An Introduction to Using Mental Skills to Enhance Performance in Golf: Beyond the Bounds of Positive and Negative Thinking

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ABSTRACT
It is commonly believed that psychology plays an important role in golf. The aims of this article are: i) to highlight and consolidate the intuitive link between psychology and golf; and ii) to provide an overview of mental skills which players, coaches and club professionals can use on a day-to-day basis to enhance performance in golf. Specifically, this article will focus on the mental skills of imagery, self-talk, relaxation and goal setting; and demonstrate how these mental skills can impact on concentration, anxiety, confidence and motivation.

Key words: Goal-Setting, Imagery, Motivation, Psychology, Relaxation, Self-Talk

INTRODUCTION

During 2005, the PGA of Great Britain and Ireland's National Training Academy introduced Sport Science as a core subject on their distance learning Foundation Degree [1]. In the second year of this three-year programme, Training Assistants focus on Golf Psychology. During their yearly one-week residential at The Belfry, Assistants are given the opportunity to spend a full day examining, applying and discussing Golf Psychology. As a PGA tutor and consultant since 2005, my role has been to help facilitate and develop the Golf Psychology programme. It gives me great pleasure at the end of these long days during the residential programme to see the Assistants genuinely understanding what Golf Psychology is and grasping how they

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can begin to apply it in their professional careers; whether aspiring to be players, coaches or club professionals. At the beginning of these days, Assistants often appear to be intimidated by the idea of psychology in golf; and generally when asked what this means to them, 'positive and negative thinking' seems to be the stock response. For me, the idea that Golf Psychology is simply 'positive and negative thinking' runs deeper than my experience at The Belfry, as when I was a young golfer I too shared this perspective on 'psychology in golf'. However, since then I have been formally educated on the prominent role of psychology in sport, and subsequently had a radical change of view on the role and impact psychology can have upon golfing performance. The purpose of this article is to begin to demystify the true value of psychology for enhancing performance in golf. Firstly, I will establish the important links between psychology and golfing performance. Secondly, I will introduce some basic mental skills which can be used by players, coaches and club professionals to enhance performance in golf.

WHAT IS THE LINK BETWEEN PSYCHOLOGY AND GOLF?

The intuitive link between psychology and golf seems eternal. Expert golfers have always discussed the importance of thinking correctly on the golf course with the most successful golfer declaring "a good golf shot is 10% swing, 40% setup and 50% mental" [2]. Academic research has shown that the most successful tour golfers are generally more mentally astute, using more consistent pre-shot routines, planning more effectively on and off the golf course and setting high-quality goals on a consistent basis [3-5]. But why is psychology so important to successful golfing performance? The answer seems to be three fold.

First, there is the relationship between effective concentration and golfing performance. Golf is played over an extended period of time, thus the effect of fatigue on concentration can be detrimental to decision-making and performance [6]. Furthermore, as golf is an intermittent sport, it is important that golfers can effectively turn their golf-specific concentration on and off in between shots [7].

Second, golf is categorised as a closed-skill sport where the performer controls when to hit the ball and the golf course lay out is predictable and stable over any one round [8]. Conversely it could also be argued that golf, and particularly golf which is undertaken in the golf course environment as opposed to the driving range, is an open skill as variables such as the lie of the ball, the weather and course conditions are constantly changing. However, whether they are open or closed skills golf shots are often well learned and highly practiced and therefore prone to the effects of choking. According to research, an increase in anxiety levels can simultaneously increase levels of self-consciousness. As a performer's self-consciousness increases, that person might try to take conscious control of what usually is an automated skill. A golf-specific example of this may be when an expert golfer starts to monitor the detailed movements of their golf swing as opposed to 'just doing it'. This process gives rise to 'paralysis by analysis' and fits into the Conscious Processing Hypothesis [9]. An alternative explanation, the Processing Efficiency Theory [10], is concerned with how anxiety and worry on the golf course can start to occupy the performer's limited mental processing resources, and therefore impinge on the mental processing resources needed to carry out golf-specific skills. In reality, both of these theories can

explain what happens to golfing performance during pressure situations.

Third, golf is a highly objective sport and each performance can be measured in great detail. As golfers are constantly measuring their own performance, it becomes very easy for them to lose confidence in their ability to perform specific golf skills such as putting or hitting fairway irons onto the green. An individual's judgement on their ability to successfully perform specific skills is termed self-efficacy [11]. A loss of self-efficacy can impact on confidence levels. Further, the concept of positive illusions, where individuals tend to overestimate their potential for success in tasks which are important to them [12], can accentuate an individual's loss of self-efficacy and confidence. Reduced confidence will ultimately impact on performer's motivation levels [13], their willingness to take risks, and their ability to flourish [14]

Concentration, anxiety, confidence and motivation are key variables in effective golfing performance. Consequently, it is important that golfers can manipulate these variables. Therefore the aim of the second section of this paper is to introduce some basic mental skills – imagery, goal setting, self-talk and relaxation – which will enable golfers to begin to understand how they can start to manipulate elements of their concentration, anxiety, confidence and motivation. A key point to consider is that these mental golf skills, like physical golf skills, will not be learned overnight. However, with practice and patience these skills can become highly effective both on

Table 1. Psychological Concept and Mental Skills

Psychological Concept	Mental Skill	Practical Description
Concentration	Cognitive General Imagery	Concentrates your thoughts on the competition, helping you to plan how you will play the course and allowing you to contemplate the possible situations that may arise
Anxiety	Centring	Can be used as part of your pre-shot routine to help you relax. The process of centring is to slow down your breathing, inhale air through your nose and draw the air down into your abdomen through the naval area. Use self-talk such as 'loose' and 'relax' and imagine tension in the neck and shoulder muscles disappearing
Self-Confidence	Motivational	General-Mastery Imagery Using imagery to see, feel and hear the best golf shots you have ever made
Motivation	SMARTER Goal Setting	Make your goals specific and measurable. Identify the processes you will need to work on in order to achieve your goals. Record the progress you are making towards goals. Set a strict time limit on goals to re-evaluate progress.

and off the golf course; e.g., in preparation for a tournament or to use as part of a pre-shot routine. An overview of these skills and their practical uses are presented in Table 1.

MENTAL SKILLS

IMAGERY

Before every shot, Jack Nicklaus goes to the movies inside his head and uses imagery to help him focus on where he wants the ball to land and how he is going to get it there [2]. Imagery is defined as an experience that mimics real life experiences. We can be aware of seeing an image, feeling movements as an image, or experiencing an image of smell, taste, or sound without actually experiencing the real thing. It differs from dreams in that we are awake and conscious when we form an image [15, p. 387]. Imagery is a highly practical tool which can be used by any golfer.

How Does Imagery Work?

When we make a movement, such as hitting a golf ball, specific areas of our brain are activated. Research evidence suggests that when we imagine making a movement, very similar areas of our brain are also activated as when actually making a movement [16]. The idea that similar brain areas are activated when physically executing a skill and imagining physically executing a similar skill is termed shared neural circuitry [17]. If, by generating images in our minds, we can access similar areas of the brain as when we physically execute a movement, imagery can be a very diverse and powerful tool that can be used to facilitate skill acquisition and motivation in golfers.

How Do We Use Imagery in Golf?

Paivio's model of imagery use [18] suggests that imagery has both cognitive and motivational functions, as summarized in Table 2. A distinction can be made between the specific cognitive and motivational functions of imagery [19]. Cognitive imagery use has been termed cognitive specific (CS) and cognitive general (CG). CS imagery refers to the rehearsal of a specific skill; for example, imaging hitting your driver off the first tee at your home course. Research has supported that CS imagery can have learning effects similar to, but not as potent as, physical practice. For example, Smith and colleagues [20] found that CS imagery could be as effective as physical practice for golfers aiming to increase bunker shot performance. Tiger Woods reportedly engaged in high volumes of CS imagery when learning and refining his new swing in between the 2007 British Open at Carnoustie and the WGC Bridgestone Invitational at Firestone where he produced an eight-stroke victory [21]. CG imagery is the rehearsal of game plans and strategies; for example, planning the way you are going to play a golf course the night before you play. Equally, CG imagery can be used to reflect on a round of golf you have just played. It may be beneficial for golfers to hypothetically plan their rounds before they play and many will do this at the driving range playing shots in the sequence and style they want to play them in the following day's tournament.

Imagery has three motivational functions. Motivational general-mastery (MG-M) imagery is linked to confidence, focus, mental toughness and positive mental attitude.

When developing confidence, you might imagine yourself hitting a particularly difficult golf shot successfully when you are in an unfavourable position. Storing and recalling your ten best ever shots may be an effective way to impact upon acute low confidence. In order to increase focus, MG-M imagery can be used as an aid to keep your mind concentrating on the correct thoughts during a round; for example, focusing on a consistent pre-shot routine as opposed to focusing on uncontrollable factors. Mental toughness can be facilitated through MG-M imagery by imagining the things that might go wrong during a round and then imagining the strategies you will use to effectively cope with your mistakes. MG-M imagery can also be used to help golfers to stay positive by focusing on positive outcomes and savouring positive shots from the past. Motivational general-arousal (MG-A) imagery can be used to regulate arousal levels. For example, when you become over anxious, as maybe the case on the first tee of an important competition, you may start to become physically tense and your breathing rate might increase rapidly. In this instance, MG-A may be used to facilitate a relaxation technique in order to reduce anxiety levels. Conversely when performers are under-aroused MG-A can help to increase arousal levels and generate anxiety levels which are optimal for performance. Motivational specific (MS) imagery can be used to imagine optimal outcomes such as shooting your lowest score or to imagine the processes that will lead to the perfect performance.

Table 2. Types of Imagery

Imagery Type	Why Use This Type of Imagery?
Cognitive	
Specific	Rehearse a specific skill
General	Rehearse game plans or strategies
Motivational	
General-Mastery	Support confidence, focus, mental toughness and positive mental attitude
General-Arousal	Control and optimise arousal levels
Specific	Facilitates motivation to complete a task

How Do You Make Imagery Use Effective?

In order to maximise the efficacy of our imagery, it is important to consider imagery modality, imagery perspective and the imagery ability of individuals. Imagery is a multi-modal tool which encompasses visual, audio, kinaesthetic (movement), olfactory (smell), taste and emotion modalities [19]. Research which has considered the multi-modal nature of imagery suggests that, in order to maximise the shared neural circuitry between imagery and movement, it is important to incorporate these different modes. Specifically the PETTLEP model of imagery suggests that we should include the following elements in our imagery to maximise shared neural circuitry [22]: Physical (standing in a golf swing position and holding a golf club); Environmental (including elements in the environment were we wish to perform the skill); Timing (making your image an equivalent time to the actual physical skill you are rehearsing); Task (considering your own skill level compared to the complexity of the golf shot you are imaging); Learning (as your level of expertise changes the

way to think about the golf shot will also change); Emotions (including feelings such as anxiety or excitement); and Perspective (considering the optimal perspective for different tasks).

Imagery perspectives can be either internal or external. An *internal* imagery perspective describes the performer seeing herself performing the skill through her own eyes; e.g., seeing her forearms, hands club and ball as if they were physically performing the golf shot. An *external* perspective describes the performer seeing herself performing the skill from a peripheral position. When considering which imagery perspective is more effective, the research evidence is equivocal. With regard to the use of imagery to learn a task such as learning how to swing a golf club, research evidence has supported an external perspective as being more beneficial to the learner [23]. Other than this, performers are advised to use the imagery perspective of their preference and the one which they can generate the clearest images. The ability to generate clear images is thought to be a key variable in the successful use of imagery [24]. It is therefore important to assess imagery ability in order to increase the efficacy of imagery interventions. Finally, using imagery with positive outcomes has been shown to facilitate successful performance [25].

SELF-TALK

Golfers are constantly talking to themselves, whether it's the little voice in their head saying, "Don't hit it left"; or talking out loud, "I knew I was going to do that!" This verbalisation of our thoughts has been termed 'self-talk' and is defined as "a multi-dimensional phenomenon focusing on athletes' self-verbalization, which can serve both instructional and motivational functions" [26, p. 905]. As self-talk is almost constantly present in both competition and practice, it is important that we understand how to use it effectively.

How Do We Use Self-Talk in Golf?

Although little golf specific self-talk research has been carried out, recent studies have investigated the ways athletes use self-talk [26-28]. Of particular interest, is what athletes say to themselves and why they use self-talk. Athletes' self-talk has been discussed in terms of nature, structure, person, and task instruction [26]. The nature of athletes' self-talk was generally positive or negative. Athletes structured their self-talk as cue words, such as "focus", phases such as "nice and smooth", or finally full sentences like "come on you can do this, keep going". Athletes either spoke to themselves in first person, "I can do this", or in second person, "you can do this". Finally, athletes described using general and specific task instructions such as "I need to train harder" or "keep your head down until you have struck the ball" respectively. Why athletes use self-talk has been discussed both cognitively and motivationally, as summarized in Table 3. The cognitive functions of self-talk are both specific and general. Cognitive specific self-talk can be used to assist skill execution; e.g., "hit through the ball" or help with skill development; e.g., "keep my knees bent and begin my takeaway by turning my shoulders". Cognitive general self-talk can be used to focus on improving overall performance; e.g., "I need to work on my putting" or to aid course strategy; e.g., "I need to hit the ball to the left of the fairway in order to get in the best approach position". The motivational functions of self-talk are three fold.

Firstly, motivational mastery self-talk can help with focus, self-confidence, mental readiness and coping. Golf-specific examples of motivational mastery self-talk might be "come on concentrate, there are only three holes to play" (focus); "you can do this, you have made this shot before" (self-confidence); "ok, get onto the first tee and just do your thing, you couldn't have prepared any better" (mental readiness); and "it's ok, I can make up at least one shot over the next three holes" (coping). Secondly, motivational arousal self-talk can be used to control arousal levels. To reduce arousal levels, golfers may use self-talk such as "it is ok, just breathe nice and easily and relax your shoulders". An example of self-talk to increase arousal levels might be "hey come on, you need to get yourself up for this". Finally, motivational drive self-talk can be used to maintain and increase drive, to increase effort, to help you reach your potential, to achieve goals and to encourage. Examples of motivational drive self-talk might be "come on you need to get out there and practice, the hard work will pay off in the end"; or "stop messing around, it's really important that you use the correct technique here".

Table 3. Types of Self-Talk

Self-Talk Type	Why Use This Type of Self-Talk?
Cognitive	
Specific	Rehearse and aid the execution a specific skill
General	Aid improvements in overall performance and assist in planning playing strategies
Motivational	
Mastery	Support focus, self-confidence, mental readiness and coping
Arousal	Control arousal levels
Drive	Support drive, increased effort, reaching your potential, achieving your goals and to encourage yourself

When Can Self-Talk Be Detrimental to Golfing Performance?

As self-talk is constantly present, it has the potential to have a negative impact on golfing performance. The negative effects of self-talk are predominantly induced by creating internal distractions [6]. Negative self-talk, self-talk focusing on what you don't want to do and using instructional CS self-talk during competition, such as technically talking yourself through the golf swing, may inhibit golfing performance. Using a high percentage of negative self-talk can potentially negatively impact on motivation, concentration, confidence and anxiety levels [6, 29]. Recent research focusing on the shots golfers didn't want to make; e.g., "don't hit the ball into the water on the left", suggested that unwanted behaviour generally occurred [30]; i.e., if golfers focused on where they don't want to hit their ball, that is where it generally end up. This phenomenon has been termed the ironic process of mental control [31, 32]. Finally, using instructional CS self-talk during competition may interfere with the automaticity of the golf swing when thinking through the shot with high levels of instructional detail [9, 26].

How Can I Make the Most of My Self-Talk?

Self-talk can also have a positive impact on golfing performance. Although there are

several effective self-talk strategies golfers can use, the specific focus here will be positive self-talk, thought stopping and countering. Several studies have demonstrated that positive self-talk can enhance performance via improved skill execution in volleyball [33], increased race speed in cross country skiing and sprinting [34, 35] and increased shooting accuracy in soccer [36]. Golf-specific positive self-talk research, which was encompassed in the "Smart Golf" intervention [37], found that golfers reduced their average scores and handicaps when they consistently reacted in a positive manner to difficult situations on the golf course. The "Smart Golf" intervention prescribed golfers to "use only positive verbal comments about your game and yourself" and "defend yourself against negative comments from others". However, it is often difficult to convince golfers that negative thinking is a problem. Sport psychologists worked with a young golfer who they believed had a problem with negative self-talk, and they asked her to empty a box of 100 paper clips into her pocket before a round of golf. During the round when she experienced a negative thought, she had to place one paper clip in her back pocket. After the round, where she shot 84, she had accumulated 87 paper clips in her back pocket. This raised the young golfer's awareness that negative thinking can be a problem [38]. Although in theory stopping negative thoughts might sound simple, in reality it is not so easy. Therefore learning techniques such as thought-stopping and countering can assist golfers in dealing effectively with negative self-talk [39]. Learning to stop negative thoughts begins by becoming aware of when negative thoughts start to appear and manifest. Once the athlete can do this, they can start to use a trigger word such as 'stop' or a physical reaction such as jaw clenching as a prompt for thought stopping. However, simply stopping negative thoughts can be difficult. Thought-stopping suggests athletes change negative self-talk into positive self-talk; e.g., negative self-talk such as "I will never hole a putt today because I'm just no good" can be turned into "I need to relax a little more on my putting – one will drop eventually". This can be difficult if golfers truly believe the negative statements they are making. If this problem occurs, a further technique termed countering can be utilised. Here golfers can rationalise or argue internally against their negative self-talk; e.g., the negative statement "I'm just no good at this game" can be countered with "no, wait a minute, I've reduced my handicap by 3 shots so far this year – I need to be more patient".

RELAXATION

Due to its objective nature, golf can often be a frustrating and stressful sport. Golfers may therefore experience increased levels of anxiety, which can ultimately lead to a decline in golfing performance [40, 41]. In order to combat increased anxiety levels, golfers can utilise practical mental skills to help them relax both on and off the golf course.

What Happens When We Become Anxious?

In order to increase the efficacy of relaxation techniques, it is important to understand the physiological reaction to increased levels of anxiety which has been termed the fight-or-flight response. This response was designed to aid humans in their survival from predators by preparing the body to fight and run. In the present day, however, this response is often inappropriate and in some non-contact sports such as golf it can

often inhibit performance. Physiologically, the body's preparation to fight or run is two fold. Firstly, the sympathetic nervous system is activated to increase respiration, heart rate and blood pressure to ultimately increase the supply of oxygen to the skeletal muscles. Secondly, the hypothalamus and pituitary gland secretes hormones which are believed to give the body rapid access to energy supplies such as carbohydrates. Consequently, short-term bouts of increased anxiety can lead to wasted energy, dehydration, and ultimately early fatigue which can impact on optimal concentration levels. Therefore using relaxation strategies to control anxiety is important in enhancing golfing performance.

How Do We Relax?

The human body has an innate reaction to contest the fight-or-flight phenomena. This has been termed the relaxation response [42]. This response acts to reverse the physiological effects of anxiety by reducing respiration, heart rate and blood pressure leading to reduced oxygen consumption [43]. Although this response is innate, in order to reap the full benefits during times of increased anxiety, relaxation techniques can be learned and optimised [44]. In the previous sections, we discussed how imagery and self-talk can be used to facilitate relaxation on the golf course. Two further relaxation techniques are centring and progressive muscular relaxation.

Centring [45] is a relaxation technique used by rugby player Jonny Wilkinson in his kicking routine [46]. Similarly, you can use it in your pre-shot routine in golf. The aim of centring is to neutralise any tension in the body before you perform a golf shot. This is achieved by equally distributing your body weight around the centre of your body mass (a core point behind the naval). To achieve a centred state, athletes focus on slowing down their breathing, inhaling through their noses and drawing air down into the abdomen and using self-talk such as 'loose' and 'relax' using imagery to help dissipate tension in their neck and shoulder muscles [47].

Progressive muscular relaxation [48] is a relaxation technique which can be used in preparation for a tournament; e.g., the night before or during a break from play due to bad weather. It is a technique which involves systematic, physical relaxation of muscles in the body; e.g., starting from the muscle groups in the feet and working up to the head. Athletes focus on relaxing one muscle group at a time by learning to deliberately contract and relax muscles until all tension in that muscle group has disappeared. Using appropriate imagery and self-talk is key to this process. The athlete works through all the muscle groups in the body until all the anxiety-provoked tension has gone.

Centring and progressive muscular relaxation are just two examples of an abundance of relaxation techniques which can be employed by golfers [49]. When choosing how to deal with increased levels of anxiety, it is important to match anxiety symptoms with an appropriate relaxation technique [44].

GOAL SETTING

As golf is predominantly an individual sport, motivating yourself to practice and to keep going when your confidence is low can often be difficult. Setting goals in practice and competition is an effective way to enhance motivation [50]. A goal refers to "attaining a specific level of proficiency on a task, usually within a specified time

limit" [51, p.125]. Setting goals is thought to affect performance in four ways: i) it focuses your attention on the task; ii) it mobilises effort in proportion to the demands of the task; iii) it enhances persistence in completing a task; and iv) it encourages individuals to develop strategies to achieve their goals [52]. Although golfers generally understand the importance of setting goals, they often need advice on how to set goals in the most effective way to optimise practice and performance in competition. Gaining an understanding of the different types of goals a golfer can use is often the first step in this process.

What Types of Goals Can We Set?

Golfers can set long-term and short-term goals. Long-term goals generally focus on the ultimate outcome such as winning the British Open or getting your handicap down to single figures. Short-term goals act as the stepping stones to achieving your long-term goals. Setting short-term goals also allows reflection on current performance and can help in assessing the viability of long-term goals. Goals can also be objective or subjective. An *objective* goal might be to spend one hour on the practice ground three times a week. This goal is objective because it can be measured and will not be influenced by your opinion or emotions; e.g., a golfer will spend three hours a week on the practice ground or she will not. A *subjective* goal might be to have fun in the next competition you play in. This is a subjective goal because only a golfer can say whether they have had fun or not and their own biases can influence their opinion.

Goals can also be classified as outcome, performance and process goals. *Outcome* goals describe the desired outcome of a round, competition or season; e.g., a golfer might set an outcome goal to finish in the top five of a tournament. *Performance* goals describe the specific performance expectations a golfer might have during a round of golf; e.g., setting a goal to putt in regulation. *Process* goals [53] focus on the execution of one particular skill; e.g., a golfer might set a process goal to use the self-talk phase "nice and smooth" during their take away from the ball when using their driving.

How Do We Maximise the Efficacy of Our Goal setting?

When considering the contemporary research on the best goal-setting practice, Weinberg and colleagues [54] devised ten principles of goal setting:

1. *Set Specific Goals*. Golfers who simply set a goal to do their best need to set goals which are objective and can be measured; e.g., hitting 80% of the fairways.
2. *Set Realistic Yet Challenging Goals*. Goals which are too difficult may negatively impact on motivational levels. Conversely, goals which are too easy will not allow the performer to improve. Golfers therefore need to find a happy medium.
3. *Set Long- and Short-Term Goals*. It is important to have a long-term focus, but equally important to understand the steps (short-term goals) you will need to take in order to get you there.
4. *Set Competition and Training Goals*. Performers often only set competition

goals. However, as training occupies more time and is generally less rewarding than competition, training goals can have a big impact on motivation.

5. *Ink It, Don't Think It*. Goals should be recorded and where possible and appropriate displayed in a public place; e.g., displaying how much quality time you have spent practicing each week.
6. *Develop Goal-Achievement Strategies*. You will need a strategy to achieve your goals (the SMARTER goal-achievement strategy will be discussed in the following section).
7. *Prioritise Process and Performance Goals*. Although it is essential that you set outcome goals, it is important that you focus on the performance and process goals which will help you achieve your desired outcome.
8. *Set Team and Individual Goals*. Although team goals might not always appear to be relevant in golf, professional golfers usually have a support team that includes personnel such as a manager and coach. It is therefore important to consider what the overall goal of the team is and then to consider what the individuals in the team need to do to achieve this goal.
9. *Provide Support for Goals*. Keep important people such as family members and friends informed of what your goals are, because they can help to provide support and encouragement when things don't go to plan and goals aren't achieved in the expected time frame.
10. *Provide Feedback*. Reviewing and evaluating goals on a regular basis is an important part of the goal-setting cycle. Re-evaluating goals can provide an essential source of motivation and commitment for athletes. Good goal-achievement strategies will incorporate a goal review process.

How Can I Achieve My Goals?

Once you have identified the goals you would like to achieve, using goal-achievement strategies will help you to accomplish your goals. The acronym of SMARTER goals suggests that in order to achieve goals they should be Specific, Measurable, Action orientated, Recordable, Time-phased, Elastic, and Re-evaluated. Consider a performance goal of hitting 80-90% of fairways from the tee in competitions. As this goal is very specific, the first stipulation of SMARTER has been fulfilled. To measure this goal, we must first understand the current level of accuracy from the tee. Once this has been established, the goal of 80-90% of fairways can be reviewed in terms of realism and any performance improvements can be recorded. Making goals action orientated means that we must consider how we are going to improve, in this case, our fairway accuracy. The specific actions that need to be taken will vary from individual to individual. This might also suggest that the goal of increasing fairway accuracy is a step too far and that your first goal should be (say) to improve your concentration or technique. Recording this goal is viable as it is simple to count how many balls hit the fairway from the tee. Time-phasing goals means a time period to achieve this goal should be planned. Making goals elastic suggests that goals should be flexible in order to reduce disappointment if goals are not achieved. Here the 80-90% margin reflects an elastic goal. Finally, after a four-week period, the goal of hitting 80-90% of fairways from the tee can be re-evaluated and adjusted as the performer sees fit (e.g., changing the action orientation).

EFFICACY OF MENTAL SKILLS INTERVENTIONS

Do mental skills always have a positive impact on sporting performance? Of the 45 studies which have investigated this question across a number of different sports, 38 (85%) suggested that mental skills interventions did have positive performance effects [55]. Although mental skills have not always been shown to be advantageous to athletes, the research suggests that they generally do enhance performance.

In order to maximise the positive performance effects of mental skills interventions several points should be considered:

- Both young and old, and recreational and professional athletes can benefit from using mental skills.
- Often these interventions are delivered through a coach under the supervision of a trained sport psychologist, via a process termed the organisational empowerment model [56]. Coaches are often best placed to deliver these interventions as they have high levels of contact and rapport with their athlete. The role of the sport psychologist might therefore be to set up the intervention and train or supervise the coach delivering it.
- Three key phases to implementing an effective mental skills intervention have been suggested [6]. First, an education phase in which the athlete should be informed about the nature of mental skills and how these skills can enhance their performance. Second, an acquisition phase should focus on assisting the athlete to learn the appropriate mental techniques. Third, a practice phase with the aim of applying mental skills into competitive situations should be implemented. An effective mental skills intervention will facilitate an athlete's ability to self-regulate in competition, enabling them to effectively monitor and manage their thoughts, feelings and behaviours [57].
- In order to increase adherence, practitioners should consider: i) working in partnership with the athlete to develop the intervention; ii) developing the intervention within a sound goal-setting framework in order to ensure a specific outcome target; iii) putting in place clear processes of measurement, achievement, and evaluation; and iv) encouraging the athlete to use a diary to longitudinally reflect, record and evaluate the intervention [58].

CONCLUSION

In this article, an attempt has been made to shed some light on why the relationship between psychology and golf exists; and to introduce some basic mental skills which golfers can use to increase their psychological proficiencies both on and off the golf course. The mental skills of imagery, self-talk, relaxation and goal setting can have a positive impact on golfing performance.

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