UNITS
1&2

PHYSICAL EDUCATION
FOR QUEENSLAND

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obook
assess

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CONTENTS

4 SPORT PSYCHOLOGY

'It is not the mountain we conquer, but ourselves.'

Sir Edmund Hillary (1919–2008)

New Zealand mountain climber and explorer who, together with the Tibetan mountaineer Tenzing Norgay, was the first person to reach the summit of Mount Everest (8848 metres above sea level)

KEY TERMS

By the end of this chapter, you should understand the meanings of the following key terms:

anxiety psychological and physical symptoms brought on by a sense of apprehension about something

choke (in sport) a term used to describe the failure of an athlete or team to perform to their full potential (e.g. freezing under pressure or making unnecessary errors due to nerves)

in the zone (in sport) a term used to describe a state of focused concentration that allows an athlete or team to perform at the peak of their physical and mental ability

PETTLEP model a framework to help athletes get the most out of mental rehearsal and visualisation by making it as close as possible to the real situation

SMARTER principle an acronym that athletes can use to remember all the elements required for effective goal setting

sport psychology a field of science that investigates how an athlete's mental processes (e.g. their thoughts and emotions) influence their participation and performance in sport and physical activity; the discipline of sports psychology aims to assist athletes to achieve optimum mental health and to improve performance

Check your obook assess for the following additional resources and more:

» Flashcard glossary
TBC

» Video tutorial
TBC

» Weblink
TBC

SUBJECT MATTER OUTCOMES COVERED IN CHAPTER 4

Unit 2 – Topic 1: Sport psychology integrated with a selected physical activity

In Unit 2 – Topic 1, students engage in learning that involves the integration of sport psychology subject matter and the subject matter from a selected physical activity.

Stage 1: Engage and understand

Section	Subject matter	Pages	Additional resources
	In this area of study, students will:		
TBC	→ recognise and explain that sport psychology aims to optimise performance through the application of psychological knowledge and strategies	XXX–XXX	XXX–XXX
TBC	→ recognise and explain the concept of motivation as a continuum, from extrinsic to intrinsic	XXX–XXX	XXX–XXX
TBC	– confidence, including self-confidence, self-belief and self-efficacy	XXX–XXX	XXX–XXX
TBC	– arousal as a continuum, from relaxed drowsiness, wakefulness, curiosity and attentiveness to joy, exhilaration, anxiety, panic and rage	XXX–XXX	XXX–XXX
TBC	– attention and concentration, including broad, narrow, internal and external foci	XXX–XXX	XXX–XXX
TBC	– team dynamics and cohesion, including group roles, group norms and social support	XXX–XXX	XXX–XXX
TBC	→ identify and explore the impact of motivation, confidence, arousal, attention, concentration and team dynamics on personal performance in the selected physical activity	XXX–XXX	XXX–XXX
TBC	→ investigate information about psychological techniques that can be used to optimise performance	XXX–XXX	XXX–XXX
TBC	– goal-setting techniques – process goals, outcome goals and performance goals	XXX–XXX	XXX–XXX
TBC	– mental rehearsal techniques – mental rehearsal of the entire performance, visualisation of one aspect of skill execution prior to performance, and internal and external perspectives of imagery	XXX–XXX	XXX–XXX
TBC	– positive self-talk techniques – using positive cue words and positive emotions to create self-belief	XXX–XXX	XXX–XXX
TBC	– self-confidence techniques – identifying how thoughts can affect self-confidence e.g. situation, thoughts, emotions and reactions, using affirmations to change personal reactions to situations	XXX–XXX	XXX–XXX
TBC	– pre-performance techniques – construction of a pre-performance routine and checklist; investigating mental rehearsal and pre-event tasks and cues to prepare for training and competition e.g. technical points, triggers or competition segments	XXX–XXX	XXX–XXX
TBC	– relaxation and energiser techniques – progressive muscle relaxation (PMR), deep breathing techniques, music and visualisation techniques	XXX–XXX	XXX–XXX
TBC	– attention and concentration techniques – selective attention, using trigger words, performance segmenting, pre-performance routines and within-competition routines	XXX–XXX	XXX–XXX
TBC	– team dynamics and cohesion techniques – leadership, communication, norms, rules and discipline	XXX–XXX	XXX–XXX
TBC	→ investigate the use of psychological techniques on personal performance in authentic performance environments	XXX–XXX	XXX–XXX

Section	Subject matter	Pages	Additional resources
TBC	→ gather primary data about the influence of psychological techniques on personal performance of specialised movement sequences and movement strategies in authentic performance environments	XXX–XXX	XXX–XXX
TBC	→ use secondary data to analyse how the sport psychology concepts and principles can influence performance in the selected physical activity.	XXX–XXX	XXX–XXX

Stage 2: Apply and analyse

Section	Subject matter	Pages	Additional resources
	In this area of study, students will:		
TBC	→ analyse and synthesise primary data and secondary data about the influence of sport psychology concepts and principles on specialised movement sequences and movement strategies in the selected physical activity	XXX–XXX	XXX–XXX
TBC	→ optimise performance in the selected physical activity by devising personal and team sport psychology strategies that consider the influence of sports psychology concepts and principles on specialised movement sequences and movement strategies	XXX–XXX	XXX–XXX
TBC	– effect of the psychological techniques on personal and team motivation, confidence, arousal, attention, concentration and/or team dynamics	XXX–XXX	XXX–XXX
TBC	– factors affecting the implementation of the techniques	XXX–XXX	XXX–XXX
TBC	→ implement the sport psychology strategies and movement strategies to gather primary data about the outcomes, implications and limitations of decisions	XXX–XXX	XXX–XXX
TBC	→ analyse primary data and secondary data to ascertain relationships between the sport psychology and movement strategies, concepts and principles, and personal performance.	XXX–XXX	XXX–XXX

Stage 3: Evaluate and justify

Section	Subject matter	Pages	Additional resources
TBC	→ reflect on primary data and secondary data to evaluate the effectiveness of sport psychology and movement strategies to achieve a determined outcome including meeting the requirements of personal and team performance in the selected physical activity	XXX–XXX	XXX–XXX
TBC	– using suitable sport psychology techniques to optimise personal and team motivation, confidence, arousal, attention, concentration and/or team dynamics	XXX–XXX	XXX–XXX
TBC	– optimising the performance of specialised movement sequences and movement strategies	XXX–XXX	XXX–XXX
TBC	→ make decisions to maintain or modify the sport psychology strategies and movement strategies	XXX–XXX	XXX–XXX
TBC	→ justify the development of sport psychology and movement strategies using evidence from primary data and secondary data	XXX–XXX	XXX–XXX
TBC	→ justify maintenance or modification of the sport psychology and movement strategies using evidence from primary data and secondary data	XXX–XXX	XXX–XXX
TBC	→ make decisions about and use language, conventions and mode-appropriate features to convey meaning for particular purposes and contexts.	XXX–XXX	XXX–XXX

4.1 | Introduction to sport psychology

That's a goal!

By the end of Section 4.1, you should be able to:
→ **define** what is meant by the term 'sport psychology'
→ **explain** how sport psychology aims to optimise the performance of athletes
→ **identify** five concepts that are central to sport psychology.

What is sport psychology?

sport psychology
a field of science that investigates how an athlete's mental processes (e.g. their thoughts and emotions) influence their participation and performance in sport and physical activity; the discipline of sports psychology aims to assist athletes to achieve optimum mental health and to improve performance

Sport psychology is a field of science that investigates how an athlete's mental processes – such as their thoughts, feelings and emotions – influence their participation and performance in sport and physical activity. The discipline of sport psychology aims to assist athletes to achieve optimum mental health and improve performance.

Early attempts at applying psychological theories in the sporting world began in the late 1800s, but it wasn't until the late 1900s that the field of sport psychology became accepted in its own right. Today, most professional athletes consult with sport psychologists on a wide range of issues, such as how to deal with pressure or overcome anxiety.

When training for any sport or physical activity, the best programs ensure an athlete is both physically and mentally ready to perform at their best. In sporting history, countless athletes in peak physical condition have been known to **choke** under pressure or fail to perform at their best during competition, because they do not have the necessary psychological knowledge, skills and techniques to help them deal with a range of situations. In fact, when competing athletes are matched in terms of their physical fitness and ability, the difference between the winner and the loser often comes down to their mental strength.

choke
(in sport) a term used to describe the failure of an athlete or team to perform to their full potential (e.g. freezing under pressure or making unnecessary errors due to nerves)

SOURCE 1 The intense pressure of competition can cause athletes to choke, even when they are at peak physical fitness.

Theory in action | Greg Norman's 1996 US Masters meltdown

Greg Norman is an Australian golfing legend. During his career, he enjoyed 91 professional victories internationally and spent a total of 331 weeks ranked at world number one. Norman won two major tournaments and was runner-up eight times.

Ask your parents about Greg Norman and they will probably be familiar with his nickname: 'Great White Shark'. They might also remember that Norman was involved in one of the most famous chokes in sporting history. It took place at the 1996 US Masters Tournament – the most prestigious event on the golfing calendar. Norman started out in near perfect form and by the final day, he had set up an almost unbeatable lead of six shots.

However, on the final day of competition, rival golfer Nick Faldo was 'in the zone', playing the best round of the day at five under par. After the 7th hole, Norman's performance took a sudden turn for the worse. With each hole, his nerves began to get the better of him and his lead was whittled away. Norman was definitely not 'in the zone' – by the 18th hole, not only had he lost the tournament; he had lost it by five shots!

SOURCE 2 Greg Norman's performance at the 1996 US Masters will go down as one of the greatest chokes in the history of sport.

In a press conference afterwards, Norman admitted that the only thing he could do at the end of the day was walk down to the beach to sit, cry and ponder how it all went wrong.

Key concepts in sport psychology

There are many different concepts and strategies used in sport psychology to help athletes build mental strength, reduce the risk of failing to perform and optimise their performance. Some of the most important concepts include:

- **motivation** – a general desire, need or want that drives a person to behave in a particular way
- **confidence** – the belief that a person can have faith in (or rely on) themselves, someone or something
- **arousal** – a feeling of mental and physical alertness or excitement
- **attention and concentration** – the level of focus and attentiveness a person dedicates to a task or stimulus
- **team dynamics and cohesion** – the relationships between members of a group of people (who are working together to achieve a common goal) and the degree to which they can stick together as a united whole.

Each of these concepts will be explored in detail in this chapter. They are central to the study of sport psychology because – regardless of the stage of learning that an individual athlete is at (i.e. from beginner through to expert) – a thorough understanding of these concepts will help every athlete maximise their potential and optimise their performance.

Most athletes already have a basic understanding of the importance of these psychological characteristics, but it is important to be aware that levels of motivation, confidence, arousal, attention and concentration within athletes do not remain constant. In fact, the levels of these characteristics vary independently of each other due to factors that can change on a monthly, weekly, daily or even hourly basis.

FOR THE RECORD!

Many professional athletes and elite sporting teams now employ sport psychologists. Sport psychologists may travel with an individual or team to offer advice and support during training and competition, and even during downtime. A top sport psychologist working with an elite athlete can expect to earn in excess of $150 000 per year.

SOURCE 3 Sally Pearson was 'in the zone' when she won gold in the women's 100 metres hurdles at the London 2012 Olympic Games.

For example, an athlete's motivation levels may be high at the start of the week, but may decrease as the week progresses. That same athlete's concentration levels may be low at the start of the week but increase by the week's end. As a result, it is important for athletes to constantly evaluate their mental state during training and competition so that they can take the necessary steps to get into the right 'zone'. When all of these characteristics are at their optimum levels, an athlete can enter a state of focused concentration that allows them to perform at the peak of their physical and mental ability. This state is often referred to as being '**in the zone**'. This optimum zone is different for every athlete – for example, some athletes perform best when they are hyped up during competition, while others perform best in a more relaxed state.

in the zone
(in sport) a term used to describe a state of focused concentration that allows an athlete or team to perform at the peak of their physical and mental ability

Key techniques and skills in sport psychology

In addition to the psychological concepts already discussed, there are a number of practical psychological techniques and skills that athletes can apply at any stage during training and competition. These are featured in Source 4 and will be discussed in detail later in this chapter. Research has shown that these sport psychology techniques can assist athletes to:

• enhance their performance
• cope with the pressures of competition
• recover from injuries
• stay motivated and keep up with a training program
• get more enjoyment out of their chosen sport or physical activity.

Psychological concepts:
• Motivation
• Confidence
• Arousal
• Attention and concentration
• Team dynamics and cohesion

Optimum performance

Psychological techniques and skills
• Goal setting
• Mental rehearsal
• Affirmations
• Team dynamics and cohesion techniques
• Pre-competition routines
• Relaxation and energiser techniques
• Positive self-talk
• Breathing techniques
• Pre-task routines
• Performance segmenting

SOURCE 4 Athletes can apply different psychological concepts, techniques and skills to optimise their performance.
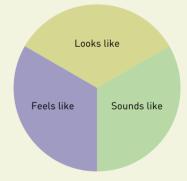
4.1 Check your learning

Engage and understand

1 In your own words, define the term 'sport psychology'.
2 Describe some of the benefits and advantages that sport psychology can offer athletes.
3 Explain what is meant by the term 'in the zone'.
4 Identify five key concepts that underpin sport psychology and define each one briefly in your own words.

Analyse and apply

5 Copy the Y-chart below into your notebook and use it to help you describe a situation (either during training or competition) when you:
   a were 'in the zone'
   b choked under pressure.
   Describe what each of these situations looked like, sounded like and felt like.

Looks like
Sounds like
Feels like

Evaluate and justify

6 Read 'Greg Norman's 1996 US Masters meltdown'. It states that Nick Faldo was 'in the zone' on the final day of ply and had the best round of the tournament. Assess the effect that Faldo's strong performance had on Greg Norman's poor performance that day.

Check your obook assess for the following additional resources and more:

» Student book questions	» Video	» Student worksheet	» Weblink
Check your learning 4.1	A sport psychologist talks about the importance of psychological techniques	Key concepts in sport psychology	Former Athletics Australia coach Percy Cerutty talks about developing mental toughness

Motivation

That's a goal!

By the end of Section 4.2, you should be able to:
→ **define** the concept of motivation
→ **identify** two main types of motivation (i.e. extrinsic and intrinsic)
→ **explain** the role that motivation plays in optimising the performance of athletes.

motivation
a general desire, need or want that causes a person to behave in a particular way

Motivation is a key concept in sport psychology. It refers to the drive within us to behave in a particular way to achieve our goals. Most people would agree that any athlete who wants to succeed in their chosen sport will need high levels of motivation – but what does that actually mean?

Different things motivate people at different times and to different extents. For example, one athlete might be motivated by awards (such as trophies and prize money), another might be motivated by the thrill of participating in sport, while another might be motivated by the roar of the crowd. Some athletes might be motivated by all of these things at the same time. In fact, there are many variables that can influence the motivation levels of an individual athlete on any given day.

Often, a coach's emphasis is solely on increasing the quantity of motivation – the assumption being that higher motivation will lead to better performance. However, research has shown that the quality of motivation, rather than the quantity, is a greater predictor of sporting success. Unlike many theoretical frameworks of motivation, **self-determination theory** makes the distinction between quality and quantity of motivation.

Self-determination theory

Self-determination theory (SDT) was developed in 1985 by American psychologists Edward Deci and Richard Ryan. It presents a general framework through which to analyse human behaviour. It is also very useful for understanding what motivates people to participate in sport and physical activity in the ways they do. The central argument of SDT is that all human beings are born with three basic psychological needs:

* **autonomy** – a person's need to control their own life and make their own decisions (also known as self-determination)
* **competence** – a person's need to learn and master skills that challenge their abilities
* **relatedness** – a person's need to feel a sense of belonging by interacting with others and feeling part of a group or community.

When an athlete feels in control of their behaviour (autonomy), experiences success (competence), and feels accepted and valued by their coach and teammates (relatedness), they will demonstrate

SOURCE 1 Athletes are motivated by many different things including: medals, belonging to a team or cheering fans.

a more positive mindset at trainings and display a healthier psychological state. How well these psychological needs are met in an athlete has in impact on the quality of motivation they experience.

SDT suggests that there are three main types of motivation that exist along a continuum:
* **amotivation** – the absence of motivation
* **extrinsic motivation** – a type of motivation driven by external factors (i.e. factors that come from outside a person)
* **intrinsic motivation** – a type of motivation driven by internal factors (i.e. factors that come from inside a person).

The motivation continuum

As shown in Source 2, SDT defines motivation in terms of a continuum from amotivation (on the left), through extrinsic motivation to intrinsic motivation (on the right). The continuum moves from non-self-determined motivation to more self-determined motivation. If a person's basic needs for autonomy, competence and relatedness are not being met at all, there will be a complete absence of motivation (referred to as 'amotivation'). As these needs are increasingly met, levels of motivation become more self-determined.

A thorough understanding of SDT can be beneficial for coaches and training staff, as it is often their responsibility to help optimise the motivation levels of the athletes they are working with. The more self-determined an athlete's motivation is, the more beneficial it is for their performance and their psychological wellbeing. We will now look at intrinsic and extrinsic motivation in more depth.STUDY TIP

The motivation continuum

Amotivation | Extrinsic motivation | Intrinsic motivation

Low ← Extent to which basic psychological needs are met → High

SOURCE 2 Self-determination theory explains motivation in relation to three basic needs and places it on a continuum from low (amotivation) to high (intrinsic motivation).

Extrinsic motivation

Extrinsic motivation is a type of motivation that is driven by external factors. In other words, when a person is extrinsically motivated to perform a task, they value the associated outcome more than the actual task itself. In a sport setting, extrinsic motivations can include things like:
* awards, trophies and prize money
* praise and recognition from friends, family, teachers or the public (i.e. spectators or fans)
* pressure or threats from friends, family or teachers
* a desire to be popular or make friends
* a desire to lose weight or build muscle.

self-determination theory
the study of human motivations and behaviour

autonomy
a person's need to control their own life and make their own decisions (also known as self-determination)

competence
a person's need to learn and master skills that challenge their abilities

relatedness
a person's need to feel a sense of belonging by interacting with others and feeling part of a group or community

amotivation
the absence of motivation

extrinsic motivation
a type of motivation driven by external factors (i.e. factors that come from outside a person) such as money and fame

intrinsic motivation
a type of motivation driven by internal factors (i.e. factors that come from inside a person) such as fun and personal satisfaction

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Types of extrinsic motivation

Not all forms of extrinsic motivation are the same. According to SDT, they vary in type depending on the amount of control a person has over the activity they are performing (i.e. the degree of autonomy they have).

Extrinsic motivation can be categorised generally into two groups:
- externally controlled
- internalised and integrated.

When an athlete is given very little choice about what to do (i.e. low autonomy), they are motivated purely by an external demand and its associated reward – their extrinsic motivation is externally controlled. An example of this is an athlete going for a run because their coach has threatened them with bench time if they don't improve their fitness.

By contrast, when an athlete enjoys more choice about what to do (i.e. high autonomy), there is an alignment between the task they are performing, its associated reward and their personal values. In this case, the reward comes from outside the athlete, so the motivation is still extrinsic. It seems to come from within because the reward and the values associated with it have been internalised by the athlete and integrated into their sense of who they are and what is important to them. An example of this is a runner who goes for a run because they value fitness and appearance and running helps them to meet their own goals for weight loss and improved fitness. Although more self-determined than the earlier example of the athlete who runs in response to the threat of bench time, the motivating factor in this instance is still extrinsic because it comes from an external, societal-based source.

In this way, there are different types of extrinsic motivation that sit at different points along the motivation continuum based on how self-determined they are. However, the consistent feature in each case is that the motivating factor is external to the individual.

Extrinsic motivation can be a very strong motivator, especially for young athletes or people who are new to a sport. For some athletes, praise and recognition can serve as strong encouragement for them to keep trying and not to give up. Nevertheless, there are limits to the effectiveness of praise and recognition over the longer term. It is important that externally regulated motivation is complemented by more self-determined forms of motivation for the athlete to experience longevity in participation and to find strength and motivation during challenging times in the sporting journey.

SOURCE 3 Praise from spectators is an example of an extrinsic motivator.

Intrinsic motivation

Intrinsic motivation is a type of motivation that is driven completely by internal factors. In a sport setting, intrinsic motivations can include things like:
- feelings of fun, pleasure and excitement
- the enjoyment of taking on a challenge
- a personal desire to learn new skills and experience new things.

Athletes who are intrinsically motivated tend to achieve much better long-term results and stay active in their chosen sport for longer periods of time. They become their own motivator in difficult times (e.g. when they are under pressure) and continue to perform well in the absence of extrinsic motivators. However, studies have shown that athletes who are predominantly intrinsically motivated tend to lack the strong competitive drive needed to be a champion. They enjoy mastering tasks in their chosen sport, but are less concerned about pushing themselves in order to compete against others and win. An athlete who goes for a run purely because they love the feeling of running is said to be intrinsically motivated.

Achieving and maintaining optimum motivation

Sport psychologists generally agree that a combination of both intrinsic and extrinsic motivation results in optimum performance. This combination of intrinsic and extrinsic factors leads to desirable characteristics such as:
- persistence and perseverance
- a positive attitude
- enduring focus and concentration.

These characteristics can help athletes achieve long-term success and enjoyment in their chosen sport.

4.2 Check your learning

Engage and understand

1 In your own words, define extrinsic motivation and intrinsic motivation. Explain the main difference between them.

2 In addition to praise from spectators and fans, identify four examples of extrinsic motivators.

3 Describe the main principles of self-determination theory (SDT). Make reference to the three basic psychological needs that must be met for an athlete to experience intrinsic motivation.

Analyse and apply

4 'Intrinsic motivation is the best form of motivation for all athletes.' Provide two arguments that support this statement and two arguments that refute it.

Evaluate and justify

5 Explain how an athlete's personality can affect the type of motivation that they respond to best.

6 Predict what might happen to your motivation levels if you were offered a reward of $3000 to achieve the top mark in your PE class this year. Would your motivation to achieve top marks remain the same in future years under different conditions?

7 Look carefully at Source 2. Where do you currently sit on the motivational continuum for this unit of study in PE (i.e. Unit 2)?

  a Develop and record one or two practical strategies that could help you move along the continuum towards the right (i.e. towards intrinsic motivation).

  b Each week over the course of Unit 2, revisit your strategies and assess if they are helping you to develop intrinsic motivation. Why do you think they have/haven't been successful?

8 Reflect on self-determination theory. Do you agree that athletes need to feel a sense of autonomy, competence and relatedness to be optimally motivated? Use additional research or examples to justify your opinion.

9 In your opinion, should children be given extrinsic rewards for participating in sport? Complete the table below by adding at least two arguments in each column.

Reasons for extrinsic rewards	Reasons against extrinsic rewards
1 2	1 2

Check your obook assess for the following additional resources and more:
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- » Video
  Details TBC
- » Student worksheet
  Details TBC
- » Skill drill
  4.XX Title TBC

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4.3 Confidence

That's a goal!

By the end of Section 4.3, you should be able to:
→ **define** the concept of confidence
→ **identify** three key factors that contribute to overall confidence (i.e. self-confidence, self-belief and self-efficacy)
→ **explain** the role that confidence plays in optimising the performance of athletes.

confidence

the belief that an individual can have faith in (or rely on) themselves, someone or something

Confidence is another key concept in sport psychology. In simple terms, confidence is the belief that a person can have faith in (or rely on) themselves, someone or something.

Confidence plays an important role in every athlete's overall performance. In fact, confidence underpins most of the other psychological characteristics demonstrated by successful athletes because it is critical to building mental strength. Take, for example, the following two athletes:
- a tennis player who is making repeated unforced errors on court during an important match and starts visibly slumping between points
- a basketball player who needs to make the free throw in the final seconds to win the match.

In both cases, the athlete's future performance will be strongly influenced by the degree of confidence they have in their ability to perform at the level required. For this reason, understanding confidence – and developing an appreciation of the role it plays in overall performance in different situations – is an important part of sport psychology.

SOURCE 1 Confidence contributed to the extraordinary success of the Matildas, who rose to be ranked fourth in the world in 2017.

Sport psychologists sometimes describe an athlete's overall level of confidence in terms of their:
- **self-confidence**
- **self-belief**
- **self-efficacy.**

The relationship between these three factors – and the role that each one plays in an athlete's overall confidence – can be complex. Sometimes these terms are used interchangeably, while at other times they have a particular meaning. Let's explore each one in more detail.

Self-confidence

Self-confidence is a general term used to describe a feeling of trust in one's own abilities, qualities and judgments. In a sporting context, self-confidence is often defined as the acceptance and conviction that an athlete has the resources (i.e. the skills and abilities) to achieve success and win.

Self-confident athletes are composed, thrive on pressure, challenge themselves and rarely doubt their ability to perform at their best. By contrast, athletes who lack self-confidence hesitate more, persist less, doubt their ability and make more errors.

Self-belief

Self-belief is another general term used to describe an athlete's confidence. It refers to the overall trust an athlete has in their ability to succeed, regardless of their previous achievements and competencies. Self-belief can therefore be understood as one component or ingredient of self-confidence. Australian tennis star Lleyton Hewitt is one example of an athlete with a very high level of self-belief. With his 'never give up' attitude, Hewitt was famous for coming back from the edge of defeat to grasp victory.

self-confidence

an athlete's conviction that they have the skills and abilities to succeed

self-belief

an athlete's trust in their ability to succeed, regardless of their previous achievements and competencies

self-efficacy

the belief an athlete has in their ability to perform a particular task

SOURCE 2 In his matches, Lleyton Hewitt drew on optimum self-belief when he needed it most.

Self-efficacy

Self-efficacy is a specific term used by sport psychologists to describe an athlete's confidence. It refers to the belief a person has in their ability to perform a particular task. In other words, the level of self-efficacy a person has in a specific activity reflects the perception they have of their ability to successfully meet the demands of that particular task. This means that an athlete might have high self-efficacy in cricket and low self-efficacy in badminton. It may also mean that a cricketer has high self-efficacy in bowling, but low self-efficacy in batting.

SOURCE 3 Self-belief and self-efficacy are components of self-confidence.

The concept of self-efficacy was developed by American psychologist Albert Bandura. He saw self-efficacy as an indicator of self-confidence. While self-confidence is a general, slightly 'fuzzy' term, self-efficacy is a more specific and more useful term for sport psychologists to use when helping to improve the performance of athletes.

It is important to recognise that self-efficacy refers to an athlete's *perception* of their ability in a given task, rather than their *actual* ability. This distinction between self-efficacy and true capability is crucial in situations where an athlete's level of self-efficacy in a task leads them to be over- or under-confident about their prospects. Mismatches of self-efficacy and true capability in either direction can have a negative impact on an athlete's performance. Losing a match due to underestimating an opponent is one example of how self-efficacy can impact an athlete's performance in this way.

Theory in action — Appearing confident versus being confident

The lead up to any world-class boxing match provides a fascinating spectacle. Pre-bout hype can involve weigh-ins, intense press conferences and theatrical face offs. Boxers typically use these opportunities for showmanship, displaying extreme levels of confidence that are designed to intimidate their opponent. It also helps them to prepare psychologically to perform.

Muhammad Ali believed his words were his cannons. He defended his incessant pre-match trash talking by exclaiming: 'It ain't bragging if you can back it up.' It could be said that his self-efficacy and his capabilities matched. At just 22 years of age, Ali came up against Sonny 'Big Bear' Liston – an imposing figure with a criminal record. On the eve of the fight, Ali announced that he would use Liston's body as a bear rug in his home! He went on to win the fight and claim his place in the history books. Researchers at Florida State University have found that trash talking can improve performance by as much as 46%. It boosts self-confidence and the belief that your opponent is weaker because of it.

SOURCE 4 'Fake it till you make it' is an adage boxers regularly use – they proclaim their greatness so much that both they and their opponent have no choice but to believe it.

4.3 Check your learning

Engage and understand

1 In your own words, define the term 'confidence' in the context of sport.
2 List some of the key characteristics that distinguish a self-confident athlete from one who lacks self-confidence.

Analyse and apply

3 Create your own diagram, flowchart or table to explain the interrelationship between self-confidence, self-belief and self-efficacy. You may like to expand or modify Source 3 to do this.
4 Read 'Appearing confident versus being confident'. Explain how having a 'Fake it till you make it' attitude can contribute to a successful performance.

Evaluate and justify

5 Lleyton Hewitt was well-known for stealing victory from the jaws of defeat. Conduct some additional research to determine the types of strategies and skills he developed in order to build a strong sense of self-belief.
6 Look carefully at Source 4 and develop a short written response that supports or refutes the following statement: 'Appearing confident is just as important as being confident.'
7 Conduct some online research to compile a list of three strategies that an athlete could use to overcome low self-efficacy.

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   4.3 Check your learning
» Video
   Details TBC
» Student worksheet
   Details TBC
» Skill drill
   4.XX Title TBC

4.4 Arousal

That's a goal!

By the end of Section 4.4, you should be able to:
→ **define** the concept of arousal
→ **identify** key stages on the arousal continuum (i.e. from relaxed drowsiness through to panic and rage)
→ **explain** the role that arousal plays in optimising the performance of athletes.

arousal
a feeling of mental and physical alertness or excitement

fight or flight response
an innate (i.e. instinctive) physiological response to a threat of danger or harm that prepares the body to defend or flee

Arousal is another key concept in sport psychology. In simple terms, arousal is a feeling of mental and physical alertness or excitement.

Arousal is linked to our body's **fight or flight response**, an instinctive reaction that all human beings have when they are faced with the threat of danger or harm. During the fight or flight response, the body prepares to fight or flee danger by undergoing a range of physiological changes, such as increased heart rate, more rapid breathing, increased perspiration and increased brain activity. Blood is diverted away from the abdominal organs and the skin, towards muscles in the arms and legs that are necessary to defend the body or propel it away from danger.

SOURCE 1 The arousal levels athletes experience when they are training or competing simulate the body's fight or flight response.
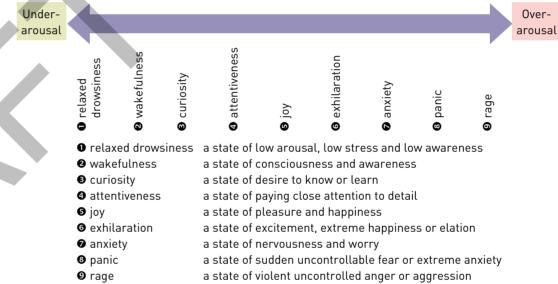
When an athlete is preparing for, or competing in, an important event, their arousal levels simulate a fight or flight response. Throughout training, pre-performance and performance, athletes need to ensure that their mind and body are in an optimum state of arousal. Whether a boxer is in training for a title fight, a gymnast is about to take the floor for their final routine or a swimmer is on the final lap of an 800-metre freestyle race, their arousal levels will need to be optimally controlled to suite their performance needs.

The arousal continuum

Similar to motivation, arousal is often defined in terms of a continuum. As shown in (Source 2, athletes performing at the

SOURCE 3 Serena Williams' state of over-arousal during the 2009 US Open semi-final cost her the match and fines of US$82 500.

❶ relaxed drowsiness — a state of low arousal, low stress and low awareness
❷ wakefulness — a state of consciousness and awareness
❸ curiosity — a state of desire to know or learn
❹ attentiveness — a state of paying close attention to detail
❺ joy — a state of pleasure and happiness
❻ exhilaration — a state of excitement, extreme happiness or elation
❼ anxiety — a state of nervousness and worry
❽ panic — a state of sudden uncontrollable fear or extreme anxiety
❾ rage — a state of violent uncontrolled anger or aggression

SOURCE 2 The arousal continuum organises common states on a scale from relaxed drowsiness (under-arousal) to rage (over-arousal).

lower end of the continuum are often described as being under-aroused, whereas athletes performing at the higher end of the continuum are said to be over-aroused.

The arousal continuum is a useful tool to help understand the impact that different arousal levels can have on performance. Generally speaking, optimum arousal levels for most athletes and physical activities are located towards the middle of the continuum. However, this is not always the case. In a state of optimum arousal, athletes will be both mentally and physically prepared for the type of activity and situation they are facing. It is therefore more helpful to think of optimum arousal levels in relation to individual athletes and the different tasks that they are required to perform. Let's compare an archer with a discus thrower.

• The optimum level of arousal for an archer is probably not a state of joy or exhilaration. In fact, these are both likely to be considered states of over-arousal because archers try to slow their heart rate and release arrows between heart beats in order to improve aim and reduce extraneous (i.e. unnecessary) movement.
• The optimum level of arousal for a discus thrower is not likely to be a state of joy or exhilaration either. Instead, they will probably produce their best throw when they reach a level of arousal that exceeds these states. An experienced discus thrower who

under-arousal
a state of arousal generally considered too low for optimum performance

over-arousal
a state of arousal generally considered too high for optimum performance

is 'pumped' (i.e. in a state approaching rage) is likely to channel this arousal into activating their muscles and increasing the size of their throw.

All athletes need to be conscious of their arousal levels and manage them appropriately in order to maintain optimum levels for their situation. When athletes fail to do this, they risk entering states of **under-arousal** or **over-arousal**, both of which will prevent them from performing at their best.

Understanding anxiety

Anxiety is one of the most common forms of over-arousal. Even the most experienced and talented athletes can struggle to manage anxiety. As Source 4 reveals, anxiety is made up of two components:

- **cognitive anxiety** – the emotional and mental responses to this form of over-arousal, such as feelings of worry and panic
- **somatic anxiety** – the physical responses to this form of over-arousal, such as sweaty palms and shallow, rapid breathing (known as hyperventilation).
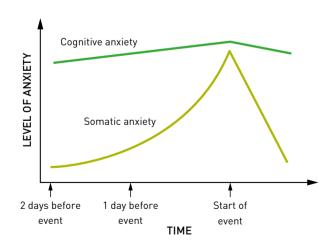
As Source 4 shows, in the lead-up to an event, cognitive anxiety is initially higher than somatic anxiety, as worrying thoughts occupy the mind of an athlete. However, somatic anxiety increases as the event gets closer, causing a physiological response.

Anxiety can cause athletes to feel threatened, seize up, be unable to think clearly and underperform. In such cases, it is important that athletes are able to adopt relaxation techniques in order to manage the anxiety they are experiencing. These are discussed later in this chapter in Section 4.13.

Trait and state anxiety

It is also common to distinguish between two types of anxiety:

- **trait anxiety** – an athlete's natural tendency (i.e. a personality trait) to perceive something as threatening or non-threatening. Those with high levels of trait anxiety will naturally perceive a situation to be more threatening than a person with low levels of trait anxiety.

- **state anxiety** – an athlete's tendency to *perceive* a particular situation or environment as threatening or non-threatening. They feel an emotional response that can directly impact their physical performance. The higher the pressure of the situation, the greater the state anxiety experienced. An athlete's level of state anxiety is often related to their self-efficacy.

The interrelationship between trait and state anxiety will determine a person's anxiety levels from moment to moment. For example, it is common for athletes to feel nervous when playing an important match (state anxiety); however, the level of this anxiety is also influenced by their personality (trait anxiety).

The two most important factors that determine an athlete's level of anxiety are:
- the importance of the situation to the individual
- the uncertainty of the outcome of the situation.

SOURCE 4 An athlete may have low somatic anxiety days before an event but it builds as the event gets close until it reaches a peak and then declines as the event begins.

Achieving and maintaining optimum arousal

Sport psychologists generally agree that achieving and maintaining a level of arousal that is right for the individual athlete and their situation will result in optimum performance. However, there are so many differences in athletes' individual arousal levels that determining the optimum level is almost impossible. Over the last century, a number of theories have been developed to try to explain the relationship between arousal and performance. We will now examine four of the most common theories:
- Drive Theory
- Inverted U Theory
- Zones of Optimal Functioning Theory
- the Catastrophe Model.

Drive Theory

Drive Theory was first developed in 1943 by American psychologist Clark Hull. It proposed that there is a linear relationship between the quality of performance and the degree of arousal. As you can see in Source 5, if an athlete's level of arousal is low, the quality of their performance will also be low. As the athlete's arousal level increases, so too does the quality of their performance.
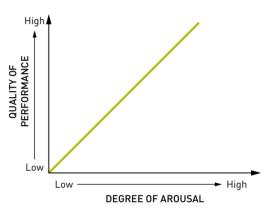
Inverted U Theory

Inverted U Theory was originally proposed in 1908 by American psychologists Robert Yerkes and John Dodson. It suggested that performance increases as a result of mental and physical arousal, but only up to a certain point. Unlike Drive Theory, Inverted U Theory suggests that if levels of arousal become too high, performance actually decreases. As shown in Source 6, the relationship between performance and arousal is often presented as a bell-shaped curve, which increases and then decreases in response to rising levels of arousal.
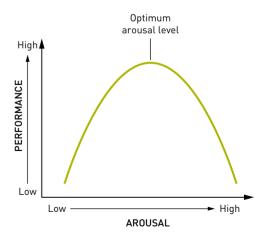
Zones of Optimal Functioning Theory

Zones of Optimal Functioning Theory was proposed by Russian sport psychologist Yuri Hanin in 1980. Like Inverted U Theory, it suggests that a narrow range (or zone) of arousal levels will produce the best performance; however, it goes further by suggesting that the zone of optimum arousal differs for different activities. For example, as Source 7 demonstrates, lawn bowlers will optimise performance by maintaining low levels of arousal so they can perform controlled movements. Rugby players, on the other hand, will optimise performance by maintaining high levels of arousal so they can generate maximum power during tackles and sprints.

SOURCE 5 Drive Theory proposes that the relationship between performance and arousal is a linear one.

SOURCE 6 According to Inverted U Theory an increase in arousal causes improvement in performance up to an optimum point. After this point, increased arousal leads to a decline in performance.

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PAGE 21
PHYSICAL EDUCATION FOR QUEENSLAND UNITS 1 & 2 (SECOND EDITION)
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anxiety
psychological and physical symptoms brought on by a sense of apprehension about something

cognitive anxiety
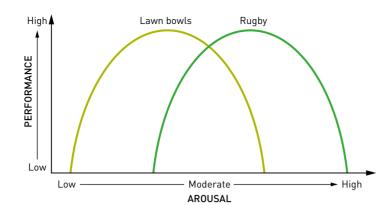anxiety felt as an emotional response

somatic anxiety
anxiety felt as a physical response

trait anxiety
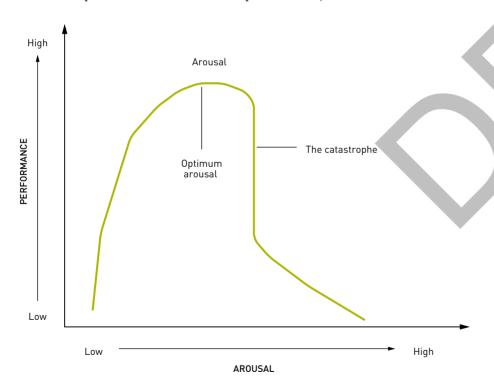personality-based anxiety

state anxiety
situation-based anxiety

SOURCE 7 Zones of Optimal Functioning Theory suggests that the zone of optimum arousal differs for different activities.

Catastrophe Model

The Catastrophe Model, proposed by John Fazey and Lew Hardy in 1988, extends on Inverted U Theory by suggesting that the interplay between cognitive and somatic anxiety impacts the shape of the arousal curve. An athlete experiencing the physiological impact of anxiety or arousal (without accompanying cognitive effects) will follow the gentle curve of the U shape. A combination of both cognitive and somatic anxiety, however, will inevitably lead to catastrophic decline in the athlete's performance, as show in Source 8.

SOURCE 8 The Catastrophe Model proposes that when an athlete experiences both cognitive and somatic anxiety, they can experience a sudden decline in performance.

SOURCE 9 For modern pentathletes, like Australia's Chloe Esposito, achieving and maintaining the optimum zone of arousal is tricky – for example, they require stillness and accuracy for shooting but also aggression and speed for running.

4.4 Check your learning

Engage and understand

1 In your own words, define what is meant by the term 'arousal' in a sporting context.
2 Describe the relationship between arousal and performance.
3 Summarise the concept of 'anxiety' in a sporting context.
4 Describe the difference between trait and state anxiety.

Analyse and apply

5 Briefly describe the four theories from this section that are used to understand the relationship between performance and arousal in sport. In your opinion, which theory is the most useful? Explain your response.
6 Compare and contrast the arousal levels required for optimum performance in two or more of the physical activities you have studied so far this year. Describe the main differences.
7 Refer to the Zones of Optimal Functioning Theory diagram (Source 7). Redraw this graph in your notebook, including the states of arousal on the arousal continuum (Source 2).

Evaluate and justify

8 Look carefully at the image of Serena Williams (Source 3). Conduct some additional online research to find out what events contributed to Serena's state of over-arousal. Describe the consequences of this state for Serena.
9 Think about the physical activity you are studying and list the reasons why your zone of optimum functioning might be different to those of your friends and classmates.
10 Download the trait anxiety vs state anxiety questionnaire provided on your obook assess. Complete the questions. In one paragraph, evaluate your results.
11 Look back at the image of Chloe Esposito (Source 9). Conduct some online research to explain how she was able to reduce her arousal levels after a 3-kilometre run (in a packed stadium) to a level that allowed her to shoot so swiftly and accurately that she jumped from 7th to 1st place in the women's modern pentathlon at the 2016 Olympic Games.

Check your obook assess for the following additional resources and more:
» Student book questions
   4.4 Check your learning
» Video
   Details TBC
» Student worksheet
   Details TBC
» Skill drill
   4.XX Title TBC

4.5 Attention and concentration

That's a goal!

By the end of Section 4.5, you should be able to:
→ **define** the concepts of attention and concentration
→ **identify** the two dimensions of attention (i.e. broad–narrow and internal–external)
→ **explain** the roles that attention and concentration play in optimising the performance of athletes.

attention
the technical term used by sports psychologists to refer to the specific ability of an athlete to attend and respond to appropriate internal (e.g. thoughts or feelings) and external (e.g. the starter's gun or an opponent) stimuli during training and competition

concentration
the everyday term used to describe how a person focuses their mental energy

relevant cues
essential (i.e. important) information that an athlete needs to focus on

irrelevant cues
extraneous (i.e. unnecessary) information that can distract an athlete

Attention and **concentration** are also key concepts in sport psychology. In simple terms, attention and concentration are both concepts used to describe the level of focus and attentiveness a person dedicates to a task or stimulus.

People often use these terms interchangeably; however, when examining attention and concentration in the context of sport psychology, it is helpful to distinguish between them. In sport psychology:

• **concentration** is the everyday term used to describe how a person focuses their mental energy. Strong performances are often said to be the result of 'good concentration' and poor performances the product of 'lapses of concentration'.

• **attention** is the technical term used by sport psychologists to refer to the specific ability of an athlete to attend and respond to appropriate internal (e.g. a thought or feeling) and external (e.g. the starter's gun or an opponent) stimuli during training and competition.

In order to maintain attention and concentration, players must use selective attention. This is where they narrow their focus to the specifics of the task required of them (known as **relevant cues**) and block out distractions (known as **irrelevant cues**). For example, while blocking out the distracting words of the catcher behind them or the bird flying overhead, a softball batter must pay attention to not only the pitcher's ball release but also to the position of fielders and other runners out on the plates.

FOR THE RECORD!

In addition to working directly with athletes, sport psychologists consult and counsel the people closest to an athlete (such as their coaches, family and friends). In this way, sport psychologists can help to ensure that an athlete's environment is stable and positive, and limit unnecessary distractions.

SOURCE 1 Successful athletes use selective attention to block out distractions and focus closely on the task at hand.

Achieving and maintaining optimum attention and concentration

Sport psychologists generally agree that achieving optimum performance is dependent on an athlete focusing on the right thing at the right time. Many theories have been developed to explain the relationship between attention and performance, but the most popular and widely accepted theory is known as Nideffer's Attentional Model.
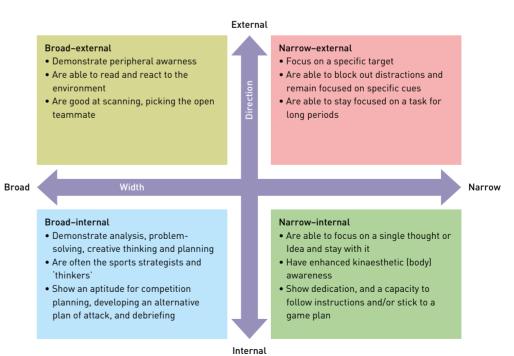
Nideffer's Attentional Model

Nideffer's Attentional Model was developed in 1981 by American sport psychologist Robert Nideffer. It helps to define and explain attention and concentration behaviours in athletes by proposing that attention exists in two dimensions:

• width – this relates to the *amount* of information or cues an athlete perceives. These cues exist on a continuum from narrow focus (i.e. a single cue) through to broad focus (i.e. many cues)

• direction – this relates to the *source* of stimuli that an athlete perceives. These sources also exist on a continuum from internal (e.g. an athlete's own thoughts and feelings) through to external (e.g. an opponent or the wider environment).

Source 2 shows the model's four distinct types of attentional focus:

• broad–external – athletes with this focus are often referred to as 'aware'; for example, a volleyball setter who scans the defence before setting up the play.

• broad–internal – athletes with this focus are often referred to as 'strategic'; for example, a golfer carefully considering shot selection prior to addressing the ball.

• narrow–external – athletes with this focus are often referred to as 'focused'; for example, a tennis player focusing on her toss as she begins to serve.

• narrow–internal – athletes with this focus and often referred to as 'systematic'; for example, a basketball player reviewing his self-talk prior to taking a free throw.

SOURCE 2 Nideffer's Attentional Model has four distinct types of attentional focus, with a number of characteristics common to each type.

STUDY TIP

Start keeping a video log of your performance. Store video clips of your performance in a folder on your computer and add either a voice over or a short written analysis of each one as you go. Look beyond physical performance – for example, note changes in your attention and concentration, or a noticeable leap in your confidence. Make a note of any links between strategies you have been implementing off court (e.g. mental rehearsal and meditation) and changes in performance on court.

Theory in action | Sledging: a true test of concentration

Cricket players are well known for their controversial use of sledging during matches. Sledging is a practice whereby athletes use trash talk to distract their opponents' thoughts away from the game.

A batter in cricket is required to face a hard leather ball – sometimes travelling at speeds over 140 km/h – while also considering the placement of the field, their grip on the bat and the tally on the scoreboard. A good batter will also try to detect cues in the bowler's grip prior to them releasing the ball, so they can predict the type of delivery they are about to face.

To achieve this broad–external focus, the batter must be fully attentive. However, between balls, it is common for the bowler, wicketkeeper and slip fielders to talk derogatively to (i.e. sledge) the batter, in the hope that his or her focus will shift to irrelevant cues and they will be put off their game.

When interviewed on the topic of sledging, one cricketer said: 'As a bowler, if you see a guy that is in

SOURCE 3 Australian cricket player Mitchell Johnson exchanges words with England's Ben Stokes during the Second Ashes Test at Adelaide Oval in 2013.

form and in a routine, you almost want to say more to him to try and upset his rhythm ... It's all about trying to draw the batsmen outside of their own little bubble and give them something else to think about.'

Experienced cricket players must adopt strategies to overcome the distraction of sledging and maintain appropriate attention at all times. It only takes one moment of lapsed concentration for a costly error to be made.

4.5 | Check your learning

Engage and understand

1   In your own words, explain the key difference between 'attention' and 'concentration' in sport psychology.

2   Read 'Sledging: a true test of concentration'. Describe the potential impact of sledging on an athlete's attention.

3   Describe the two dimensions of attention and explain the difference between them.

Analyse and apply

4   Download the blank template of Nideffer's Attentional Model from your obook assess. Using Source 2 as a guide, sort each of the following sports and coaching skills into the most appropriate quadrant.

Sports skills	Coaching skills
Tackling in football	Developing a game plan
Putting in golf	Helping an athlete correct an error
Psyching up for the game	Listening to a player
Rebounding in basketball (when the ball has hit the rim)	Deciding how to respond to an official's bad call
Listening to instructions	Delivering a speech
	Analysing your competence as a coach

Evaluate and justify

5   Evaluate your ability to maintain attention and concentration in the physical activity you are currently studying. Provide your evaluation in two or three written paragraphs, making specific reference to Nifeffer's Attentional Model.

Check your obook assess for the following additional resources and more:
» Student book questions   » Video   » Student worksheet   » Skill drill
  4.5 Check your learning   Details TBC   Details TBC   4.XX Title TBC

4.6 | Team dynamics and cohesion

That's a goal!

By the end of Section 4.6, you should be able to:
→ **define** the concept of team dynamics and cohesion
→ **identify** key stages of team development (i.e. forming, storming, norming, performing) and explain the importance of group roles, group norms and social support
→ **explain** the role that team dynamics and cohesion plays in optimising performance.

team dynamics
the relationships between all of the different members of a group (who are working together to achieve a common goal)

team cohesion
the extent to which individual members of a team can work together and function as a single unified (i.e. united) whole

Team dynamics and **cohesion** are key concepts in sport psychology. Both terms are used to describe the individual relationships between members of a group, as well as their ability to work together.

It is common to hear these terms used interchangeably; however, when examining team dynamics and cohesion in the context of sport psychology, it is helpful to distinguish between them. In sport psychology:
• team dynamics is a term used to describe the relationships between all of the different members of a group (who are working together to achieve a common goal)
• team cohesion is used to describe the extent to which individual members of a team can work together and function as a single, unified (i.e. united) whole.

Strong team dynamics and cohesion are the key elements that transform a group of individual athletes into a high-performing and successful team.

SOURCE 1 Strong team dynamics and cohesion can enable a group of skilled athletes to rise to the top of their field.

Achieving and maintaining optimum team dynamics and cohesion

It's not difficult to think of a successful sporting team, but it can be challenging to work out exactly why certain teams are more successful than others. One way in which coaches and sport psychologists try to understand this, is by examining team dynamics and cohesion. Over the years, many theories have attempted to explain the link between team dynamics, cohesion and performance. One of the most popular and widely accepted is known as the Tuckman's Stages of Group Development.

Tuckman's Stages of Group Development

Tuckman's Stages of Group Development was first developed in 1965 by American psychologist Dr Bruce Tuckman. Tuckman proposed that there were four distinct stages that teams go through in order to achieve cohesion (i.e. function together effectively) and deliver high quality results:

- Stage 1 – **Forming**
- Stage 2 – **Storming**
- Stage 3 – **Norming**
- Stage 4 – **Performing**

Stage 1 – Forming

In the forming stage, a group of individuals come together for the first time and begin to get to know each other. Coaches and athletes begin to think about establishing:

- **group roles** – the formal and informal positions that each individual on the team holds. Formal include positions of authority (such as captain and vice-captain) and playing positions (such as fullback, prop and hooker in rugby). Informal roles include positions that develop over time based on the individual personalities of the players (such as 'the joker', 'the morale booster', 'the problem solver', 'the good listener' and 'the Zen master')
- **group norms** – the rules and expectations set out for all members of the team to follow. Group norms include expectations and rules relating to things like training commitments, equipment requirements, dress codes and ethical conduct.

Stage 2 – Storming

In the storming stage, the team begins to work, train, play and compete together. Team members compete with each other for status and acceptance of their ideas. Conflict between team members is common, but roles can become clearer as a result and norms can be refined to suit the needs of the group. Good resolutions to conflict can strengthen team cohesion. Coaches and athletes work to develop:

- **social cohesion** – the degree to which team members like each other and interact together
- **task cohesion** – the ability to identify closely with the group's goals and to experience success obtaining those goals.

Stage 3 – Norming

In the norming stage, the team is more settled and there is a greater acceptance of individual positions within the group. There is also wider acceptance of the rules and expectations being placed on the group. Rather than competing against each other for

status and acceptance, members are able to work together towards a common goal. Coaches and athletes work to develop:

- **social support** – the ability for team members to trust each other and actively seek each other out for assistance and support.

Stage 4 – Performing

In the performing stage, the team is functioning at a very high level and can work effectively to achieve identified goals. Social and task cohesion and are at optimum levels and performance is strong as a result. In the face of conflict, group members can work together to find a solution (often without coaches or training staff). Team members are well aware of each other's strengths and weaknesses, and work well to optimise the team's performance.
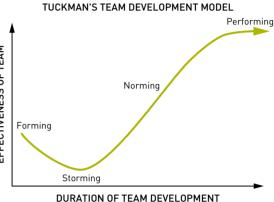
It is important to note that not every team progresses to the performing stage. Many teams stop developing at the norming stage. It is also common, for teams to fluctuate between the second, third and fourth stages of team development for a number of reasons, such as:

- individual team members may start working independently
- established members may leave the team and new members may join the team
- coaching and training staff may change, leading to changes in team goals and training expectations
- unexpected issues arise that challenge the team unity.

TUCKMAN'S TEAM DEVELOPMENT MODEL

SOURCE 2 As a team works together over time, they pass through Tuckman's stages of team development and the effectiveness of the team will vary accordingly.

SOURCE 3 The high level of team cohesion between members of Queensland rugby league team the Maroons has contributed to their incredible success. Here the team can be seen celebrating their win over New South Wales in the 20XX State of Origin.

<div style="border:1px solid">

Theory in action — The world's most successful sporting team

New Zealand's national rugby team the All Blacks is the most successful international sports team of all time.

In over a century of competition, the All Blacks have won more than three-quarters of their 538-plus matches. Since the beginning of the 2010 season, they have won an incredible 72 matches out of 80 played – a win ratio of 90 per cent. They have done the unprecedented, by winning back-to-back Rugby World Cups, retaining the Bledisloe Cup (2003–2017) and winning The Rugby Championship nine times over the past 12 years.

So, what is the secret to their incredible success? Team dynamics and cohesion have a lot to do with it. The All Blacks team culture always puts the team before the individual, no matter how talented an individual player might be. It is this obsession with team unity that makes them an awesome winning unit.

The tantrums of overpaid stars that are a reality in many other teams are not tolerated by the All Blacks. The egos of individual players are eclipsed by a respect and commitment to the team and the legacy of the black jersey. Yet the All Blacks consistently have some

SOURCE 4 For over a century, the All Blacks have performed the haka (a traditional Māori dance) as a powerful pre-match team ritual.

of the best players in the world, so ego is present. The key is never allowing this to lead to disputes between individuals or to prima donna-type behaviour. The sense of honour and respect for previous achievements and holders of the jersey dictates the code of behaviour for new players joining the team. The team mantra is 'Better people make better All Blacks'; a saying that emphasises the importance of good character both on and off the field.

</div>

4.6 Check your learning

Engage and understand

1 Describe the characteristic of a team.
2 In your own words, summarise the four stages of Tuckman's Stages of Group Development.
3 Explain the differences between group roles and group norms.
4 Explain the difference between a collection of individuals and a cohesive team.
5 Read 'The world's most successful sporting team'. What reasons does it give for the All Blacks phenomenal success?

Analyse and apply

6 Create as many endings for this sentence as you can: 'A cohesive team is one that …'
7 Analyse the role that trust plays in developing team cohesion.

Evaluate and justify

8 Make and defend a link between team cohesion and individual self-confidence.
9 Which of the following would be best for a team's success: one strong leader, or a collection of individuals who have authority in certain sub-areas (i.e. defensive leader, offensive leader etc)? Justify your response.
10 Go online to research the concept of group conformity in sport. Investigate the problems associated with non-conformity in relation to team dynamics. Record your findings in point form.
11 A salary cap is a limit placed on the amount a team can pay individual players. Conduct some online research to identify two or three potential impacts that salary caps can have on team dynamics.

Check your obook assess for the following additional resources and more:

» Student book questions
4.6 Check your learning

» Video
Details TBC

» Student worksheet
Details TBC

» Skill drill
4.XX Title TBC

4.7 Psychological techniques to optimise performance

That's a goal!

By the end of Section 4.7, you should be able to:
→ **identify** a number of psychological skills and techniques that can be used to optimise performance (i.e. ongoing techniques, pre-performance techniques and in-performance techniques).

Even the most capable, experienced and physically able athletes can struggle to deal with a range of common psychological problems, such as low levels of confidence, lack of motivation, feelings of stress and anxiety, and lack of attention and concentration.

The main difference between successful and unsuccessful athletes lies in their mental strength or their ability to work through psychological problems as they arise. A mentally strong athlete is one who can recognise and diagnose a problem, and then apply a technique before too much damage is done to their performance.

Psychological skills and techniques

Certain psychological skills and techniques can be applied at different times to help athletes overcome a range of challenges and problems. These skills and techniques can be organised into three categories, according to when they are best performed or applied. Source 1 features these categories, and a list of the particular skills and techniques that belong to each one. It is important to note that although there are times more suited to the applications of each of the techniques, athletes should practise all techniques whenever possible to ensure they are able to easily draw on them when needed.
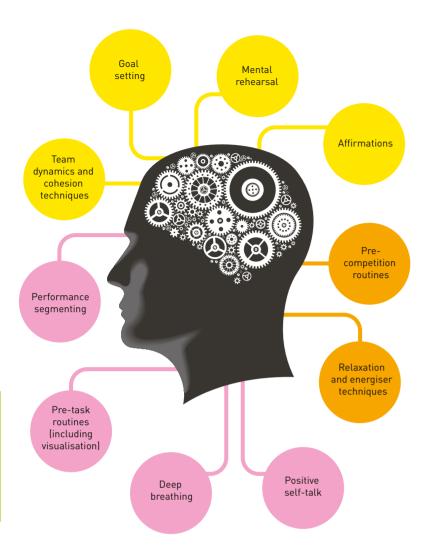
Technique category	Skills and techniques include:
→ Ongoing psychological techniques *Techniques that can be applied at any time*	→ Goal setting → Mental rehearsal → Affirmations → Team dynamics and cohesion techniques
→ Pre-performance psychological techniques *Techniques that are best applied just before physical activity or competition*	→ Pre-competition routines → Relaxation and energiser techniques
→ In-performance psychological techniques *Techniques that are best applied during physical activity or competition*	→ Positive self-talk → Deep breathing → Pre-task routines (including visualisation) → Performance segmenting

SOURCE 1 Psychological skills and techniques to deal with common psychological problems among athletes

SOURCE 2 A sport psychology resource kit contains a range of practical skills and techniques to help with issues such as being more confident and improving concentration.

Developing a 'sport psychology resource kit'

As you learn about each of the skills and techniques in Source 1, you will be able to apply them to your own performance and the performances of other athletes. An awareness of the psychological concepts you have learned about earlier in this chapter, together with a strong understanding of the skills and techniques used to deal with them, will help you to develop a 'sport psychology resource kit'. This resource kit will contain a range of practical skills and techniques that you can apply in different situations and at different times to help you overcome problems and perform at your best.

While coaches should guide athletes towards the psychological techniques they think will be most beneficial, it is important for the athlete to have some autonomy over the techniques they choose to apply. This often helps athletes maintain a level of mental strength that will keep them confident, motivated and focused throughout their performance, resulting in a better outcome.

4.7 Check your learning

Engage and understand

1 In your own words, explain what a sport psychology resource kit is.
2 Describe the three categories that psychological skills and techniques can be organised into.

Analyse and apply

3 Look at the skills and techniques listed in Sources 1 and 2.

a Based on your current knowledge and understanding of each one, identify two or three skills or techniques that you think will be most valuable to you in your selected physical activity. Make note of them in your notebook.

b As you learn more about each skill or technique over the course of this topic, revisit your answer and revise it, if necessary.

Check your obook assess for the following additional resources and more:

» Student book questions
4.7 Check your learning

» Video
Details TBC

» Student worksheet
Details TBC

» Skill drill
4.XX Title TBC

4.8 Goal setting

Ongoing psychological techniques

That's a goal!

By the end of Section 4.8, you should be able to:
→ **define** the strategy of goal setting
→ **identify** and **describe** three types of goals (i.e. process goals, outcome goals and performance goals)
→ **explain** the SMARTER principle and **create** SMARTER goals
→ **explain** how effective goal setting techniques can optimise performance.

FOR THE RECORD!

Throughout 2009, Kurt Fearnley (see Source 1) won wheelchair marathons in London, Paris, Seoul, Sydney, Chicago and New York. He also crawled the gruelling 96-kilometre Kokoda Track in Papua New Guinea. These incredible accomplishments would not have been possible without a strong ability to set and achieve goals.

Goal setting is a technique used to identify one or more things that you want to achieve and to establish measures to help you monitor and track your progress towards achieving them.

Goal setting is an ongoing psychological technique, meaning that it should be applied continuously during training and performance. Athletes need to develop, evaluate and revise their goals on a regular basis in order to optimise their performance.

Effective goal setting

Setting goals is vital for all athletes wanting to achieve success in their sport. Having goals serves a number of purposes and can be effective in strengthening a range of psychological traits, including confidence, motivation and concentration.

Athletes should analyse the types of goals they set to ensure they are maximising the benefits these goals can provide. In sport psychology, there are three main types of goals:
• **outcome goals**
• **performance goals**
• **process goals**.

Understanding the relationship between these types of goals can help athletes achieve their aim, one step at a time.

SOURCE 1 Australian Paralympian Kurt Fearnley is a three-time gold medallist who is expert at setting both personal and professional goals and working hard to achieve them.

Outcome goals

Outcome goals focus on winning and losing (i.e. the specific outcome of a performance or competition). For example, an outcome goal might be:
• to win an Olympic gold medal in basketball
• to place in the top 10 at the Brisbane Marathon.

While it is natural to make winning the goal, focusing only on outcome goals can contribute to anxiety in athletes, and must be combined with performance and process goals to help athletes remain in the zone throughout their performances.

goal setting
a technique used to identify a desired achievement and establish measures to track progress towards achieving it

outcome goals
a type of goal that focuses on winning and losing

performance goals
a type of goal that focuses on enhancing specific aspects of performance, often using statistics

process goals
a type of goal that focuses on improving technique

Performance goals

Performance goals focus on a particular performance standard that an athlete is trying to achieve. Performance goals are often designed to help athletes achieve their outcome goals by breaking them down into a series of smaller, more manageable targets. They focus on various aspects of an athlete's game, often using statistics to set the goal. For example, a performance goal might be:

• to improve shot accuracy from 60 to 70 per cent
• to complete a 20 kilometre training run in under 90 minutes.

Performance goals push athletes to monitor and record their improvement over time.

Process goals

Process goals focus on a specific technical aspect of an athlete's overall performance. They are often designed to help athletes achieve their performance goals by breaking them down into smaller targets that are completely under their own control. For example, a process goal might be:

• to increase follow-through by one second
• to train four days a week.

Process goals can help athletes manage the anxiety that develops when the focus is solely on the outcome. Process goals can also help athletes focus their attention on aspects of their technique.

In both performance and process goals, the athlete has more control and can feel a greater sense of accomplishment and competence as they achieve them. Increased competence results in greater self-confidence and motivation.

Technical or strategy

Process

Specific standard

Performance

End result

Outcome

SOURCE 2 Outcome goals, performance goals and process goals need to be combined to optimise an athlete's performance.

Setting SMARTER goals

Athletes need to monitor and assess the progress of their goals over time, and one of the most popular ways to do this is by applying the **SMARTER principle**.

SMARTER is an acronym (i.e. a word formed from the initial letters of other words) that athletes can use to remember all the elements required for a goal to be effective. For example, rather than writing general goals such as 'I want to get better at tennis' or 'I want to play well in the game this weekend', the SMARTER principle helps to identify the specific level required to attain and then measure the goal. Source 3 describes how this principle can be used for setting goals.

SMARTER principle
an acronym that athletes can use to remember all the elements required for effective goal setting

Specific	Effective goals are specific. Record as much detail about the goal as possible. For example: → I want to get better at tennis. ✗ → I want to achieve 70% of my first serves in court. ✓
Measurable	Effective goals are measurable. Be clear about what success will actually look like so that you can objectively assess whether you have achieved it. For example: → I will improve my service game by a lot. ✗ → Within 6 months I will achieve 50% of my first serves in court. ✓
Achievable	Effective goals are achievable. Think about whether your goal is appropriate for you. (i.e. Do you have the necessary time, money, talent, patience and/or dedication?) Goals should motivate you to challenge yourself, but they must also take your other commitments into account (e.g. school, work and family). For example: → I will be world number 1 tennis player in 6 months. ✗ → I will be club champion in 6 months. ✓
Relevant	Effective goals are relevant. Be clear about what you want so you can move in the right direction. Think about why you want to achieve this goal and whether it aligns with other goals you may have. For example: → I want to win my tennis club championship because I like to win trophies. ✗ → I want to improve my first service percentage from 20% to 50% because it will help boost my confidence, put me in a better position at the beginning of each rally and prove that I am a capable player. ✓
Time-bound	Effective goals are time-bound. Set a timeline for achieving your goals. For example: → I will improve my service game by a lot. ✗ → By January next year I will achieve 50% of my first serves in court. ✓
Evaluated	Effective goals are evaluated. Revisit your goals on a regular basis (every day, week or month) to ensure that you are on track. It's also important to remember that situations change – e.g. if you are injured or your priorities change, then your goals may need to change too.
Recognised and rewarded	Effective goals are recognised and rewarded. Celebrate when you achieve your goals. Rewarding yourself is a good way to create a positive feeling of success, and it will inspire you to set your next goal and achieve it.

SOURCE 3 Using the SMARTER principle gives athletes the best chance at achieving their goals.

4.8 Check your learning

Engage and understand

1 Explain why it's important to set goals.
2 Describe the key features of outcome goals, performance goals and process goals. Then summarise the relationship between each.
3 Identify two or three problems that might arise from focusing solely on outcome goals.

Analyse and apply

4 Rewrite each of the examples of SMARTER goals in Source 3 to match your situation.
5 Categorise each of the following as general goals or SMARTER goals.
   → Play smarter in my tennis matches.
   → Be more prepared for training sessions.
   → Increase my speed off the blocks by 0.2 seconds by the end of the season.
   → Become more accurate in passing the volleyball.
   → Run an interval training session of ten 50 metre sprints at 80 to 90% intensity with a rest/work ratio of 1:5 by week 3 of the touch season.

6 Rewrite the general goals in question 5 to make them SMARTER goals.

Evaluate and justify

7 Recall a time when you set yourself a goal. It could be related to school, work, sport or any other aspect of your life.
   a Write down the goal.
   b Consider whether or not you achieved your goal (or partially achieved it).
   c Using what you have learned about the SMARTER principle, explain if the goal was an effective one. What elements of the goal could have been improved?
   d Rewrite the goal, taking all aspects of the SMARTER principle into account.
   e Evaluate the effectiveness of your goal setting technique. How could you improve your skills in future?

Check your obook assess for the following additional resources and more:
» Student book questions
   4.8 Check your learning
» Video
   Details TBC
» Student worksheet
   Details TBC
» Skill drill
   4.XX Title TBC

4.9 Mental rehearsal

Ongoing psychological techniques

That's a goal!

By the end of Section 4.9, you should be able to:
→ **define** the technique of mental rehearsal (including visualisation)
→ **explain** and **apply** the PETTLEP model for effective mental rehearsal
→ **explain** how effective goal setting techniques can optimise performance.

mental rehearsal
a technique used by athletes to develop skills, reduce anxiety, increase confidence and concentration, and ultimately improve performance

Mental rehearsal is a technique used by athletes to develop skills, reduce anxiety, increase confidence and concentration, and ultimately improve performance. The process involves imagining a performance from beginning to end and rehearsing every aspect of it in the mind. In mental rehearsal, there is no visible physical movement involved.
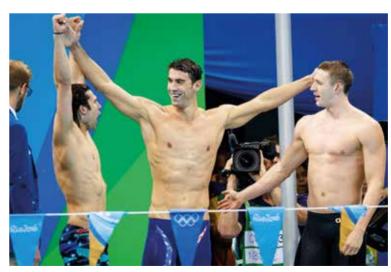
Mental rehearsal is an ongoing psychological technique, meaning that it can be applied at any time during training, just prior to performance and, in some cases, during performance.

Effective mental rehearsal

Numerous studies have found that a combination of both mental and physical rehearsal results in better performances than just mental or physical rehearsal alone. Top athletes such as Michael Phelps, Andy Murray and Wayne Rooney, all include mental rehearsal as a key component of their preparation and performance.

Mental rehearsal can help athletes to convert distraction into focus, anxiety into confidence and timidness into assertiveness. Rehearsing a performance in one's mind helps to create clarity around performance expectations. It can also help athletes cope with performance pressures (such as cheering crowds and television cameras) that can't always be replicated during training.

To get the most out of mental rehearsal, athletes need to think beyond just the visual aspects of the performance (i.e. what it will look like). Good mental rehearsal should involve as many of the senses as possible. The more sounds, smells, physical sensations and even tastes of the performance that can be incorporated into mental rehearsal, the more effective it will be.

It is believed that mental rehearsal works because imagining an action creates electrical activity in the muscles involved in the movement, even though they do not visibly move. Mental rehearsal also allows the brain to work out problems, propose solutions and make decisions. It strengthens the neural connections between the brain and the muscles, which are needed to create the movement.

SOURCE 1 The use of mental rehearsal during preparation and performance may have helped retired American swimmer Michael Phelps (centre) to become the most successful Olympian of all time, with a total of 28 medals.

Visualisation

Visualisation is a technique related to mental rehearsal. It involves the use of imagery to create a mental picture of just one aspect of a physical performance or skill. Many athletes include visualisation as a part of their **pre-task routines,** by imagining themselves successfully performing the action needed to produce the desired result.

The term visualisation is sometimes used interchangeably with mental rehearsal, but in sport psychology, there are three key differences between these techniques:

- mental rehearsal involves rehearsing the entire performance (e.g. an entire game), whereas visualisation involves rehearsing a single aspect of the performance (e.g. a shot at goal)
- mental rehearsal often happens prior to training or competition, whereas visualisation often happens immediately before the performance (e.g. just prior to the shot at goal)
- mental rehearsal and visualisation both include visual aspects of the performance, but mental rehearsal also includes the other senses (smell, sound, feeling and taste).

SOURCE 2 Effective mental rehearsal allows an athlete to not only see the performance in their mind, they can also feel it, hear it, smell it and taste it.

The PETTLEP model

The **PETTLEP model** was proposed by English sport scientists Paul Holmes and David Collins in 2001. It is a framework designed to help athletes get the most out of mental rehearsal and visualisation by making it functionally equivalent (i.e. as close as possible) to the real situation. PETTLEP is an acronym (i.e. a word formed from the initial letters of other words) that athletes can use to remember all of the elements required for effective mental rehearsal and visualisation, as shown in Source 3.

Physical	Imagine the physical characteristics of your body, including your sports uniform and equipment. You could also take the same physical stance (or position) that you would during performance.
Environment	Imagine the location where the performance will take place, including the surface of the playing area and the stadium and spectators around it.
Task	Imagine the exact requirements of the task. It is important to visualise the task being completed successfully, but it must also be at a level that is equivalent to your role and skill level.
Timing	Imagine the task or performance in real time. Generally, this is more effective than imagining tasks in slow motion; however, there are occasions where slow motion imagery can assist a player wanting to perfect a more difficult, technical element.
Learning	Imagine the task or performance that best suits your level of learning. Adapt imagery to reflect your development of skills of over time and any additional demands being placed on you.
Emotion	Imagine yourself feeling the same types of emotions as you would during a performance. If you generally feel anxious during a game, imagine that feeling during mental rehearsal too. However, avoid focusing too heavily on negative emotions such as panic and fear. Steer yourself towards more positive and constructive emotions instead.
Perspective	Imagine the task or performance from your own point of view. This is known as internal perspective (i.e. through your own eyes), which is generally more effective than external perspective (i.e. through the eyes of a spectator). Both perspectives are acceptable, though it is generally left to the athlete to choose. It is sometimes helpful to change perspectives to see if it results in any additional benefits.

SOURCE 3 The PETTLEP model helps guide athletes towards more effective mental rehearsal.

Theory in action — Olympic athletes harness the power of the mind's eye

Olympic athletes spend a large amount of their time training for events. However, a recent study by Russian scientists, which compared the training schedules of four groups of Olympic athletes, revealed that the athletes who pictured themselves crossing the finish line first were more likely to do just that. Each group in the study was assigned a different combination of physical and mental training:

→ Group one: 100% physical training
→ Group two: 75% physical training, 25% mental training
→ Group three: 50% physical training, 50% mental training
→ Group four: 25% physical training, 75% mental training.
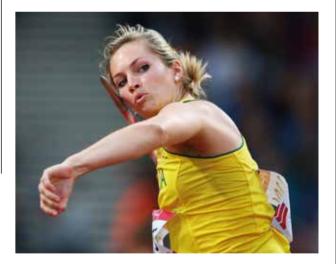
The scientists found that the fourth group were the top performers during the Olympics. As a result of these findings, over the last 20 years, the United States Olympic Committee has increased the number of its full-time sport psychologists from just one to six.

What makes visualisation such a powerful technique for success?

According to Dr Srini Pillay, an American psychiatrist, brain researcher and author, 'We stimulate the same brain regions when we visualise an action as we do when we actually perform that same action'.

Visualisation becomes a sort of conditioning for the brain – establishing a goal, then visualising achieving that goal in detail and focusing on it over the long term. These simple techniques help the brain to know what to look out for. Without this conditioning, critical information that can help to achieve goals could end up as background noise.

SOURCE 4 Australian javelin thrower Kelsey-Lee Roberts uses mental rehearsal techniques to help her prepare for competition.

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4.9 The impact of mental rehearsal on performance

>> Go to page XX to complete this experiment.

4.9 Check your learning

Engage and understand

1 In your own words, define 'mental rehearsal'.
2 Explain the key differences between mental rehearsal and visualisation.
3 Describe the process of mental rehearsal, using a sporting example to demonstrate how it works.
4 Define what each letter in the PETTLEP acronym is short for.

Analyse and apply

5 Compare and contrast internal and external perspectives in mental rehearsal. Which perspective do you prefer to use when visualising your performance? Explain the reasons behind your choice.
6 Download the blank PETTLEP template provided on your obook assess and use it to complete each section as it relates to your performance in a sport of your choice. This can form the basis for your own mental rehearsal.
7 Predict how mentally rehearsing tonight might improve your next physical performance in PE. Justify your prediction.
8 Read 'Olympic athletes harness the power of the mind's eye'. Explain why the athletes who did 25% physical training and 75% mental training performed better at the Olympics than those who did 100% physical training.

Evaluate and justify

9 Susie and Sarah are both preparing for a golf tournament. They understand the importance of mental rehearsal in their preparations.
→ Susie uses an external perspective and visualises herself hitting a hole-in-one on each hole. She sees the ball clearly rolling into the hole and feels excited to start the tournament.
→ Sarah mentally rehearses her swing, watching the club move through the air and past her kitted-out feet to hit the ball in the 'sweet spot' off the tee. She hears the crowd cheering and feels the butterflies in her stomach dissipating after her first successful shot.
a Whose mental rehearsal is more effective? Justify your decision using the PETTLEP model.
b What aspects of the PETTLEP model could help improve Susie and Sarah's mental rehearsal? What could each of them have done to improve their technique?

Check your obook assess for the following additional resources and more:
» Student book questions
  4.9 Check your learning
» Video
  Details TBC
» Student worksheet
  Details TBC
» Skill drill
  4.XX Title TBC

4.10 Affirmations

That's a goal!

By the end of Section 4.10, you should be able to:
→ **define** the technique of affirmations
→ **explain** how affirmation techniques can optimise performance.

affirmations
positive statements that are directly related to an athlete's qualities, abilities or goals

Affirmations are used by many athletes to increase confidence and motivation and, ultimately, to improve performance. Affirmations are positive statements that are directly related to an athlete's qualities, abilities or goals. They are designed to help train an athlete's brain into believing that they possess the skills, abilities, attitudes and beliefs necessary to achieve whatever goal (or goals) they have set for themselves.

Affirmations are an ongoing psychological technique, meaning that they can be applied at any time during training and performance. Athletes need to continually practise creating and using affirmations in order to optimise their performance.

Using affirmations effectively

In the lead up to any training session or sporting event, it is common for feelings of doubt and anxiety to enter an athlete's mind. An athlete who regularly practices affirmations will become better at countering these negative thoughts and emotions in order to boost their confidence.

Many sport psychologists agree that the most effective affirmations are:
• written as a statement of fact rather than a wish or a hope (e.g. 'I am a natural born runner.'
• written in the first person (e.g. 'I can stay focused and strong.')
• written in the present tense (e.g. 'I love taking shots under pressure.')
• positive (e.g. 'I am a skilled player.')
• specific (e.g. 'My serve is powerful and lands first time.')

Some sport psychologists suggest that athletes take note of any negative thoughts that arise during training or competition and write six to ten inspirational affirmations to counter each one. These affirmations can be about specific skills or about the individual generally. Athletes should say these affirmations out loud and with conviction to themselves in a mirror or to a trusted friend or trainer. Displaying notes or posters with written affirmations is also beneficial.

The most famous advocate for the use of affirmations was American professional boxer and activist Muhammad Ali. Widely acknowledged as one of the greatest athletes in history, Ali told

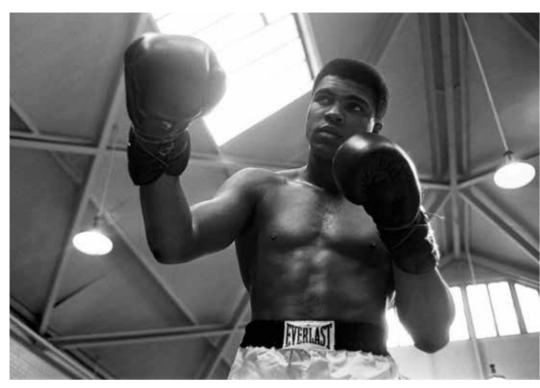**SOURCE 1** Positive self-talk and affirmations can improve an athlete's performance.

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himself 'I am the greatest' so many times that even his opponents became convinced of it. Ali was also famously quoted as saying: 'It's the repetition of affirmations that leads to belief. And once that belief becomes a deep conviction, things begin to happen.'

SOURCE 2 Muhammad Ali was famously quoted as saying: 'I am the greatest. I said that even before I knew I was.'

4.10 | Check your learning

Engage and understand

1 In your own words, explain what an affirmation is.
2 Describe five characteristics of an effective affirmation.

Analyse and apply

3 Identify a time you had a negative thought about your sporting performance.
   a Describe the negative thought.
   b Create six affirmations to counter the negative thought. Practise saying the affirmations aloud so you can redirect this negative thought into a positive one.

Evaluate and justify

4 Conduct some online research about the life and sporting career of Muhammad Ali.
   a Describe the role that affirmations played in the sporting and personal success of Ali.
   b Identify five affirmations Ali used. Do any of these resonate with you? Why/why not?

Check your obook assess for the following additional resources and more:
» Student book questions   Details TBC   » Skill drill
   4.10 Check your learning   » Student worksheet   4.XX Title TBC
» Video   Details TBC

4.11

Ongoing psychological techniques

Team dynamics and cohesion techniques

That's a goal!

By the end of Section 4.11, you should be able to:
→ **identify** and **define** a range of team dynamics and cohesion techniques (i.e. leadership, communication, norms, rules and discipline)
→ **explain** how team dynamics and cohesion techniques can optimise performance.

SOURCE 1 TBC

Team dynamics and cohesion techniques include a range of different strategies and skills designed to help the individual members of a team develop strong relationships, establish clear roles and expectations, and maintain high levels of communication so that they can work together and function as a unified whole.

Team dynamics and cohesion techniques should be applied continuously during training and performance. Athletes need to develop, evaluate and revise their goals on a regular basis in order to optimise their performance.

In Section 4.6, we discussed the Tuckman's theory for developing team cohesion. At each stage of team development, there are important strategies athletes need to work through to optimise the cohesion of their team. A good coach will play an important role in facilitating these strategies. It is crucial, especially in the forming and storming stages, that the coach is open and available to hear and meet the needs of the individuals within the team. To ensure all members are motivated and driven, a coach must ensure that each individual is having their need for autonomy, competence and relatedness met (as discussed in Section 4.4). This will enable the athlete to give more and better accept their teammates' contributions.

Techniques for improving team dynamics and cohesion

There are many different aspects to team dynamics and cohesion, and therefore many different strategies and techniques for improving the cohesion of teams. It is therefore helpful to organise individual techniques into four broad categories based on their purpose. These are:
• techniques for establishing team goals and vision
• techniques for establishing group roles (including leadership)
• techniques for establishing group norms (including rules and discipline)
• techniques for building team identity
• techniques for improving communication.

Establishing team goals and vision

When everyone shares the same goals and vision, it not only fosters support and harmony within the group but it also motivates individuals within the team to work hard for the good of the team.

Goals should be:
- made in consultation with the whole team
- pertain to things other than just outcomes
- guided by the SMARTER principles (see page xx)
- written down and reviewed regularly.

Vision statements are short sentences or collections of words that capture the essence of the team's group goals. Vision statements should be:
- short
- motivating
- memorable
- related to the team goals
- unique to the team.

Establishing group roles

When every player is aware of their role and the roles of others, they feel a greater sense of competence and relatedness to their teammates.

In establishing group roles, it is important that:
- they are clearly communicated during the forming stage of team development
- they are made in consultation with the team
- each role has a description
- they are revised, as required.

Establishing group norms

Group norms are rules, expectations and disciplinary guidelines set out for all members of the team to follow.

Group norms should be:
- established by the coach (sometimes in consultation with some or all members of the team)
- communicated in full
- tailored to the goals and needs of the team
- revised when issues inevitably arise during.

Rules and discipline

It is important that rules are established to ensure individuals within teams are clear on what is expected of them. Making the expectations of team members explicit lessens the potential for emotional stress. Players are often required to sign an agreement to uphold the team rules.

Rules may address the following issues:
- punctuality for games and training
- the dress code for games and training
- social media use
- anti-social behaviours in and out of the sporting arena.

    Discipline for breaches of the rules should also be clearly communicated to the team.

Building team identity

Building a shared team identity is a useful strategy for improving team cohesion. There are many ways in which to build team identity, including:
- creating a team name and logo
- creating a team song and mascot
- creating unique team rituals (e.g. special hand slaps during breaks in play, team chants, and pre- and post-match routines such as a warm up and cool down).

    All of these individual elements combine to help create bonds and feelings of belonging and shared identity within the group.

Improving communication

Communication is a key factor in creating harmony. A team needs an environment in which all members are encouraged to contribute their ideas and have their opinions and suggestions listened to. If communication is not effective, team officials might create a system for communication.

FOR THE RECORD!

The Australian Rugby Union team mascot is called Wally. Team tradition requires the youngest member of the squad to protect and care for Wally while on tour. They must place Wally on the sideline during Tests (facing the way the team is running), take Wally to all functions and ensure Wally is protected from pranks!

SKILL DRILL | **4.11** | **The impact of team cohesion on movement strategy**

>> Go to page XX to complete this experiment.

4.11 | **Check your learning**

Engage and understand

1 List four strategies or techniques designed to improve team cohesion.

2 Explain why a shared team identity is important. Describe some common strategies used to build team identity.

3 True or false? Communication is a key factor in ensuring a positive team dynamic.

Analyse and apply

4 Think of your physical education class as a team. Reflect on the development of your team since the start of the year.
 a Identify the stages of Tuckman's Stages of Group Development you have moved through.
 b Identify any problems you have encountered as a group.

 c List which of the team building strategies suggested here that you have and have not adopted.

Evaluate and justify

5 Reflect on a time when you were part of an unsuccessful or dysfunctional team.
 a In your view, what made the team unsuccessful or dysfunctional?
 b What strategies or techniques could have been applied to improve team cohesion?

6 Who should have the greatest say when establishing group norms – the coach or the players? Give reasons for your response.

7 'Leadership roles in junior sport should be rotated and shared equally between all team members.' Discuss your position on this statement in a written response of 250 words. Conduct additional research online to build your argument.

Check your obook assess for the following additional resources and more:
» Student book questions   Details TBC   » Skill drill
   4.11 Check your learning » Student worksheet   4.XX Title TBC
» Video   Details TBC

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4.12

Pre-performance psychological techniques

Pre-competition routines

That's a goal!

By the end of Section 4.12, you should be able to:
→ **identify** and **define** a range of pre-competition techniques (i.e. pre-performance routines and checklists, and pre-event cues such as technical points, triggers and competition segments)
→ **explain** how pre-competition techniques can optimise performance.

pre-competition routines

a sequence of actions and/or thoughts that an athlete follows just prior to an event or competition

Pre-competition routines (also known as pre-performance techniques) are used by athletes to optimise their mental strength and help get them 'in the zone'. A pre-competition routine is a sequence of actions and/or thoughts (performed in order) that an athlete follows just prior to an event or competition. Pre-competition routines are specific to individual athletes and sports. They are designed to generate feelings of certainty, familiarity and control, and they help athletes to focus on appropriate cues, combat anxiety and boost confidence.

Pre-competition techniques are most commonly used immediately prior to a performance or competition; however, a number of these techniques can also be applied in an ongoing fashion and/or during performance. It is ideal for athletes to practise these techniques regularly so that they can apply them effectively whenever necessary.

Designing an effective pre-competition routine

In the lead up to competition, it is normal for athletes to complete an extensive, sport-specific warm up routine. Great athletes don't just focus on preparing their bodies for competition though; they place equal importance on preparing their minds. And they do this by running through pre-competition routines.

Pre-competition routines differ based on the strengths and weaknesses of a particular athlete, and the demands of their chosen sport. However, there are some common elements of pre-competition routines:

- **Complete a pre-competition checklist.** Checklists might include practicalities such as checking that the requisite equipment and uniform are ready, completing a warm up and taking part in a pre-game briefing. Once the items on the checklist are complete, the athlete can focus on other aspects of their pre-competition routine.
- **Define objectives or goals for the performance.** Having a clearly defined goal for every performance – and reviewing this goal prior to competition – is key to measuring and achieving success.
- **Mentally rehearse the performance or visualise specific aspects of the performance.** Some psychologists suggest rehearsing just the first segment of a competition immediately prior to competition to prevent athletes from becoming overwhelmed with the task ahead. However, it is generally left to individuals to decide the best option for them.

- **Use positive self-talk and affirmations.** In the lead up to performance, athletes need to remind themselves to trust in their skills and know that they have done all they can to optimise their performance. It is important to combat any negative self-doubt by using self-talk and affirmations.
- **Embrace the feelings associated with increased adrenaline release.** The jittery feelings that athletes experience prior to competition are actually helpful. They indicate that the body is getting physically ready for the demands about to be placed on it.
- **Perform rituals.** In sport, a ritual can be defined as a certain behaviour or action that an athlete repeatedly carries out in the belief that it can influence their performance. A ritual may include anything that is meaningful to an athlete. Wearing the same special socks to every game or taking the same route to a big match are some examples of rituals. These can help athletes get themselves mentally ready for their performance, with the familiarity offering them a confidence boost prior to their performance.

Implementing an effective pre-competition routine

Generally speaking, a pre-competition routine should be carried out 30 to 60 minutes prior to a match. It should take around 10 to 20 minutes to complete.

Some athletes find it best to complete their routine in a quiet space, while others prefer to be around people and noise. Athletes often listen to music while completing their pre-competition routine – some always listen to the same piece of music or artist to provide consistency and familiarity; while others simply wear headphones (without music) to give them the quiet time they need to work through their routines efficiently.

Australian hurdler Michelle Jenneke includes dancing in her pre-competition routine. A video of her warm up dance at the start line of her event went viral after the 2012 World Junior Championships. As she performed well at that meet, she has included the dance before both training and competition ever since. Michelle explains: 'I honestly don't get too nervous about the race. I am more excited than anything else – and the pre-race routine is an outlet for that, [it] gets me into a right frame of mind.'

SOURCE 1 Many athletes have a pre-competition routine. Sun Yang listens to music before competing while Michelle Jenneke gets into the right frame of mind via a dance on the start line.

Theory in action | A case of lucky underwear

Many athletes consider rituals such as wearing their favourite underwear or carrying a lucky charm an important part of their pre-competition routine.
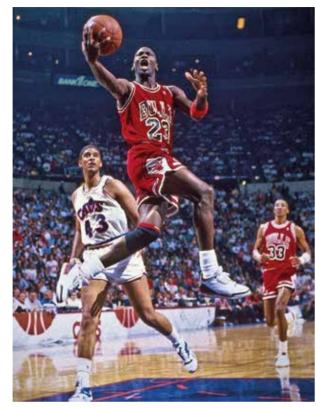
Retired basketball legend Michael Jordan wore his University of North Carolina basketball shorts under his Chicago Bulls uniform in every match he played. He strongly believed that they brought him luck and contributed to his success. To hide his 'lucky' shorts, he wore longer shorts over the top, which started a trend that continues today.

Similarly, tennis legend Serena Williams has several routines that she attributes to her success. She always brings her shower sandals onto court with her, ties her shoelaces in a certain way and wears the same pair of socks for the duration of a tournament. When her performance is off, she will often cite not following one of her routines as the reason.

Some research has shown that rituals provide athletes with a sense of control in an otherwise unknown environment. This can have a positive impact on an athlete's confidence. However, some psychologists dismiss this idea and warn against getting too attached to rituals and superstitions. They claim that rituals are based on luck and give athletes a false sense of confidence.

SOURCE 2 Michael Jordan won six NBA championships wearing the same 'lucky' shorts under his uniform.

4.12 | Check your learning

Engage and understand

1 List the elements considered necessary for an effective pre-competition routine.
2 How long should a pre-performance routine take? When should it be implemented?

Analyse and apply

3 Create your own pre-competition routine for the sport that is the focus of your study this term. Create a psychological action plan for an athlete hoping to improve their confidence prior to performances.

Evaluate and justify

4 Read 'A case of lucky underwear'. Then conduct some additional research into rituals in sport. Based on your research, do you think rituals are:
   a beneficial routines that can have a positive impact on athletes' confidence?
   b inadvisable practices that give athletes' a false sense of confidence?
   Draw on anecdotal evidence to justify your response.

Check your obook assess for the following additional resources and more:
» Student book questions
   4.12 Check your learning
» Video
   Details TBC
» Student worksheet
   Details TBC
» Skill drill
   4.XX Title TBC

4.13 | Relaxation and energiser techniques

Pre-performance psychological techniques

That's a goal!

By the end of Section 4.13, you should be able to:
→ **identify** and **define** a range of relaxation and energiser techniques (i.e. meditation, progressive muscle relaxation [PMR], deep breathing, music and visualisation)
→ **explain** how relaxation and energiser techniques can optimise performance.

relaxation and energiser techniques
a range of different techniques aimed at optimising athletes' arousal levels

Relaxation and energiser techniques are often used as a way to optimise arousal levels prior to performance but can also contribute to better concentration, motivation and confidence. These techniques can be adapted to suit the individual needs of athletes and the situation in which they find themselves.

Relaxation and energiser techniques are most commonly used immediately prior to performance or competition. However, a number of these techniques can also be applied in an ongoing sense and/or during performance. It is recommended that athletes practice these techniques regularly so that they can apply them effectively whenever they are required.

Effective relaxation and energiser techniques

Effective relaxation and energiser techniques include:
- meditation
- progressive muscle relaxation (PMR)
- deep breathing
- music
- visualisation.

meditation
the practice of focusing your attention to a single point of reference to create calm and clarity

Meditation

Meditation is the practice of focusing the mind to achieve clarity and a sense of calm by reducing 'noise' or stimulation to the brain. Meditation allows you to turn attention away from distracting thoughts and focus on the present moment. It can involve focusing on breath or bodily sensations, or a word, phrase or image.

Athletes can use meditation to prevent the build-up of pre-competition anxiety. Meditation can also help athletes gain greater control of their emotions and focus during performance. For example, a softball pitcher may experience a natural increase in arousal before a crucial pitch. If they have practised effective meditation beforehand, their strengthened mind–body connection will enable them to resist the heightened external and internal distractions and remain connected to the task in the present. This in-turn allows them to stay more relaxed as a performer.

SOURCE 1 TBC

SOURCE 2 Athletes use relaxation and energeiser techniques such as deep breathing and listening to music to prepare for performances.

Meditation should be practised:

- in a quiet environment
- for 10 to 30 minutes, two to three times a day initially
- with a focus on breathing
- with a clear mind (i.e. without holding onto distracting thoughts).

Progressive muscle relaxation (PMR)

progressive muscle relaxation (PMR)
a stress-relief technique that involves the systematic tensing and relaxing of particular muscle groups in the body

Progressive muscle relaxation (PMR) is a popular relaxation technique used by athletes. It involves the systematic tensing and releasing of muscles, which is beneficial to athletes both before and after a sporting performance. PMR can reduce respiration, blood pressure, muscle tension and negative thoughts. An athlete who engages in PMR regularly can manage anxiety better and their performance is therefore optimised.

To be effective, it is recommended that athletes spend 10 minutes engaging in PMR in the quiet of their home before and after competitions, at least two to three times each week. Athletes lie on the floor and progressively tense and then relax particular muscle groups. Starting with the arms, the athlete can make a fist and tighten the arm muscles for approximately 5 seconds and then relax for 30 seconds. Repeating this several times will help athletes become more familiar with the sensations and feedback from the muscles. The same can be done for the neck, face, shoulders and upper back and then the lower back and abdominals, as well as the legs and hips. To finish, athletes tense their whole body and then relax completely.

With practice, athletes will be able to relax the muscles without tensing them first; sometimes a cue word is enough to produce the feeling of relaxation. This technique is particularly useful for neck and shoulder tension, tension headaches and tight jaw muscles.

FOR THE RECORD!

Phil Jackson, former NBA coach of the Chicago Bulls and the Los Angeles Lakers, used to invite all his players into a meditation circle before important playoff games to help players focus on the task and ensure they were mentally present. Over his nine seasons as coach of the Chicago Bulls, Chicago won the NBA championships six times.

Deep breathing

Deep breathing is an important relaxation technique that is often performed in conjunction with meditation and PMR but it is also effective on its own.

Practising effective deep breathing techniques prior to a performance can help decrease stress and muscle tension, calm nerves and reduce negative or unhelpful thoughts; it can induce feelings of relaxed energy.

To practise deep breathing:

- Sit or lie in a relaxed position with bent knees.
- Relax your shoulders.
- Place your dominant hand just below your navel and your other hand just above it.
- Breathe deeply through your nose, filling the area under your dominant hand with air first, then the area under your other hand (lower rib cage) and finally the upper portion of your lungs.
- Exhale slowly, squeezing your belly, pushing the air out.
- Focus on each inhalation and exhalation.
- Repeat for 10 minutes.

Music

Music is a powerful tool for both increasing and decreasing athletes' arousal levels before training or competition. The effect of music differs from athlete to athlete.

Prior to performance, it is more common for athletes to listen to music with a fast beat – this type of music generally increases arousal levels.

However, some athletes respond well to relaxation music (such as nature sounds like whales or water) or the mellow tunes of their favourite artist prior to performance.

The Brunel Music Rating Inventory

The Brunel Music Rating Inventory was created by sport psychologist Costas Karageorghis to help athletes choose the ideal music to listen to as part of their pre-performance routine. One of the most important elements of Karageorghis' research was that a song's tempo (i.e. speed) should be between 120 and 140 beats per minute (BPM) for optimum arousal. That pace coincides with the range of most commercial dance music and rock songs.

Visualisation

Visualisation is another technique used to increase energy levels in athletes. A type of mental rehearsal (see Section 4.9), visualisation uses mental imagery to create powerful events in an athlete's mind. A soccer player, for example, might visualise the sweetest goal they ever scored and the subsequent celebration of this shot. This can 'trick' the body into activating the hormone control centres of the brain and the subsequent release of adrenaline can kick-start arousal. It is recommended that athletes repeat the images over and over again to flood the mind with the powerful arousal emotions.

visualisation
a technique that involves creating mental images to recreate real-life situations

FOR THE RECORD!

Haile Gebrselassie, a retired long-distance runner and Olympic gold medallist, often requested that the 90s hit 'Scatman' (with a BPM of around 135) be played during his events. Says Gebrselassie: 'I did many records with the 'Scatman' song. If you watch back some of my world records you can hear 'Scatman' in the background. The rhythm was perfect for running.'

🏃 SKILL DRILL	**4.13**	The impact of arousal on performance

4.13 | Check your learning

Engage and understand

1 In your own words, explain how meditation can help an athlete to control their anxiety.
2 True or false? To be effective, athletes should engage in meditation two to three times a day initially.

Analyse and apply

3 Summarise the process of progressive muscle relaxation (PMR).

4 Differentiate between the type of music that increases athletes' arousal levels and the type of music that is most effective for decreasing arousal.

Evaluate and justify

5 Music with a tempo of 120 to 140 BPM will optimise arousal levels for all athletes. Do you agree or disagree? Justify your response.

Check your obook assess for the following additional resources and more:
» Student book questions
4.13 Check your learning
» Video
Details TBC
» Student worksheet
Details TBC
» Skill drill
4.XX Title TBC

Positive self-talk techniques

That's a goal!

By the end of Section 4.14, you should be able to:
→ **identify** and **define** a range of positive self-talk techniques (i.e. positive self-talk, positive cue words, trigger words and positive emotions)
→ **explain** how self-talk techniques can optimise performance.

positive self-talk
saying encouraging and motivating messages to yourself

self-talk
words and thoughts directed towards yourself

negative self-talk
saying negative comments to yourself

Positive self-talk techniques are known to increase feelings of confidence and motivation, optimise arousal and improve concentration. They can have a significant impact on the performance of athletes. Positive self-talk is the practice of saying encouraging and motivating messages to yourself, either silently or out loud.

Positive self-talk techniques are most commonly used during performance or competition. However, a number of these techniques can also be applied in an ongoing sense and/or immediately prior to performance. It is recommended that athletes practice these techniques regularly so that they can apply them effectively whenever they are required.

Effective positive self-talk techniques

Self-talk consists of the words and thoughts that athletes direct towards themselves. Self-talk can be positive or negative. It is linked strongly to an athlete's core self-belief and motivation.

When self-belief is low, an athlete is more likely to engage in **negative self-talk,** with comments such as 'I'm just hopeless!', 'This will be a double fault' or 'You're never going to win!' They are also more likely to see strong emotions as negative threats rather than positive challenges. However, an athlete who chooses to use positive self-talk can help to shift the negative self-beliefs they may have learned over time.

SOURCE 1 TBC

Effective positive self-talk techniques and skills include the use of:
• positive cue words
• trigger words
• positive emotions.

Positive cue words

Positive cue words are one component of positive self-talk. Positive cue words are single words or short statements (see Source 2) that athletes can say to themselves to help refocus their attention and combat negative thoughts or emotions that would otherwise distract them and negatively affect their performance. Positive cue words can lift players out of low moods during competition and bring them back to the present moment.

The use of positive cue words not only helps athletes to focus but also elicits positive emotional feelings for the athletes in the game. For example, a basketball player might shout out 'STTE!' (strong to the end) to encourage their teammates not to give up and to play with confidence, even when defeat looks inevitable.

Athletes can often be seen talking to themselves throughout their performance. During the televised coverage of the 2016 Rio Olympic Games, American gymnastics gold medallist Laurie Hernandez could be seen whispering to herself: 'I got this.'

Positive cue words should be:
• short and clear
• relevant and meaningful to the individual athlete
• repeated regularly during training so they can be instantly called upon during competition
• written out and displayed in various prominent places.

positive cue words
single words or short statements to help refocus attention and combat negative thoughts or emotions

Mental state	Examples of positive cue words
Over-arousal (e.g. anxiety or panic)	Calm Relax Easy Relax and breathe Calm, confident, in control
Distraction or lack of focus	Eye on the ball Focus Keep it simple Focus on every play Stay in the game
Under-arousal (e.g. wakefulness or boredom)	Go for it Drive hard Get in the game Get after it
Low confidence	You've got this You can do this Ball is going in the hoop Reach my full potential Dig deep Dominate

SOURCE 2 Positive cue words can motivate athletes to work hard and give them confidence to meet their potential.

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PAGE 53

PHYSICAL EDUCATION FOR QUEENSLAND UNITS 1 & 2 (SECOND EDITION)
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CHAPTER 4 SPORT PSYCHOLOGY
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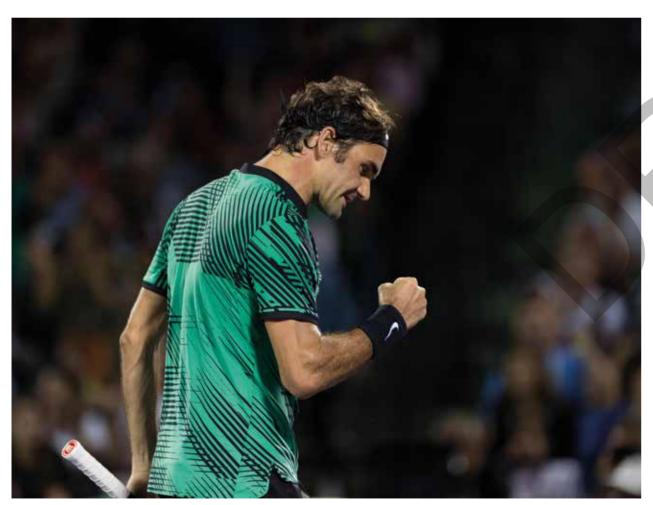## Theory in action... Why do tennis players talk to themselves?

Tennis players are renowned for their self-talk. Tennis (singles) is an individual sport, unique in that it is one of only a few sports where you can score more points than your opponent and still lose the match. There are many mind games players have to work through as they experience both wins and losses at crucial points in the match. Frequent breaks between points offer players ample time to talk to themselves and, in a sport where coaches are unavailable to consult with, the onus is on the players to coach themselves through the difficult periods of a match.

Makis Chamalidis, a psychologist with the French Tennis Federation, explains: 'After each point, you have 20 to 25 seconds where there isn't much happening. It's quite normal to talk to yourself then. You have things to deal with, you need to analyse what happened or evacuate your frustration. There

are no such breaks in other sports, or an external person like a coach.'

Performance psychologist Dr Melissa Weinberg explains that while it appears that only some tennis players are self-talkers, the reality is that even the seemingly quiet players use self-talk – they just do it more covertly. Roger Federer, who is renowned for his quiet mental strength during matches, admitted in a post-match interview at the 2017 Australian Open that he was talking to himself constantly after losing a crucial fourth set against Stan Wawrinka: '… in the fifth set … I was talking to myself, saying "Just relax, man. The comeback is so great already. Let it fly off your racquet and just see what happens."'

Conversely, Andy Murray talks aloud to himself almost incessantly during his games, making it seemingly easier to figure out what's on his mind!

SOURCE 3 Roger Federer is renowned for his composed demeanour on the court, but he admits to using self-talk to keep himself motivated.

Trigger words

Trigger words are used by athletes to focus their attention on a specific task during or before the completion of a skill. This type of self-talk is often linked to technique cues athletes have been given. For example, a sprinter might use trigger words such as 'posture', 'knees' or 'drive with the elbows'. Trigger words serve as reminders for what to do. Professional golfer and former world number one Rory McIlroy uses the words 'process' and 'spot' to keep himself focused. He reminds himself to focus on the process rather than the outcome, and uses 'spot' to help him pick a spot while putting. He has won many majors using this aspect of positive self-talk.

trigger words
words used to focus attention on a specific task during or before the completion of a skill

Positive emotions

Positive emotions are an important aspect of an athletes' sporting experience. Positive emotions build stronger self-belief, which in turn contributes to more positive emotional experiences. The athlete who draws on positive emotions can rise above slumps in their performance and use a **growth mindset** to avoid succumbing to the negative emotions that naturally arise during low points in competition. With a growth mindset, an athlete sees dips in their performance as interesting challenges that they have control over. This can transform feelings of frustration or anger into excitement and hope. Experiencing sport as an enjoyable challenge is highly motivating and has a positive effect on an athlete's confidence.

positive emotions
emotions that create an uplifting effect

growth mindset
a belief that one's own abilities can be developed through hard work

4.14 Check your learning

Engage and understand

1 Using examples from within the text, describe why self-talk is more than simply having a chat with yourself.

2 Identify a positive cue word (or statement) that could assist an athlete in each of the following mental states:
   a over-arousal
   b distraction or lack of focus
   c under-arousal
   d low confidence.

Analyse and apply

3 Read 'Why do tennis players talk to themselves?' This article mentions two methods of self-talk: internal (said in your head) and external (spoken aloud). Use a PMI analysis framework (see the template in your obook assess) to determine the strengths and weaknesses of both methods. Explain which method would work best for you.

4 Explain the key differences between positive cue words and trigger words.

Evaluate and justify

5 Create a set of four positive cue words or phrases that you can use during this unit. Justify your choice of words based on your psychological needs.

6 Kayla and Lizzie are playing in their high school basketball final. Neither of them has played well in the first half of the match. Kayla feels defeated and, each time she misses a shot, she mutters to herself: 'See? You're just hopeless at basketball!' She thinks she should probably quit the team. Lizzie is also upset that she isn't playing well but after missing a shot, she shouts to herself: 'Come on. You can do better than that! You've got this. Focus!' She feels she is in a slump and decides to push herself to work hard and get back in the game. From a sport psychology perspective, explain the difference between the players' reactions to their poor performance. Justify which athlete is most likely to experience future success in their match.

Check your obook assess for the following additional resources and more:
» Student book questions
4.14 Check your learning
» Video
Details TBC
» Student worksheet
Details TBC
» Skill drill
4.XX Title TBC

Breathing techniques

That's a goal!

By the end of Section 4.15, you should be able to:
→ **identify** and **define** a range of breathing techniques (i.e. deep breathing)
→ **explain** how breathing techniques can optimise performance.

breathing techniques
any form of breathing exercise in which an athlete consciously regulates their breathing to stimulate a desired response

Breathing techniques have been proven to help athletes relax their bodies and minds, increase focus and ultimately contribute to better performance. They include any form of breathing exercise in which an athlete consciously regulates their breathing (by controlling the rate and depth of their breaths) in order to stimulate a desired response.

When breathing is performed in a deep rhythmic pattern (often referred to as diaphragmatic breathing), the 'primitive' parts of the brain that control the fight or flight response are given a signal that the threat of danger has passed.

Effective breathing techniques

Breathing techniques are effective when applied during an activity or performance but, like many psychological techniques, athletes need to practise and perfect them. Effective breathing techniques include deep breathing (see Section 4.13), as well as those that are intended to have specific effects on the athlete's body (such as those shown in Source 2).

Technique	Method	Effect
4–7–8	→ Inhale deeply for 4 seconds → Hold breath for 7 seconds → Exhale for 8 seconds	→ Calms the athlete quickly in a high-pressure moment.
6–2–8	→ Inhale deeply for 6 seconds → Hold breath for 2 seconds → Exhale for 8 seconds	→ The short hold refreshes the nervous system and refocuses the athlete.
Measured breathing	→ Customised to the athlete → Inhale and exhale for the same count (e.g. 5 in and 5 out) → No breath holding	→ The rhythm encourages relaxation and focus.

SOURCE 2 Athletes who can master their breathing tend to perform better.

4.15 | Check your learning

Engage and understand

1 In your own words, explain the benefits of deep breathing techniques.

Analyse and apply

2 Compare and contrast the three deep breathing techniques provided in Source 2.

Check your obook assess for the following additional resources and more:
» **Student book questions**
4.15 Check your learning
» **Video**
Details TBC
» **Student worksheet**
Details TBC
» **Skill drill**
4.XX Title TBC

Pre-task routines

That's a goal!

By the end of Section 4.16, you should be able to:
→ **identify** and **define** a range of pre-task routines (i.e. taking a deep breath; focusing on a cue word; having temporal consistency; performing a set of steps in a specific order)
→ **explain** how pre-task routines can optimise performance.

pre-task routines
actions performed by athletes immediately prior to performing a task (e.g. a serve, free kick or pitch) within a performance

Pre-task routines (otherwise known as pre-performance routines) are actions performed by athletes immediately prior to performing a task (i.e. a closed skill such as a serve, a free kick or a pitch) within a performance. Pre-task routines can help an athlete steady their mind and take control of their performance before they execute the skill. Pre-task routines can also help athletes to increase their concentration under pressure.

Pre-task routines are an in-performance psychological technique, meaning that they are most effective when applied during an activity or performance but like most psychological techniques, it is important to develop and practise pre-task routines outside of performance times. Many sport psychologists – and athletes – would argue that the pre-task routine is just as important as the task itself!

FOR THE RECORD!

In 1993, 71-year-old podiatrist Tom Amberry broke the world record for the most consecutive free throws made – 2750 in 12 hours! His secret? A simple pre-shot routine: keep feet parallel, square shoulders to the basket and bounce the ball three times with the inflation hole up so you can always grip the ball on the same seam!

Effective pre-task routines

The ability to perform successfully under pressure is a crucial aspect of sport performance. Effective pre-task routines can help athletes improve their overall performance and reduce the risk of choking under pressure.
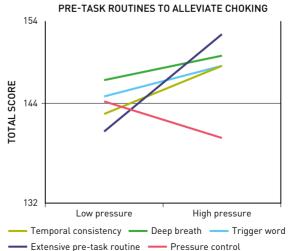
The Mesagno and Mullane-Grant experiment

In 2010, Australian sport scientists Christopher Mesagno and Thomas Mullane-Grant conducted an experiment to assess the effectiveness of incorporating pre-task routines into pressured performances. A group of 60 skilled soccer players were placed into five equally numbered groups. Four of the groups were assigned a different pre-task routine to perform in the same way before each kick. The fifth group was a pressure control group that received no pre-task routine. The pre-task routines were:

- taking a deep breath
- focusing on a trigger word
- having temporal consistency (e.g. following regular timing between each element of the routine)
- performing an extensive pre-task routine (i.e. implementing all of the steps above in addition to following a set of steps in a specific order prior to the task such as taking five steps back, two steps to the side, looking at the goal, looking at the ball and tapping his right boot twice on the ground before the task of kicking for goal).

Participants in each group were asked to kick 20 balls into a goal, firstly, under low pressure (i.e. no consequences for

PRE-TASK ROUTINES TO ALLEVIATE CHOKING

(Graph: TOTAL SCORE on y-axis from 132 to 154; x-axis Low pressure to High pressure)

Legend:
— Temporal consistency
— Deep breath
— Trigger word
— Extensive pre-task routine
— Pressure control

SOURCE 1 The Mesagno and Mullane-Grant experiment reveals the importance and effectiveness of pre-task routines.

success or failure) and, secondly, under high pressure (i.e. an audience and a cash prize for the highest score).

Source 1 shows that when the results of the four pre-task groups were compared against the control group:

- the performances of the players in the four pre-task groups increased under high pressure when compared to the control group
- the most significant increase in performance was experienced by athletes who performed the extensive pre-task routine
- the performance of the players in the control group (with no pre-task routine) decreased under pressure.

The experiment indicated that these types of pre-task routines are effective in helping players manage their arousal and concentration levels before completing closed skills. It also highlighted that the use of an extensive pre-task routine is highly beneficial.

SOURCE 2 Queensland Reds player Quade Cooper uses an extensive pre-task routine for goal kicking. After carefully lining the ball up and stepping out his run up, he rotates his arms and upper torso away from the goal, and wiggles his fingers before moving his body towards the ball for the kick.

Tips for establishing an effective pre-task routine

- Choose actions that mimic or are part of the task you must complete – e.g. if your task is driving a golf ball, then the pre-task routine might be standing two steps back and practising the swing.
- Keep the routine short, with consistent timing between each step – e.g. take 5 seconds between each practice swing and the actual task.
- Include a breathing rhythm and a trigger word.
- Practise and refine the routine until it becomes habitual.

SKILL DRILL | **4.16** | The impact of pre-task routines on performance

>> Go to page XX to complete this experiment.

4.16 | **Check your learning**

Engage and understand

1 Explain the purpose of pre-task routines.
2 Summarise the findings of Mesagno and Mullane-Grant's experiment. What conclusion did they draw about the effectiveness of pre-task routines?

Analyse and apply

3 Based on the results of Mesagno and Mullane-Grant's experiment, what inferences can be made about the impact of pre-task routines on the mental state of athletes during performance?

4 Compare and contrast the types of pre-task routines commonly seen in tennis players prior to serving and rugby goal kickers prior to kicking for goal. Consider things such as the consistency, timing and scope of the routines.

Evaluate and justify

5 Would you benefit from a pre-task routine in your current physical activity? Justify your response by collecting statistics on your performance of the skill/s with and without a pre-task routine.

Check your obook assess for the following additional resources and more:
» Student book questions   » Video   » Student worksheet   » Skill drill
4.16 Check your learning   Details TBC   Details TBC   4.XX Title TBC

4.17 | Performance segmenting

In-performance psychological techniques

That's a goal!

By the end of Section 4.17, you should be able to:
→ **define** the technique of performance segmenting
→ **explain** how performance segmenting can optimise performance.

performance segmenting
the process of breaking up a performance into more manageable chunks in one's mind

FOR THE RECORD!

Australian international cricket player Steve Smith has been a successful performance segmenter since his early days playing the sport. His junior coaches and teammates claim that he would regularly steer his team to victory by 'winning' one over at a time. After each over, he would yell out from the crease: 'What's our run rate now?'

Performance segmenting is the process of breaking down extended periods of training or competition into smaller, more manageable pieces (known as segments). Each segment should be short enough for the athlete to totally focus on what needs to be done during that period. Performance segmenting is designed to help athletes stay confident and motivated, and to focus their attention and concentration.

Performance segmenting is an in-performance psychological technique, meaning that it is most effective when applied during an activity or performance.

Effective performance segmenting

A sporting event that takes place over a long period of time can be overwhelming for the players or athletes taking part in it – think of a marathon runner at the start of an event or a cricket player at the start of an Ashes series. If an athlete performs below expectations in the early stages of an event, feelings of panic and anxiety can set in and influence the outcome of the entire event. Effective performance segmenting aims to prevent this from happening. By dividing an event up into segments, athletes can narrow their focus and fully concentrate on the demands of that smaller period of play or activity.

There are no set rules on how short or long each segment should be, as this will depend on the individual and the sport or physical activity. The marathon runner might break his event into 10km sections while the cricket player embarking on an Ashes series will likely think of one game at a time. They may even break it down further into days, innings or sessions.

4.17 | **Check your learning**

Engage and understand

1 Summarise the concept of performance segmenting.

Analyse and apply

2 Look at Source 1. The phrase 'play one hole at a time' describes the concept of performance segmenting. Create another phrase to describe performance segmenting (for any physical activity).

Evaluate and justify

3 Australian cricketer Steve Smith is a master of performance segmenting. Conduct some online research to identify two other Australian sporting identities that use performance segmenting. Explain how it has helped them to optimise their performance. Provide one or more credible source to support your answer.

Check your obook assess for the following additional resources and more:
» Student book questions   » Video   » Student worksheet   » Skill drill
4.17 Check your learning   Details TBC   Details TBC   4.XX Title TBC

Summary of key learning

→ **Sport psychology** can assist athletes in gaining an edge over competitors as they implement mental strategies to keep them performing optimally in all circumstances.

→ **Motivation** is the drive that causes people to behave in a particular way. There are two types: intrinsic and extrinsic.

→ **Confidence** is derived from three areas – self-belief, self-efficacy and self-confidence.

→ **Arousal** refers to the degree of excitement and stimulation an athlete experiences directly prior to or during participation in physical activity.

→ **Attention** involves taking control of the mind with clarity and focusing the senses. **Attention** and **concentration** behaviours can be placed into four dimensions: internal, external, narrow and broad.

→ **Team dynamics and cohesion** are the main drivers that **transform** a collection of individuals into a unified team able to achieve common goals. There are **four distinct** stages teams go through to reach cohesion: forming, storming, norming and performing.

→ A **mentally strong athlete**, is one who is able to **recognise** and diagnose a **problem** and **apply a technique** from their sport psychology resource kit before their performance is negatively affected.

Psychological techniques can be applied prior to or during performances or even on an on-going basis.

Goal setting can be divided into three sections:
  – Outcome goals.
  – Performance goals.
  – Process goals.

→ The **SMARTER** principle is a popular technique for developing realistic and achievable goals to enhance motivation and improve performance.

→ **Mental rehearsal** a performance in one's mind helps to create clarity around the performance expectations and prepares an athlete to cope with pressures associated with a performance that can't always be replicated in practice.

→ **Affirmations** are positive **'I' statements** about an athlete's qualities, abilities or goals to **boost confidence**.

→ **Team dynamics and cohesion techniques** include setting group goals, establishing group roles and group norms, and ensuring effective communication.

→ **Pre-competition** routines is a sequence of actions and/or thoughts (performed in order) that an athlete follows just prior to an event or competition. They are designed to generate feelings of certainty, familiarity and control.

Relaxation and energiser techniques include meditation, progressive muscle relaxation, deep breathing, music and visualisation. The use of these techniques helps athletes to manage their arousal.

→ **In-performance techniques** enable an athlete to **regain** their mental acuity during match conditions.

→ **Positive self-talk techniques** help athletes to focus on words and thoughts that will boost their motivation and confidence. Words can be general positive cue words or more technically specific trigger words.

→ **Breathing techniques** help athletes to manage arousal levels by slowing the release of adrenalin.
  – A structured **pre-task routine** increases concentration and reduces anxiety as the athlete uses a variety of psychological strategies in a **predetermined order**.
  – **Performance segmenting** is a strategy that allows athletes to maintain concentration and focus for the duration of an event by **breaking** the event into **manageable chunks**.

Dig deeper!

Exam-style revision questions and tasks

SECTION A

Multiple-choice questions

QUESTION 1

The main objectives of applying sport psychology strategies is

  a to negatively affect your opponent's performance.
  b to increase the chance of optimum performance.
  c to guarantee optimum performance.
  d only relevant to elite performers.

QUESTION 2

Goal setting types include all of the following, **except**

  a outcome.
  b performance.
  c achievement.
  d process.

QUESTION 3

Progressive muscle relaxation is a powerful sport psychology technique that

  a reduces respiration, core body temperature, perspiration, negative thoughts.
  b reduces respiration, core body temperature, perspiration, positive thoughts.
  c reduces respiration, blood pressure, muscle tension and core body temperature.
  d reduces respiration, blood pressure, muscle tension and negative thoughts.

QUESTION 4

_____ is the strategy that allows an athlete to maintain concentration and focus for the duration of an event by breaking up a performance into manageable chunks.

  a Body movement segmenting
  b Performance segmenting
  c Performance chunking
  d Game chunking

QUESTION 5

Affirmations should be stated

  a as a fact, frequently and positively.
  b as a hope, frequently and positively.
  c as a fact and in third person.
  d as a hope and in third person.

QUESTION 6

According to Tuckman's Stages of Group Development, group norms should be developed during the _____ stage of team development.

  a forming
  b storming
  c norming
  d performing

QUESTION 7

Confidence is derived from all of the following, **except**

  a self-belief.
  b self-efficacy.
  c self-determination.
  d self-confidence.

QUESTION 8

Trigger words used in self-talk are

  a linked specifically to technique cues.
  b inspirational words such as 'You've got this!'.
  c best expressed negatively to motivate more effort in training.
  d words an athlete speaks quietly to themselves when the trigger is pulled to start a race.

QUESTION 9

Meditation trains an athlete's mind to control their

  a parasympathetic nervous system.
  b sympathetic nervous system.
  c muscular system.
  d brain.

QUESTION 10

Pre-competition routines should include a checklist of all of the following strategies, **except**

  a a recap of technical points.
  b mental rehearsal.
  c setting an outcome goal.
  d thinking through pre-event tasks.

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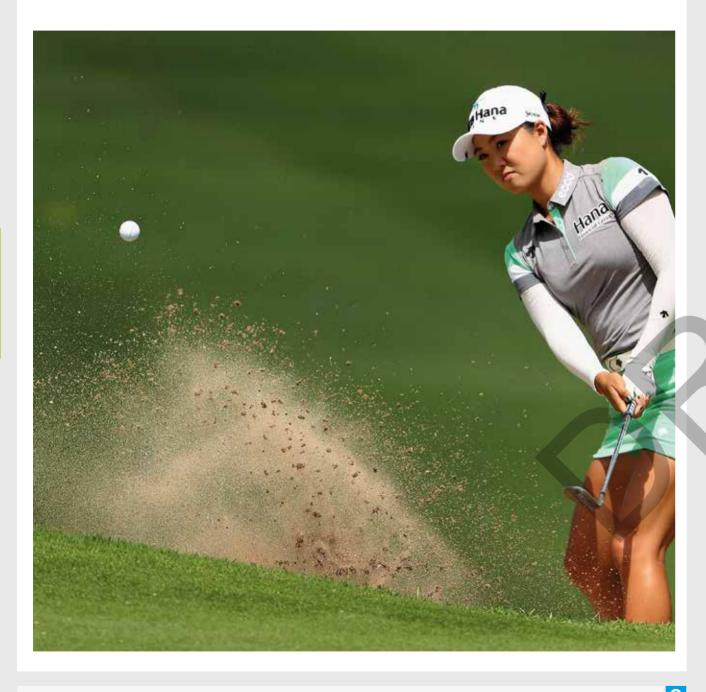**CHAPTER 4** SPORT PSYCHOLOGY
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SECTION B

QUESTION 11 (150 words)

Write a goal that incorporates all aspects included in the SMARTER principle.

QUESTION 12 (150 words)

Construct a diagrammatic representation of the relationship between the sport psychology traits of motivation, confidence, arousal, attention and concentration, and team dynamics and cohesion. Use arrows, shapes and text to complete your diagram.

Check your obook assess for the following additional resources and more:
- » Student book questions
  - 4.18 Check your learning
- » Video
- Details TBC
- » Student worksheet
  - Details TBC
- » Skill drill
  - 4.XX Title TBC

Assessment task

Subject	Physical Education	Instrument number	
Technique	Project – Folio		
Unit	2. Sport psychology, equity and physical activity		
Topic	1. Sport Psychology		

Conditions			
Duration	5 hours		
Mode	Multimodal (visual and written or spoken)	Length	Multimodal 9–11 mins
Individual / Group	Individual	Other	Examples of multimodals include: → a pre-recorded presentation submitted digitally → a presentation conducted in front of an audience (class or teacher) → a digital portfolio of video, images and diagrams with annotations or commentary → a multimedia movie or slideshow that may combine images, video, sound, text and a narrative voice.

Context

Throughout this unit, you have been applying and evaluating the effectiveness of various psychological techniques for optimising performance, including those that are available before an event (i.e. pre-performance) and during an event (i.e. in-performance). The success of these techniques will be determined by an analysis of primary data collected over the course of Unit 2, both before and during performance.

Task

Justify whether pre-performance or in-performance psychological techniques had the greatest impact on improving your performance in authentic environments.

To complete this task, you must:
→ Recognise and explain:
- Performance can be analysed and improved using pre-performance techniques or in-performance techniques.
- Pre-performance techniques
  - mental rehearsal
  - affirmations
  - pre-performance routines
  - meditation
  - progressive muscle relaxation (PMR)
  - energiser techniques

- In-performance techniques
  - positive self-talk
  - deep breathing
  - pre-task routines
  - performance segmenting
- Body and movement concepts about the specialised movement sequences
  - quality of movement (speed, accuracy, direction of movement, force and flow)
  - body awareness (balance, transfer of body weight, flight)
  - space awareness (use of space, direction of movement, planes of movement, pathways)
  - relationships (court position in relation to other players, equipment)
→ Analyse primary and secondary data to show how sport psychology techniques can influence performance.
→ Evaluate the effectiveness of sport psychology techniques to:
- improve personal performance of the specialised movement sequence
- optimise personal performance using two body and movement concepts (quality of movement and one other).

You can find a detailed marking criteria for this task on the teacher obook.

🏃 SKILL DRILL	**4.9**	**The impact of mental rehearsal on performance**

Aim

To determine the impact of mental rehearsal on performance

Inquiry skill focus

Evaluate, using criteria

Equipment

- sport-specific equipment
- a copy of the criteria sheet (see Source 5), available on your o̲book a̲ssess

Method

STEP 1 Select a closed skill from the sport you are currently studying in physical education (e.g. a volleyball serve, a basketball free throw or a soccer throw-in).

STEP 2 From the criteria sheet (Source 5), select three criteria from the 'Quality of movement concepts' section and one from the 'Other movement concepts' section that are most relevant to the skill you have chosen. Consider what constitutes a successful performance of your skill.

STEP 3 Perform this skill ten times and record your results by ticking the most appropriate boxes in Column A of the criteria sheet.

STEP 4 Find a quiet space where you can close your eyes and use the PETTLEP model (Source 3) to mentally rehearse the repeated successful completion of the same closed skill for 5 minutes.

STEP 5 Perform the skill ten times again and record your results by ticking the most appropriate boxes in Column B of the criteria sheet.

Criteria		Column A Control sample			Column B Following mental rehearsal		
		Not as good as usual	Same as usual	Better than usual	Not as good as usual	Same as usual	Better than usual
Quality of movement concepts	Efficiency of movement						
	Accuracy						
	Speed effectiveness						
	Force application						
	Flow of movement (fluency)						
Other movement concepts	Use of space (personal)						
	Balance						
	Interaction with equipment						

SOURCE 5 Criteria sheet

Analysis and discussion

Analyse the primary data you gathered during this skill drill by completing the following tasks.

1 Explain and justify the criteria you selected for your skill.

2 Was your performance best with or without mental rehearsal? Support your response by referring explicitly to your criteria sheet?

3 **a** According to your understanding of mental rehearsal, which performance should have produced the best result (i.e. the one with or without mental rehearsal)?

   b Does this expectation align with your results? If not, how can this be explained?

   c If your results support the expectation, do you consider this single skill drill reliable enough to make an accurate assessment of the effect of mental rehearsal on your performance? Justify your answer.

4 Evaluate the relevance of mental rehearsal in optimising your performance in authentic game environments in this term's sport. What about future sports?

5 Evaluate the way mental rehearsal was applied in this task. Suggest modifications to optimise the use of mental rehearsal in future performances.

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SKILL DRILL
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🏃 SKILL DRILL 4.11 | The impact of team cohesion on movement strategy

Aim
To evaluate the impact of team cohesion on movement strategy implementation

Inquiry skill focus
Make decisions about strategies

Equipment
- sport-specific equipment
- a copy of the record sheet (see Source 2), available on your obook assess

Method

STEP 1 Form a team with players that are all familiar to you and with whom you have played before. Take part in an authentic game setting in a physical activity of your choice.

Performance 1
- Without using any verbal communication, team members implement at least one clear attacking strategy.
- Make this strategy the team's focus for 10 minutes of play.
- As a team, discuss how successful you were in achieving this goal.

STEP 2 Now form a team with players that are unfamiliar to you and with whom you have not played before. (Your teacher will mix up the teams so there is less familiarity within the group.)

Performance 2
- Play for 10 minutes with no communication between any members of the team (i.e. no talking or gesturing). The aim is to have a clear attacking strategy in which all group members understand their role.
- Afterwards, have a 5 minute time-out during which you can talk about, refine and practise a strategy with members of your team.

Performance 3
- Now play again for 10 minutes, with communication permitted. The aim is to implement the discussed strategy.

STEP 3 Write down as much detail as you can about the teams' performance on the record sheet (Source 2). Consider the following:
- What strategies were attempted (or not attempted)?
- What communication was heard?
- What was understood about team roles?
- Include any other interesting information that could form evidence for your analysis and discussion.

Performance 1 Familiar team – with communication	
Performance 2 Unfamiliar team – with no communication	
Performance 3 Unfamiliar team – with communication	

SOURCE 2 Record sheet

Analysis and discussion

Analyse the primary data you gathered during this skill drill by completing the following tasks.

1 Evaluate the effectiveness of the strategy your team focused on in performance 1. Discuss what factors contributed to the success or failure of your chosen strategy.
2 Using the evidence you collected, compare and contrast the team cohesion between performances 1, 2 and 3.
3 Based purely on this task, form conclusions about the importance of team cohesion on effective implementation of movement strategies in your physical activity.
4 Discuss the reliability and validity of your results. Did your results match what could be expected, given the conditions of each performance? How could you ensure your conclusions regarding team dynamics are more accurate and convincing?
5 Make recommendations for optimising the cohesion of the team with which you are most closely engaged this term.

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SKILL DRILL | **4.13** | # The impact of arousal on performance

Aim
To determine the impact of different arousal levels on performance

Inquiry skill focus
Analysing data to assess for validity and reliability
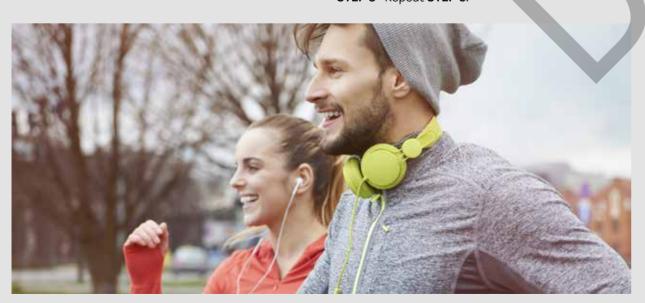
Equipment
- sport-specific equipment
- a portable music player (e.g. a smart phone or digital audio device) and headphones
- a calming/meditative piece of music (selected by the teacher and downloaded to the music player in advance)
- a high-energy/upbeat piece of music (selected by the student and downloaded to the music player in advance)
- a copy of the criteria matrix (Source 4), available on your obook assess

Method

STEP 1 Complete a standard teacher-led warm up, followed by a pre-game tactical discussion for a total of 10 minutes.

STEP 2 Take part in a sport or physical activity of your choice for 10 minutes.

STEP 3 Assess your performance by completing Column A of the criteria matrix. Rate your performance by placing ticks in the appropriate boxes.

STEP 4 Your class will now be divided into two separate groups:

- **low arousal music group** – each group member listens to a piece of calming/meditative music while lying still on the ground for a total of 10 minutes

- **high arousal music group** – each group member listens to a piece of high-energy/upbeat music while performing an active warm up (e.g. star jumps, active stretching) for a total of 10 minutes.

STEP 5 Repeat **STEP 2** by participating in the same physical activity you completed the first time.

STEP 6 Assess your performance using the criteria matrix. The low arousal music group completes Column B and the high arousal music group completes Column C.

STEP 7 Repeat **STEP 4**, changing the type of music you listened to in the previous round.

STEP 8 Repeat **STEP 2** by participating in the same physical activity you completed the first time.

STEP 8 Repeat **STEP 6**.

		Column A Standard arousal			Column B Low arousal			Column C High arousal		
Criteria		Not as good as usual	Same as usual	Better than usual	Not as good as usual	Same as usual	Better than usual	Not as good as usual	Same as usual	Better than usual
Body awareness (e.g. balance, transfer of body weight)										
Spatial awareness (e.g. use of space, direction of movement)										
Quality of movement (e.g. speed, accuracy, force and flow of movement)										
Relationships (e.g. positioning on court/field, relationship to opponent, communication)										

SOURCE 4 Criteria matrix

Analysis and discussion

Analyse the primary data you gathered during this skill drill by completing the following tasks.

1 Compare and contrast your performance across the three conditions.

2 Evaluate the reliability and validity of data you collected in this skill drill.

   a Consider the reliability of this experiment. If you were to repeat this skill drill on a different day, how likely would it be to get the same results? Explain your answer.

   b How could the reliability of this experiment be increased?

   c Consider the validity of the data you have collected. How closely do the actual results compare with the expected results? For example, do your results match the expectations you had for this task? If there was a deviation from the expected result, how might you explain this?

   d What measures could be put in place to increase the validity of this experiment? Consider variables, measurement techniques and sample size.

3 Based on your results and your investigation into the reliability and validity of the experiment, do you think you can make an informed assumption about the arousal level that will help you to optimise your performance in your selected physical activity? Explain why or why not.

4 Devise a practical strategy to help you optimise the use of arousal in your future performances in practical PE lessons.

5 Based on your results, draw a conclusion about the effect that different levels of arousal can have on your performance.

4.16 The impact of pre-task routines on performance

SKILL DRILL

Aim

To determine the impact of a pre-task routine on confidence, anxiety and concentration

Inquiry skill focus

Analyse primary and secondary data to find meaning, relationships, patterns and trends

Equipment

- sport-specific equipment
- a copy of the pre-task routine template (Source 3), available on your obook assess
- a copy of the criteria sheet (Source 4), available on your obook assess

Method

STEP 1 Using the template (Source 3), create a pre-task routine for a closed skill relevant to your selected physical activity. Your pre-task routine should include each of the elements listed in the template.

Element 1: Breathing How many breaths? What rhythm etc?	
Element 2: Cue word Choose a word or short phrase to say to yourself.	
Element 3: Physical action Create a ritualistic action to perform just prior to the task.	
Element 4: Temporal consistency Roughly how long will the whole routine take from starting it to executing the task? What is the timing between each step?	

SOURCE 3 Pre-task routine template

STEP 2 Perform your pre-task routine a minimum of 25 times. Complete the routine in its entirety each time, performing each element in order.

STEP 3 Participate in an authentic game environment for a minimum of 20 minutes. Conduct your pre-task routine each time you are required to perform the closed skill.

STEP 4 Using your criteria sheet (Source 4), record and assess the impact of your pre-task routine on managing confidence, anxiety and concentration, as well as looking at the impact on your actual performance.

Criteria	Worse than usual	Same as usual	Better than usual
Confidence			
Anxiety			
Concentration			

SOURCE 4 Criteria sheet

Analysis and discussion

Analyse the primary data you gathered during this skill drill by completing the following tasks.

1 Referring to your completed criteria sheet, describe how your pre-task routine impacted your sense of confidence, anxiety and concentration during the execution of the chosen closed skill.

2 The graph in Source 1 shows that there is a link between having a pre-task routine and managing anxiety to experience success. Generalise the relationship between the three psychological traits assessed and your performance of the closed skill. Do your results support the findings of Mesagno and Mullane-Grant's experiment? That is, was there a link between your psychological state and the quality of your performance? Justify your response.

3 Identify any discrepancies between your results and the expected impact of the pre-task routine. Propose reasons for such discrepancies (i.e. consider the validity and reliability of your results).

4 Predict what trend/s you might see in the performance of your routine and the skill itself if you continue to apply your pre-task routine in future matches over the coming weeks or months?

5 What recommendations would you make about the use of a pre-task routine for all closed skills? Are pre-task routines always necessary? How can they be used most effectively to optimise your physical performance of closed skills?

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