

## Preface

I've written this book to fix a problem: most of us underachieve at sport. As a player, I underachieved without ever knowing why. As a coach, I often had no solutions to players' performance problems, so they underachieved. Something important was missing. Now, after a 40-year career in sport science, I know what it was, and it's still missing—we don't know *how* to achieve. We practise, but we don't know what or how to practise.

My aim in writing *Winning at Sport* is to fill this gap by presenting a modern, science-based programme that will break down barriers to improvement. Nothing in the book is my opinion—everything comes from science. Science is powerful. Science kills off myths, opinions, and untested theories, replacing them with methods that work. Whether you're a beginner, an intermediate, or an expert, you'll find gaps in your performance you can fill.

*Winning at Sport* is the book I've always wanted to write because it combines my twin passions of sport and science. It's taken two years to write, and I've enjoyed every minute. Enjoy your reading—and improve your performance!

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## Introduction

*“You play to win, and the game has little meaning  
unless you do your utmost to win.<sup>1</sup>”*

*—George Orwell, author*

If you’re reading this book, you’re keen to improve your sport performance. You may be a beginner seeking rapid improvement, or you may be a good player looking for a breakthrough to higher levels. You may even be a top-class player who wants to be a champion. Wherever you are in your quest to improve, there’s a problem—you’re stuck. You’re stuck at too low a performance level, and you need to escape.

You know the basics of fitness, diet, technique, and tactics, and you may have dabbled with psychology, but you need something more. You’ve been around the block a few times—coaching, practice, different coaching, different practice, then round again. You’ve tried the latest theories, tips, and gimmicks, but you’re still stuck. Nothing works. You sometimes see a fleeting improvement, but it soon evaporates.

When you compete, you get frustrated because you lose matches you should win. You wonder why you can’t play like you do in practice and why you wilt under pressure. You know there’s a better player inside because you see that player during practice—but they’re never around when it matters.

You search for information on improving performance but lose the struggle against scientific concepts and jargon you don’t understand. Confused, you turn to the Internet. Here, you find the opposite—a veritable mountain of information, all just a few mouse-clicks away. It’s overwhelming, and you don’t know where to start. Also, there are no quality controls, so you have no idea whether what you’re reading is any better than your current tips and gimmicks. Nevertheless, you glean what you can and develop your personal ‘performance rules.’ But they don’t work because you’ve based them on information of dubious quality.

Trying to improve at sport is like struggling in quicksand. You fight hard, but it sucks you in. You become so weighed down by conflicting theories and advice your brain can’t cope. The harder you struggle, the deeper you sink. You know it’s bad when you start talking to yourself during a bad performance:

- **Searching for reasons.** “I told you not to hit that shot; you know what happens when you do.”
- **Yelling at yourself.** “You fool! You’re so stupid! Why can’t you do what I tell you?”
- **Reciting rules.** “Every time I don’t warm up properly, I lose.”

You’ve developed these tickings-off over months or years of frustration. They pile ‘dirty’ emotional pain on top of the ‘clean’ pain of bad play.

But take heart—there’s a way out. There *is* a way to improve your sport performance. The problem is that until now, you haven’t been able to find it because it’s hidden away in more than half a century of research, concealed in thousands of incomprehensible scientific papers. Elite players don’t have this problem because they have performance teams comprising coaches, physiologists, psychologists, biomechanists, nutritionists, and performance analysts to collect and interpret the science. But you don’t have a team, so you struggle along in an evidence vacuum.

Now, you can access this vital information. *Winning at Sport* shows you how to improve your sport performance using methods that science has shown to work. Using an evidence base of more than 1,000 research articles from physiology, biomechanics, neuroscience, psychology, motor skill, and genetics, this book uncovers the key elements of high performance and how to improve them.

It’s not confusing. The evidence has been analysed and interpreted, jargon has been removed, and the story of high performance is told in simple, practical language. Much will be new to you. You’ll discover weaknesses in your practice and play you never knew you had. You’ll find new, effective practice methods that will surprise you. The consistent thread through it all is everything *works*. Science says so.

The aim is to wean you off ineffective, outdated practice methods and guide you towards proven methods. It doesn’t demand extra time—just better use of time. Remember, your current performance rules probably aren’t valid; they’re rules you’ve decided for yourself, based on whatever sources you could find. They are, to quote Geoffrey Pullum, Professor of Linguistics at Edinburgh University (and keyboard player in the 1960s soul band *Geno Washington & the Ram Jam Band*), “Zombie rules—though dead, they shamble mindlessly on.”<sup>2</sup>

## How to use this book

The best tactic is to read the chapters in order rather than dip in and out. Each chapter develops information from earlier chapters, building up the full performance picture. Throughout the book, you'll meet 'breakout boxes' containing research studies and case studies that support the text. Don't skip these boxes—they're important contributors to the story. Each chapter ends with a summary of key points together with practical suggestions for how to apply them. To aid readability, references are limited to studies described in the text.

The book has five parts:

<b>Part 1</b>	WINNING	How talent and practice combine to produce winners
<b>Part 2</b>	YOUR SPORTS BRAIN	How it works and how to train it
<b>Part 3</b>	BRAIN SKILLS	Concentration, confidence, and coping with pressure
<b>Part 4</b>	WINNING TEAMS	Great teams, home advantage, and game-reading
<b>Part 5</b>	THE UNCONTROLLABLES	Luck, cheating, and penalty-taking

The information in this book applies to all sports, but I've used many practical examples from golf and football\* for several reasons. Both sports are played worldwide, involve complex skills, span individual and team performance, and have been researched in depth. Also, I have competitive experience in golf and a lifelong interest in football, which enables me to translate the science into suggestions for improving practice and play. Don't be concerned if your sport isn't golf or football—the science translates.

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\* Throughout the book, I've use the word 'football' to mean association football, not gridiron football.

# Part 1

# WINNING

*“If winning isn’t everything why do they keep score?”*  
—Vince Lombardi, coach

## Introduction to Part 1

**S**port, whatever its contributions to health and wellbeing, is about winning. When we compete at sport, we try to win because winning feels good. We hope, plan, train, and play for victory, and when we succeed, we feel pride, satisfaction, and a warm glow we carry with us into other areas of our lives.

Winning has positive effects far beyond us as individuals. The city of Leicester, UK, experienced a huge uplift of pride and satisfaction when their football team, Leicester City, won the English Premier League in 2016. At the national level, England's victory in the 1966 football World Cup boosted national pride, and the nation has clamoured for a repeat performance ever since. The USA experienced something similar in 1980 at the Lake Placid Winter Olympic ice hockey tournament. USA played USSR in the semi-final. The USA team comprised college students; the soviet team was an efficient machine grown out of military professionalism. USA won and went on to beat Finland in the final. This 'Miracle on Ice' marked the start of 'Feel Good America' and a decade of prosperity.

Our task is to become better at winning. In Part 1, we'll investigate its two main ingredients: *talent* and *practice*. We'll start by discussing sports champions and seeing what we can learn from them. Then, we'll look at the role of genetics and why we shouldn't be concerned about it. We'll conclude by discussing the right and wrong ways to practise—and why we *should* be concerned. First, the champions. What makes them champions?



# 1

## What makes a champion?

*“I fear not the man who has practised 10,000 kicks once,  
but I fear the man who has practised one kick 10,000 times.”*

*—Bruce Lee, martial arts expert and actor*

**C**hampions are rare, by definition. They’re the handful of players who reach the pinnacle of their sport and command admiration and respect from their peers. But how do they get to the pinnacle? What actually makes a champion? First, it helps to be a greedy psychopath.

### Greedy psychopaths

Consider this list of human characteristics: ruthlessness, mental toughness, fearlessness, mindfulness, charm, focus, and proactivity. We might think they belong to sports champions. They do, but they also belong to psychopaths and serial killers.<sup>3</sup> To be a sports champion, we may need to be just a few steps removed from a high-security prison—or worse.

But we shouldn’t be too concerned because sports champions share these characteristics with successful surgeons, business executives, and politicians. As Kevin Dutton, Research Fellow at Cambridge University, outlines in his book *The Wisdom of Psychopaths*, these characteristics have evolved in humans as our way of getting what we want, so we survive as a species.<sup>3</sup> It’s a survival mind-set, which in sport becomes a win-at-all-costs mind-set. To be a sports champion, or reach the top in our career, we need to be driven by *greed*.

This explains why strategies to win at sport can be ruthless and devious. We may not like it, but evolution has programmed us this way. The reality of modern sport is far removed from the sentiments expressed in Principle One of the Olympic Charter:

*“Olympism is a philosophy of life, exalting and combining in a balanced whole the qualities of body, will, and mind. Blending sport with culture and education, Olympism seeks to create a way of life based on the joy of*

*effort, the educational value of good example, social responsibility, and respect for universal fundamental ethical principles.<sup>49</sup>*

*—International Olympic Committee*

Evolution has organised things so not everyone has the full list of serial killer characteristics. In a battle for survival, a group only needs a handful of ruthless individuals to provide leadership, the rest need to be followers. In fact, having too many ruthless individuals in a group is disastrous, which may explain why football teams packed with stars underachieve. We'll discuss this in Chapter 15, but our task here is to discover what other skills sports champions have, apart from their psychopathic tendencies.

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To be a sports champion, or reach the top in our career,  
we need to be driven by *greed*.

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### ***Chicken wars***

William Muir, Professor of Animal Science at Purdue University, tried two methods of breeding chickens to increase their egg-laying capacity.<sup>5</sup> The chickens lived in cages in groups of nine birds. First, William took the best egg-layers (champions), mated them with a male, and reared the offspring. He did this through six generations and put the super-champion offspring in a cage together to lay eggs. The results were tragic. Only three chickens survived; the rest lay dead on the floor. A vicious battle had taken place, leaving even the three survivors exhausted. There were few eggs.

William tried a second method. This time, he selected *all* the chickens from the most productive cages, including both champion layers and duds. He again mated them, repeated through six generations, and placed nine of the mongrel offspring into a cage to lay eggs. The mongrel chickens were happy, and egg production increased by 160 percent.

Don't put all your champions in one basket!

## Champion qualities

Who are the real sports champions? Often, champions have ‘esque’ added to their name to create a new adjective. For example, commentators describe a great football free kick as ‘Beckhamesque,’ referring to David Beckham’s superb ability in this skill. Others are recognisable by just one name: *Tiger* (Woods), (Muhammad) *Ali*, or *Seve* (Ballesteros). We can also identify champions using statistics. Heather McKay, an Australian squash player, dominated her sport for twenty years, losing just two matches throughout her professional career. She won the British Amateur Championship (at that time, the unofficial world championship) 16 times without losing a single game—an aggregate game score of 48–0. She won one final, against the world’s second ranked player, 9–0, 9–0, 9–0.

But the best measure of a champion is whether they *dominate* their sport. To take one example, English cricketer Jim Laker described his experience of bowling against the great Sir Donald (‘The Don’) Bradman: “When I was running up to bowl at Don, I always felt he knew what ball I would bowl, where it would pitch, how it would bounce, what shot he would play, and how many runs he’d score.”<sup>6</sup> Whatever our definition, our task is to discover the qualities that set these players apart. Many studies have investigated this, so we have a good idea. Champions are better in the following areas:

anticipation	distraction control	motivation
anxiety control	embracing challenge	optimism
arousal management	emotional control	organisation
attention control	evaluation (self)	pain endurance
automation of skills	fear of failure (low)	parental support
coachability	game knowledge	pattern recognition
commitment	game plans	perfectionism
competitive attitude	game reading	persistence
competitive training	goal setting	personal drive
concentration	health consciousness	planning
confidence	imagery	positivity
control	information storage	practice quality
coping skills	love of challenge	practice quantity
decision-making	love of what they do	preparation ethic
desire to beat others	mental preparation	pressure management
desire to master tasks	mental toughness	reflectivity
determination	monitoring	relaxation

## WINNING AT SPORT

resilience	self-talk	task knowledge
resource use	sense of mission	team player
self-belief	sport intelligence	use of information
self-control	sport-work-life balance	visualisation
self-regulation	tactical awareness	work ethic

Gosh, we'd better get started!

We'll adopt a simpler approach. We'll discuss the important skills and abilities, beyond the basic skills we already have, that give us a real competitive advantage. We'll cover areas where we get the most performance improvement from our investment of time and effort. We'll improve our performance, step by step, from average to expert. First, we need to know if we have enough *talent*.

### Things to know

- Champions are rare; evolution has organised it this way.
- Champions have qualities you might not want.

### Things to do

- At this stage, keep reading.