

SPORT IN THE GLOBAL SOCIETY CONTEMPORARY PERSPECTIVES



Towards a Social Science of Drugs in Sport

Edited by Jason Mazanov

ROUTLEDGE

Towards a Social Science of Drugs in Sport

Edited by
Jason Mazanov



First published 2012
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2012 Taylor & Francis

This book is a reproduction of *Sport in Society*, vol. 12, issue 3. The Publisher requests to those authors who may be citing this book to state, also, the bibliographical details of the special issue on which the book was based.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN13: 978-0-415-68586-3

Typeset in Times New Roman
by Taylor & Francis Books

Disclaimer

The publisher would like to make readers aware that the chapters in this book are referred to as articles as they had been in the special issue. The publisher accepts responsibility for any inconsistencies that may have arisen in the course of preparing this volume for print.



Printed and bound in Great Britain by the MPG Books Group

SPORT IN THE GLOBAL SOCIETY –
CONTEMPORARY PERSPECTIVES

Series Editor: Boria Majumdar

TOWARDS A SOCIAL SCIENCE OF DRUGS IN SPORT

Sport in the Global Society – Contemporary Perspectives

Series Editor: Boria Majumdar

The social, cultural (including media) and political study of sport is an expanding area of scholarship and related research. While this area has been well served by the *Sport in the Global Society* series, the surge in quality scholarship over the last few years has necessitated the creation of *Sport in the Global Society: Contemporary Perspectives*. The series will publish the work of leading scholars in fields as diverse as sociology, cultural studies, media studies, gender studies, cultural geography and history, political science and political economy. If the social and cultural study of sport is to receive the scholarly attention and readership it warrants, a cross-disciplinary series dedicated to taking sport beyond the narrow confines of physical education and sport science academic domains is necessary. *Sport in the Global Society: Contemporary Perspectives* will answer this need.

Titles in the Series

Australian Sport

Antipodean Waves of Change
*Edited by Kristine Toohey and
Tracy Taylor*

Australia's Asian Sporting Context

1920s and 1930s
Edited by Sean Brawley and Nick Guoth

'Critical Support' for Sport

Bruce Kidd

Disability in the Global Sport Arena

A Sporting Chance
Edited by Jill M. Clair

Diversity and Division – Race, Ethnicity and Sport in Australia

Christopher J. Hallinan

Documenting the Beijing Olympics

Edited by D. P. Martinez

Football in Brazil

Edited by Martin Curi

Football Supporters and the Commercialisation of Football

Comparative Responses across Europe
*Edited by Peter Kennedy and
David Kennedy*

Football's Relationship with Art: The Beautiful Game?

John E. Hughson

Forty Years of Sport and Social Change, 1968-2008

“To Remember is to Resist”
Edited by Russell Field and Bruce Kidd

Global Perspectives on Football in Africa

Visualising the Game

Edited by Susann Baller,

Giorgio Miescher and Raffaele Poli

Global Sport Business

Community Impacts of

Commercial Sport

Edited by Hans Westerbeek

Governance, Citizenship and the New

European Football Championships

The European Spectacle

Edited by Wolfram Manzenreiter and

Georg Spitaler

Indigenous People, Race Relations

and Australian Sport

Edited by Christopher J. Hallinan and

Barry Judd

Perspectives on Sport and Music

Perfect Pitch

Edited by Anthony Bateman

Reviewing UK Football Cultures

Continuing with Gender Analyses

Edited by Jayne Caudwell

Soccer in the Middle East

Edited by Issam Khalidi and Alon Raab

South Africa and the Global Game

Football, Apartheid and Beyond

Edited by Peter Alegi and

Chris Bolsmann

Sport – Race, Ethnicity and Identity

Building Global Understanding

Edited by Daryl Adair

Sport and the Community

Edited by Allan Edwards and

David Hassan

**Sport, Culture and Identity in the
State of Israel**

Edited by Yair Galily and

Amir Ben-Porat

Sport in Australian National Identity

Kicking Goals

Tony Ward

Sport in the City

Cultural Connections

Edited by Michael Sam and

John E. Hughson

The Changing Face of Cricket

From Imperial to Global Game

Edited by Dominic Malcolm,

Jon Gemmell and Nalin Mehta

**The Consumption and Representation
of Lifestyle Sports**

Edited by Belinda Wheaton

The Containment of Soccer in Australia

Fencing Off the World Game

Edited by Christopher J. Hallinan and

John E. Hughson

**The Flame Relay and the
Olympic Movement**

John J. MacAloon

The History of Motor Sport

A Case Study Analysis

Edited by David Hassan

The Making of Sporting Cultures

John E. Hughson

**The Olympic Movement and the Sport
of Peacekeeping**

Edited by Ramón Spaaij and

Cindy Burleson

The Politics of Sport

Community, Mobility, Identity

*Edited by Paul Gilchrist and
Russell Holden*

The Politics of Sport in South Asia

Edited by Subhas Ranjan Chakraborty,

*Shantanu Chakrabarti and
Kingshuk Chatterjee*

The Social Impact of Sport

Edited by Ramón Spaaij

**Towards a Social Science of Drugs
in Sport**

Edited by Jason Mazanov

Who Owns Football?

The Governance and Management of
the Club Game Worldwide

Edited by David Hassan and Sean Hamil

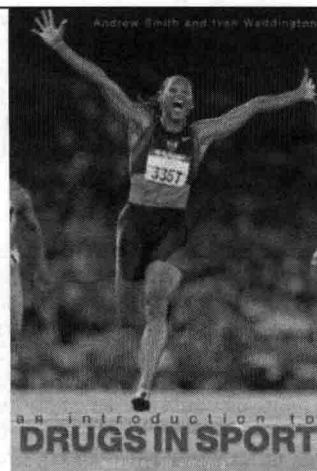
**Why Minorities Play or Don't
Play Soccer**

A Global Exploration

Edited by Kausik Bandyopadhyay

An Introduction to Drugs in Sport Addicted to winning?

Ivan Waddington,
University of Chester, UK
Andrew Smith,
University of Chester, UK



An Introduction to Drugs in Sport provides a detailed and systematic examination of the extent of drug use in sport and attempts to explain why athletes have, over the last four decades, increasingly used performance-enhancing drugs. It offers a critical overview of the major theories of drug use in sport, and provides a detailed analysis of the involvement of sports physicians in the development and use of performance-enhancing drugs.

Designed to help students explore and understand this problematic area of research in sport studies, and richly illustrated throughout with case studies and empirical data, *An Introduction to Drugs in Sport* is an invaluable addition to the literature. It is essential reading for anybody with an interest in the relationship between drugs, sport and society.

Contents

1. Drugs in Sport and Sport as a Drug
2. Doping in Sport: Problems of Involvement and Detachment
3. Changing Patterns of Drug use in Sport
4. The Emergence of Doping as a Problem in Modern Sport
5. Drugs in Sport: Towards a Sociological Understanding
6. The Other Side of Sports Medicine: Sports Medicine and the Development and use of Performance Enhancing Drugs
7. Drug use in Sport: A Case Study of Cycling
8. Drug Use in Sport: A Case Study of Professional Football
9. Doping Control in Sport: A Critical Analysis
10. The World-Anti Doping Agency
11. Conclusion

December 2008

PB: 978-0-415-43125-5: £24.99 / HB: 978-0-415-43124-8: £80.00

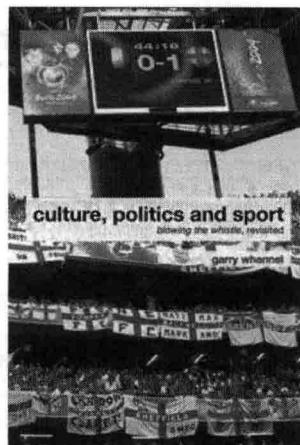
 **Routledge**
Taylor & Francis Group

To order please visit
www.routledge.com/sport

Culture, Politics and Sport

Blowing the Whistle, Revisited

Garry Whannel, University of
Bedfordshire, UK



'Whannel is a foundational figure in the study of sports and the media. ...For 20 years his writing has set a high standard ...and it remains an inspiration to many'

Toby Miller, Professor of Cultural Studies, New York University
Garry Whannel's text *Blowing the Whistle: The Politics of Sport* broke new ground when it was first published in 1983. Its polemical discussion brought sports as cultural politics into the academic arena and set the agenda for a new wave of researchers.

Since the 1980s sport studies has matured both as an academic discipline and as a focus for mainstream political and public policy debate. In *Culture, Politics and Sport: Blowing the Whistle, Revisited*, Garry Whannel revisits the themes that led his first edition, assessing their 1980s context from our new millennium perspective, and exploring their continued relevance for contemporary sports academics. This revisited volume will appeal to undergraduate students and researchers in sports and cultural studies.

Contents

Part 1: The Politics of Sport

Part 2: Sport, Cultural Politics and Political Culture since 1983

January 2008

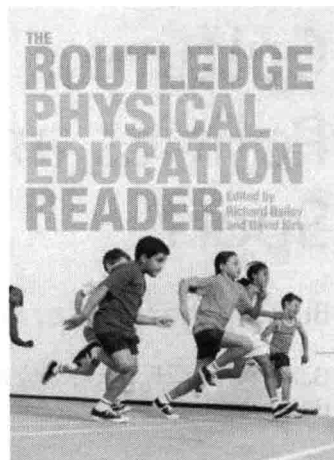
PB: 978-0-415-41707-5: £24.99 / HB: 978-0-415-41706-8: £80.00

 **Routledge**
Taylor & Francis Group

To order please visit
www.routledge.com/sport

The Routledge Physical Education Reader

Richard Bailey
University of Birmingham UK
David Kirk,
Leeds Metropolitan University, UK



Physical Education teaching and research is fundamental to the physical and social health of our communities. The Routledge Physical Education Reader presents an authoritative and representative selection of the very best international scholarship in PE, drawn from across the full topical range of the discipline.

Containing a rich blend of contemporary, 'classic' and hard-to-find articles, this book helps students gain a full understanding of the historical context in which current issues and debates within PE have emerged. Leading international scholars Richard Bailey and David Kirk weave a thoughtful editorial commentary throughout the book that illuminates each key theme, making insightful and important connections between articles and approaches.

Contents

Introduction
Part One: The Nature and Values of Physical Education
Part Two: Physical Education and Sport
Part Three: Physical Education and Health
Part Four: Learners and Learning
Part Five: Teachers and teaching
Part Six: Curriculum and content
Part Seven: The social construction of bodies
Part Eight: Researching physical education
Conclusion

September 2008

PB: 978-0-415-44601-3: **£29.99** / HB: 978-0-415-44600-6: **£95.00**

 **Routledge**
Taylor & Francis Group

To order please visit
www.routledge.com/sport

Towards a Social Science of Drugs in Sport

The debate around the role of drugs in sport is vibrant. There is a wealth of evidence from the hard end of science, telling us how drugs work, how drug testing works, and how many athletes have fallen foul of the system. The evidence from social science is still building momentum. For example, what makes an athlete use a performance enhancing substance? “To win” simply fails to explain the drug use behaviour we see among athletes.

This book provides a foundation for anyone trying to understand the drugs in sport problem beyond the hard science by looking at the “people factor” from different perspectives. After building a case for the social science of drugs in sport, it is examined from the ethical, sociological, economic, legal and psychological points of view. The book concludes with a definitive statement about what researchers, policy makers, sports administrators, athletes and fans can do to achieve a social science of drugs in sport that puts people firmly in the centre of the debate.

This book was previously published as a special issue of *Sport in Society*.

Jason Mazanov is a Senior Lecturer at the UNSW Canberra Campus. Dr Mazanov started his career as a Health Psychologist before moving into the social science of drugs in sport. This move has seen Dr Mazanov develop expertise as a sports policy and management researcher.

Contents

<i>Series pages</i>	vii
1. Developing an agenda for social science research into drugs in sport <i>Jason Mazanov</i>	1
2. The case for a social science of drugs in sport <i>Jason Mazanov and Vanessa McDermott</i>	4
3. Debating the role of drugs in sport: a reader <i>Jason Mazanov</i>	24
4. Performance enhancement and drug control in sport: ethical considerations <i>Dennis Hemphill</i>	41
5. Towards a sociology of drugs in sport <i>James M. Connor</i>	55
6. The economics of drugs in sport <i>Keiran Sharpe</i>	72
7. Drugs in sport: the legal issues <i>Anne Amos and Saul Fridman</i>	84
8. Health psychology and drugs in sport <i>Frances H. Quirk</i>	103
9. Equipping athletes to make informed decisions about performance-enhancing drug use: a constructivist perspective from educational psychology <i>James M. Hanson</i>	122
10. Without bounds: A cosmopolitan research agenda for drugs in sport <i>Jason Mazanov</i>	139
11. Towards a social science of drugs in sport <i>Jason Mazanov</i>	151
<i>Index</i>	159

Developing an agenda for social science research into drugs in sport

Jason Mazanov

School of Business, UNSW@ADFA, Canberra, Australia

This article provides a short introduction and overview to a collection of essays designed to provide a starting point in the form of a research agenda towards developing a social science of drugs in sport. It firstly addresses the paucity of social science research on the issues and then summarizes the approach taken to developing a research agenda to guide social science research into drugs in sport. This is done through describing the conceptual relationship between five pairs of essays comprising of the argument for a social science of drugs in sport (historical and overview of the development of the research agenda), developing policy (sport philosophy and sociology), implementing policy (economics and law), individual response to policy (health and educational psychology), and the research agenda (discipline specific and cosmopolitan).

There has been a massive amount of research into drugs in sport and anti-doping initiatives. A survey of the research literature demonstrates a formidable amount of medical and physical science research aimed at identifying athletes who seek advantage through banned performance-enhancing substances or methods. This represents what might be termed 'detection-based deterrence', or the idea that the prospect of getting caught using a prohibited substance will be enough to stop an athlete from using. While detection-based deterrence has had some success, attention is now turning to whether social science can inform 'prevention-based deterrence', or stopping an athlete from wanting to use prohibited substances or methods.¹

When a survey of research literature is taken across the social sciences in relation to prevention-based deterrence it reveals two important things. The first is that there is surprisingly little research, and the second is that what exists is difficult to find.² In terms of what exists, there are a few unconnected studies from economics, psychology and sociology.³ Thus, at the start of the twenty-first century there is surprisingly little in the way of systematic research by social scientists into performance-enhancing drug or method use by athletes.

Filling this gap in an organized way means working towards a social science of drugs in sport to answer some basic questions, such as 'Why do athletes take drugs?' and 'Why do we have drugs in sport in the first place?'⁴ That is, developing a research agenda to guide the development of a social science of drugs in sport.

Development of the agenda reported in this collection was construed with two very specific aims in mind. The first was to provide an insight into how social science views drugs in sport. The second was to stimulate social science research into drugs in sport as a starting point to ask theoretically or empirically relevant questions, or provide points of contention with which to agree or disagree. Developing the agenda brought together a team of social scientists from

economics, education, law, psychology, sociology and sports philosophy to outline some directions for future research from their discipline.

Structure of the agenda

Five pairs of essays make up the agenda. The first pair of essays is aimed at providing readers with grounding in the context of drugs in sport research. The first essay (Mazanov and McDermott) argues the case for developing a social science of drugs in sport using the historical evolution of the anti-doping policy. The purpose of the second essay (Mazanov) is to give readers some insight into what the contributors to the collection thought about and reflected upon when preparing their contributions. Specifically, it summarizes two workshops held to define what social science needs to do to best respond to the drugs in sport issue.

The second pair looks to explore the ideology underpinning drugs in sport research with sports philosophy and sociology. Anti-doping is the dominant ideology governing drugs in sport, presuming the role of drugs in sport is malignant and should be excised. While dominant, anti-doping is just one of many potential ideologies to guide the response to drugs in sport. Philosophy and sociology ask critical questions about where such ideologies come from and whether they are worth pursuing relative to other models, exploring the existing model as only one of several possible realities. The approach taken by the essays on sport philosophy (Hemphill) and sociology (Connor) are to critically evaluate the arguments used to support the anti-doping stance. The evaluation of these arguments leads to an exploration of ideas of what sport means to individuals and to societies in general. These arguments lead to questions about what humans want for sport, and whether drugs have a role to play.

Where the essays on philosophy and sociology explored ideologies that lead to particular policies about drugs in sport, the third pair of essays take the policies as somewhat more fixed and explores what they might mean in practice. This gives rise to a consideration of both the intended and unintended consequences of such policies that might emerge. By using the rational model as one against which to speculate about reality, Sharpe's application of economic theory to drugs in sport issues provides a method for assessing whether the operationalization of different ideologies and their policies leads to the expected outcomes. Once a policy has been decided upon, the law provides a wealth of experience in designing systems that define the rules and the authority to implement those rules (Amos and Fridman). This adds another layer of sophistication to exploring the intended and unintended consequences associated with the policy implementation of various ideologies.

The fourth pair of essays looks to how individuals respond within established ideological or policy systems, using the lens of psychology. Two sub-disciplines of psychology are considered here, health (Quirk) and educational (Hanson). Health psychology takes an interest in volitional behaviour that can influence the integrity of human functioning, such as suppression of immune function from overtraining, behaviours that increase the risk of disease, or the deliberate use of drugs known to be detrimental to longevity. Educational psychology is central to a discussion of drugs in sport as one of the foundations underpinning anti-doping activity, specifically its role in developing interventions that help athletes make decisions about their drug use behaviour. The educational psychologist might look at the drugs in sport issue as one focused on ensuring athletes draw on the information available to them at the critical decision point of use or abstinence.

The final pair of essays concludes the development of the research agenda by articulating a set of research questions that cuts across discipline boundaries (cosmopolitan research), and then defines the agenda. The aim of the cosmopolitan research agenda (Mazanov) is to inspire collaboration between disciplines towards cosmopolitan, rather than multidisciplinary, work.

Cosmopolitan work in this context is meant to encourage research that uses relevant ideas from a discipline because it helps explain some aspect of the drugs in sport phenomenon. The final essay in the collection (Mazanov) is intended as a stand alone statement to stimulate debate through robust and constructive examination of which ideas have merit and which need to be consigned to the dustbin of mediocrity. If the agenda can inspire researchers, policy makers or commentators to further the social science of drugs in sport, then it has achieved its purpose.

Acknowledgements

This work was funded by the Australian Government through the Anti-Doping Research Program, whose management of the project has been integral to its success. As with any such effort, many people make up the eventual success of the project. The project was given crucial momentum at its conception by Dr Anthony Millgate, Professor Stephen Mugford and Professor Peter Hall. Important contributions over the life of the project were made by Associate Professor Tim Rolfe, Dr Eugene Aidman, Mr Ken Norris, Mrs Alannah Kazlauskas and Mr Trevor O'Donnell. Professor Brian Stoddart made a significant contribution to the project with sound, measured advice. As the convener of the project, my personal thanks go to the contributors to this collection who did much more than write, and to my family who shared the ride.

Notes

¹ BMA, *Drugs in Sport*.

² This is reinforced by the review of social psychological investigation of anti-doping by Backhouse *et al.*, *Attitudes, Behaviours, Knowledge and Education*.

³ These papers include Berentsen and Lengwiler, 'Fraudulent Accounting and other Doping Games'; Anshel, 'Causes for Drug Use in Sport'; Donovan *et al.*, 'A Conceptual Framework for Achieving Performance Enhancing Drug Compliance in Sport'; Mazanov *et al.*, 'Towards an Empirical Model of Performance Enhancing Supplement Use'; Strelan and Boeckmann, 'A New Model for Understanding Performance-enhancing Drug Use by Elite Athletes', and 'Why Drug Testing in Elite Sport does not Work'; Coakley, *Sports in Society*; and Waddington, *Sport, Health and Drugs*.

⁴ Answering either question with 'to win' is unlikely to be helpful when looking to develop, design or guide interventions.

References

- Anshel, M.H. 'Causes for Drug Use in Sport: A Survey of Intercollegiate Athletes'. *Journal of Sport Behaviour* 14 (1991): 283–307.
- Backhouse, S., J. McKenna, S. Robinson, and A. Atkin. *Attitudes, Behaviours, Knowledge and Education – Drugs in Sport: Past, Present and Future*. Montreal: World Anti-Doping Agency, 2007.
- Berentsen, A., and Y. Lengwiler. 'Fraudulent Accounting and other Doping Games'. *Journal of Institutional and Theoretical Economics* 160, no. 3 (2004): 402–15.
- BMA. *Drugs in Sport: The Pressure to Perform*. London: BMJ Publishing Group, 2002.
- Coakley, J. *Sports in Society: Issues and Controversies*. Sydney: McGraw-Hill, 2007.
- Donovan, R.J., G. Egger, V. Kapernick, and J. Mendoza. 'A Conceptual Framework for Achieving Performance Enhancing Drug Compliance in Sport'. *Sports Medicine* 32, no. 4 (2002): 269–84.
- Mazanov, J., A. Petroczi, J. Bingham, and A. Holloway. 'Towards an Empirical Model of Performance Enhancing Supplement Use: A Pilot Study among High Performance UK Athletes'. *Journal of Science and Medicine in Sport* 11, no. 2 (2008): 185–90.
- Strelan, P., and R.J. Boeckmann. 'A New Model for Understanding Performance-enhancing Drug Use by Elite Athletes'. *Journal of Applied Sport Psychology* 15 (2003): 176–83.
- Strelan, P., and R.J. Boeckmann. 'Why Drug Testing in Elite Sport does not Work: Perceptual Deterrence Theory and the Role of Personal Moral Beliefs'. *Journal of Applied Social Psychology* 36 (2006): 2909–34.
- Waddington, I. *Sport, Health and Drugs: A Critical Sociological Perspective*. London: E & FN Spon, 2000.

The case for a social science of drugs in sport

Jason Mazanov^a and Vanessa McDermott^b

^aSchool of Business, UNSW@ADFA, Canberra, Australia; ^bDepartment of Sociology, Australian National University, Canberra, Australia

Social science began to take a prominent role in drugs in sport research in the early twenty-first century. This development has its roots in the history of drugs in sport, from the ancient Olympics through to the twentieth century, where the question of ‘could’ drugs enhance sporting performance, answered affirmatively, was replaced with whether they ‘should’. The history of drug testing reveals that ‘should’ may have been asked too late, with the advent of potentially undetectable performance enhancements rendering testing ineffective as a deterrence method. In an effort to find alternative models to deter the use of drugs in sport, the focus has shifted from ‘detection-based deterrence’ to ‘prevention-based deterrence’. Many of the questions underpinning prevention-based deterrence have the character of those asked by social science. Exploration of this character demonstrates social science offers an appropriate range of philosophical and methodological tools to explore prevention-based deterrence of drugs in sport.

An observer of drugs in sport issues in Germany through the 1930s¹ claimed it would be futile to discuss the issue on ‘any but a medical basis’. Some 70 years later there is mounting evidence² other approaches may hold promise in contributing to discussion on drugs in sport, one such approach being that offered by social science. The case for social science is founded upon an examination of the evolution of anti-doping policies and the exploration of alternatives to this policy. Understanding the evolution of anti-doping policies towards these alternatives means developing the history of drugs in sport (from ancient to modern times) as background.

A brief history of drugs in sport

To establish a working knowledge for a discussion of drugs in sport, it is useful to have some idea of how the use of drugs in sport has evolved over time. The historical overview commences with identifying why drugs in sport issues are commonly referred to as ‘anti-doping’. The first step in the process of developing the story of drugs in sport is to define ‘doping’ in both an historical and contemporary sense.³

What is doping?

While there were a number of doping scandals in the last 30 or 40 years of the twentieth century it would be incorrect to assume that doping emerged at this time.⁴ The word doping is believed to have originated from an eighteenth-century drink known as ‘*dop*’, which was a type of South African brandy consisting of walnut extract, xanthenes and alcohol. This drink was used to

improve endurance in ceremonial dances. The sporting connection to doping can be traced to the use of *dop* in the nineteenth century to describe a narcotic potion given to racehorses. By the turn of the twentieth century, doping described the methods and substances given to racehorses to *reduce* their chance of winning and influence the outcome of bets. The term 'doping' grew to include the use of substances that alter sporting competitors' performance.

In contemporary terms, doping refers to the misuse of drugs and includes methods designed to improve sporting performance or to manipulate doping tests. The International Olympic Committee (IOC) defines doping as:

1. The use of an expedient (substance or method) which is potentially harmful to the athlete's health and/or capable of enhancing their performance;
2. The presence in the athlete's body of a prohibited substance or evidence of the use thereof or evidence of the use of a prohibited method.⁵

However, the use of substances to improve sporting performances is by no means a twentieth-century phenomenon.

An historical view of drug use in sport

In the sixth century, dried figs were an essential part of an athlete's diet until superseded by meat which was believed to provide the strength of ten.⁶ Stimulants such as herbal mixtures, wild mushrooms and plant seeds were also used.⁷ These practices were not considered cheating and there are no recorded doping scandals at the ancient Olympics.⁸ Warriors such as the Berserkers of Norse mythology, Roman gladiators and medieval knights were often described using magic potions or other substances for their stimulating effects and to overcome injury.

At the turn of the twentieth century, a range of drugs and other substances were commonly used in sport.⁹ For example, Dutch canal swimmers used ether-soaked sugar cubes and distance runners, sprinters and cyclists are recorded to have used some, or any, combination of caffeine, alcohol, nitroglycerine, digitalis, cocaine, strychnine, ether, opium or heroin.¹⁰ Although a widespread and accepted practice, these substances also carried significant risks. In 1896, it is alleged that cyclist Arthur Linton died after being given strychnine by his coach.¹¹ At the 1904 Olympic Marathon British athlete Thomas Hicks came close to death after using a mixture of strychnine and brandy.

Through the late nineteenth century, attention to doping was limited to a medical interest in the combined effect of sporting exertion and substances on human physiology. In 1894, sports physician Philippe Tissié studied the effects of stimulants on the performance of a long distance cyclist. Tissié's interest was entirely medical and based on the danger that athletes could die of athletic stress. While anti-doping policies did emerge at the turn of the nineteenth century, this took place in horseracing and was driven by the need to protect gamblers interests. Doping was considered unfair to gamblers who had no way of knowing which horses were doped and was not concerned with the ethics of athletes' doping practices.

The history of anti-doping strategies

In 1903 the English Jockey Club prohibited doping and in 1910 a test was developed to detect the most common drugs. In 1928, the Amateur Athletic Foundation was the first human sporting organization to ban 'stimulating substances'.¹² However, there were no comprehensive anti-doping mechanisms in place in sport. While some governments restricted the availability of opium and cocaine to prescription only, other drugs such as laudanum remained available over the counter. Interest in doping and performance enhancing substances and methods (PESM) during the period from the turn of the twentieth century to 1960 can best be summed up by the