International Studies in Physical Education and Youth Sport

Edited by Margaret Whitehead

Physical Literacy

Throughout the lifecourse

ROUTLEDGE

Physical Literacy

What is physical literacy?

What are the benefits of being physically literate?

The term 'physical literacy' describes the motivation, confidence, physical competence, knowledge and understanding that individuals develop in order to maintain physical activity at an appropriate level throughout their life. Physical literacy encompasses far more than physical education in schools or structured sporting activities, offering instead a broader conception of physical activity, unrelated to ability. Through the use of particular pedagogies and the adoption of new modes of thinking, physical literacy promises more realistic models of physical competence and physical activity for a wider population, offering opportunities for everyone to become active and motivated participants.

Physical Literacy is the first book to fully explore the meaning, significance and philosophical rationale behind this important and emerging concept, and the first to apply the concept to physical activity across the lifecourse, from infancy to old age. Including contributions from leading thinkers, educationalists and practitioners, this book is essential reading for all students and professionals working in physical education, sport, exercise and health.

Margaret Whitehead has spent her career in physical education, teaching and lecturing. Her study of existentialism and phenomenology confirmed her commitment to the value of physical activity for all. She has developed the concept of physical literacy over the past ten years and presented on the topic worldwide.

International Studies in Physical Education and Youth Sport
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Physical Literacy

Throughout the lifecourse

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Margaret Whitehead Ph.D. is a Physical Education Consultant. Margaret retired in 2000 from full-time work at De Montfort University Bedford, where she was Head of Quality for the Faculty of Health and Community Studies. She now works part-time at the University, contributing to PE ITT courses. Margaret taught physical education in school and lectured at Homerton College before moving to Bedford. She has devised, led and taught on a range of initial teacher education courses in physical education. In addition, Margaret studied philosophy of education and completed a Ph.D. on the implications of existentialism and phenomenology to the practice of physical education. In recent years she has developed the concept of physical literacy, running seminars in the UK and reading papers at numerous international conferences.

Foreword

This book is the culmination of years of thought and reflection, grounded in Margaret Whitehead's conviction that dualistic thinking about mind and body is both limiting and damaging. Her conviction threads through the entire book, and the challenge of researching and writing in language which stems from dualist thinking is again and again demonstrated, by the Editor and the various contributors.

As lifelong believers in and advocates for inclusive physical education, we believe that the concept of physical literacy encourages physical educators to place all learners at the heart of the processes of acquiring the levels and sophistication of physical competence and capability, required for effective and efficient engagement in everyday, individual and organised activities; and that teachers' aspirations for pedagogy are enriched and extended by focus on physical literacy as the major outcome of physical education. As the various contributors to this book show, this aspiration is shared, whether learners represent a 'normal' range of abilities and capacities; whether there is a purpose of remediation, compensation or rehabilitation; and irrespective of cultural and social differences.

We witnessed others realising this, during Margaret Whitehead's keynote presentation at the 2001 Congress of the International Association of Physical Education and Sport for Girls and Women, held in Alexandria, Egypt, six weeks after the terrorist attacks on the World Trade Center in New York. Margaret's careful, sensitive offer of the importance of physical literacy for physical educators was enthusiastically received and embraced by her audience, whose members came from all over the globe. It was a wonderful example of a universal concept, whose relevance to physical education pedagogy was immediately recognised by this culturally varied audience, despite language and conceptual differences, and variation of delivery systems. This international interest has been maintained by those practitioners and researchers from all over the world, who visit Margaret's website (www.physical-literacy.org.uk).

Later that year, the importance of Margaret's arguments was reinforced during the National Summit on Physical Education (UK) (see www.ccpr.org.uk), when researchers from a wide range of disciplines, including

physical, social and human sciences, each emphasised the value of good quality physical education in developing self-efficacy, self-confidence and self-esteem – all vital elements of physical literacy, as characterised in this book.

Using the outcome of physical literacy as the central aspiration for physical education can liberate physical education from its common, rather limited role as mere servant of sports development, while at the same time improving its effectiveness as an agent of life-long engagement in healthy, enjoyable, meaningful physical activities, physical experience and learning. Such liberation will no doubt be threatening and scary for many physical educators; but it would provide a robust basis for justifying physical education's place in children's (and adults') learning, and in school curricula. It is worth recording that, when discussing a definition for physical education, the use of physical literacy as an outcome is warmly supported by head teachers of primary schools, because it provides such a strong and meaningful analogy with oracy and numeracy as the outcomes of language and mathematics.

Margaret Whitehead, as author, has provided thoughtful, thorough explication of the concept of physical literacy; but she has not been satisfied with this. She has worked intensively with highly experienced practitioners and eminent researchers, to test her ideas and refine her thinking – acts of courage which are all too rare in academic and professional life! As editor, she has sought rigorous examination of the concept and its applicability, from talented contributors who use a wide range of disciplines, experience and interests, asking them to reflect and report on their views of its applicability and relevance. Hence, she seeks to demonstrate the universality of the concept, while ensuring that context and purpose are not ignored – rather, they are used to test physical literacy's relevance to different human beings and different purposes, in different cultural contexts.

Margaret Whitehead and her contributors share with us, their philosophy and application of the concept of physical literacy. They show its relevance, for young persons; and throughout the whole life course, for all people. It becomes evident through the different contributions, that every individual will be on his or her own physical literacy journey, despite differences in ability, culture, gender or social background.

In the context of education, everyone involved is challenged to ensure that each individual is given the opportunity to become a physically literate individual: this includes the development of personal and inter-personal capacities. In this holistic approach, the focus is on learning to move and moving to learn, with confidence and capability. This is an essential and universal aim of teaching and it should be at the heart of every curriculum, in particular in physical education. Several contributors focus on inclusive physical education as an integral part of inclusive education. The education system needs to be designed to embrace and respect diversity. Such an inclusive approach in education enhances the possibility of an inclusive society.

However, as several contributors have discussed, there are problems and issues that need to be addressed. There is as yet, no universal understanding of the importance of physical literacy, and it is therefore essential to develop and implement strategies to promote its understanding and adoption. Margaret Whitehead provides, in her final chapter, an extensive list of recommendations for the way ahead, with identified needs and responsibilities. It is many years since she opened the debate on the concept of physical literacy. She and her contributors have taken us on an exciting journey, challenging readers to rethink their own philosophy and practices, to participate in a new way of thinking about the human being.

This book is an important contribution to thinking and practice (dualist terms, how can we escape them?) in education, therapy, physical education and childhood development. We look forward to seeing its influence on professional development and research in these areas; and most importantly for us, on the experiences of physical education for children across the world.

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I must start with an acknowledgement of the late Ray Elliott, my Ph.D. supervisor. Without his unfailing interest, challenge and support I would never have started down the road I am now travelling. Would that he was still with us to share in the fruits of his inspiration.

With respect to this text I would like to thank, most sincerely, all those who have worked with me in producing this book. All the co-authors have given most generously of their time. Their willingness to engage in endless debate and their patience in respect of my stream of requests has been remarkable. I would also like to thank all those who have provided case studies for some of the chapters: Claire Hale, Dave Stewart, Claudia Cockburn and Tansin Benn. These contributions are invaluable in bringing physical literacy to life. The support from Margaret Talbot and Gudrun Doll-Tepper in their co-writing of the foreword is much appreciated. I would also like to express my thanks to the Society of Educational Studies which provided funds for a national seminar and a series of workshops, all of which promoted the development of the concept of physical literacy. Sincere thanks are due to all those colleagues who have taken time to engage with me in debate concerning the concept. Their questioning has challenged me to clarify and develop my thinking. Particular thanks are due to Elizabeth Murdoch for her tremendous support throughout the conception and writing of this book. Without her encouragement I doubt if the text would have become a reality. Last but not least I must acknowledge the support of my husband. His enthusiasm for the project and patience have sustained me through the eighteen months of creating the book. I have relied on him totally to ensure that the computer did not swallow any of the scripts. His willingness to drop everything whenever modern technology was against me kept me sane – on more occasions than I would like to admit.

Part I

Philosophical background

1 Introduction

Margaret Whitehead

Motivation to develop the concept of physical literacy

There have been four principal influences that have motivated the development of the concept of physical literacy presented in this book. First and most importantly, the philosophical writings of existentialists and phenomenologists which give significant support for the centrality of embodiment in human existence. Arguing from their particular standpoints, these philosophers see embodiment as fundamental to human life as we know it.[1] Embodiment, in their terms, affords us interaction with our environment and provides the foundation for the development of a wide range of human capabilities. These views were first expressed in the early twentieth century and, interestingly, there is now, some 75 years later, considerable evidence from different fields of science that endorses this view of the fundamental importance of our embodiment in human existence, not least in respect of development in the early years of life. This book provides an opportunity to share some of these more recent findings.

Second was the perception that, despite the views identified above, the importance of movement development in early childhood was being forgotten. The focus that predominated in the early years of education was directed principally towards the development of language, numeracy and social skills. That movement was the foundation for much of child development was not recognised and was not getting the attention it deserved. There is now a great deal of empirical research, for example, as in cognitive science, that supports the fundamental importance of movement development.

Third is the widespread unease about the growing drift away from physical activity as part of our lifestyle, particularly in developed countries. A decrease in physical activity can, unfortunately, exacerbate the problems of obesity and poor physical and mental health. Philosophical underpinning supports the view that physical activity can enrich life throughout the lifecourse. There had previously been a view that physical activity was most appropriate for younger people. Research has now shown that this is not the case, and that continued involvement in physical activity can have significantly beneficial effects for adults, including the older adult population.

Fourth, there was a growing unease with the general direction that physical education in school in many developed countries, including the UK, was taking – this being very much towards high-level performance and elitism. One result of this focus was the tendency to neglect those pupils who did not have outstanding ability. The notion of participation as valuable in itself was becoming less evident in much work in school, with the consequence that the non-gifted were becoming disillusioned with the subject and often looked for opportunities not to take part. The views of philosophers from the schools of existentialism and phenomenology were convincing in advocating the value of physical activity for all – not just the most talented in this area; hence the need to adopt a new perspective on physical education and to encourage the profession to review its priorities.

Why 'physical literacy': the need to develop the concept

Over the past ten years during which the concept of physical literacy presented in this book has been developed, discussed and shared with many interested parties, the need for developing an additional concept in the field of physical activity that identifies its core purpose and value has been questioned.[2] The underlying reason for this need grew from coming to understand the work of certain philosophers who adopted a particular perspective on our embodied dimension. Looking at human life from a monist perspective they put forward a strong case for the centrality of our embodied nature in very many aspects of human existence. Embodiment influenced life not only as an instrument that can be used for overtly functional purposes but also as an underlying capability that contributes to, for example, cognitive and emotional development. Our embodiment therefore could not be, on their terms, dismissed as a somewhat inferior adjunct to human life. Taking this view of an essentially embodied existence, it was evident that there was no adequate word to describe the very broad potential that the embodied dimension has to contribute to enriching the lives of every individual throughout the whole of the lifecourse; hence the identification of the concept of physical literacy as a significant human capability.

Descriptions of effective deployment of our embodied dimension currently in use include such terms as physically able, strong, able-bodied, skilful, fit, healthy, good at sport, well coordinated and physically educated. All these terms focus on the 'body' as an object and on the deployment of the 'body' as object or instrument in functional situations such as manual work and in the sports context. None of these descriptions looks beyond our 'body' as a machine and most point to a specific group of talented people with the inference that others cannot match up to the description. Moreover, these descriptions seem to implicate that the responsibility for developing our embodied potential rests purely with practitioners in the fields of physical education and sports coaching. Attention to this aspect of our personhood

was, therefore, not of interest to, or the responsibility of, those outside these professions.

As a result of the terminology used, descriptions of embodied potential tended to be focused mainly on school-age children, young people and those with particular talent. That every individual was endowed with a valuable embodied capability was ignored. Indeed there was a sort of finality about reaching any of the above goals, such as 'good at sport' or 'physically educated'. It appeared that these were end states that, if not achieved by a certain age or stage, were beyond an individual's reach. In short, most terms used with reference to our embodied capability were dualistic, focused on the young, had a finality about them and were, to some extent, elitist. In contrast to these descriptions physical literacy is described as a capability all can develop. It is a universal concept applicable to every individual whatever their age or physical endowment. The short definition of physical literacy in this text explains:

> *As appropriate to each individual's endowment, physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to maintain physical activity throughout the lifecourse.*

Building from the definition above, with the underlying support of some schools of philosophy and scholars in other fields, the notion of physical literacy can:

- identify the intrinsic value of physical activity;
- overcome the need to justify physical activity as a means to other ends;
- provide a clear goal to be worked towards in all forms of physical activity;
- underwrite the importance and value of physical activity in the school curriculum;
- refute the notion that physical activity is an optional extra of only recreational value;
- justify the importance of physical activity for all, not just the most able in this field;
- spell out a case for lifelong participation in physical activity;
- identify the range of significant others who have a part to play in promoting physical activity.

Is 'physical literacy' an appropriate term?

The term 'physical literacy' was decided on as being the most appropriate for a number of reasons. First, there was nothing exclusive about the term. Every individual has, by nature, a physical or embodied dimension. Second, the notion of 'literacy' was also helpful as it is a concept commonly used to

describe a human characteristic that it is accepted is within the grasp of most people. Third, the term retained the connection with our physicality but moved the focus away from a narrow performance base to include a more interactive flavour. This is very much in line with the philosophical thinking which argued strongly that we are, as human beings, in constant dialogue with our surroundings.

It is not surprising, however, that in the melting-pot of lively debate the concept of physical literacy has been questioned. Both the words 'physical' and 'literacy' have been contested. 'Physical' was seen to be perpetuating the idea of the 'body' as an object, and 'literacy' was seen as being too closely related to the ability to read and perhaps not a term that it was appropriate to use in relation to our embodied capability.

Alternatives to 'physical' are, first, 'movement'. While it is the case that movement education has often been suggested as an alternative to physical education, the term 'movement' applies to a myriad of non-human phenomena and thus it has not, generally, been seen as appropriate – although it has been used on occasion to describe the physical activity undertaken in education in the early years. Other alternatives to 'physical' are the philosophical terms 'embodied' and 'motile'. Resultant terms would be either 'embodied literacy' or 'motile literacy'. While these might be acceptable terms in the context of philosophy, they were seen as inappropriate for general use, being unfamiliar and somewhat esoteric in nature. Thus, while accepting that the continued use of the term 'physical' has unfortunate associations with dualism, rather than helping to signal the monist view that as humans we are a whole, it was seen to be the most acceptable term to describe our embodied capability.

Suggested alternatives to 'literacy' were 'competence', 'ability' and 'skill'. However, 'physical competence', 'physical ability' and 'physical skill' would seem to leave the concept very much tied to pure physicality and to perpetuate dualistic attitudes. While physical competence forms a key element of physical literacy, the above terms would seem to focus very much on the instrumental use of our embodiment and do not encompass the range of attributes that make up the concept.

The concept of 'literacy' is seen as most appropriate as it:

- moves away from a dualistic approach;
- encompasses doing, interpreting, responding and understanding, thus aligning with monism;
- has holistic associations that readily absorb aspects of human cognition and emotion;
- signals an interplay with our surroundings, which is a critical aspect of the philosophical thinking on which the concept of physical literacy is based;
- has non-exclusive connotations, indicating that everyone can achieve this attribute at their own level.

The concept of literacy is more readily appreciated as relevant to the individual as an essentially holistic embodied being. Physical literacy shares some aspects of notions discussed by other writers such as Best (1978: 58) and Arnold (1979: 17) who refer, respectively, to 'kinaesthetic intelligence' and 'intelligent action', and is, I believe, a much richer and more far-reaching concept than physical competence or physical skill.

It is interesting to note that the term 'physical literacy' is already being used by a range of groups. One of the reasons behind the production of this book is to set out the full definition of the concept in order to clarify its nature. In some cases the term is being used to pick out a particular aspect of the concept. For example, there are instances where physical literacy is being used as a term to describe fundamental movement skills or physical fitness. Another use of the concept focuses on the ability to 'read a game', and yet another use highlights the ability to talk about, describe and write about movement. Each of these interpretations of physical literacy is of value in that each picks out an element of the concept; however, none encompasses the totality of the meaning of being physically literate. As will be seen in Chapter 2, these aspects of physical literacy are included, respectively, in sections B, C and F of the full definition. In another adoption of the concept it has been used to describe a goal for children from 0 to 12 years of age to achieve, rather than an attribute that is pertinent to the full lifecourse. While experiences at this early age are particularly important, the nature of physical literacy means that this capability should be nurtured beyond the earlier years, through maturity and old age.

Questions have also been asked as to how physical illiteracy could be described. From one perspective every human is a physical being and exists only because each is, by nature, embodied. In this context everyone, by definition, has and employs physical competence. However, physical literacy only develops when this dimension is deployed beyond what might be called subsistence level. Physically illiterate individuals will avoid any involvement in physical activity in all situations wherever alternatives are possible. This could include not walking short distances, avoiding tasks such as house cleaning and gardening, preferring quick methods of preparing a meal and always using the remote control to turn on an electrical appliance. Individuals will not be motivated to take part in structured physical activity and will therefore not achieve any refinement or development of their physical competence. They will have no confidence in their ability in the field of physical activity, anticipating no rewarding feedback from such involvement. Individuals will have a very low level of self-esteem with respect to this aspect of their potential and will avoid all inessential physical activity in order to guard against failure and humiliation.

The structure of the book

The book is designed to introduce readers to the concept of physical literacy and to make a case for the adoption of this notion as a goal for all to achieve

and maintain throughout life. The philosophical foundations for the concept are explained, as well as recent findings from within the scientific field. This is followed by a consideration of physical literacy in the context of wider issues such as the development of self-esteem, the problem of obesity and the challenge of individual differences. Implications for physical activity work in school and beyond are debated, as are the needs of particular populations. The authors and co-authors of these chapters are specialists within their own fields who have found the concept of physical literacy relevant to their work.

The book is divided into three parts. Part I considers the philosophical background to the approach taken throughout the book and thus the rationale behind the concept. Chapter 2 presents and discusses in detail the concept of physical literacy. Chapter 3 looks in more depth at the philosophy that underpins the concept, with particular reference to the views of existentialists and phenomenologists. The role of our embodied dimension in perception and action is explained. The fundamental view here is that human embodiment is a defining aspect of being and sets the parameters to many aspects of existence. Chapter 4 considers the significance of physical literacy for every individual, whatever their embodied endowment, age or the parent culture within which they live. Chapter 5 proposes aspects of physical competence that can be developed as individuals proceed on their physical literacy journey and then looks at the philosophical arguments that support the importance of effective relationships with the world. Chapter 6 presents the philosophical arguments surrounding the view that physical literacy plays a central role in the development both of a sense of self and of effective interpersonal relationships. It also considers the place of propositional knowledge in the concept.

Part II considers ways that physical literacy connects with issues in a range of specific contexts. Chapter 7 reflects on physical literacy in relation to the physical self. Central here is the attitude individuals have to their embodiment. Chapter 8 looks at physical literacy and obesity. This discussion is presented in the context of current lifestyle trends in Western society. The two following chapters look at, respectively, the importance of physical literacy to the young child and the older adult population. Chapter 9 sets out the relationship between physical literacy, the maturation process and movement development. It also discusses the importance of play as providing opportunities for physical literacy to be fostered in the early years. Chapter 10 focuses on the older individual. This includes discussion of the importance of physical literacy to the realisation of lifelong health and well-being. The problems of inactivity are discussed as well as the values of continuing with appropriate forms of physical activity throughout the lifecourse. Chapters 11 and 12 focus on particular populations – that is, groups of individuals who may encounter difficulties in developing and maintaining physical literacy. Work with people with a disability is discussed in Chapter 11. A range of cases studies are provided and there is debate about how these individuals can be supported within and outside school. Chapter 12 addresses physical

literacy and issues of diversity: gender, sexual orientation, religion and culture are considered briefly.

Part III has a more practical focus and contains four chapters. Chapter 13 draws together the principal themes of the book and highlights the role of all significant others in promoting physical literacy. It then looks specifically at the relationship of physical literacy to the structured physical activity that takes place within compulsory education. In the UK these lessons are entitled physical education; however, the debate is relevant in educational contexts worldwide – whatever the title of the work in school. At root this argues that physical literacy is the fundamental goal of school-based physical activity. Physical literacy is seen to challenge those working in this area to return to the roots of physical education in promoting confident participation by all, rather than seeing the subject as principally nurturing the performances of the most able. It argues that this structured physical activity in compulsory schooling is the only, and indeed the unique, opportunity available to ensure that *all* young people develop physical literacy.

Chapters 14 and 15 build from this chapter and consider, first, learning and teaching approaches and then content in school-based physical activity programmes. Chapter 14 looks in detail at the significance of the methods of teaching adopted by teachers for the development of physical literacy by *all* young people. Chapter 15 sets out an overview rationale for the nature of the content of school-based physical activity programmes in the interests of *all* pupils attaining and maintaining physical literacy. This covers curricular and extra-curricular work. Readers are encouraged to critically evaluate the physical activity content currently being delivered in school.

The concluding chapter draws together the philosophical debate in Part I, the insights of specialists from a variety of different fields presented in Part II and the practical implications from Part III. Strategies that need to be adopted to promote the acceptance and establishment of physical literacy as a lifelong goal are suggested, and challenges are set out to different constituencies in respect of their role in this enterprise.

Recommended reading is suggested for each chapter and possible topics for discussion points may be found at the back of the book. Further papers that relate to some chapters in the book may be found on the website www.physical-literacy.org.uk. Papers will be added to the website as the concept continues to develop. In addition some of the tables in the book are available on the website.

Bibliography

**Papers available on the website www.physical-literacy.org.uk.

Abate, M., Di Iorio, A., Di Renzo, D., Paganelli, R., Saggini, R. and Abate, G. (2007) Frailty in the elderly: the physical dimension. *Europa Medicophysica*, 43: 407–415.

afPE (2008) Manifesto. Quoted in *Physical Education Matters*, 4, 4: 8.

AHA/ACSM (2007) Exercise and acute cardiovascular events: placing the risks into perspective. *Circulation,* 115: 2358–2368.

Aitchison, C. (2003) From leisure and disability to disability leisure: developing data, definitions and discourses. *Disability and Society*, 7: 955–969.

Allied Dunbar (1990) *Activity and Health Research, National Fitness Survey.*

Almond, L. (1997) *Physical Education in Schools* (2nd edn). London: Kogan Page.

Arnold, P.J. (1979) *Meaning in Movement, Sport and Physical Education.* London: Heinemann.

Artilies, A. (1998) The dilemma of difference: enriching the disproportionality discourse with theory and context. *Journal of Special Education*, 32, 1: 32–36.

Bailey, R. (2005) Evaluating the relationship between physical education, physical activity and social inclusion. *Educational Review*, 1: 71–90.

Ballard, K. (1997) Researching disability and inclusive education: participation, construction and interpretation. *International Journal of Inclusive Education*, 3: 243–256.

Bandura, A. (1982) Self-efficacy mechanism in human agency. *American Psychologist,* 37: 122–147.

Barnett, L.M., Morgan, P.J., Van Beurden, E. and Beard, J.R. (2008a) Perceived sports competence mediates the relationship between childhood motor skill proficiency and adolescent physical activity and fitness: a longitudinal assessment. *International Journal of Behavioural Nutrition and Physical Activity*, 5: 40–52.

Barnett, L.M., Van Beurden, E., Morgan, P.J., Brooks, L.O. and Beard, J.R. (2008b) Does childhood motor skill proficiency predict adolescent fitness? *Medicine Science Sport and Exercise,* 12: 2137–2144.

Bar-Or, O. and Baranowski, T. (1994) Physical activity, adiposity and obesity among adolescents. *Pediatric Exercise Science,* 6: 348–360.

Barton, S.B., Walker, L.L., Lambert, G., Gately, P.J. and Hill, A.J. (2004) Cognitive change in obese adolescents losing weight. *Obesity Research,* 12: 313–319.

Baumeister, R.F. (1987) How the self became a problem: a psychological review of historical research. *Journal of Personality and Social Psychology*, 52: 163–176.

Bee, H. and Boyd, D. (2006) *The Developing Child* (International edn). London: Pearson.

Benn, T., Dagkas, S. and Jawad, H. (forthcoming, 2010) Embodied faith: Islam, religious freedom and educational practices in physical education. *Sport, Education and Society.*

Best, D. (1974) *Expression in Movement and the Arts.* London: Lepus.

Best, D. (1978) *Philosophy and Human Movement.* London: Unwin.

BHF National Centre (2007) YOUGOV survey, September. Unpublished report.

BHF National Centre (2008a) *Active for Later Life Resource.* Online. Available http: <http://www.bhfactive.org.uk/older-adults/publications.html> (accessed 29 August 2009).

BHF National Centre (2008b) Media campaign for 30 a Day. Unpublished document.

BHF National Centre (2008c) *Moving More Often programme.* Online. Available http: <http://www.bhfactive.org.uk/older-adults/currentprojects.html#MMO> (accessed 29 August 2009).

BHF National Centre (2009) *Consultation Document.* Online. Available http: <http://www.bhfactive.org.uk/older-adults/currentprojects.html#MMO?> (accessed 29 August 2009).

Blair, S.N. and Brodney, S. (1999) Effects of physical inactivity and obesity on morbidity and mortality: current evidence and research issues. *Medicine Science Sport and Exercise,* 31: S646–S662.

Booth, T., Ainscow, M. and Dyson, A. (1998) England: inclusion and exclusion, in a competitive system. In T. Booth and M. Ainscow (eds) *From Them to Us: An International Study of Inclusion in England.* London: Routledge.

Booth, T., Ainscow, M., Black-Hawkins, K., Vaughan, M. and Shaw, L. (2000) *Index for Inclusion: Developing Learning and Participation in Schools.* Bristol: Centre for Studies on Inclusive Education.

Böstman, O.M. (1995) Body weight related to loss of reduction of fractures of the distal tibia and ankle. *The Journal of Bone Joint Surgery: British Volume,* 77: 101–103.

Boyce, T. (2007) The media and obesity. *Obesity Reviews,* 8: 201–205.

Bresler, L. (2004) *Knowing Bodies, Moving Minds.* Dordrecht: Kluwer Academic.

Brownell, S. (1995) *Training the Body for China: Sports in the Moral Order of the People's Republic.* Chicago and London: University of Chicago Press.

Burchardt, T. (2004) Capabilities and disability: the capabilities framework and the social model of disability. *Disability and Society*, 7: 735–751.

Burkitt, I. (1999) *Bodies of Thought: Embodiment, Identity and Modernity.* London: Sage.

Cameron, L. and Murphy, J. (2007) Obtaining consent to participate in research: issues involved in including people with a range of learning and communication disabilities. *British Journal of Learning Disabilities,* 2: 113–120.

Centre for Studies in Inclusive Education (CSIE) (2008) *Legislation and Guidance for Inclusive Education.* Online. Available http: <http://www.csie.org.uk/inclusion/legislation.shtml> (accessed 22 August 2009).

Cheatum, A. and Hammond, A. (2000) *Physical Activities for Improving Children's Learning and Behaviour: A Guide to Sensory Motor Development.* Champaign, Ill: Human Kinetics.

Clark, A. (1997) *Being There: Putting Brain, Body and World Together Again.* London: MIT Press.

Claxton, G. (1984) *Live and Learn*. London: Harper & Row.

Claxton, G. (1997) *Hare Brain Tortoise Mind*. New York: Harper Collins.

Coates, J. and Vickerman, P. (2008) Let the children have their say: children with special educational needs experiences of physical education – A Review. *Support for Learning*, 4: 168–175.

Cohen, C.J., Mcmillan, C.S. and Samuelson, D.R. (1991) Long-term effects of a lifestyle modification exercise program on the fitness of sedentary, obese children. *Journal of Sports Medicine Physical Fitness*, 31: 183–188.

Cole, R. (2008) *Educating Everybody's Children: Diverse Strategies for Diverse Learners, Association for Supervision and Curriculum Development*. Google Books, Online. Available http: <http://www.books.google.co.uk/books?id=ixmW-porsOAC> (accessed 22 August 2009).

Connell, R. (2008) *Masculinity Construction and Physical Activity in Boys Education: A Framework for Thinking about the Issue, Physical activity, Education and Society*. Online. Available http: <http://www.informaworld.com/smpp/title~content=t713445505~db=all~tab=issueslist~branches=13 – v1313> (accessed 22 August 2009).

Council of Europe (1950) *European Convention on Human Rights*. Online. Available http: <http://www.hri.org/docs/ECHR50.html> (accessed 22 August 2009).

Council of Europe (2003) *Lesbians and Gays in Physical Activity*: Committee on Equal Opportunities for Women and Men, 21 November.

Crawford, A., Hollingsworth, H., Morgan, K. and Gray, D. (2008) People with mobility impairments: physical activity and quality of participation. *Disability and Health*, 1: 7–13.

Dagkas, S., Benn, T. and Jawad, H. (in press) Multiple voices: improving participation of Muslim girls in physical education and school sport. *Sport, Education and Society*.

DCSF (2007) *The Early Years Foundation Stage*. London. Online. Available http: <http://www.teachernet.gov.uk/publications> (accessed 1 August 2009).

Deci, E.L. and Ryan, R.M. (1985) The general causality orientations scale: self-determination in personality. *Journal of Research in Personality*, 19: 109–134.

Deci, E.L. and Ryan, R.M. (1995) Human autonomy: the basis for true self-esteem. In M. Kernis (ed.) *Agency, Efficacy, and Self-esteem*. New York: Plenum.

Deci, E.L. and Ryan, R.M. (2002) *Handbook of Self-determination Research*. Rochester, NY: University of Rochester Press.

Deforche, B.I., De Bourdeaudhuij, I.M. and Tange, A.P. (2006) Attitude toward physical activity in normal weight, overweight and obese adolescents. *Journal of Adolescent Health,* 38: 560–568.

Deforche, B.I., Hills, A.P., Worrington, C.J., Davies, P.S., Murphy, A.J. Bouckaert, J.J. and De Bourdeaudhuij, I.M. (2008) Balance and postural skills in normal-weight and overweight prepubertal boys. *International Journal of Pediatric Obesity,* 29: 1–8.

Department for Education and Skills (DfES) (2003) *Every Child Matters*. Green Paper, London: HMSO.

Department for Education and Skills (DfES) (2004) *Pedagogy and Practice: Teaching and Learning in Secondary Schools Unit 16*. London: HMSO.

Department For Trade and Industry (DTI) (2007) *The Foresight Report: Tackling Obesities*. London: HMSO.

Department of Health (DoH) (2004a) *At Least Five a Week: Evidence on the Impact of Physical Activity and its Relationship to Health*. Chief Medical Officer's report. London: HMSO.

Department of Health (DoH) (2004b) *Choosing Health: Making Healthy Choices Easier*. London: HMSO.

Department of Health (DoH) (2007) *Health Survey of England*. London: HMSO.

Department of Health (DoH) (2008) *Healthy Weight Healthy Lives: Consumer Insight Summary*. London: HMSO.

Department of Health (DoH) (2009a) *Be Active, Be Healthy: A Plan for Getting the Nation Moving*. London: HMSO.

Department of Health (DoH) (2009b) *National Child Measurement Programme: Detailed Analysis of the 2007/08 National Dataset*. London: HMSO.

Dietz, W.H. (1998) Health consequences of obesity in youth: childhood predictors of adult disease. *Pediatrics,* 101: 518–525.

Dietz, W. and Gortmaker, S. (1985) Do we fatten our children at the TV set? Obesity and television viewing in children and adolescents. *Pediatrics,* 75: 807–812.

Doherty, J. and Brennan, P. (2008) *Physical Education and Development 3–11: A Guide for Teachers*. Abingdon: Routledge.

Duda, J.L., Fox, K.R., Biddle, S.J.H. and Armstrong, N. (1992) Children's achievement goals and beliefs about success in sport. *British Journal of Educational Psychology*, *62*: 313–323.

Dunlop, F. (1984) *The Education of Emotion and Feeling*. London: George Allen & Unwin.

Dyson, A. and Millward, A. (2000) *Issues of Innovation and Inclusion*. London: Paul Chapman.

Eccles, J.C. (1993) Evolution of complexity of the brain with the emergence of consciousness. In K.H. Pribam (ed.) *Rethinking Neural Networks: Quantum Fields and Biological Data*. Hillsdale, NJ: Lawrence Erlbaum.

Epstein, L.H. and Goldfield, G.S. (1999) Physical activity in the treatment of childhood overweight and obesity: current evidence and research issues. *Medicine Science Sport and Exercise*, 31: S553–S559.

Epstein, L.H. and Myers, M.D. (1998) Treatment of pediatric obesity. *Pediatrics*, 101: 554–571.

Epstein, L.H., Coleman, K.J. and Myers, M.D. (1996) Exercise in treating obesity in children and adolescents. *Medicine Science Sport and Exercise,* 28: 428–435.

Epstein, L.H., Valoski, A., Wing, R.R. and McCurley, J. (1994) Ten-year outcomes of behavioural family-based treatment for childhood obesity. *Health Psychology,* 13: 373–383.

Epstein, S. (1991) Cognitive-experiential self-theory: implications for developmental psychology. In M.R. Gunnar and L.A. Sroufe (eds) *Self-processes and Development: The Minnesota Symposium on Child Development – 23*. Hillsdale, NJ: Lawrence Erlbaum.

European Union (1992) *European Physical Activity for All Charter*. Online. Available http: <http://www.coe.int/t/dg4/physicalactivity/Physical activityinEurope/charter_en.asp> (accessed 22 August 2009).

Farrell, P. (2001) Special education in the last twenty years: have things really got better? *British Journal of Special Education*, 1: 3–9.

Fitzgerald, H. (2005) Still feeling like a spare piece of luggage? Embodied experiences of (dis)ability in physical education and school physical activity. *Physical Education and Physical activity Pedagogy,* 1: 41–59.

Flegal, K.M., Graubard, B.I., Williamson, D.F. and Gail, M.H. (2007) Cause-specific excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association*, 298: 2028–2037.

Fox, K.R. (1988) Children's participation motives. *British Journal of Physical Education,* 19: 79–82.

Fox, K.R. (1990) *The Physical Self-perception Profile Manual*. DeKalb, Ill: Office for Health Promotion, Northern Illinois University.

Fox, K.R. (1997) The physical self and processes in self-esteem development. In K.R. Fox (ed.) *The Physical Self: From Motivation to Well-being* (pp. 111–139). Champaign, Ill: Human Kinetics.

Fox, K.R. (2009) How to help your children become more active. In M. Ganzalez-Gross (ed.) *Active Healthy Living: A Guide for Parents* (pp. 52–67). Brussels: Coca Cola Europe.

Fox, K.R. and Corbin, C.B. (1989) The physical self-perception profile: development and preliminary validation. *Journal of Sport and Exercise Psychology*, 11: 408–430.

Fox, K.R. and Wilson, P. (2008) Self-perceptual systems and physical activity. In T. Horn (ed.) *Advances in Sport Psychology* (3rd edn) (pp. 49–64). Champaign, Ill: Human Kinetics.

Fredrickson, N. and Cline, T. (2002) *Special Educational Needs, Inclusion and Diversity*. Birmingham: Open University Press.

French, J. (2008) Using social marketing to reach the hard to reach. Paper presented at BHF National Centre 2008 annual conference, Nottingham. Online. Available http: <http://www.nsms.org.uk/images/CoreFiles/BHSNC_JFrench_2008_compressed.pdf> (accessed 26 August 2009).

Friedlander, S.L., Larking, E.K., Rosen, C.L., Palermo, T.M. and Redline S. (2003) Decreased quality of life associated with obesity in school aged children. *Archives of Pediatrics Adolescent Medicine,* 157: 1206–1211.

Friedman, K.E., Reichmann, S.K., Costanzo, P.R., Zelli, A., Ashmore, J.A. and Musante, G.J. (2004) Weight stigmatization and ideological beliefs: relation to psychological functioning in obese adults. *Obesity Research,* 13: 907–916.

Gallagher, S. (2005) *How the Body Shapes the Mind*. Oxford: Clarendon Press.

Gardner, H. (1993) *Frames of Mind: The Theory of Multiple Intelligences*. London: Fontana Press.

Gately P.J. and Cooke C.B. (2000) A three year follow up of an eight week diet & exercise programme on children attending a weight loss camp. North American Association for the Study of Obesity Annual Conference, Long Beach, USA.

Gately, P.J. and Cooke, C.B. (2003a) The use of a residential summer camp program as an intervention for the treatment of obese and overweight children. A description of the methods used. *Obesity in Practice*, 5: 2–5.

Gately, P.J. and Cooke, C.B. (2003b) Exercise tolerance of overweight and obese children. *Obesity Research,* 11: A99.

Gately, P.J., Cooke, C.B., Barth, J.H. and Butterly, R.J. (1997) Exercise tolerance in

a sample of morbidly obese subjects. Proceedings of the European Congress on Obesity, Trinity College, Dublin, Ireland.

Gately, P.J., Cooke, C.B., Mackreth, P. and Carroll, S. (2000a) The effects of a children's summer camp program on weight loss, with a 10-month follow up. *International Journal of Obesity,* 11: 1445–1452.

Gately, P.J., Cooke, C.B., Knight, C. and Carroll, S. (2000b) The acute effects of an 8-week diet, exercise, and educational camp program on obese children. *Pediatric Exercise Science,* 12: 413–423.

Gately, P.J., Cooke, C.B., Barth, J.H., Bewick, B.M., Radley, D. and Hill, A.J. (2005) Children's residential weight-loss programs can work: a prospective cohort study of short-term outcomes for overweight and obese children. *Pediatrics*, 116: 73–77.

Georgieff, N. and Jeannerod, M. (1998) Beyond consciousness of external events: A 'Who' system for consciousness of action and self-consciousness. *Consciousness and Cognition*, 7: 465–477.

Geurts, K. (2002) *Culture and the Senses: Bodily Ways of Knowing in an African Community*. Berkeley, CA: University of California Press.

Gibbons, S. and Humbert, L. (2008) What are middle school girls looking for in physical education? *Canadian Journal of Education*, 1: 167–186.

Gibbs, R.G. Jr. (2006) *Embodiment and Cognitive Science*. Cambridge: Cambridge University Press.

Gill, J.H. (2000) *The Tacit Mode*. New York: State University of New York Press.

Gould, D. (1984) Psychosocial development and children's sport. In J.R. Thomas *Motor Development During Childhood and Adolescence*. Minneapolis, MN: Burgess.

Graham, G., Holt/Hale, S. and Parker, M. (2009) *Children Moving: A Reflective Approach to Teaching Physical Education* (8th edn). New York: McGraw-Hill.

Grogan, S. (2008) *Body Image: Understanding Body Dissatisfaction in Men, Women and Children*. Abingdon: Routledge.

Gutin, B., Riggs, S., Ferguson, M. and Owens, S. (1999) Description and process evaluation of a physical training program for obese children. *Research Quarterly for Exercise and Sport,* 70: 65–69.

Hamilton, M.T., Healy, G.N., Dunstan, D.W., Zderic T.W. and Owen, N. (2008) Too little exercise and too much sitting: inactivity physiology and the need for new recommendations on sedentary behavior. *Current Cardiovascular Risk Reports*, 2: 292–298.

Harris, J. (2001) *Health-related Exercise in the National Curriculum Key Stages 1 to 4*. Champaign, Ill: Human Kinetics.

Harter, S. (1978) Effectance motivation reconsidered: towards a development model. *Human Development*, 21: 34–48.

Harter, S. (1988) *Manual for the Self-perception Profile for Adolescents*. Denver, CO: University of Denver Press.

Harter, S. (1996) Historical roots of contemporary issues involving self-concept. In B.A. Bracken (ed.) *Handbook of Self-concept*. New York: Wiley.

Havighurst, R.J. (1972) *Developmental Tasks and Education*. New York: McKay.

Hayes, M., Chustek, M., Heska, S., Wang, Z., Pietrobelli, A. and Heymsfield, S.B. (2005) Low physical activity levels of modern homo sapiens among free-ranging mammals. *International Journal of Obesity,* 29: 151–156.

Health and Human Services (2008) *Physical Activity Guidelines for Americans:*

Be Active, Healthy and Happy. U.S. Department of Health and Human Services.

Health and Social Care Information Centre (2009) Physical activity among adults. In *Statistics on Obesity, Physical Activity and Diet*. Health Information Centre, England, February.

Hebl, M.R., Ruggs, E.N., Singletary, S.L. and Beal, D.J. (2008) Perceptions of obesity across the lifespan. *Obesity Research*, 16S: 46–52.

Hill, A.J. (2006) The development of children's shape and weight concerns. In T. Jaffa. and B. McDermott (eds) *Eating Disorders in Children and Adolescents* (pp. 32–44). Cambridge: Cambridge University Press.

Hill, A.J. and Murphy, J.A. (2000) The psycho-social consequences of fat-teasing in young adolescent children. *International Journal of Obesity*, 24: 161.

Hoeger, W. and Hoeger, S. (1993) *Fitness and Wellness*. Belmont: Wadsworth.

HSE (2008) *Health Survey for England 2007: Healthy Lifestyles, Knowledge, Attitudes and Behaviour*. NHS: The Information Centre.

International Council of Sports Science and Physical Education (ICSSPE) (2005) *2nd World Summit on Physical Education*, Magglingen, Switzerland, 2–3 December. Online. Available http: <http://www.icsspe.org/index.php?m=13&n=78&o=42> (accessed 22 August 2009).

Jago, R., Brockman, R., Fox, K.R., Cartwright, K., Page, A. and Thompson, J.A. (2009) Friendship groups and physical activity: qualitative findings on how physical activity is initiated and maintained among 10–11 year old children. *International Journal of Behavioral Nutrition and Physical Activity*, 6. doi:10.1186/1479–5858–6–4.

James, W. (1892) *Psychology: The Briefer Course*. New York: Henry Holt.

Jeffrey, A.N., Voss, L.D., Metcalf, B.S., Alba, S. and Wilkin, T.J. (2005) Parents' awareness of overweight in themselves and their children: cross sectional study within a cohort. *British Medical Journal*, 330: 23–24.

Jelalian, E. (1999) Empirically supported treatments in a pediatric psychology: pediatric obesity. *Journal of Pediatric Psychology*, 24; 223–248.

Johnson, M. (1987) *The Body in the Mind*. Chicago, Ill: The University of Chicago Press.

Kasser, S. and Lytle, R. (2005) *Inclusive Physical Activity: A Lifetime of Opportunities*. Champaign, Ill: Human Kinetics.

Khanifar, H., Moghimi, S., Memar, S. and Jandaghi, G. (2008) Ethical considerations of physical education in an Islamic valued education system. *Online Journal of Health Ethics*, 1.

Killingbeck, M., Bowler, M., Golding, D. and Gammon, P. (2007) Physical education and physical literacy. *Physical Education Matters*, 2, 2: 20–24.

King, C. (2007) Media portrayals of male and female athletes: a text and picture analysis of British national newspaper coverage of the Olympic Games since 1948. *International Review for the Sociology of Physical Activity*, 2: 187–199.

Kulinna, P. and Cothran, D. (2003) Physical education teachers' self-reported use and perceptions of various teaching styles. *Learning and Instruction*, 13: 597–609.

Lakoff, G. and Johnson, M. (1999) *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Perseus Books Group. Basic Books.

Latner, J.D., Stunkard, A.J. and Wilson, G.T. (2005) Stigmatized students: age, sex

and ethnicity effects in the stigmatization of obesity. *Obesity Research*, 12: 1226–1231.

Laventure, R.M.E., Dinan, S.M. and Skelton, D.A, (2008) Someone like me: increasing participation in physical activity among seniors with senior peer health motivators. *Journal of Aging and Physical Activity,* 16 (Suppl): S76–87.

Le Blanc, R. and Jackson, S. (2007) Sexuality as cultural diversity within physical activity organisations. *International Journal of Physical Activity Management and Marketing*, 1–2: 119–133.

Lee, L., Kuma, S. and Leong, L.C. (1994) The impact of five-month basic military training on the body weight and body fat of 197 moderately to severely obese Singaporean males aged 17 to 19 years. *International Journal of Obesity,* 18: 105–109.

Light, R. (2008) Boys, the body, physical activity and schooling editorial. *Physical Activity, Education and Society*, 2: 127–130. Online. Available http: <http://www.informaworld.com/smpp/title~content=t713445505~db=all~tab=issueslist~branches=13 – v1313> (accessed 22 August 2009).

Liu, C.J. and Latham, N.K. (2009) Progressive resistance strength training for improving physical function in older adults. *Cochrane Database of Systematic Reviews*, 3.

Markus, H. and Wurf, E. (1987) The dynamic self-concept: a social psychological perspective. *Annual Review of Psychology*, 38: 299–337.

Marsh, H.W. and Sonstroem, R.J. (1995) Importance ratings and specific components of physical self-concept: Relevance to predicting global components of self-concept and exercise. *Journal of Sport and Exercise Psychology*, 17: 84–104.

Marsh, H.W., Richards, G., Johnson, S., Roche, L., and Tremayne, P. (1994) Physical Self Description Questionnaire: Psychometric properties and a multitrait-multimethod analysis of relations to existing instruments. *Journal of Sport and Exercise Psychology*, 16: 270–305.

Marshall, S., Biddle, S., Gorely, T., Cameron, N. and Murdey, I. (2004) Relationships between media use, body fatness and physical activity in children and youth: a meta-analysis. *International Journal of Obesity,* 28: 1238–1246.

Matthews, E. (2006) *Merleau-Ponty: A Guide for the Perplexed*. London: Continuum.

Maude, P. (2001) *Physical Children Active Teaching*. Buckingham: Open University Press.

Maude, P. (2008) How do I do this better? From movement development into physical education. In D. Whitebread (ed.) *Teaching and Learning in the Early Years* (3rd edn). London: Routledge Falmer.

Maude, P. and Whitehead, M.E. (2003) *Observing Children Moving*. CD16672 available from afPE (enquiries@afpe.org.uk), website observingchildrenmoving.co.uk.

Maude, P. and Whitehead, M.E. (2006) *Observing and Analysing Learners' Movement*. CD023 available from afPE (enquiries@afpe.org.uk), website observinglearnersmoving.co.uk.

McGregor, S., Backhouse, S. and Gately, P. (2005) The role of motivational climate on a residential weight loss programme for children. *Obesity Research*, 13: A204.

Merleau-Ponty, M. (1962) *Phenomenology of Perception,* trans. C. Smith. London: Routledge & Kegan Paul.

Merleau-Ponty, M. (1964) *The Primacy of Perception,* trans. J. Edie. NW University Press.

Miller, C.T., Rothblum, E.D., Barbour, L., Brand, P.A. and Felicio, D. (2006) Social interactions of obese and non obese women. *Journal of Personality*, 58: 365–380.

Modell, A. (2006) *Imagination and the Meaningful Brain*. Cambridge, MA: MIT Press.

Morrison, R. (1969) *A Movement Approach to Educational Gymnastics*, London: J.M. Dent & Son.

Mosston, M. (1972) *Teaching: From Command to Discovery*. California: Wadsworth.

Mosston, M. and Ashworth, S. (2002) *Teaching Physical Education* (5th edn). San Francisco, CA: Benjamin Cummings.

Mouratidis, A., Vansteenkiste, M., Lens, W. and Sideris, G. (2008) The motivating role of positive feedback in physical activity and physical education: evidence for a motivational model. *Journal of Sport and Exercise Psychology*, 30: 240–268.

Nancy, A., Murphy, N., Paul, S. and Carbone, M. (2008) Promoting the participation of children with disabilities in physical activity, recreation, and physical activities. *Paediatrics*, 5: 1057–1061.

National Institute of Health and Clinical Excellence (NICE) (2006) *Obesity: The Prevention, Identification, Assessment and Management of Overweight and Obesity in Adults and Children*. London: Department of Health.

National Institutes of Health (1998) *National Heart, Lung and Blood Institute: The Practical Guide. Identification, Evaluation, and Treatment of Overweight and Obesity in Adults*. London: NIH.

Nicholls, J.G. (1989) *The Competitive Ethos and Democratic Education*. Cambridge, MA: Harvard University Press.

Nietzsche, F. (1969) *Thus Spake Zarathustra,* trans. R.J. Collingdale. London: Penguin Classics.

Norwich, B. (2002) Education, inclusion and individual differences: recognising and resolving dilemmas. *British Journal of Education Studies,* 50, 4: 482–502.

Nussbaum, M.C. (2000) *Women and Human Development: The Capabilities Approach*. Cambridge: Cambridge University Press.

O'Donovan, T. and Kirk, D. (2008) Reconceptualizing student motivation in physical education: an examination of what resources are valued by pre-adolescent girls in contemporary society. *European Physical Education Review*, 1: 71–91.

Okely, A.D., Booth, M.L. and Chey, T. (2004) Relationships between body composition and fundamental movements skills among children and adolescents. *Research Quarterly for Exercise and Sport,* 75: 238–247.

Okely, A.D., Booth, M.L., and Patterson, J.W. (2001) Relationship of physical activity to fundamental movement skills among adolescents. *Medicine Science Sport and Exercise*, 33: 1899–1904.

Owen, N., Bauman, A. and Brown, W. (2009) Too much sitting: a novel and important predictor of chronic disease risk? *British Journal of Sports* Medicine, 43: 81–83.

Parker, D.L. (1991) Juvenile obesity. The importance of exercise and getting children to do it. *Physician and Sports Medicine*, 19: 113–125.

Pecek, M., Cuk, I. and Lesar, I. (2008) Teachers perceptions of the inclusion of marginalised groups. *Educational Studies*, 3: 225–239.

Perry, J. (2001) *Outdoor Play; Teaching Strategies with Young Children*. New York: Teachers College Press.

Pickup, I. and Price, L. (2007) *Teaching Physical Education in the Primary School: A Developmental Approach*. London: Continuum.

Play England (2006) *Planning for Play*. London: National Children's Bureau.

Polanyi, M. (1966) *The Tacit Dimension*. Garden City, NY: Doubleday.

Pollard, A. (2008) *Reflective Teaching: Evidence-informed Professional Practice* (3rd edn). London: Continuum.

Po-Wen Ku, McKenna, J. and Fox, K.R. (2007) Dimensions of subjective well-being and effects of physical activity in Chinese older adults. *Journal of Aging and Physical Activity,* 15: 382–397.

Qualifications and Curriculum Authority (QCA) (2007) *National Curriculum Physical Education*. London: QCA.

Ratey, J.J. and Hagerman, E. (2008) *SPARK: The Revolutionary New Science of Exercise and the Brain*. New York: Little, Brown.

Reich, W. (1950) *Character Analysis*, trans. T.P. Wolfe. London: Vision Press.

Reinboth, M. and Duda, J.L. (2004) The motivational climate, perceived ability and athletes psychological and physical well-being. *The Sports Psychologist*, 18: 237–251.

Reindal, S. (2008) A social relational model of disability: a theoretical framework for special needs education? *European Journal of Special Needs Education*, 2: 135–146.

Reiser, R. and Mason, M. (1990) *Disability Equality in the Classroom: A Human Rights Issue*. London: Inner London Education Authority.

Rennie, M.J. (2009) Anabolic resistance: the effects of aging, sexual dimorphism, and immobilization on human muscle protein turnover, *Applied Physiology, Nutrition and Metabolism*, 3: 377–381.

Rink, J. and Hall, T. (2008) Research on effective teaching in elementary school physical education. *The Elementary School Journal*, 3: 207–218.

Rissanen, A. and Fogelholm, M. (1999) Physical activity in the prevention and treatment of other morbid conditions and impairments associated with obesity: current evidence and research issues. *Medicine Science Sport and Exercise,* 31: S635–S645.

Roberts, G.C. (1992) *Motivation in Sport and Exercise*. Champaign, IL: Human Kinetics.

Robertson, J. (1989) *Effective Classroom Control*. London: Hodder & Stoughton.

Rocchini, A.P., Katch, V., Anderson, J., Hinderliter, J., Becque, D., Martin, M. and Marks, C. (1988) Blood pressure in obese adolescents: effect of weight loss. *Pediatrics*, 82: 16–23.

Ross, R. and Janssen, I. (1999) Is abdominal fat preferentially reduced in response to exercise-induced weight loss? *Medicine Science Sport and Exercise,* 31: S568–S572.

Ryle, G. (1949) *The Concept of Mind*. Harmondsworth: Penguin.

Sallis, J.F. and Owen, N.G. (1997) *Physical Activity and Behavioral Medicine*. Los Angeles, CA: Sage.

Sartre, J-P. (1957) *Being and Nothingness*, trans. H. Barnes. London: Methuen.

Sasaki, J., Shindo, M., Tanaka, H., Ando, M. and Arakawa, K. (1987) A long term aerobic exercise program decreases the obesity index and increases the high density lipoprotein cholesterol concentration in obese children. *International Journal of Obesity,* 11: 339–345.

Schwimmer, J.B., Burwinkle, T.M. and Varni, J.W. (2003) Health related quality of life of severely obese children and adolescents. *The Journal of the American Medical Association*, 289: 1813–1819.

Seaman, J. and DePauw, K. (1989) *The New Adapted Physical Education: A Developmental Approach*. Roanoke: Mayfield Publishers.

Seefeldt, V. (1993) Developmental motor patterns. In R. Nadau, C.W. Holliwell and K.G. Newell, (eds) *Psychology of Motor Behaviour in Sport*. Champaign, Ill: Human Kinetics.

Shavelson, R.J., Hubner, J.J. and Stanton, G.C. (1976) Self-concept: validation of construct interpretations. *Review of Educational Research*, 46: 407–411.

Sheets-Johnstone, M. (1992) *Giving the Body its Due*. New York: SUNY Press.

Sheets-Johnstone, M. (1994) *The Roots of Power*. Chicago, Ill: Open Court.

Sheets-Johnstone, M. (2002) Introduction to the special topic: epistemology and movement. *Journal of Philosophy of Sport,* 29: 104.

Shilling, C. (2003) *The Body and Society* 2nd edn. London: Sage.

Singer, D. (2006) *Play = Learning*. London: Oxford University Press.

Skelton, D.A., Greig, C.A., Davies, J.M. and Young, A. (1994) Strength, power and related functional ability of healthy people aged 65–89 years. *Age and Ageing*, 23: 371–377. Online. Available http: <http://www.laterlifetraining.co.uk/index.html> (accessed 29 August 2009).

Smith, S., Gately, P.J. and Rudolf, M. (2008) Can we recognise obesity clinically? *Archives of Disease in Childhood*, 93: 1065–1066.

Sonne-Holm, S. and Sorensen, T.I.A. (1986) Prospective study of attainment of social class of severely obese subjects in relation to parental social class, intelligence, and education. *British Medical Journal*, 292: 586–589.

Sonstroem, R.J. (1978) Physical estimation and attraction scales: rationale and research. *Medicine and Science in Sports*, 8: 126–132.

Sothern, M.S., Loftin, J.M., Udall, J.N., Suskind, R.M., Ewing, T.L., Tang, S.C. and Blecker, U. (2000) Safety, feasibility and efficacy of a resistance training program in preadolescent obese children. *American Journal of Medicine and Science*, 319: 370–375.

Spaine, L.A. and Bollen, S.R. (1996) 'The bigger they come . . .' the relationship between body mass index and severity of ankle fractures. *Injury*, 27: 687–689.

Sport England (2006a) *Active People Survey 2*. London: Sport England.

Sport England (2006b) *Understanding Participation in Sport: What Determines Sport Participation among Recently Retired People?* London: Sport England Research Report.

Sport England (2007) *Evaluation of the £1 million Challenge*. Manchester: North West Sport England Region.

Sports Council and Health Education Authority (1992) *Allied Dunbar National Fitness Survey 1990*. London: Sport England.

Staffieri, J.R. (1967) A study of social stereotype of body image in children. *Journal of Personality and Social Psychology*, 7: 101–104.

Stathi, A., Fox. K.R. and McKenna, J. (2002) Physical activity and dimensions of subjective well-being in older adults. *Journal of Aging and Physical Activity*, 10: 76–92.

Stucky-Ropp, R.C. and Dilorenzo, T.M. (1993) Determinants of exercise in children. *Preventive Medicine,* 22: 880–889.

Sugden, D. and Henderson. S. (1994) Help with movement. *Special Children*, 75: 57–61.

Sugden, D. and Keogh, J. (1990) *Problems in Movement Skill Development*. Columbia: University of South Carolina.

Sugden, D. and Wright, H. (1998) *Motor Co-ordination Disorders in Children*. London: Sage.

Summerbell, C.D., Ashton, V., Campbell, K.J., Edmunds, L., Kell, S. and Waters, E. (2003) *Interventions for Treating Obesity in Children*. Cochrane Database Systematic Reviews. CD001872.

Treuth, M.S., Hunter, G.R., Figueroa-Colon, R. and Goran, M.I. (1998) Effects of strength training on intra-abdominal adipose tissue in obese prepubertal girls. *Medicine Science Sport and Exercise,* 30: 1738–1743.

Ulijaszek, S. (2007) Obesity: a disorder of convenience. *Obesity Reviews*, 8: 183–187.

United Nations (2002) *Resolution 56/75: Building a Peaceful and Better World through Physical Activity and the Olympic Ideal.*

United Nations (2008) *Education for All: Overcoming Inequality – Why Governance Matters*. Oxford: Oxford University Press.

United Nations Educational, Scientific and Cultural Organisation (UNESCO) (1994) *The Salamanca Statement and Framework for Action on Special Needs Education.* Salamanca: UNESCO.

U.S. Department of Health and Human Services (2008) *Physical Activity Guidelines for Americans*. Online. Available http: <http://www.health.gov/paguidelines> (accessed 29 August 2009).

Vickerman, P. (2007) *Teaching Physical Education to Children with Special Educational Needs*. London: Routledge.

Vickerman, P., Hayes, S. and Wetherley, A. (2003) Special educational needs and National Curriculum physical education. In S. Hayes and G. Stidder (eds) *Equity in Physical Education*. London: Routledge.

Walker, L.L., Gately, P.J., Bewick, B.M. and Hill, A.J. (2003) Children's weight loss camps: psychological benefit or jeopardy? *International Journal of Obesity*, 27: 748–754.

Wall, J.A. and Murray, N.R. (1994) *Children and Movement: Physical Education in the Elementary School*. Dubuque, Iowa: Wm C Brown.

Wankel, L.M. and Kreisel, P.S.J. (1985) Factors underlying enjoyment of youth sports: sport and age group comparisons. *Journal of Sports Psychology,* 7: 51–64.

Weeks, G., Holland, J. and Waites, M. (2003) *Sexualities and Society: A Reader*. Cambridge: Polity Press.

Weiss, G. (1999) *Body Images*. New York: Routledge

Weiss, G. and Haber, H.F. (1999) *Perspectives on Embodiment*. New York and London: Routledge.

Wellard, I. (2006) Able bodies and sport participation: social constructions of physical ability, for gendered and sexually identified bodies. *Education and Society,* 2: 105–119.

Wellard, I. (2009) *Sport, Masculinities and the Body*. New York: Routledge.

White, R.W. (1959) Motivation reconsidered: the concept of competence. *Psychological Review*, 66: 297–333.

Whitehead, M.E. (1987) A study of the views of Sartre and Merleau-Ponty relating to embodiment, and a consideration of the implications of these views to the justification and practice of physical education. Unpublished Ph.D. thesis, University of London.

Whitehead, M.E. (1990) Meaningful existence, embodiment and physical education. *Journal of Philosophy of Education,* 24, 1: 3–13.**

Whitehead, M.E. (2001) The concept of physical literacy. *European Journal of Physical Education*, 2: 127–138.**

Whitehead, M.E. (2005a) Developing physical literacy. Unpublished paper, PE for Today's Children, University of Roehampton July.**

Whitehead, M.E. (2005b) The concept of physical literacy and the development of a sense of self. Unpublished paper, IAPESGW Conference, Edmonton, Canada.**

Whitehead, M.E. (2006) *Developing the Concept of Physical Literacy*. ICSSPE Newsletter, summer.**

Whitehead, M.E. (2007a) Physical literacy and its importance to every individual. Unpublished paper, National Disability Association of Ireland, Dublin, January.**

Whitehead, M.E. (2007b) Squaring the circle – women, physical literacy and patriarchal culture. Unpublished paper, British Philosophy of Sport Conference, Leeds.**

Whitehead, M.E. (2007c) Physical literacy as the goal of physical education with particular reference to the needs of girls and young women. Unpublished paper, Canadian Association for Health, Physical Education, Recreation and Dance, May.**

Whitehead, M.E. (2007d) Physical literacy: philosophical considerations in relation to the development of self, universality and propositional knowledge. *Sport, Ethics and Philosophy*, 1, 3: 281–298.**

Whitehead, M.E. with Murdoch, E. (2006) Physical literacy and physical education: conceptual mapping. *Physical Education Matters*, Summer: 6–9.**

Wider, K.V. (1997) *The Bodily Nature of Consciousness*. London: Cornell University Press.

Women's Sport and Fitness Foundation (2008) Women in Sport Audit: backing a winner: unlocking the potential. In *Women's Sport and Fitness Foundation*, London. Online. Available http: <http://www.wsff.org.uk/documents/sport_audit.pdf> (accessed 22 August 2009).

World Education Forum, Dakar, Senegal (2000) United Nations Scientific Educational, Scientific and Cultural Organisation. Online. Available http: <http://www.unesco.org/education/efa/wef_2000/> (accessed 22 August 2009).

World Health Organisation (WHO) (1997a) *Obesity: Preventing and Managing the Global Epidemic*. Report of a WHO consultation on obesity, Geneva, Switzerland.

World Health Organisation (WHO) (1997b) *The World Health Report – Conquering Suffering, Enriching Humanity*. Online. Available http: <http://www.who.int/whr/1997/en/> (accessed 22 August 2009).

World Health Organisation (WHO) (2009) *Disabilities*. Online. Available http: <http://www.who.int/topics/disabilities/en/> (accessed 22 August 2009).

Wright, H. and Sugden, D. (1999) *Physical Education for All – Developing Physical Education in the Curriculum for Pupils with Special Educational Needs*. London: David Fulton.

Wrotniak, B.H., Epstein, L.H., Dorn, J.M., Jones, K.E. and Kondilis, V.A. (2006) The relationship between motor proficiency and physical activity in children. *Pediatrics,* 118: 1758–1765.