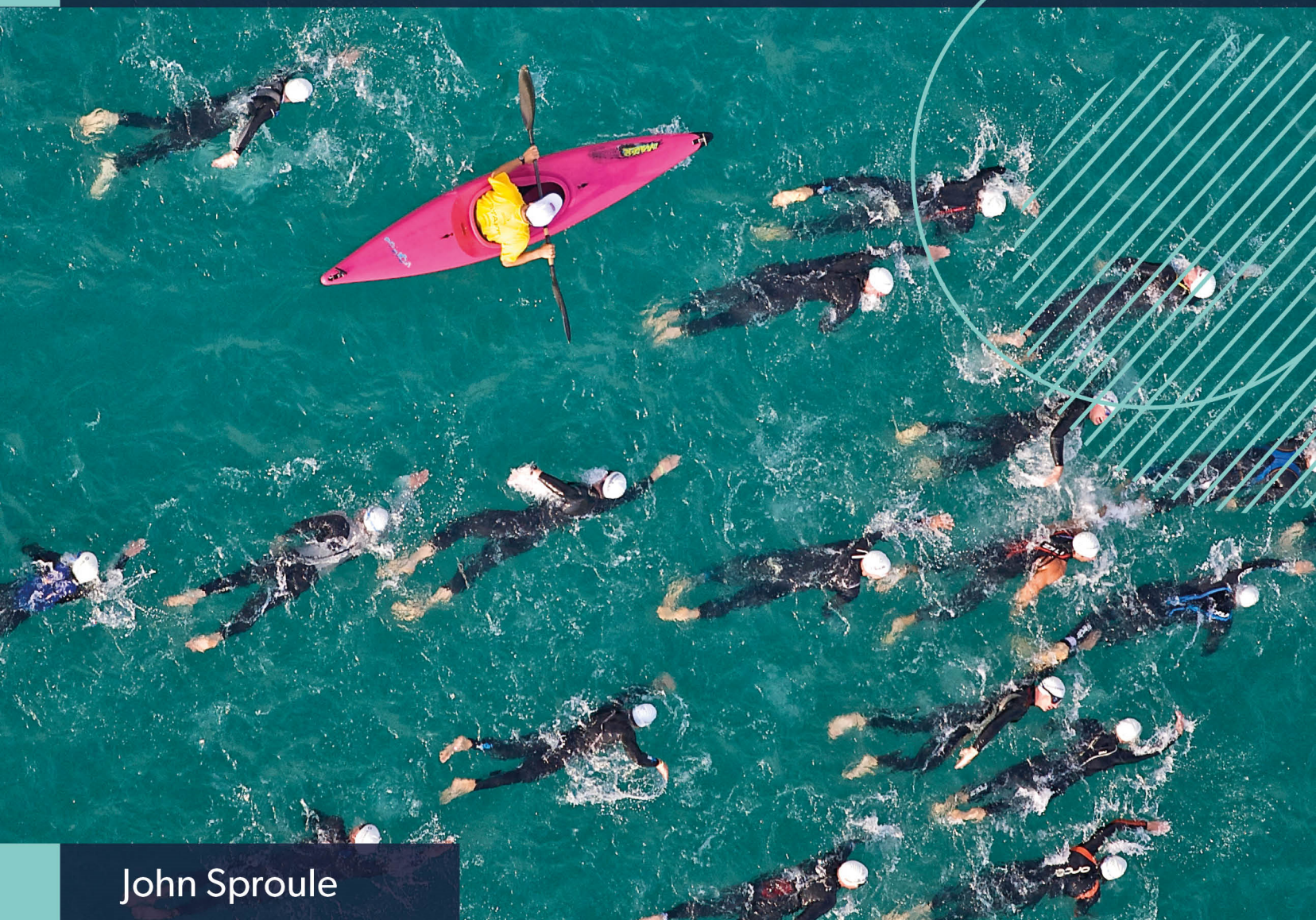Oxford Resources for IB
Diploma Programme

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SPORTS, EXERCISE AND HEALTH SCIENCE

COURSE COMPANION

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OXFORD

Contents

C.5

Psychological skills

How can sport psychology interventions enhance sporting performance?

This topic begins by placing goal setting in the context of developing psychological skills before outlining types of goals and describing how to set effective goals. The topic progresses to introduce and explain the purpose of imagery, including Paivio's imagery framework, and concludes with the PETTLEP model of imagery and how to develop an imagery training intervention.

C.5.1 Goal setting

Introduction

Even highly successful performers sometimes get affected by pressure during competitions. One big difference between performers who succeed and those that do not is the way they manage their emotions and actions in difficult situations. One aim of a sport psychologist is to help athletes learn skills that they can use to take control, cope effectively and perform well under pressure.

However, the application of sport psychology also has a major role to play in helping athletes manage their development, training and lifestyle over the course of their careers. This chapter examines psychological skills and the use of goal setting to enhance performance and motivation.

Developing psychological skills

What are psychological skills?

Many people think that highly successful athletes are born winners or just happen to have the right type of personality to thrive. In fact, research into personality and sport performance has shown that personality factors account for only a small percentage of eventual success. For example, a study by Rowley et al. (1995) concluded it was less than 1%.

Many researchers have shown that psychological skills can be learned in formal teaching settings through consistent training, as well as more informally through life or sport experiences. In other words, anyone can learn and improve their ability to use mental skills effectively, at any stage in their life.

Given the differences between personality and psychological skills, it is important to clearly define what "psychological skills" are. Vealey (1988) made an important distinction by highlighting the difference between useful psychological states (such as confidence, motivation and concentration) and the skills that can be applied to help improve them (such as goal setting, imagery, self-talk and relaxation). This is important because it is difficult to "be confident" without guidance, especially when someone feels low in confidence. For example, coaches often assume that athletes know how to "concentrate" or "relax" when they are told to do so from the touchline. However, they have probably never thought about how the athlete can do those things, or trained them in these skills. Because of this, it is important that athletes (and coaches) know what practical steps need to be taken to improve psychological states, and take time to practise them.

TOK

Discuss this quote by Henry Ford: "Those who believe they can and those who believe they can't are both right."
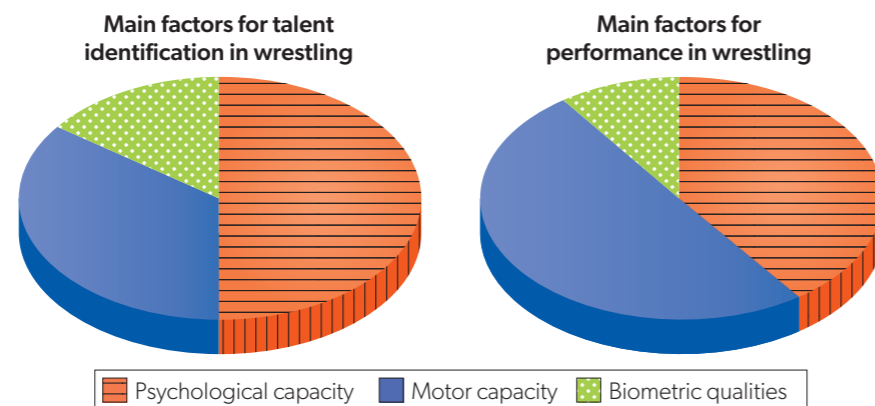
Key point

"Psychological states" describe the athlete's state of mind or attitude.

"Psychological skills" are more tangible steps taken by the athlete to improve their psychological state.

What evidence is there that they work?

While the evidence shows that psychological skills can be taught, it is necessary to understand the importance of psychological training in improving performance. Anecdotally, it is clear to see that our mental state has a big role to play. For example, there are often stories in the media about sports people choking under pressure, and many top sports stars have been quoted highlighting psychology as one of the most important features of their sport.

However, while research supports the contention that psychology is important, the evidence shows the need to take a more balanced, interdisciplinary view. For example, Kunst and Florescu (1971) highlighted the need to recognize that a range of different factors were important, with psychology accounting for approximately 35% of performance variance in wrestling.

Main factors for talent identification in wrestling

Main factors for performance in wrestling

Psychological capacity   Motor capacity   Biometric qualities

▲ Figure 1 Relative importance of psychological, motor and biometric factors in talent identification and performance in wrestling

Research into the impact of psychological interventions in sport generally shows they have a positive impact on performance, and many Olympic athletes place a high importance on psychological preparation for success (Gould et al., 2002). While not all coaches and sports performers place a high value on sport psychology (Pain, Harwood, 2004), there has been an overall increase in athletes seeking out sport psychology training over the last decade (Schinke et al., 2020; Stambulova et al., 2021).

The development process

For the most effective results, psychological skills must be trained systematically. In fact, they are acquired in much the same way as physical skills are and normally lots of commitment and perseverance are needed to make permanent changes.

Research by Pain and Harwood (2004) highlights there are a number of common misconceptions about sport psychology support.

These are four common misconceptions.

- Psychology is a quick fix.

- It is only required for problem athletes.

- It is only pertinent for elite athletes.

- Psychology isn't useful in a sport context.

Key point

Psychological skills need to be learned in the same way that physical skills in sport are learned. The skills must be tailored to the needs of the individual athlete and it takes time and practice to develop them.

There are three phases to the process of developing psychological skills: general education phase, acquisition phase and practice phase.

Phase 1: General education phase

It is important to incorporate a general education phase into psychological skills training (PST). This can be used to clarify what psychological skills are, how they can be trained, what role and level of commitment are required on the behalf of the psychologist, coach and athlete, and what improvements such training can bring. This helps to clarify expectations and understand the potential usefulness for any given individual.

Of course, every person has specific needs and circumstances. PST can be adapted to best suit each individual. Equally, PST is not for everyone (chapter C.1.2, which considers psychological skills training, mindfulness and self-compassion training approaches).

Phase 2: Acquisition phase

The acquisition phase focuses on learning and understanding specific strategies and skills that will help to develop positive change where required. This phase will typically involve a thorough needs analysis of the athlete in their development and performance environment to ensure that PST is targeted at the athlete's needs. It will also focus on teaching the athlete how to implement strategies within the context of why they work. This is important because helping athletes to understand themselves, their emotions and behaviour in different situations will enable them to become independent problem-solvers when new or novel challenges arise. This forms part of the process of helping athletes self-regulate effectively (Richards, 2011), which is an important overriding aim for many sport psychologists, and one that ultimately enables the athlete to function independently.

Phase 3: Practice phase

The final phase of the PST programme is the practice phase which, according to Weinberg and Gould (2011), has three primary objectives:

- to automate skills through over-learning

- to teach athletes to systematically integrate psychological skills into performance situations

- to simulate skills athletes will want to apply in actual competition.

It is well documented that psychological skills cannot be taught effectively in isolation from the context in which they need to be applied (MacNamara et al., 2010). This is why, in more formal PST settings, "homework" is set where the athlete practises different strategies under more realistic, sometimes increasingly pressured, situations. Regular evaluation is important, as are meetings with the sport psychologist, and personal reflections (such as a logbook or journal) on the effectiveness of the strategies. These enable the athlete to gain feedback, identify improvements, and adjust and develop the strategies over time.

In addition to formal PST education, more informal experiences can occur through life and sport, leading to the development of increased mental toughness. For example, Bull et al. (2005) found that in young cricketers, a number of experiences facilitated psychological growth, including parental

> **Activity 1**
>
> What experiences do you have from the non-sport areas of your life that help you in training or in a match or performance?

> **Activity 2**
>
> Write down five goals you have for different areas of your life, such as school, home life, hobbies.

influence, exposure to foreign cricket, opportunities to survive setbacks and needing to "earn" success. More recent research has highlighted the need for a more explicit use of real-life challenges to teach and embed coping skills (MacNamara et al., 2010), as well as the need for sport coaches (and significant others) to help develop mental resilience in athletes through the experiences they set up in their development environments (Martindale, Mortimer, 2011).

Types of goals

There are many anecdotes highlighting goal setting as an essential activity for success in life. As such, it will come as no surprise that goal setting is a well-established cornerstone technique in sport psychology.

Essentially, a goal has broadly been defined as "what an individual is trying to accomplish; it is the object or aim of an action" (Locke et al., 1981). Locke and Latham (2002) highlighted that goals stimulate motivation and improved performance through one or more of the following mechanisms.

- Goals focus attention.
- Goals mobilize effort in proportion to the demands of the task.
- Goals enhance persistence.
- Indirectly, having goals encourages the individual to develop strategies for achieving them.

In other words, goals help direct and mobilize effort, while encouraging a problem-solving approach. Alternatively, goal setting has been shown to indirectly facilitate performance through knock-on effects on other psychological states. For example, Burton (1989) showed evidence of the positive effects of goals on performance through the manipulation of confidence and anxiety levels.

> **Activity 3**
>
> Break down your goals over time and identify what you need to do to make them happen.
>
> What do I want to achieve?
>
> Are there any milestones I need to reach along the way?
>
> Long term: _____
>
> Medium term: _____
>
> Short term: _____
>
> What do I need to do to give myself the best chance of achieving these goals?
>
> 1 _____
>
> 2 _____
>
> 3 _____

Two different types of goals have been identified: **outcome goals** and **learning-focused goals**. Learning-focused goals can be further categorized as either **performance goals** or **process goals** (Table 1).

▼ Table 1 Three different types of goals

Goal type	Description	Examples
outcome goals	relate to the outcome of an event, and usually involve a comparison with others norm-referenced and use an objective result as the target	winning a race being selected for a team
performance goals (learning-focused)	relate to a specific product of performance relatively independent of others (self-referenced)	swimming a certain race time jumping a certain height
process goals (learning-focused)	relate to the processes that a performer will focus on during the performance self-referenced and focus on the technique or strategy required to successfully execute a skill	high knees long stride pattern

There are clear distinctions between the nature of these three types of goals, for example, the extent of control the performer has over reaching their goal. Each of these goal types has its own advantages and disadvantages within different contexts. For example, outcome goals can be useful for facilitating motivation in training, but have been shown to increase anxiety and irrelevant thoughts if used just prior to competition (Weinberg, Gould, 2011). On the other hand, performance goals can help provide specific feedback about progress, and process goals can help provide a relevant focus in the middle of a race. Given these differences, it is perhaps unsurprising to see that using a combination of goal types has been shown to be more effective than using one alone (for example, by Filby et al., 1999).

Learning-focused goals

Learning-focused goals, including both performance goals and process goals, are goals that prioritize the acquisition of knowledge, skills and understanding rather than solely emphasizing the outcome or end result. In the context of learning-focused goals, both performance and process goals are vital for athletes' development and improvement.

- Performance goals revolve around achieving measurable milestones. For example, setting a personal best time. They provide athletes with clear objectives to strive for, helping to motivate and drive their efforts, often serving as benchmarks for evaluating success and progress, and can provide a clear benchmark for assessing achievement.
- Process goals concentrate on the actions, behaviours, strategies and effort required by athletes to enhance their skills and performance. These goals are oriented towards the learning process itself and focus on aspects within an

> **Activity 4**
>
> Distinguish between the role of outcome, performance and process goals.

athlete's control. For example, improving technique, increasing endurance, refining a skill or actioning an effective training routine. Process goals prioritize the steps needed to achieve success and emphasize the importance of continuous learning, practice and skill development.

By emphasizing progression, learning-focused goals foster a growth mindset (continuous improvement, perseverance and mastery of content) compared with a focus on achieving a specific outcome or result. The combination of both performance and process goals can create a well-rounded approach to the development of athletes, provide athletes with a sense of direction and a target to strive for, while ensuring that they focus on the necessary steps and efforts to enhance their abilities. This combination encourages athletes to value the learning process, seek continuous improvement and personal development rather than solely fixating on outcomes, that is, a more balanced approach to learning and development. This is important because emphasizing solely performance goals can sometimes lead to undue pressure, anxiety or a fixation on results, potentially hindering an athlete's progress. By including process goals, athletes can maintain focus on the learning journey, enjoy the process of skill acquisition and enhance their performance in the long run.

Research into goal setting suggests that it is a technique that generally works very well. However, it has also been shown that if goals are not set properly, they can impair the athlete's progress and be a major source of stress. Having said that, a broad review of the goal setting literature with collegiate, youth and Olympic athletes revealed that almost all of the athletes used goal setting of some sort and found it to be effective.

🧬 Global impact of science

If the goals are not set out carefully, a goal-setting intervention could in fact become a source of stress. When carrying out psychological interventions with humans, we are often focused on potential benefits it will bring. However, just as an intervention can have a positive effect, it also has the potential to have an adverse effect. From an ethical standpoint, it is very important for researchers to consider this when recruiting volunteers for research projects that involve the implementation of a psychological intervention. It is important to get informed consent from participants. Consider the methodology you would use to recruit volunteers. How might you inform them of the risks? What information might be useful to know in terms of the mental health of the participants? Might there be inclusion and exclusion criteria in terms of whom you recruit?

Setting effective goals

The acronym SMARTER is often used for guidance when setting effective goals. While there are some merits in following the SMARTER guide (for example, it is easy to remember), rather confusingly, many authors often use the acronym differently.

Also, SMARTER guidelines do not present a full picture of the evidence, providing a rather simplistic overview. For a fuller review of the goal setting literature refer to Hardy et al. (1996). Having said this, summary guidelines are still very useful, so a more substantial set of evidence-based goal-setting principles are presented next.

▼ Figure 2 The SMARTER acronym for effective goals

SMARTER goal setting

① **S**pecific

② **M**easurable

③ **A**chievable

④ **R**ealistic

⑤ **T**ime-based

⑥ **E**xciting

⑦ **R**eview

1 Set specific goals

Research has shown that specific goals often lead to better performance than "do your best" goals or no goals (such as Tenenbaum et al., 1991). The more well defined you can make your goals, the better. For example, "I want to be better at golf" can be made more specific, observable and measurable by changing it to "I want to lower my handicap from 5 to 3, by improving the accuracy of my iron play to the green from 100 yards". The more specific the goals, the more easily you can plan, practise and identify when you have been successful.

2 Set moderately difficult but realistic goals

Kyllo and Landers (1995) found that "moderately difficult" goals lead to the best performance, but they must be accepted by the athlete. However, Bueno et al. (2008) warned that if goals are perceived to be too difficult it can lead to learned helplessness. As such, it is important to try to find the right balance for the individual and adjust your goals when necessary—you will probably know if you are challenging yourself to the right level.
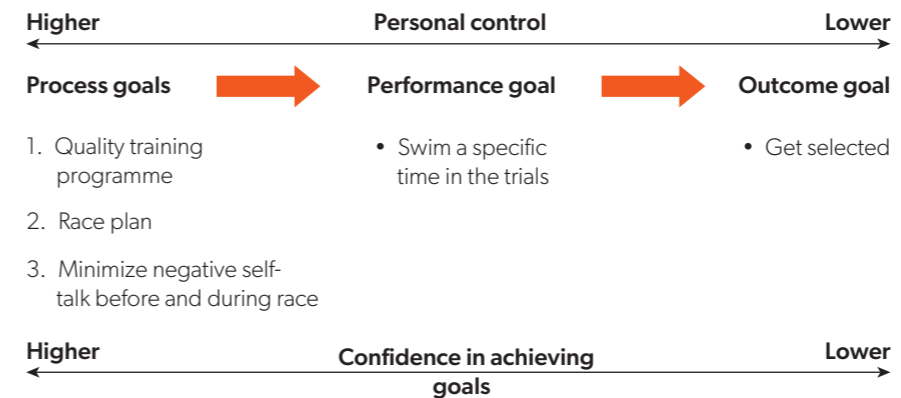
3 Set both short- and long-term goals—stepping stones to success

A combination of short- and long-term goals has been shown to be most effective (Kane et al., 2001). This is particularly true if long-term goals are broken down into relevant short-term goals that act as stepping stones, providing more regular feedback, ongoing focus and success experiences. Starting with a long-term goal in mind, then working backwards in time to form stepping stones to achieving your long-term goal is a common technique. Leading on from this, it is important to finish by identifying relevant practice goals and a good understanding of "what I want to achieve today".

4 Set a combination of outcome, performance and process goals

For every outcome goal that an athlete sets, there must be a range of different performance and process goals to support and underpin it (Filby et al., 1999).

Remember: the outcome goal (such as winning, getting selected or beating someone) often drives motivation. The process goals (such as technical, tactical, mental or physical tasks) and the performance goals (such as specific times or distances) provide feedback and focus for day-to-day activities.

Higher	Personal control	Lower
Process goals	Performance goal	Outcome goal
1. Quality training programme	• Swim a specific time in the trials	• Get selected
2. Race plan		
3. Minimize negative self-talk before and during race		
Higher	Confidence in achieving goals	Lower

▲ Figure 3 Process goals can help improve a performance goal which, in turn, can lead to reaching an outcome goal

5 Always have training and competition goals

Athletes spend a lot of time practising and relatively little time performing. Given the importance and specific nature of the deliberate practice required to improve (Ericsson et al., 1993), it is crucial that training goals are set in addition to competition goals. Interestingly, Orlick and Partington (1988) found that one of the factors that differentiated between successful and less successful athletes was "setting practice goals". Doing this will ensure you remain focused and motivated through training and in competition.

6 Record your goals and make sure you get feedback on your progress

Research has shown the importance of recording goals and placing them where they can be seen as constant reminders. Furthermore, getting regular feedback on progress is an essential part of the process, enabling athletes to build confidence and motivation effectively over time. This will ensure you recognize and understand any progress and success on a regular basis.

7 Always identify strategies to help you be successful

Locke and Latham (2002) highlighted that goals work by encouraging someone to develop a plan of action. As such, this is a crucial part of the process of goal setting. It is common for sporting careers to have plenty of ups and downs, where challenges and barriers are encountered regularly. As such, identifying potential barriers, problem solving and perseverance become crucial skills for negotiating the journey successfully.

8 Foster individual commitment to your goals and ensure you have adequate support

It is important that the aspirations of the individual are developed through goal setting in order to foster intrinsic motivation and commitment. As such, it is important to understand what an athlete really wants, encourage choice and enhance perceptions of ability through the process. Furthermore, Dishman (1988) found that good support networks facilitated adherence to goal pursuit. As such, both of these aspects should be incorporated into the goal-setting process.

Goal setting, the individual and achievement motivation

Goal setting is widely used by coaches, sport psychologists and athletes. Early goal-setting theory suggested that:

- harder goals result in better performance than less demanding goals
- specific goals give rise to better performance than having no goals or vague goals such as "do your best"
- using a combination of short-term goals and long-term goals will lead to better performance than using only long-term goals.

However, in practice there are problems with the above. For example, the first point assumes that difficult goals will encourage effort, but not all individuals try when the situation or task becomes challenging.

As studied in chapter C.3.1, achievement motivation theory emphasizes the meaning of personal goals. Two major types of achievement goals are:

- a task-involved goal—with an emphasis on demonstrating self-referenced competence, such as personal improvement
- an ego-involved goal—superior competence relative to others.

An individual who has a focus on task-involved goals (a task-oriented person in a task-involving/mastery motivational climate) will more likely perform up to their ability level, try hard, and prefer and persevere with challenging tasks.

An individual with a focus on ego-involved goals (with a high perceived ability) will be committed to the activity—as long as things are going well and they are demonstrating superior performance. Such a person is likely to reduce both their commitment to the activity and their effort when their competence is inferior relative to others.

With respect to the goal-setting process, the motivational climate to work towards and achieve goals depends on whether the goal setting was done in either a task-involving/mastery motivational climate or an ego-involving/performance climate. For example, in a task-involving climate, the goals set would be improvement-focused and effort-dependent, the feedback would be self-referenced and the athlete could be involved in the evaluation of goal accomplishment. On the other hand, goal setting in an ego-involving climate would have outcome-oriented norm-referenced goals, and feedback would be more judgemental with social comparison. If this is overlooked the effectiveness of goal setting may be compromised.

Consider this in the context of developing "grit" in athletes. Grit could be defined as "the tenacious pursuit of a goal despite setbacks". Grit has been associated with a willingness to engage in difficult tasks, and effort, in pursuit of their goals over time. That is, with high levels of grit athletes will exert high levels of effort over long periods of time without losing focus of their goals. In contrast, athletes who lack grit, when engaged in difficult tasks, are more likely to put in less effort or be less focused on their goals over time.

Achievement motivation theory has three primary constructs:

- perceived motivational climate (either task-involving or ego-involving)
- mindset (growth or fixed)
- goal orientation (task-oriented and ego-oriented).

According to achievement motivation theory, task-involving or ego-involving motivational climates are perceived through a combination of an athlete's goal orientations and the learning environment created by physical education teachers and/or sports coaches. Within task-involving sport environments, athletes receive positive feedback from their physical education teacher/sports coach when they work hard, demonstrate improvement and learn in cooperation with their peers. Athletes training/competing in task-involving environments report higher levels of persistence, self-esteem, competence, enjoyment and intrinsic motivation. On the other hand, in ego-involving sport environments, athletes receive messages from physical education teachers and/or sports coaches that poor performances and mistakes are bad, athletes with the most ability receive more positive attention (from the physical education teacher/sports coach), and performing better than others (winning) is more important

Evidence

Swann et al. (2023) criticized the SMARTER goals approach. For example, they have suggested that it is not based on scientific theory, and with this approach to goal setting there is some evidence that insufficiently active individuals experience less enjoyment, pleasure, motivation and lower perceptions of performance, as well as significantly greater pressure to be active. Do you think we need more research to generate stronger evidence for the most effective goal-setting approaches in physical activity promotion?

Key point

Setting goals is a useful tool for athletes. The best way to use them is to set a range of different types of goal.

than personal improvement. Athletes' perceptions of ego-involving climates are associated with extrinsic motivation, lack of motivation and sport dropout (when their own perceived ability is low).

Athletes develop schemas about whether or not their ability can change, and these schemas are called mindsets. From a fixed mindset perspective (as in an ego-involving climate), ability is thought of as stable and difficult to develop or change regardless of athletes' efforts. However, from a growth mindset perspective (as promoted in a task-involving motivational climate), ability is viewed as something that can be developed and improved over time through hard work and effort.

Therefore, the effectiveness of each type of goal depends on the perceived motivational climate, the athlete's mindset and their goal orientation—that is, the effectiveness of each type of goal depends on the individual and their achievement motivation.

🔗 Linking question

How might individual differences mean that goal setting is less effective for some people? (C.1.1)

Consider:
- different goal orientations
- the motivational climate created by the teacher/coach
- different personality traits and how individuals respond to goals
- varying skill levels and capacity for achieving certain goals, such as novice, recreational, semi-professional and professional athletes
- diverse learning preferences, for example, written goal-setting instructions may create difficulties for an athlete who learns more effectively via model performer demonstrations
- different individuals are motivated by different factors, such as competition, recognition, personal improvement or social interaction
- physical attributes, such as height, weight, strength, power, endurance and flexibility, can vary significantly among athletes, and can influence the possibility and practicality of certain goals.

The goal-setting paradox

As discussed in this chapter so far, it is commonly believed that goal setting has several benefits, such as increasing motivation, improving athletic performance and enhancing function. This is why goal-setting practices are viewed as essential and key components of successful sports performance. For example, to optimize an athlete's recovery after injury, SMARTER goal-setting practices are often used. However, one study surveyed the goal-setting practices of 570 collegiate athletes, participating in 18 sports at 4 universities in the USA. Interestingly, although over 99% of all athletes surveyed set goals, they typically rated these goals as only moderately effective (Burton et al., 1998).

▲ Figure 4 Goal-setting practices are used to optimize an athlete's recovery after injury

From a sporting perspective, there is some research evidence that goals are likely to be more successful if they are difficult to achieve. As stated by Weinberg and Gould (2015):

Effective goals are difficult enough to challenge a participant yet realistic enough to achieve. Goals are of little value if no effort is needed to achieve them, and participants soon lose their interest in the goal-setting program. But goals that are too difficult to achieve lead to frustration, reduced confidence, and poor performance. The secret is to strike a balance between goal challenge and achievability…

It has been reported that the athlete feels *less* satisfied when a difficult goal is achieved than when an easier goal is achieved. This phenomenon—which seems counter-intuitive—is known as the **goal-setting paradox**. One explanation is that, once the higher goal has been attained, the athlete may feel deflated with a negative mood state (a subjective outcome; the athlete feels low).

Returning to the example of the injured athlete, where goal-setting negotiation during recovery from injury between the athlete and their physiotherapist (and others such as the coach) is involved. The goal-setting paradox should encourage the physiotherapist (and coach) to question their goal-setting approaches with their athletes. Should they set higher goals but face the possibility of the athlete feeling deflated once the goal is met? Or should they set lower goals that could result in the athlete feeling better? From an injury recovery perspective, this is important because professionals working with athletes have a duty of care to preserve and optimize the athlete's sense of well-being.

Goal adjustment

Generally, striving to achieve a goal is portrayed positively within society, but giving up is seen as a weakness. Consider what happens when an athlete is unable to achieve their goal—this is likely to be very stressful.

Research suggests that the capacity to disengage from unattainable goals and to re-engage in other new goals is a valuable quality in athletes. This is because, for example, individuals get emotional benefits from avoiding repeated failure and pursuing new meaningful activities. It is well known that personal goals structure people's lives, motivate adaptive behaviours and contribute to high levels of subjective well-being. At times, however, individuals meet challenges that make the attainment of desired goals impossible and compromise their subjective well-being. For example, consider the setback of being rejected by a soccer academy. For an individual to thrive they need to be able to disengage and withdraw effort and commitment from an unattainable goal, and re-engage in alternative goals (identify, commit to and pursue an alternative goal that is achievable). Such goal re-engagement capacity has been associated with, for example, higher levels of positive emotions and increased subjective well-being.

Nicholls et al. (2016), assessed how goal adjustment capacity predicted well-being in the lead up to and during a competition. Two-hundred and twelve athletes from the UK and Australia, who played team or individual sports, and competed at international, national, county, club or beginner levels participated in this study. The athletes also completed well-being questionnaires within three hours of their competition ending. The study found that the way an athlete responded to an unattainable goal was associated with their well-being in the period leading up to and including the competition. Goal re-engagement was positively associated with well-being, whereas goal disengagement was negatively associated with well-being. Goal disengagement refers to withdrawing effort and commitment from achieving an unattainable goal, whereas goal re-engagement involves:

- identifying alternative approaches to achieve the same goal
- identifying different goals that relate to the overall goal
- developing a completely new goal.

This involves athletes in self-regulating their behaviours. Therefore, in terms of the future performance and well-being of athletes it is important to consider how athletes respond to unattainable goals.

▲ Figure 5 Venus Williams has often spoken about how goals have helped her reach success

"Do your best" goals

The most common version of non-specific goals is **do-your-best goals**. Goal difficulty has been identified as an important consideration for goal setting, with some suggesting that difficult goals are more effective than "do your best" goals. As seen throughout this chapter, goals that are too difficult can negatively impact motivation and persistence, and goals that are too easy may result in complacency and a lower investment of effort. Goal difficulty is also related to the commitment to, and performance in, a goal. One previous analysis of the goal commitment literature concluded that difficult goals lead to greater performance than "do your best" goals (supporting goal setting theory), and that it is important that individuals commit to difficult goals to be successful. However, this should be interpreted with some caution, because others have found moderate goals to be more effective than difficult goals in sport (for example, consider the goal-setting paradox). Therefore, while goal difficulty is clearly an important consideration when goal setting, the findings are perhaps not as conclusive in sport as within other contexts (such as business).

Others have recommended setting specific goals because when compared with "do your best" goals, specific goals were considered more effective at changing behaviour, and more powerful in enhancing motivation and performance, as well more clearly communicating expectations of athletes. However, other researchers have stated that a reliance on specific, challenging goals should be questioned for several reasons, based on the findings from more recent reviews of the available research literature. For example, in a review of the goal-setting process in 2023, Bird et al. concluded that:

Reviews of empirical evidence in sport and exercise indicate that specific goals are not necessarily better than nonspecific goals (e.g., do-your-best) for enhancing performance (Jeong et al., 2021). Furthermore, meta- analytical evidence in sport and exercise indicates that specific, difficult goals were less effective than specific, moderate goals (Kyllo & Landers, 1995).

Additionally, as we have seen, there are differences between learning-focused and outcome goals. Learning-focused goals, which include process and performance goals, are focused on developing task-relevant strategies, whereas outcome goals are focused on the attainment of desired results.

Take the example of a swimmer.

- Process goals can focus on learning specific skills or techniques (for example, one goal might be to swim a length in a given number of strokes).
- Performance goals are about improving their performance standards (for example, a goal aiming for a personal best in their race).
- Outcome goals refer to strictly focusing on the outcome of a competition (for example, the goal is to win the event).

These three goal types are mainly distinguished by their controllability, as the learning "process" and individual "performance" standards are dependent on one's goal commitment, but a certain "outcome" (such as winning a tournament) could be dependent on the opponents and/or other external factors regardless of one's goal commitment.

Open goals

The concept of **open goals** was first reported in a study (Swann et al., 2016) of 10 professional (elite) golfers when they were describing their exceptional performances (such as winning a professional tournament). Open goals are a form of non-specific goal, and examples reported by athletes and exercisers include to "see how well you can do", to "see how big a lead I can build", and to "see how fast I can run 5 kilometres". Their open-ended, exploratory nature is in contrast to specific goals as well as other forms of non-specific goals such as to "do-your-best". Recent studies of golfers, athletes and exercisers suggest that open goals are necessary for the occurrence of enjoyable, effortless **flow states**. In contrast, specific goals are necessary for more effortful and deliberate **clutch states**. Further, open goals differ from "do-your-best" goals in that open goals are not tied to a previous personal best performance (a specific goal).

Key term

Clutch performance (making it happen) has been defined as "any performance increment or superior performance that occurs under pressure circumstances" (Otten, 2009).

ATL Thinking skills

A primary goal for many sport psychology practitioners and coaches is to help athletes achieve optimal levels of performance, and to do so more consistently. "Flow" has been defined as "a harmonious and intrinsically rewarding state characterized by intense focus and absorption in a specific activity, to the exclusion of irrelevant thoughts and emotions, and a sense of everything coming together or clicking into place, even in challenging situations" (Csikszentmihalyi, 2002). Flow (*letting* it happen) has frequently been associated with a range of positive outcomes such as elevated well-being, increased self-concept and improved peak performance.

▲ Figure 6   Flow refers to a state of focus and absorption in a specific activity

Activity 5

When promoting physical activity, by asking healthy adults to walk as far as possible in six minutes, do you think the following instructions will have the same meaning to the participants?

- Do your best.
- See how far you can walk in six minutes.

Linking question

How does goal setting affect success in periodized training? (A.3.1)

Periodization relates to the long-term design and implementation of training over a series of planned training and competition cycles. Periodization affords a rational, evidence-based model for manipulating training variables, particularly volume and intensity, to develop relevant skills, attributes and qualities. A key psychological skill that can influence the effectiveness of such periodization is goal setting.

Consider:

- what outcomes, skills or attributes is the plan aimed at developing?
- can periodization be useful for technical, psychological and tactical capabilities?
- what psychological factors might be relevant for periodization?
- why might process goals be the most beneficial for performance and self-confidence?
- what goals are within the control and capability of the performer?
- what aspects of goal setting might be useful for informing micro-, meso- and macro-cycles within periodized plans?

Practice questions

1. State an example of a performance goal in sport.   (1 mark)

2. In the context of the goal setting paradox, discuss why athletes and their coaches could set higher goals but face the possibility of the athlete feeling worse, or set lower, more achievable goals that could result in the athlete feeling better.   (4 marks)

Summary

- Sport psychology is useful for performance enhancement as well as for managing training and a sporting lifestyle.

- Two important concepts within psychological skills training (PST) are psychological states (for example, confidence, motivation) and the psychological skills that can be applied to help improve them (for example, goal setting).

- While there are a range of factors associated with good performance, psychology has been shown to play a significant role.

- Psychological skills are acquired in much the same way as physical skills, and as such, specific training is required.

- Common misconceptions about sport psychology include:
  - psychology is a quick fix
  - it is only required for problem athletes
  - it is only pertinent for elite athletes
  - psychology isn't useful in a sport context.

- Psychological skills can be developed through both formal teaching as well as more informal experiences. However, PST often has three phases: 1) general education phase, 2) acquisition phase and 3) practice phase.

- Goals work through one or more of the following mechanisms: focus attention, mobilize effort in proportion to the demands of the task, enhance persistence and encourage the individual to develop strategies for achieving goals.

- It is best to use a combination of different types of goals (that is, outcome, performance and process goals).

- The acronym SMARTER provides a simple way to remember some key aspects of effective goal setting; however, more in-depth guidelines are preferred.

- Goals are likely to be more successful if there is a balance between goal challenge and achievability.

- When athletes feel less satisfied when a difficult goal is achieved than when an easier goal is achieved; this is known as the goal-setting paradox.

- The capacity to disengage from unattainable goals and to re-engage in other new goals is a valuable quality in athletes.

- Difficult goals lead to greater performance than "do your best" goals.

- Open goals are a form of non-specific goal, and some think that open goals are necessary for the occurrence of enjoyable, effortless flow states.

- Open goals differ from "do your best" goals.

Check your understanding

After reading this chapter, you should be able to:

- discuss what is meant by psychological skills training and identify four key misconceptions about sport psychology
- outline different types of goals and their uses
- understand why goal setting works
- discuss the goal-setting paradox.

Self-study questions

1. Describe why goal setting works.
2. Outline **three** types of goals that Olympic athletes might use.
3. Describe guidelines for setting effective goals in a training programme.
4. Explain the goal-setting paradox.
5. Distinguish between open goals and do your best goals, using examples from a sport of your choice.

Data-based question

A study examined the impact of goal setting on enjoyment during a six-week exercise programme. Sixty recreational exercisers (mean age = 31 years; 33 males: 27 females) were randomly assigned to a process goal group ($n = 15$), an outcome goal group ($n = 15$) and a no-goal control group ($n = 30$). Participants completed a survey at the beginning (pre) and end (post) of the six-week exercise programme to find out their mean ($\pm$SD) scores for enjoyment of their exercise programme, as shown in Table 2 (higher scores = more, and lower scores = less).

▼ Table 2 Group enjoyment scores

Group	enjoyment	
	pre	post
process goals	6.01 ($\pm$0.11)	6.11 ($\pm$0.12)
outcome goals	5.47 ($\pm$0.11)	2.44 ($\pm$0.12)
control (no goal setting)	3.73 ($\pm$0.8)	2.72 ($\pm$0.09)

Source: adapted from Wilson and Brookfield (2009).

1. Calculate the difference in mean scores for enjoyment between the process group and the outcome group post the six-week exercise programme. (1 mark)
2. Compare the enjoyment scores reported between the groups from pre to post. (2 marks)
3. Discuss the link between goal setting and intrinsic motivation. (4 marks)