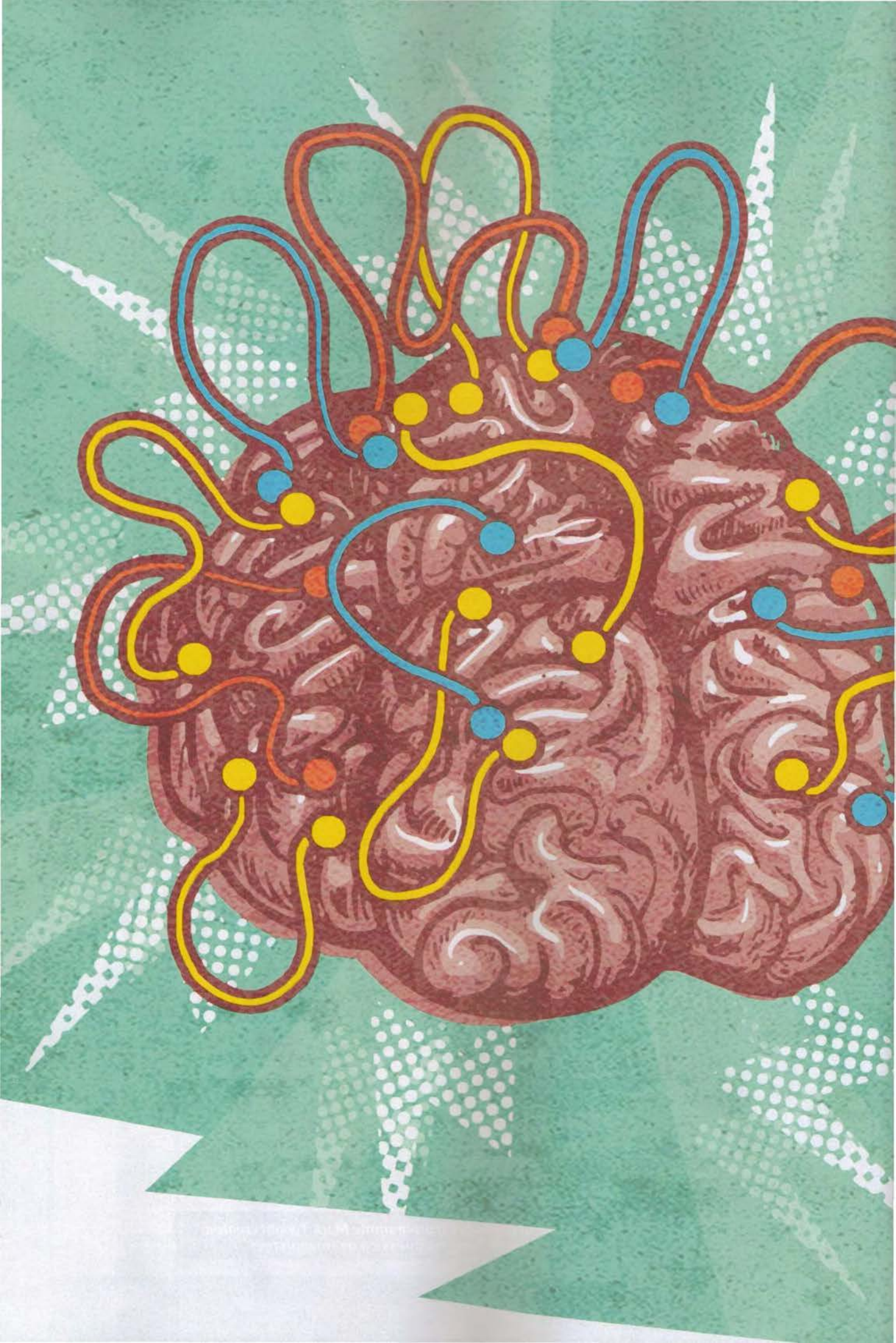


CHANGE YOUR MIND

Can harnessing the tricks of sports psychology really give you mental superpowers? One *MF* writer rewires his brain to find out

Words **Mark Bailey** Illustrations **Son of Alan**

Think about what separates you from the elite performers of the world, and chances are you'll consider their physical gifts – their fast-twitch muscle fibres or their freakish lung capacity. But here's the thing: modern science is proving that mental strength – from steely confidence and inexhaustible motivation to the ability to crush anxiety – are just as critical to success.

While mental-skills training was once viewed by athletes as hokum, Premier League footballers and Olympians now routinely work with sports psychologists and psychiatrists. British cyclists even study the foundations of neuroscience to learn how to better control their thoughts. Which raises an interesting question: while I'll never have the wingspan of Michael Phelps or the VO_2 max of Bradley Wiggins, is it possible for me to bulletproof my brain like an Olympian and reap the benefits in everyday life? I decided to find out.

CONFIDENCE TRICK

The influence of confidence on performance is now as quantifiable as that of strength or speed. In a classic study in the *Journal Of Psychology*, 12 pairs of armwrestlers were told beforehand that the weaker opponent was actually the stronger. Subsequently, ten of the 12 contests were won by the weaker competitor, proving that confidence – or the absence of it – overrode actual physical strength. In another study, experts at Purdue University in the US projected large and small dots around a putting hole to make it appear bigger or smaller and demonstrated that golfers sank 10% more putts when the hole appeared bigger thanks to an elevation in confidence.

We're not quite entering the world of Jedi mind tricks, but studies have also proven the mind can rule over matter. US research found that subjects who visualised performing biceps curls for 12 weeks increased their strength by 13.4%. Mental rehearsal such as this fires electrical impulses to the appropriate muscles, priming them for better performance.

The most compelling research, however, reveals that these mental skills can be learned and cultivated. When experts at Canada's University of Calgary trained a basketball team to improve their mental focus by staring at the rim or backboard and ignoring distractions, the team improved their free throw success from 23% to 77%. Psychologists from the University of Portsmouth also showed that introducing half-time interventions to footballers such as positive self-talk and imagery improved their passing, first touch and

tackle percentages in the second half. Fortunes were altered not by tactics but by the power of the mind.

MIND OF STEEL

Intrigued by the possibilities, I set about harnessing the techniques of elite athletes to develop a mind of steel. My journey begins with a lesson in goal-setting. At present, I lack direction and focus. Mental skills coach Bradley Busch of Inner Drive (innerdrive.co.uk), who works with Premier League football clubs, says, 'Look around and tell me how many red things you see. You'll now notice more than you thought possible. Your brain filters out lots of unnecessary information but a part called the reticular activating system draws your attention towards things you deem important. Setting goals makes you more aware of the things that can help you to achieve them.'

Dr Steve Bull, a psychologist who has worked with the England cricket team and wrote the business bible *The Game Plan*, says my goals should be separated to maximise my focus. 'You need outcome goals, such as winning a certain race; performance goals, which are measurable and make your outcome possible, like specific times or percentages; and process goals, which are controllable behaviours, such as your attitude to training and work.' By following this plan you focus on the smaller steps required to reach your ultimate goal, enhancing motivation and satisfaction.

I write down my outcome goals (to buy a house within two years and complete a tough bike race in September), performance goals (saving £120 a week towards a house deposit and a 10% increase in training volume per week) and process goals (rise an hour earlier to do more work and ring-fence my weekends for training). This gives me clarity and opportunities start to appear in my schedule: I turn a pub chat with a mate into an evening bike ride with him to increase my training volume, and I convert an afternoon break into a meeting that leads to more work, edging me above my savings target. Making better use of my reticular activating system is working well for me.

TALK TO YOURSELF

Nonetheless, I remain nervous about the cycling challenge ahead. Bull advises me to spend time recalling previous successes and use positive self-talk. As a result, each Sunday morning I stare at a photo that shows me finishing a tough bike ride in France last year and recite the numbers of kilometres I cycled as I get changed.

When I'm out riding, I try to adopt a 'flow state', as advised by Andy Barton (thesportingmind.com), a mental performance consultant who has helped Olympic athletes. The phrase was coined by Hungarian psychologist Mihaly Csikszentmihalyi and it describes the perfect match between the demands of a challenge and your ability to meet them. 'The best way to achieve it is to stay in the present – anxiety comes from a projection of the future,' says Barton. During long hours on the bike I focus on my pedalling motion, my hand positions, the strength in my legs and the beating of my heart to keep me blissfully locked in the moment and to avoid catastrophic thinking.

I'm intrigued by how the techniques of sports psychology could also help my work performance. Busch advises me to do the hardest work in the morning, at the same time as athletes would train. 'Despite weighing less than 2% of your bodyweight, your brain uses over 20% of your body's energy,' he says. 'Think of your brain like a phone battery. In the morning it's fully charged but it runs down each time you use it, so do the difficult things first.'

In what sounds like a rather pretentious but highly effective act of brain training, before I start writing each day I read a passage by my favourite author. 'In one study, participants were asked 42 Trivial Pursuit questions, but before answering them one group was asked to write what it meant to be a professor whereas the other group was asked to write what it meant to be a soccer hooligan,' says Busch. 'The professor group answered 13% more questions correctly. They weren't smarter, they just had a smarter mindset.' Thinking like the best will make you act at your own personal best.

'IN THE MORNING YOUR BRAIN'S FULLY CHARGED, SO DO THE DIFFICULT THINGS FIRST'

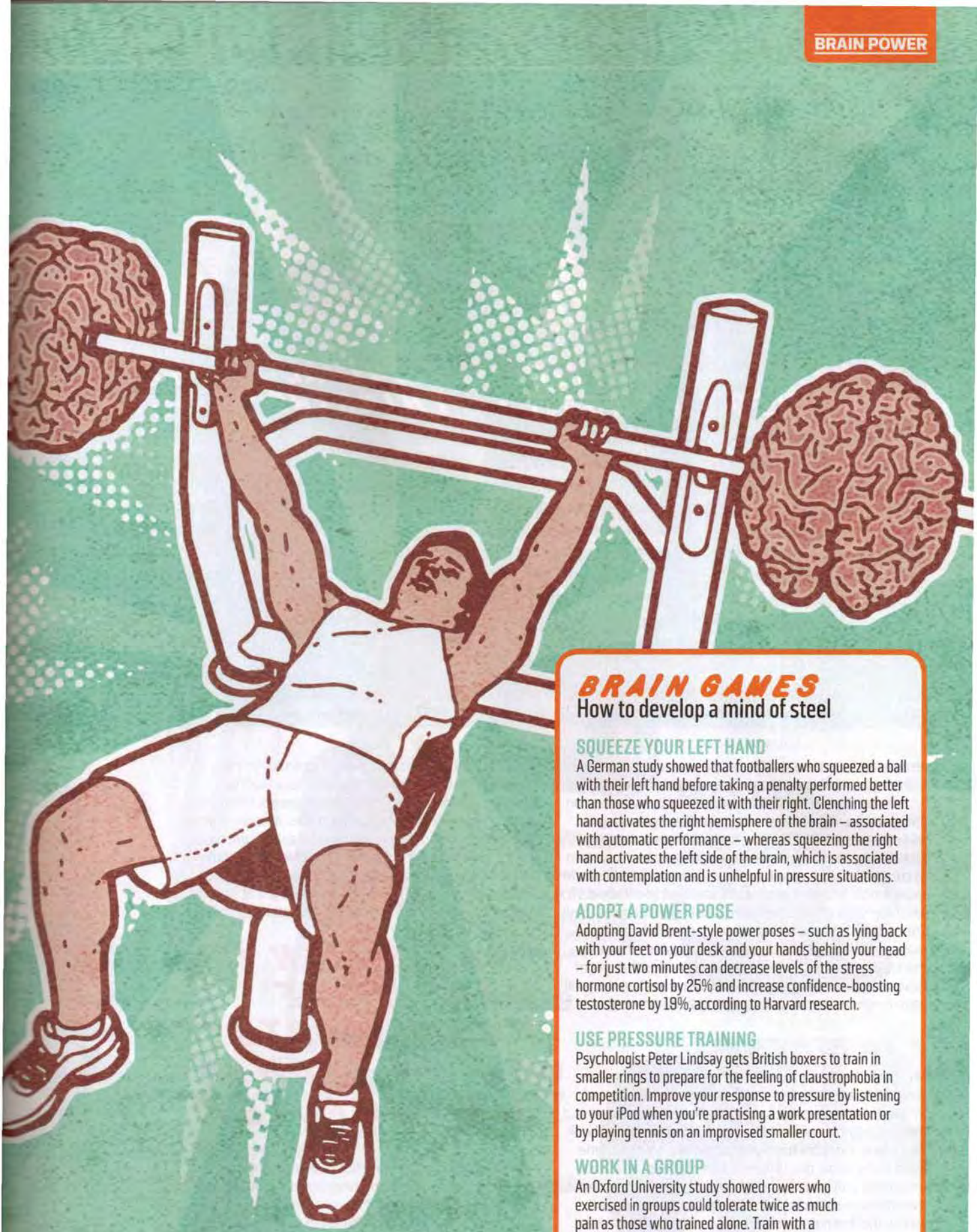
PARKING SPACE

I overcome irritating daily distractions using the same methods athletes are taught to avoid negative thoughts. 'Learn to park your thoughts,' says sports psychologist Dr Victor Thompson (sportspsychologist.com). 'This helps you to eliminate negative, intruding thoughts. When you notice unwanted thoughts, write them down on a piece of paper and place it out of sight. When you've finished performing, retrieve the paper and deal with the issues by "unparking" them.'

Diet is important too. Dr Costas Karageorghis, co-author of *Inside Sports Psychology*, says certain foods can enhance mental performance. For example, salmon increases alertness, almonds increase vigour and avocado calms nerves.

I spend a long time frowning at a computer screen each day and that needs to change. Body language isn't a reflection of your mood – it actively shapes it. 'In one study, participants who placed a pencil between their teeth [stimulating the zygomaticus major muscle, which makes you smile] laughed more later when watching funny videos than those who balanced a pencil above their top lip [stimulating the orbicularis oris muscle, forcing them to frown],' says Busch. 'Your brain picks up on physical cues to work out how you feel.' Barton agrees. 'I tell golfers never to let their head drop below the level of the flag to keep their mood high,' he says. 'Act how you want to feel and your mind will follow.'

One of my favourite tricks is washing away errors with refocusing drills. Tennis players towel away a mistake. Other athletes draw an imaginary circle and walk out of it. Barton suggests I invest emotion in only positive things. 'We remember things based on emotion,' he says. 'If you celebrate a good drive with a fist pump, you'll



BRAIN GAMES
How to develop a mind of steel

SQUEEZE YOUR LEFT HAND
A German study showed that footballers who squeezed a ball with their left hand before taking a penalty performed better than those who squeezed it with their right. Clenching the left hand activates the right hemisphere of the brain – associated with automatic performance – whereas squeezing the right hand activates the left side of the brain, which is associated with contemplation and is unhelpful in pressure situations.

ADOPT A POWER POSE
Adopting David Brent-style power poses – such as lying back with your feet on your desk and your hands behind your head – for just two minutes can decrease levels of the stress hormone cortisol by 25% and increase confidence-boosting testosterone by 19%, according to Harvard research.

USE PRESSURE TRAINING
Psychologist Peter Lindsay gets British boxers to train in smaller rings to prepare for the feeling of claustrophobia in competition. Improve your response to pressure by listening to your iPod when you're practising a work presentation or by playing tennis on an improvised smaller court.

WORK IN A GROUP
An Oxford University study showed rowers who exercised in groups could tolerate twice as much pain as those who trained alone. Train with a mate to beat pain and stay motivated.

CARRY A LUCKY CHARM
In a trial at the University of Cologne, participants in possession of a lucky charm who were asked to play a word-creation game found 50% more words than subjects who were denied their own charms, proving confidence and composure are as influential as intellectual capacity.

PRO MIND How elite athletes keep their heads in the game

SET ROUTINES

England rugby World Cup winner Jonny Wilkinson is known for always performing the same pre-kick steps. 'Routines ensure you stay in the present and avoid catastrophic thinking by focusing on the processes required to execute your skill, rather than the possible outcomes,' says Barton.

POSITIVE MEMORIES

Tottenham and England striker Jermain Defoe watches DVDs of his goals before games. 'It's helpful to think about great performances you have delivered and to remember how you felt and thought during those accomplishments,' says Bull.

LOGICAL THINKING

Record-breaking marathon runner Paula Radcliffe counts to 100 as she runs. 'Counting numbers distracts the Chimp brain and stops it kicking off by breaking down the challenge and switching on your logical Human brain,' says Readle.

HELPFUL SUPERSTITIONS

Spanish tennis star Rafa Nadal's habit of lining up his water bottles has helped him win 12 Grand Slam singles titles. 'Superstitions aren't helpful in themselves, but any pre-event process that develops a sense of control or order can be helpful to the mental composure of an athlete,' says Barton.

remember it and feel confident. If you react to a bad drive with anger, you'll carry that with you and feel nervous.'

I've never been particularly convinced by visualisation drills, but the night before a big interview I give it a go. Athletes use the PETTLEP – physical, environmental, task, timing, learning, emotion and perspective – system to create a vivid, detailed and multi-sensory visualisation experience. 'Imagine what you'll say, how you'll say it, what the setting will be like and what might happen,' says Thompson. 'You will be laying down experiences like real memories, which you can draw on later.' Visualising the interview helps me to imagine scenarios that might have caught me off-guard, as well as reminding me I will have to ignore the snapping photographer throughout.

FINISHING APE

My most valuable and enduring mental skills, however, stem from adopting the mind-management model of Dr Steve Peters, a psychiatrist who has worked with British Cycling, Liverpool FC and UK Athletics. In his book *The Chimp Paradox* he explains how the brain is made up of three parts: the 'Chimp', or limbic brain, which is emotional and irrational and, as the keeper of our primal, evolutionary instincts, remains alert to any perceived threat; the 'Human', or frontal brain, which uses rational facts and information to make logical decisions; and the 'Computer', or parietal brain, which produces automatic responses based on what it has been trained to do.

By studying this system it's soon possible for me to identify when my Chimp is rattled ('I'm nervous. What if I finish last?') and override its primal tantrums with logical thoughts from the Human brain ('I have trained for six months. I'll be fine'). I accept fear as a normal evolutionary response and 'box' it with more rational thoughts. I try to store automatic responses in the Computer for certain situations, such as adopting a 'helicopter' perspective – 'Everything seems small from up here' – when I identify mental stress. It works when a photoshoot goes pear-shaped and I visualise the bigger picture. It's empowering to know I'm effectively shifting the blood supply in my brain as I reorder my thoughts.

Dave Readle, a performance psychologist at British Cycling, explains: 'With this system our athletes can understand that nerves and fight-or-flight thinking are just natural evolutionary responses. Then you realise you have a choice: do I want this feeling? If the answer is no, it's probably from the Chimp so you can engage your Human and control it.'

'THE BRAIN IS MADE UP OF THREE PARTS: CHIMP, HUMAN AND COMPUTER'

Despite all the helpful techniques I learned from sports psychology, learning to understand my mind proved to be the most valuable lesson of all. Fear, anger and doubt aren't weaknesses but normal evolutionary responses to be controlled. Confidence, mental focus and motivation aren't natural gifts but skills to be learned and developed. As Readle says, 'The more you practise, the better you get.'

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