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# **Physical Education and Childhood Obesity**

**Jo Harris & Lorraine Cale**

**Loughborough University**

## **Introduction**

This paper reports on an Association for Physical Education specialist seminar which took place in May 2007 on the subject of physical education and childhood obesity. The main aim of the seminar was for physical educators to engage in a debate focusing on the following questions:

- What are the facts about childhood obesity?
- What are the issues?
- What can we learn from physiologists, psychologists, sociologists and pedagogues?
- What does all of this mean for physical education?

To achieve this, a number of prominent academics from different disciplines (physiology, psychology, pedagogy and sociology) were asked to present their perspectives on the facts and issues associated with childhood obesity and their views on physical education's role in addressing these. The seminar was concluded with a consideration of the way forward in terms of proposals, guidelines and recommendations for physical educators.

The paper is structured in five sections, with each comprising a representation of each presentation including the key messages and recommendations for physical education.

## **(1) Physiological Perspective**

Dr David Stensel, Senior Lecturer in the School of Sport and Exercise Sciences at Loughborough University presented a physiological perspective on physical education and childhood obesity. His presentation focused on defining obesity, the prevalence, health risks and determinants of obesity, and the role of physical activity and physical education in tackling the issue.

### **Definition and Prevalence**

Obesity is most commonly defined using Body Mass Index (BMI) as the indicator. The World Health Organisation guidelines define individuals with a BMI of  $25\text{kg/m}^2$  or more as overweight and those with a BMI of  $30\text{kg/m}^2$  as obese. However, the limitations of using BMI as a measure of obesity was acknowledged in that, because it is based on weight and height, it does not discriminate between fat and fat free (or lean) mass which can lead to the misclassification of some individuals.

Methodological issues aside, Stensel nonetheless cited a number of studies conducted in both the United Kingdom and United States which have reported an increased prevalence of overweight and obesity in children and adolescents.

### **Health risks and Determinants**

The physical health consequences of obesity in adulthood are well documented and include, for example, increased incidence of hypertension, type 2 diabetes, dyslipidaemia and increased risk of certain cancers. The health consequences and risk of childhood obesity are less clear but studies indicate that overweight children have an increased risk of cardiovascular disease risk factors and of developing type 2 diabetes.

Parental physical activity was identified as a strong (but not sole) determinant of childhood obesity with obese children furthermore often becoming obese adults. Although evidence is not consistent, behavioural (inactivity, poor diet) and environmental factors are also considered to be important in the development of obesity in children.

### **Physical Activity**

Figures showing a decline in physical activity during childhood and adolescence and a positive relationship between childhood overweight and time spent watching television were presented, with the latter clearly highlighting the importance of lifestyle and physical activity in weight management. Recognition was also made of the importance of physical activity in combination with a healthy diet.

Whilst it was reported that the evidence to support the effectiveness of childhood obesity prevention was limited, exercise recommendations for children and some interventions which had been found to be successful were shared. These included an aerobic exercise prescription of 155-180 minutes per week at moderate to high intensity which had effectively reduced body fat in overweight children and adolescents, physical education in schools and reduced television viewing, and school based programmes that combined the promotion of a healthy diet and physical activity.

### **Key Messages**

In conclusion, Stensel offered the following key messages and recommendations:

- Educate pupils about the exercise recommendations for children
- Physical education is potentially an effective intervention
- School programmes which combine the promotion of healthy dietary habits and physical activity can be effective in preventing obesity.

## **(2) Psychological Perspective**

Professor Ken Fox, a research fellow in the Department of Exercise, Nutrition and Health Sciences at the University of Bristol presented a psychological perspective. His presentation focused on the importance of energy balance in the prevention or treatment of obesity and how to achieve this through

physical activity and healthy eating, and facilitating healthy attitudes towards physical activity.

### **Physical Activity**

Fox highlighted the different avenues through which young people could increase their activity including via organised sport and physical activity within school, active informal play within school, organised sport and play outside school, active travel, active informal play outside school, and reducing children's sedentary time (e.g. TV watching, playing computer games). He also highlighted the role of the 'Active School' as a whole school approach to promoting and contributing to increased physical activity levels. Active Schools, he explained, are schools which have a healthy/active school committee and policy and comprehensive activity provision involving, for example, a working active transport scheme, safe routes to and from school, facilities for active play at break and lunch times, a wide range of extra-curricular sports and exercise opportunities, an extensive intra-mural programme of activities and strong links with community sport and exercise.

### **Facilitating healthy attitudes and motivating children**

Fox considered the psychological implications of overweight and obesity on young people and the impact on their self-esteem, identity, self-perceptions, perceived competence and attitudes towards activity. He recommended the following for fostering positive attitudes towards physical activity and motivating children to become and remain physically active.

#### **i) Encourage mastery and task (over ego) orientation**

This involves focusing on personal improvement and mastery of skills rather than comparisons with others. A mastery environment can be created by concentrating on effort and trying one's best, focusing on the completion of tasks, and discouraging comparison with others. An ego environment on the other hand is created by posting scores publicly, highlighting who is 'best' in the class, using competition to motivate and encouraging children to compare themselves against others.

#### **ii) Encourage self-determination**

Encourage children to take responsibility for their achievements which will in turn increase their self-esteem. This can be achieved by avoiding the 'white-coat' image, encouraging children to design their own activities and make their own decisions, and showing children that their efforts have made a difference.

Other suggested motivational strategies included helping children to learn to understand and deal with their individuality, strengths and weaknesses and be proud of what they have, in other words '*celebrate being special*'; helping children to understand that the body is not the enemy but that it is part of the whole person and responds to friendly treatment, in other words '*learn to like your body*'; and helping them understand the nature of changing bodies, skill levels and that nothing is fixed, i.e., understanding '*self-passage through puberty*'.

In summary, Fox presented a model for achieving the long term objective of lifelong physical activity (see Figure 1) which highlights the importance of physical skills, fitness and health skills as pre-requisites to physical activity participation and to the adoption of an 'Active Identity'. Also key to an Active Identity is children's perceptions of competence and control over their physical activity, i.e., whether they perceive they 'Can do it', plus whether they feel 'It's worth it' which is dependent on their attitudes, beliefs, values and the rewards they gain from being physically active.

### **Insert Figure 1**

#### **Key Messages**

In conclusion, Fox recommended adopting a whole school approach to physical activity promotion via the Active School and a physical education programme that:

- Promotes confidence and competence in all children
- Encourages a personal mastery environment and improvement
- Offers a wide range of enjoyable physical activity opportunities
- Physically educates children about their bodies and how to maintain lifetime physical activity
- Identifies and provides support for young people with poor activity and health profiles

#### **(3) Pedagogical Perspective**

Len Almond, Consultant for the British Heart Foundation National Centre for Physical Activity and Health (and previously Senior Lecturer in the School of Sport and Exercise Sciences at Loughborough University) presented a pedagogical perspective on physical education and childhood obesity. His presentation focused on a new perspective for promoting purposeful physical activity and a pedagogy of engagement.

#### **Purposeful Physical Activity**

Almond's view is that 'purposeful physical activity' is a resource to nurture and cultivate, and is a shared concept amongst sport, health, fitness and dance groups. He considers that physical activity is a resource which:

- Provides energy, dynamism and vitality to enjoy life and succeed
- Conditions the body to enable pupils to participate more effectively in sport/dance
- Enriches pupils' lives
- Widens pupils' perceptions of what they can do in their lives.

However, he pointed out that the value of physical activity is not well recognised and that it is a low priority for many people, with on average only 4% of a child's day and 2% of an adult's day being spent being physically active.

#### **The Importance of Pedagogy**

Almond referred to plentiful opportunities for children to be active (e.g. walking/cycling to school; physical education; independent play; structured activities) but considers that the key to establishing a commitment to being active is associated with pedagogical skills such as building a nurturing and cultivating ethos, ensuring exciting and stimulating content to engage individuals, and giving pupils a voice.

Almond identified a range of pedagogical skills which need to be developed in teachers in order for them to effectively increase pupils' participation levels; these included: reaching out and connecting with young people (particularly the sedentary and underserved); keeping them interested and wanting more; and extending their horizons.

### **24/7 Generation**

Almond described today's typical child as a 'brand child', part of a 24/7 generation who want their lives to be interactive and instant and who will try anything but are incredibly impatient. He emphasised the importance of teenagers wanting to be listened to, heard and understood, and considers that they should be centrally involved in any plans to increase their activity levels. Giving young people a voice will help them develop a sense of belonging, inclusion, responsibility and respect.

### **Key Messages**

In conclusion, Almond offered the following key messages and recommendations:

- The profession is too content driven, at the expense of pedagogy
- Teachers need to be helped to learn the skills necessary for an effective pedagogy, and the Association for Physical Education has a role to play in this
- Schools can co-operate to help develop effective pedagogies and create caring and reflective practice to encourage a love of being active.

## **(4) Sociological Perspective**

John Evans, Professor of Sociology of Education and Physical Education in the School of Sport and Exercise Sciences at Loughborough University presented a sociological perspective on physical education and childhood obesity, on behalf of himself and his colleagues, Dr Emma Rich and Rachel Allwood. Their presentation entitled 'Health education or weight management in schools?' focused on obesity discourse, health policy in a performative culture, and the dangers of physical education being reduced to weight management.

### **Obesity Discourse within a Saturated Policy Context**

Evans described 'obesity discourse' as privileging 'weight' as a primary determinant and index of well-being, and uncritically accepting BMI as a 'reliable indicator' of body fatness for most people. He referred to a 'saturated policy context' exemplified by legislated 'health policy' (e.g. National Healthy Schools Programme; National Child Measurement Programme) and non-

legislated 'pseudo policy' (e.g. Jamie Oliver school dinner movement; various exercise regimes).

### **Health Policy in a Performative Culture**

Evans and colleagues consider that policies relating to obesity increasingly bear features of a 'performative culture' which celebrate comparison, measurement, assessment and accountability while centring attention on aspects of 'corporeal perfection' or the 'slender ideal'. They feel that schools are being pressed to engage with health issues rather simplistically, in terms of 'weight management', rather than being encouraged to have a more complex, holistic outlook on health.

### **The Language and Grammar of 'Health'**

Alarm was expressed over the concept of health being reduced to the following:

Height/Weight/Measurement = Shape/Size = Health

and are very concerned about government intentions to weigh and measure primary school children aged 4 and 10 in order to obtain BMI scores, and to alert the parents of those who are obese. They are worried about unprecedented levels of surveillance for managing the weight of young people (e.g. inspecting lunch boxes; fingerprint monitoring; health report cards; fitness testing), across almost every aspect of school life, and this extending into the community and home.

### **Health as a Moral Imperative**

Evans exemplified health as a moral imperative with quotations from young people which reflected their view that:

Thin = Virtue; Fat = Bad

He also discussed social sanctions associated with the obesity discourse (e.g. bullying, stigma and labelling of 'fat' individuals) linking this to rising levels of 'body disaffection' in the population, and to some young people (especially girls) not eating enough or not at all and becoming dangerously thin. The combined total for people diagnosed and undiagnosed with an eating disorder in the UK is 1.15 million.

### **Key Messages**

In conclusion, Evans and colleagues offered the following key messages and recommendations for physical educators:

- Reducing 'health' (and PE) to only the most obvious aspects of measured performance (e.g. weight, height, exercise levels) while promoting the message at all ages and stages of schooling that healthy=thin, should itself carry a health warning.
- Don't turn health into a public degradation ceremony. The BMI is for cautious use by thinking epidemiologists, it has no place in health education in schools.

- Adopt a more critical attitude toward the received wisdom on diet, exercise and weight. Much of the research is equivocal and does not provide grounds for certainty on health policy.
- Good health education isn't just a programme, it's an attitude of mind; adopt a positive, holistic rather than a pathogenic disposition and approach to health.
- Don't focus on 'weight' as a problem; outside the extremes, people can be healthy at any weight if they exercise a little and have a varied diet; adopt the view, health at any size.
- Help people feel good about their bodies, build their competence, confidence and sense of control.

## **(5) The Way Forward: Proposals, Guidelines and Recommendations**

Following on, Professor Paul Gately, Carnegie Weight Management at Leeds Metropolitan University delivered a presentation at the seminar in which he discussed the challenges of the government's target to tackle obesity, and provided an overview of the approach to weight management at Carnegie. Paul's article on 'Childhood obesity: the scale of the problem and what can we do?' published in *Physical Education Matters*, Summer 2007, Vol. 2, No. 2 summarises his views on the topic and suggests how schools might contribute to addressing the problem of increasing childhood obesity.

Drs Jo Harris and Lorraine Cale, Senior Lecturers in the School of Sport and Exercise Sciences at Loughborough University delivered the final presentation of the seminar in which they reflected on issues associated with physical education and childhood obesity and focused on proposals, guidelines and recommendations for physical education.

### **Reflections**

Harris and Cale's advice to the physical education profession was that it should: not get involved in sensationalising the 'obesity' story; adopt a sensitive, caring approach; focus on inclusion and learning; provides opportunities in physical education and school sport for habituation through engagement, enjoyment and achievement; take more notice of previous research findings about what pupils do and do not like about physical education and school sport; and continue to listen to, hear and act upon the voice of pupils.

### **Measuring Fat Children**

It was pointed out that it is not necessary for physical educators to measure fat children to tell them something that they already know. More importantly, fat children do not need to be measured to enjoy being active. Indeed, over-emphasising 'fat' measurements, may contribute a mental health problem to a physical health issue.

### **An Hour a Day Keeps Obesity at Bay?**

The 'one hour a day' physical activity recommendation was highlighted and it was questioned as to why this message is not being routinely taught in schools and disseminated in community settings and via the media. Harris



and Cale claimed it was no more complex a message than '5 portions of fruit and vegetables a day, and find it curious that Ofsted reports make reference to the 'fruit and vegetables', but not the 'physical activity', recommendation.

### **The Gap Between the Physical Activity Recommendation and the PSA Target**

Harris and Cale noted that the physical activity recommendation of one hour a day for young people amounts to 7 hours a week, yet the Public Service Agreement (PSA) target of 2 hours of physical education and a further 2-3 hours of physical activity beyond the curriculum amounts to a maximum total of 5 hours a week. This means that, even if the PSA target is being met, it is still 2 to 3 hours short of the physical activity recommendation.

### **Developments Promoting Healthy, Active Lifestyles**

The audience were reminded of a number of developments which incorporate a focus on the promotion of healthy, active lifestyles. For example, online materials produced as part of the QCA Investigation include a useful starting point in terms of strategies for increasing young people's involvement in healthy, active lifestyles. In addition, 'making informed choices about healthy, active lifestyles' is a key process within the new secondary curriculum (to be implemented from September 2008) and there is an explicit reference to lifetime orientated activities within the new programme of study. Furthermore, physical activity is a core theme in the National Healthy School Standard and the physical activity toolkit published by the Department of Health (2007) should assist schools in meeting the physical activity criteria. Finally, Harris and Cale pointed out that the NICE (National Institute for Health and Clinical Excellence) obesity guidance for schools emphasises the importance of a school ethos and environment which encourages children and young people to be physically active, and that NICE are currently in the process of producing guidance on physical activity and children.

### **Conclusion**

Harris and Cale concluded the specialist seminar by supporting the recommendations put forward by the previous presenters, and proposing the following further recommendations for promoting physical activity through physical education:

- Pupils should be informed about the physical activity recommendations for health ('an hour a day') and their activity levels should be regularly monitored in line with the 'one hour a day' guideline
- Pupils should be provided with guidance about the importance of physical activity and its contribution to healthy weight management and how to go about becoming more active
- Pupils with low activity levels should be identified and provided with personalised guidance and encouragement to achieve manageable targets towards the guideline
- Pupils should experience the psycho-social benefits of being active (e.g. having fun, being with friends, feeling good) and have their competence and confidence enhanced through activity

- Pupils should be physically active for at least 50% of the available learning time in physical education lessons
- Assessment of pupils' knowledge, understanding and skills should (where possible) be through practically applied tasks within physical education
- Pupils should be informed about school, community and home-based opportunities for participating further in curriculum activities and becoming involved with new and different, structured and unstructured activities
- Pupils should be rewarded and praised for increased effort and progress towards the maintenance of a healthy, active lifestyle
- Physical education staff should be centrally involved in helping their school meet the physical activity criteria within the National Healthy School Standard.
- Physical education staff should work alongside other subject staff (e.g. those from PSHE, Science, Food Technology) to ensure that consistent messages are portrayed about the contribution of physical activity to healthy weight management.

Please note that the powerpoint presentations from the 'Physical Education and Childhood Obesity' specialist seminar are available on the afpe website: [www.afpe.org.uk](http://www.afpe.org.uk)

Figure 1 (overpage): A Model for Achieving Lifelong Physical Activity

