



Sport and Exercise Psychology

Joanne Thatcher, Melissa Day
and Rachel Rahman



Sport and Exercise Psychology

Joanne Thatcher, Melissa Day and
Rachel Rahman



First published in 2011 by Learning Matters Ltd
Reprinted 2012

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission in writing from Learning Matters.

© 2011 Joanne Thatcher, Melissa Day and Rachel Rahman

British Library Cataloguing in Publication Data

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

ISBN: 9781844458394

This book is also available in the following ebook formats:

Adobe ebook ISBN: 9781844458417

EPUB ebook ISBN: 9781844458400

Kindle ebook ISBN: 9780857250452

The right of Joanne Thatcher, Melissa Day and Rachel Rahman to be identified as the authors of this Work has been asserted by them in accordance with the Copyright, Designs and Patents Act 1988.

Cover design by Toucan Design

Text design by Toucan Design

Project Management by Swales & Willis Ltd, Exeter, Devon

Typeset in Garamond Premier Pro by Swales & Willis Ltd, Exeter, Devon

Printed and bound in Great Britain by the MPG Books Group

Learning Matters

An imprint of SAGE Publications Ltd

1 Oliver's Yard

55 City Road

London EC1Y 1SP

SAGE Publications Inc.

2455 Teller Road

Thousand Oaks, California 91320

SAGE Publications India Pvt Ltd

B 1/I 1 Mohan Cooperative Industrial Area

Mathura Road

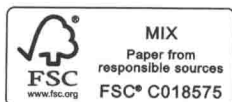
New Delhi 110 044

SAGE Publications Asia-Pacific Pte Ltd

3 Church Street

#10-04 Samsung Hub

Singapore 049483



Sport and Exercise Psychology



Active Learning in Sport

Active Learning in Sport – titles in the series

Coaching Science	ISBN 978 1 84445 165 4
Critical Thinking for Sports Students	ISBN 978 1 84445 457 0
Personal Training	ISBN 978 1 84445 163 0
Research Methods in Sport	ISBN 978 1 84445 261 3
Sport and Exercise Science	ISBN 978 1 84445 187 6
Sport in the UK	ISBN 978 1 84445 383 2
Sport Management	ISBN 978 1 84445 263 7
Sport Marketing	ISBN 978 0 85725 090 2
Sport Sociology (second edition)	ISBN 978 1 84445 464 8
Sport Studies	ISBN 978 1 84445 186 9

To order, please contact our distributor: BEBC Distribution, Albion Close, Parkstone, Poole, BH 12 3LL.
Telephone: 0845 230 9000, email: learningmatters@bebc.co.uk. You can find more information on each of these titles and our other learning resources at www.learningmatters.co.uk.

Contents

1	Introduction to sport and exercise psychology	1
Part 1	Exercise psychology	7
2	Physical inactivity: effects and determinants	9
3	Physical inactivity: the role of the self	24
4	Becoming active: models and motives	40
5	Changing and maintaining physical activity	58
6	Being active: negative effects	74
7	Being active: harmful effects	89
Part 2	Sport psychology	107
8	Training for competition: individual factors	109
9	Training for competition: social factors	126
10	Coping with competition pressure	141
11	Coping with adversity: injury and burnout	155
12	Achieving peak performance and excellence in competition	171
13	Putting it all together: applying sport psychology	185
	Answers to Learning Activities	200
	References	204
	Index	227

Chapter 1

Introduction to sport and exercise psychology

Learning Objectives

This chapter is designed to help you be able to:

1. understand the key aims and concerns of sport and exercise psychology;
2. be aware of elements of this book that are designed to help you learn about and understand the topics we discuss;
3. start to consider the role of sport and exercise psychology in tackling real-life problems and challenges.

Case Study 1.1

Hena

Hena has recently visited her doctor because she has been feeling low in mood and lacking in energy. Her doctor is concerned that she may have mild clinical depression. However, this is not the doctor's only concern. Hena does no exercise and is now at a weight where she is classed as obese. As a result of her weight, Hena has difficulty with some of her daily tasks like walking home with shopping bags. Her blood pressure is 150 mmHg over 100 mmHg (normal blood pressure is 120 mmHg over 80 mmHg), meaning that she is classed as hypertensive.

Case Study 1.2

Sam

Sam is a 14-year-old gymnast who trains five times a week for 2–3 hours each session with his personal coach. Sam's coach thinks that he has the potential to become an elite athlete and this is Sam's ambition. His parents are very supportive of his gymnastics, paying for kit and competition fees, driving him to and from training and competitions and supporting him when he's competing. They and his coach are also keen to ensure that his school work doesn't suffer as he is doing well at school. They also want him to be able to cope with the increasing competition pressure and training demands as he progresses towards the elite level. Other than the support they give him at present they are unsure how best to help him to achieve his ambitions and think that a sport psychologist might be able to help.

Sport and exercise psychology: theory, research and application

These case studies are fictitious but reflect real-life 'problems' that sport and exercise psychologists attempt to help the individual solve, which they do so using both theory and research. Many theories have been developed to explain, understand and change human behaviour and to understand how this behaviour is influenced by a range of different factors, including our thoughts and feelings, social environment, past experiences and personal characteristics. Research tests the proposals of these theories to determine whether or not they can be practically applied, such as in the case studies described above. Sport and exercise psychology research also examines if practical interventions derived from a theory (e.g. a strategy to increase motivation to exercise in Hena's case or to help cope with competition stressors in Sam's case) are effective.

It may not surprise you, given the very dynamic and physical contexts to which sport and exercise psychology is applied, that this is very much an applied field of study. Thus a priority of researchers and academics in this area is to seek to identify how theories that are developed and research findings that are obtained can be applied practically within sport and exercise settings. Throughout this book we consider the key theories used by sport and exercise psychologists to understand, explain, predict and change behaviour and the research that has investigated these theories. In particular, we aim to highlight the practical application of this theoretical and empirical knowledge to help solve problems, such as those presented by our opening case studies.

These case studies illustrate both the similarities and differences between sport psychology and exercise psychology. Try to identify what distinguishes these case studies from each other and their shared commonalities. You may identify that there are more similarities than differences between sport psychology and exercise psychology. Let us first consider their key difference.

Exercise psychology

Exercise psychology focuses on exercise participation and exercise-related behaviours including physical activity, inactivity and sedentary behaviour. This branch of psychology is concerned with:

- understanding and optimising the psychological outcomes and effects of exercise-related behaviours;
- optimising psychological aspects of exercise and physical activity participation;
- understanding the links between exercise and physical activity and mental health and wellbeing;
- improving exercise and physical activity levels in the general population.

Sport psychology

Sport psychology focuses on sport participation and performance at all levels of competition, from recreational to elite level. This branch of psychology is concerned with:

- understanding and optimising the psychological outcomes and effects of sports participation and performance;

- optimising psychological aspects of training and competing in sport;
- understanding the links between psychological characteristics, the use of psychological skills and sports performance;
- improving competitive sports performance.

Although sport psychology and exercise psychology each have a distinct focus, there is clearly a lot of overlap between the two which explains why there are more similarities than differences between them. Some of the key similarities that you may have identified are that both sport psychology and exercise psychology are concerned with:

- understanding people, how they feel, think and behave;
- helping people to solve problems and optimise their experience by changing unhelpful thoughts, feelings and behaviours.

As you will hopefully recognise as you read through the different chapters in our book, while some theories apply specifically to either sport or exercise psychology, many have common application across these two contexts. As you will also see, common methods are used to investigate different psychological phenomena in sport and exercise contexts. These include experimental studies, questionnaire-based cross-sectional research, intervention studies in real life contexts, case studies and qualitative interview studies. Throughout the chapters of the book we explain and provide examples of these different approaches to research to help you see how these different methods contribute to increasing our understanding of the psychological aspects of sport and exercise involvement.

The structure of this book

Our book is divided into two sections: Part 1, Exercise psychology, focuses on the key topics of interest to exercise psychologists and Part 2, Sport psychology, on those of most interest to sport psychologists. In the first section we adopt a process approach to understanding the psychology of exercise behaviour, starting with an examination of the common barriers to physical activity and the effects of physical inactivity on the individual's physical and mental health. Chapter 3 focuses on a key factor in physical activity participation, the role of the self. We consider its role as a factor that might influence physical activity behaviour and be influenced by this behaviour. We then discuss how we can understand physical activity and exercise behaviour using a number of key models and theories. Following this, we examine how these different models and theories might be applied to increase and maintain levels of physical activity and exercise participation. This leads us on to an exploration of the psychological outcomes of exercise participation, both positive and negative, and in clinical and non-clinical populations.

In Part 2 we adopt a similar process perspective to our discussion of sport psychology topics, beginning with an examination of the individual and social factors that might influence the athlete's experience and quality of training for competition. We then consider the competitive environment, examining how and why some athletes cope with the pressures and challenges of sporting competition while others do not. Following this, we consider some of the specific challenges that athletes might face during different

transitions that occur as a competitive athlete. These include both transitions that are common to all athletes, such as retirement from competitive sport, and those experienced by some, but not necessarily all, athletes, such as injury. Athletes who cope with competitive challenge, pressure and transitions may go on to achieve excellence in their sport and in Chapter 12 we discuss the characteristics of peak performance and sporting excellence including associated constructs such as mental toughness and flow. In the final chapter in this section of the book, we look at key psychological strategies, focusing specifically on imagery and goal setting, which are techniques that athletes could use to enhance the psychological aspects of their training and competition in an attempt to achieve their peak performance.

Throughout these chapters we return to the case studies with which we opened this chapter and employ the different theories and research findings discussed throughout the book to offer solutions to the problems they present. Our aim in doing so is to emphasise the practical value of sport and exercise psychology knowledge.

It is increasingly apparent that sport and exercise psychology has a key role to play in helping to tackle a number of real life problems and challenges in contemporary society. Although we discuss examples of these throughout our book it is clearly not possible to consider all the potential problems that sport and exercise psychologists could help to address. Throughout the book, however, we offer opportunities for your own critical analysis of and engagement with the topics we discuss through learning activities, reflection points and ideas for further reading. In doing this we hope to offer a starting point for you to be able to consider how problems and challenges in society could be addressed by sport and exercise psychologists. Some of the real life problems we have encountered and attempted to address in our work include:

- What are the barriers to walking in the countryside and how can we help to overcome these?
- How can we help prepare a team for international competition?
- How can we ensure that an athlete is psychologically prepared for the pressures of major competition?
- How can we help a previously injured athlete to overcome their fears of re-injury when returning to sport?
- How can we effectively encourage adults at risk of coronary heart disease to start and adhere to a GP referral exercise programme?

Return to these examples as you read through the different chapters of the book and think about how you might start to address these problems and challenges.

Sport and exercise psychology clearly has a lot to offer society in helping to overcome some of the health problems we currently face, such as rising levels of obesity in the young, and in helping to optimise performance outcomes in one of the world's biggest international businesses: competitive sport. Although elements of sport and exercise psychology stem as far back as the ancient Greek civilisation, Lavalley and his colleagues (2004) note that it is only in the previous century that this has become a formal area of independent academic study. Those of you who are interested in finding out more about the history of the discipline and its development are directed to the further reading listed at the end of this chapter.

All that remains for us to add here is that we hope we have managed to achieve our aims when we set out to write this book. These were to present exercise and sport psychology in an engaging manner which illustrates the practical application of this field and one which encourages our readers to think critically about the theories and research we discuss. If we have achieved these aims then hopefully you will find our book enjoyable and informative.

Further Reading

Lavallee, D, Kremer, J, Moran, AP and Williams, M (2004) Introduction, in *Sport Psychology: Contemporary themes*. Basingstoke: Palgrave Macmillan, pp. 1–17.

We recommend this chapter by Lavallee and his colleagues for its informative and engaging account of how sport and exercise psychology emerged as a discipline, including its development in different countries across the globe.

Part One

Exercise

psychology

Chapter 2

Physical inactivity: effects and determinants

Learning Objectives

This chapter is designed to help you be able to:

1. understand research which suggests that inactivity can contribute to ill-health in the form of chronic disease and its risk factors: anxiety, depression and poor quality of life;
2. critically evaluate the use of cross-sectional research conducted to examine the relationship between physical inactivity and ill-health;
3. identify factors which are likely to predispose individuals to inactivity;
4. consider how this information can be used to implement interventions to increase physical activity levels.

Introduction

For many of us, sport and exercise are sources of fun and enjoyment. However, for a number of people they are far less appealing pastimes. People in developed western countries have become increasingly sedentary in all aspects of daily life, including leisure activities, travel to and from work and during the working day (National Audit Office, 2001). In the UK, only 24 per cent of adults take sufficient exercise to maintain their health (Department of Culture Media and Sport, 2010). This is of concern, as chronic low activity levels are not compatible with good health and commonly result in disease and decreased physical function. The aim of this chapter is to discuss the evidence for the protective effects of physical activity on health and the physiological and psychological effects of inactivity. The second part of this chapter explores the individual, social and cognitive determinants of inactivity. Understanding why people are inactive may enable appropriate interventions to be implemented in order to increase the nation's activity levels and help prevent diseases related to inactivity.

Effects of physical activity on physical and mental health

Learning Activity 2.1

You may recall Hena's case study from the introduction; if not, this is summarised below. Write down which of Hena's symptoms might result from her inactivity and what short- and long-term effects this might have on her physical and mental health. Reflect on your answers as you read through the following sections.

Case Study 2.1

Hena

We first met Hena in Chapter 1. There we learnt that she had recently visited her doctor because she had been feeling low in mood and lacking in energy. Her doctor was concerned that she may have mild clinical depression but he was also concerned about her lack of exercise and her resulting weight and hypertension. As a result of her weight, Hena had difficulty with some of her daily tasks, such as walking home with shopping bags.

Chronic disease, all-cause mortality and physical activity

Evidence suggests that physical activity can protect against numerous chronic diseases, such as coronary heart disease (Lee *et al.*, 2001), diabetes (Maiorana *et al.*, 2001) and breast and colon cancer (Wells, 1999). However, a balanced diet combined with appropriate levels of physical activity is associated with substantial increases in life expectancy (Department of Culture Media and Sport, 2002).

Inactivity, smoking, hypertension and hyperlipidaemia (high levels of cholesterol and fat) now form the four highest risk factors for coronary heart disease, which is the leading cause of death in Europe (European Food Information Council, 2003). Lee and Skerrett (2001) reviewed 44 prospective studies (see Box 2.1) and identified a consistent dose–response relationship (as the amount increases so does the corresponding outcome) between physical activity and/or aerobic fitness and premature mortality (i.e. as the amount of physical activity or fitness increased the risk of premature death decreased). This dose–response relationship provides strong evidence that physical activity protects against the diseases contributing towards premature death.

Box 2.1 Definition: Prospective study

A prospective study is one that is designed to determine whether there is a relationship between different variables. The study follows individuals over time to see what outcomes occur. In this example, the prospective study identified individuals with varying activity levels and followed them over time to see whether they developed any diseases. It is then possible to explore whether there is a relationship between activity levels and the development of certain diseases.

The uptake of activity at a young age also appears to have a protective effect against ill-health in later life. Linstead *et al.* (1991) asked 9484 men to complete a lifestyle questionnaire and revisited the sample over a period of 26 years to examine disease-specific and all-cause mortality (death from any cause). Moderate activity at baseline was associated with a protective effect on cardiovascular and all-cause mortality rates at follow-up with the effects of activity in earlier life persisting into the individuals' 70s and 80s. However, it appears that physical activity need not necessarily be adopted at a young age to protect against disease later in life. Evidence indicates that taking up physical activity in later life can also be protective. Paffenbarger *et al.* (1993) found that men between the ages of 45 and 84 years who began moderate intensity sports added an average of 0.72 years to their lifespan. Although to some it may not seem worth the effort of being active to add less than a year to one's lifespan it clearly demonstrates the effect that activity can have on our health.

Chronic disease risk factors and physical activity

One of the ways that physical activity helps to prevent chronic diseases such as those discussed above is by protecting against many of the risk factors that lead to the development of these diseases. These risk factors include:

- hypertension (high blood pressure);
- hyperlipidaemia (high fats and cholesterol);
- diabetes;
- obesity.

Research by Carnethon *et al.* (2003) explored the role of cardiorespiratory fitness in the development of cardiovascular disease risk factors. Men and women between the ages of 18 and 30 years completed a maximal treadmill test to determine their level of fitness and were subsequently placed into low, moderate and highly fit categories. Participants were followed up at 2, 5, 7, 10 and 15 years after this exercise test. At follow-up the incidence of cardiovascular disease risk factors, such as hypertension, diabetes and hypercholesterolaemia (high cholesterol), were recorded if the condition was not present at baseline. Results indicated that low and moderate fitness levels were associated with a three- to sixfold increased risk of developing hypertension and diabetes at some point in the future. These findings support the contribution of an inactive lifestyle to the development of cardiovascular risk factors and an increased risk of developing cardiovascular disease.

Learning Activity 2.2

Having read about the research by Carnethon *et al.* (2003), consider a potential limitation of this research. Think about some reasons why it is not possible to conclude with certainty that the low to moderate exercise levels of these individuals were the cause of increased cardiovascular risk factors. Discussions later in the chapter will help you to review your answer, however, let's first consider these cardiovascular risk factors in detail.