

HEALTHY BODIES HEALTHY MINDS

PHYSICAL ACTIVITY & MENTAL HEALTH
IN CHILDREN AND YOUNG PEOPLE
EVIDENCE BRIEFING SUMMARY



Evidence Briefing Summary

Physical activity and mental health: The role of physical activity in promoting mental wellbeing and preventing mental health problems in children and young people.

Introduction

Over the past 15 years there has been a growing interest in the relationship between physical activity and mental health, including the promotion of mental wellbeing and the prevention of mental health problems. This has resulted in an increase in the number of publications, including those at review level, which examine this relationship.

The Scottish Government and NHS Health Scotland have identified physical activity and mental health as key target areas for health improvement (Scottish Government, 2003; 2005). NHS Health Scotland commissioned a review level Evidence Briefing of the links between these key areas in children and young people (Whitelaw et al, 2008).

The aim was to search the existing body of evidence relating to the associations between physical activity and both the promotion of mental wellbeing and the prevention of mental health problems.¹ A practitioners guide would then be developed, highlighting key messages and providing information on promoting physical activity to those who would benefit most. The particular focus was identifying evidence on the efficacy of different physical activities, intensities, frequencies and durations.

The literature around these areas is complex, both in its terminology and in the quality of published reviews. It was decided to include systematic, critical appraisal and narrative reviews, and acknowledge any limitations. The main thrust of the evidence suggests there are broad associations between physical activity and both mental wellbeing and preventing mental health problems for children and young people,² though the strength of this assertion varied across the reviews.

This document outlines the findings of the Evidence Briefing, covering:

- 1. The relationships between physical activity and both promoting mental wellbeing and preventing mental health problems.**
- 2. What types of activity are best, for whom, and to what intensity?**
- 3. The mechanisms behind the relationships.**
- 4. Pointers for good practice.**

1. The relationships between physical activity and both promoting mental wellbeing and preventing mental health problems.

The Evidence Briefing identified the following associations:³

- **Self-esteem and self-concept**

This area had attracted considerably more research and review papers than many others. There was significant evidence of a consistent association between physical activity and

¹ The Evidence Briefing did not examine evidence relating to the role of physical activity in treating mental health problems.

² The reviews considered used a range of terms relating to the age range 3-21 years.

³ For further information see Whitelaw et al, (2008), pp.38-51

heightened self-esteem, or self-concept, among young people. In particular, it is believed that physical activity can promote feelings of self-efficacy, self-determination and personal control.

- **Cognitive functioning**

The literature broadly suggests evidence of an association between physical activity and cognitive functioning. There are, however, few good quality studies in this area. Support for this association is stronger at the younger end of the age range.

- **Pro-social behaviour**

There is some evidence supporting an association between physical activity and the promotion of pro-social behaviour and, conversely, helping to combat anti-social behaviour. Although this evidence is not as strong as in other areas, it is believed that cooperation between children and leaders (e.g. teachers), combined with appropriately structured physical activity, and play in younger age groups, can enhance pro-social behaviour and combat anti-social behaviour.

- **Social inclusion**

While there is a theoretical association between physical activity and the promotion of social inclusion and reduction of social exclusion (e.g. positive impact on truancy, helping to prevent criminal behaviour through 'diversionary' activities, or 'rehabilitating' those with criminal records), the supporting evidence is relatively weak.

- **Preventing mental health problems**

A number of included studies indicate that participation in sport and physical activity can help prevent mental health problems (e.g. anxiety and depression). Evidence suggested that children and young people who are physically active are less likely to suffer from mental health problems.

2. What types of activity are best, for whom, and to what intensity?

Depending on individual preference, the best available evidence would indicate that all types of activity have the potential to enhance mental wellbeing and prevent mental health problems. Some reviews did make tentative evidence-based assertions with respect to type and impact, for example:⁴

- **General exercise**

Running, walking, aerobic dance and circuit training can be effective in general terms, while resistance training is superior to endurance exercise in improving body image and self-esteem. However, it should be noted that any exercise should be appropriate for the specific age and health status of individuals.

- **Cooperative exercise**

Promoting cooperative activity in welcoming and inclusive environments produces particularly strong positive effects.

- **Group recreational sports**

These activities are more likely to bring social and mood benefits, compared with individual activities.

⁴ For further information see Whitelaw et al, (2008), pp.56-57

- **Sports and vigorous activity**

This can promote mental wellbeing, particularly for those who already prefer, and are able to participate in, this type of activity.

All children and young people can benefit from taking part in physical activity. It may be particularly beneficial to engage teenage girls and vulnerable groups, such as looked after children.

Although there is some guidance in the literature on optimal physical activity quantity, intensity and type, at present, the most definitive over-arching statement that can be made is:

'A range of exercise modes and intensities, based on the participant's previous exercise experiences, preferences and goals, will therefore need to be considered.'

(Department of Health, 2004, p.63)

Although the optimal level and intensity of physical activity for promoting mental wellbeing and preventing mental health problems was not clear from the literature, it would be prudent to adopt the existing physical health-oriented guidelines:

The recommended guidelines for children under 16 are to build up to at least 60 minutes of moderate to vigorous physical activity each day. People aged 16 or over are recommended to build up to at least 30 minutes of moderate to vigorous physical activity at least five days of the week (Department of Health, 2004).

While the majority of evidence is positive, potential negative effects also need to be considered with sensitivity. For individuals with an underlying health problem or those with very low self-esteem, for instance, emphasis should be on fun and participation.⁵

3. The mechanisms behind the relationships

While it is not known exactly how physical activity influences mental health, a number of possible explanatory mechanisms have been suggested. These include:⁶

- **Biochemical and physiological changes**

Increases in chemicals in the brain, such as serotonin, can increase positive mood levels.

- **Improvements in fitness and weight loss**

Feeling that the body is fitter or more 'toned' is associated with improved mental wellbeing.

- **Increased sense of 'mastery'**

Improved self-worth and personal control as a result of mastering a new physical activity.

- **Distraction**

Physical activity can distract us from stressful parts of our lives.

- **Social interaction and sense of belonging**

The positive collective experience of being active as a group.

- **Social and cultural benefits**

Physical activity is largely seen as socially and culturally 'virtuous' and therefore has the potential to increase self-esteem.

⁵ For further information see Whitelaw et al, (2008), pp.52

⁶ For further information see Whitelaw et al, (2008), pp.58

4. Pointers for good practice

The Evidence Briefing was cautious in identifying how to encourage children and young people to engage in physical activity, and in creating the context most conducive to promoting mental wellbeing and preventing mental health problems. However, some 'generalised theoretical principles of good practice' can be drawn:⁷

- **Variety** is important, with the ability to experience a range of types of activity and include a balanced mix of endurance, flexibility, strength training, and both individual and group activity.
- There needs to be **ease of access** to both high quality and safe areas for activity, preferably based within local communities.
- **Choice and individually determined realistic goals** are important.
- Emphasis should be placed on **enjoyment** and immediate pay off, rather than stressing longer-term health gains.
- The orientation of physical activity provision should be towards positive experiences, decreased pressure and success, based on a **sense of accomplishment**, rather than simply winning.
- Activity should be based on a '**peer model**', fostering participation in activities which children and young people enjoy with family, friends and peers.
- Physical activity should attempt to **develop core psychological competencies**, such as general competence, control, autonomy and self-efficacy.
- Physical activity should also attempt to develop **physical activity competencies and skills** which, in turn, are associated with an increase in self-esteem, confidence and peer acceptance.
- **Interventions** should take account of theories and strategies to help identify the stage individuals are at in relation to participation in activities. This should also include a strategy for dealing with 'relapse' of young people opting out of activity.
- Physical activity interventions should be delivered, although not exclusively, via **high quality teaching and coaching and (local) leadership**. This may be particularly critical in the promotion of self-esteem, and social and moral development.
- At a general planning level, there is a need for physical activity opportunities to be based on a '**whole system/multi-sector approach**', including education, health, local authority and community sectors.

⁷ For further information see Whitelaw et al, (2008), pp.59

References

Department of Health (2004). *At least five a week. Evidence on the impact of physical activity and its relationship to health.* Department of Health, London.

Scottish Government (2003). *Let's Make Scotland More Active: A strategy for physical activity.* TSO, Edinburgh.

Scottish Government (2005). *The Mental Health of Children and Young People: A framework for promotion, prevention and care.* Scottish Government, Edinburgh.

Whitelaw, S., Swift, J., Goodwin, A. and Clark, D. (2008). *Physical Activity and Mental Health: The role of physical activity in promoting mental wellbeing and preventing mental health problems. An Evidence Briefing.* NHS Health Scotland, Edinburgh.

Further information on mental health improvement:

NHS Health Scotland's Mental Health Improvement pages:
www.healthscotland.com/mental-health.aspx

Foresight Project on Mental Capital and Wellbeing:
www.foresight.gov.uk/OurWork/ActiveProjects/Mental%20Capital/Welcome.asp

The aim of the Foresight Project on Mental Capital and Wellbeing was to advise the UK Government on how to achieve the best possible mental development and mental wellbeing for everyone in the UK in the future. The project outputs contain several references to the relationship between mental health and physical activity. In particular, the research review SR-E24 investigates the effect of physical activity on mental capital and wellbeing.

Well Scotland website:
www.wellscotland.info/index.html

Further information on physical activity:

NHS Health Scotland (2009). *Commentary on NICE public health guidance on promoting physical activity for children and young people.* NHS Health Scotland, Edinburgh.

Active Scotland website:
www.activescotland.org.uk

Physical Activity and Health Alliance website:
www.paha.org.uk

The full report on which this summary was based can be found at:
www.healthscotland.com/physical-activity-research.aspx