not thinking of the end product before the race. I'm thinking you know about the first 5 minutes of the race not what's going to happen in an hour and half's time. So yeh for me that's the most I get out of it.

M: Ok. And what type of goals do you set, do you set outcome goals, so outcome goals look at your end result, performance goals umm specific performance levels and process goals like looking at improving your technique or anything like that?

P: Umm I think it's a mixture of them all, they're all relevant with the goals I set umm obviously they're are goals that are goals that are performance based being what results or what time I'm looking for

M: Yeh

P: Within that then are sort of processes of how am I going to reach those goals umm by that you break the race up being tactically making sure that your in the right position that could be like in the front five of the bike group or that could be on the running track staying on the inside line. Umm you know there is a range of different things I think there are ones that you can break them up more so you get more specific smaller goals umm which then lead onto the bigger picture then.

M: Ok and would you say you use different ones for training and competition?

P: Umm yeh definitely although they're all sort of relevant so that within a race for example we'd set where the goal is you want to be first to the buoy, you know on the triathlon when your swimming, position is crucial and then within training we practice this you know training with a group of guys or a group of girls then you know you have the same mentality within the session although you would be doing more reps you know the aim is if I want to lead the session or do the best, get the most out of it, you'd treat it as a race and the aim would be to get to the buoy first each time and things like that and its something like we practice you know it what makes it easier going to a race then and it gives you that confidence just because you've practiced this and then yeh your done and you can move from it and set bigger goals from that.

M: So you'd say from that then you'd be able to set long-term goals?

P: Yeh definitely yeh

M: And who would you set your goals with?

P: Umm I usually sit down with my coach

M: Ok, go on...

P: and that's sort of a few days leading into a race we'd sit down and you know we would have what's the aim of this race and what sort of result are we looking for and then say how are we going to get this result looking at what do we need to do within the race to set myself up for it/

M: Ok and how do you know then that these goals that you've set are realistic and achievable?

P: Umm I think if you know with the coach you are realistic and you know in training you know there are good indicators of you know what level of fitness your at, what times your capable of.

M: Yeh

P: And then we work off them then with setting the goals within the race you know if I wasn't swimming well you know realistically I might not be able to swim a certain time over 1500m but you know that doesn't actually mean the outcome of the swim side of the race, if you actually do position yourself well then to that first buoy a lot of the time that can make or break the race and its not always the best swimmer that wins its then it's the smarter swimmer, things like that so goal setting is very important I think.

M: Ok. And are you able to from setting goals then how do you track your progress to achieving those goals is it from competition results?

P: Yes a lot of the time but its not always the result, its sort of the outcome of how your trying to execute them goals I mean not everyone has a great race all the time and on occasions I've had poor results

M: Yeh

P: but especially what I've done within the race I've taken a lot out of it and then actually done a lot of things well and could have done things better

M: Ok

P: So sometimes you can make one crucial error and its not your race over, I don't think that always sort of it shows what the actually result was.

M: Ok

P: It takes a lot out of first, second and third and sometimes a fifth can be better as you've earn something or done something really well or something poor.

M: Ok and when do you know that you've achieved your goals?

P: Umm well a lot of the time I'll sort of right down my thoughts of a race but then I'll say the day after umm whilst its fresh in my head I can go back to my coach and say I did this well, or my aim was to do this and I executed that and I can see then that achieving that as me so achieving then

M: Ok so you evaluate your goals then after every competition?

P: Yes I do yeh

M: Ok and in training specifically do you find goal setting effective?

P: Umm yeh I do a lot of the sessions we do they're the target

M: Yeh

P: Its always progression its always do this but sometimes its not aswell its sometimes to see how we deal with that and if we're able to find a way around it.

OK

P: But I think its crucial as its something you can practice then outside the races as there's only so many races that we can do but we training you know 3-4 times a day so the more we practice it the easier it becomes then.

M: Ok and what about obviously in competition then does it have an affect on the outcome if you set goals?

P: Yeh I think it has a very positive affect because I don't think you can be negative because your switched on and your focused on something.

M: Yeh

P: Without getting distracted and also you know you use it probably and efficient in that you value then you can only be positive really.

M: Ok moving onto imagery now so, where do you tend to use imagery?

P: I tend to use imagery in my own time it's not something that I really focus on its only naturally. Almost like day dreaming, you know in the times where your relaxed you know the night before lying in bed I'll sort of I know what my goals are and I know what I'm trying to do so I'll know that imagine myself doing these things in a race.

M: Ok, so you'd visualize the goals that you've set.

P: Yeh a lot of the time yeh, but I also vision, imagines or whatever the word is I cant get the word out, but I'll also imagine the outcome of the race as well, in a positive way sort of winning, doing really well.

M: Ok and is there a reason why you decide to use imagery?

P: Umm I don't think it's something I've decided its something that comes quite naturally that I haven't really thought about doing it just comes.

M: Ok and would you say you break imagery down into like component parts? So like throughout your swim would you break it down into like the stroke, the leg kick or...?

P: Umm yeh I wouldn't say I wouldn't sort of break it down in technical terms in sort of how I'm doing things its sort of I break down the first crucial part of the swim so you know the start and to the first buoy for example and then I start to imagine sort of the positioning and where I am in the swim and if for

example I also imagine if things didn't go well how I would deal with that and how would I imagine myself doing that. Its not always the goal its also how would I imagine dealing with things if they didn't go well.

M: Ok. And do you use internal or external imagery?

P: Umm internal

M; and how, how would you use?

P: Umm I think I'm quite used to seeing what its like to swim and whatever and ride my bike through my own eyes and its something I can take into my imagination as well.

M: Ok and when your visualizing yourself is it like still images, or black and white or real life?

P: Real life yeh

M: Ok

P: I think the only time I'd say its external would be the final outcome if I'm imagining myself running down the finishing line...

M: Yeh

P: that's always me looking at me, whereas everything before hand you know through my eyes

M: Yeh ok and would you say during training you would use imagery?

P: Umm not all the time but on occasions so if it's a crucial session, or something that's going to hurt, something that's going to remind you of a race then I'd tend to do that sometimes yeh.

M: Ok and would you say that it helps during training?

P: Umm I think it does yeh, for me it gets me excited, pumped for the session you know you start to get those sort of sensations or those nerves even sometimes.

M: Ok and when you use it during competition is there a reason for why you decide to use it when you use it in competition?

P: I think for me it just backs up those goals and the more I can see myself doing them and the more I can think about them the more likely I am to go forward and do it.

M: Would you say you use it during or before or after competition?

P: Before, yeh before definitely

M: Ok how long before?

P: Umm I use before competition

M: Ok

P: about 2 weeks

M: About 2 weeks

P: Yeh, I mean I think about a race you know weeks out

M: Yeh.

P: But the closer I get to the race for me I'll imagining myself within the race and use imagery.

M: Ok

Now, self-talk where would you use self-talk in exercise?

P: Umm right before the session or right before a training session

M: Ok

P: And it can give you that confidence and sort of get you psyched up

M: And would you say its positive or negative self-talk that you use?

P: umm definitely positive yeh

M: And what sort of positive thoughts did you have?

P: Umm just giving myself belief in my ability umm sort of you know a bit of a reassurance that you know that you're here and you belong and your more than capable of delivering the performance.

M: Ok and do you use negative self-talk with better performance? Or would you just not use negative self-talk?

P: umm I think negative self-talk would be a bit more like constructive criticism

M: Ok

P: Which will generally be post competition or post training so if it didn't go well, you'd give yourself a kick in the teeth or something. Just be honest with yourself that sort of self-talk.

M: Ok and if you did have negative self-talk were you able to generate and turn it into positive self-talk?

P: Umm yeh definitely I think when your honest with yourself and you do these things you can sort of just learn from it.

M: Ok and does the self-talk you use motivate your performance or is it more instructional based?

P: Umm sorry what was that? Emotional or

M: Does the self-talk you use motivate your performance or is it more instructional based like telling you what to do?

P: Umm nah I'd say its more motivational

M: Ok and then would you say during training do you talk to yourself during? Or would it be after or...?

P: It depends on the session I do, do it sometimes but I find it hard to sort of say if I do or don't as its not something I think about too much.

M: and if you did use it would it be internal or external?

P: Internal

M: And would that be the same for competition then as well?

P: Umm yeh definitely yeh.

M: And during your competition would there be anything else you've said, thinking of or would it just be straight on the competition?

P: Umm generally I'm fully focused on the competition umm when there's a lot going on its hard to let your mind wander you just got to concentrate.

M: Yeh

P: Yeh

M: Ok and do you think what you said during competition would it have affected your performance in a good or bad outcome?

P: Sorry can you repeat that

M: So would you during your competition did it affect your performance in a good way?

P: Umm yehh it did yeh

M: And is there a reason why you decided to use self-talk when you used it?

P: Umm not really with self-talk I think its just something that I do naturally.

M: Naturally

P: Yeh it just comes to me.

M: And then so finally then...

How did you think the interview went?

P: Yeh I think it went really well, I think I was able to get all the information across.

M: Yeh. Did you feel that you were able to tell me how you use psychological skills?

P: Yeh I do yeh

M: Do you feel that we managed to discuss all the important factors of psychological skill usage?

P: Yes

M: Have you any comments or suggestions about this interview?

P: Umm no comments really all went well

M: How did you find the process of the interview and the experience of taking part?

P: really enjoyed it actually really interesting

M: Any advice that you would give me for future research?

P: no it went well

M: Ok thank you very much.