



Health Survey for England 2008: Focus on physical activity and fitness

BHFNC summary of the physical activity results

February 2010

Introduction

This document summarises the key findings from the 2008 Health Survey for England concerning the physical activity levels of adults and children. Based on these findings, Sonia McGeorge, Co-Director of the BHF National Centre for Physical Activity and Health highlights several action points for health professionals (page 6).

About the Health Survey for England 2008

The Health Survey for England 2008 (published December 2009)^{*}, is the eighteenth annual Health Survey for England. A total of 15,102 adults and 7,521 children were interviewed for the Survey, answering questions on general health, fruit and vegetable consumption, alcohol consumption and physical activity. In addition, those in the core sample were offered a visit from a specially trained nurse who took measures such as height, weight and blood pressure. The Health Survey for England 2008 also introduced an objective measurement of physical activity (accelerometry) among a sub-sample of adults and children, and a measure of fitness (the step test) among a sub-sample of adults. This summary of the results focuses specifically physical activity levels of children and adults – as measured by the self-report questionnaire and the accelerometers.

Self reported physical activity levels (adults)

In 2008, based on self-reported physical activity:

- **39% of men and 29% of women aged 16 and over met the Chief Medical Officer's (CMO) recommendations for physical activity among adults[†]**

The proportion meeting the recommendations fell with age for both sexes. However, whilst there was a decline across all age groups in men, for women this decline only started to become apparent in those aged 45-54.

Also worth noting is the clear association between meeting the physical activity recommendations and BMI category:

- **46% of men and 36% of women who were neither overweight nor obese met the recommendations;**
- **41% of men and 31% of women who were overweight met the recommendations; and**
- **32% of men and 19% of women who were obese met the recommendations.**

^{*} The 'Health Survey for England 2008: Physical activity and fitness' can be downloaded from the Health and Social Care Information Centre website at: <http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england/health-survey-for-england--2008-physical-activity-and-fitness>

[†] At least 30 minutes of moderate intensity physical activity on at least five days of the week

Physical activity levels recorded with an accelerometer (adults)

4,507 adults aged 16 and over were selected to have their activity levels measured objectively using an accelerometer however, of these, 21% of men and 20% of women declined to participate. Overall, 49% and 46% respectively of the initially selected men and women provided sufficient data to be included in the analyses (i.e. they wore an accelerometer for at least ten hours per day on at least four days).

The accelerometer data demonstrates that contrary to the self report findings, **6% of men and 4% of women were participating in enough physical activity to meet the CMO recommendations for physical activity.**

Furthermore:

- **41% of men and 44% of women who self-reported that they undertake at least 30 minutes of moderate intensity physical activity on at least five days of the week were actually in the low activity category according to the objective measurement.**
- **Overall, men had longer periods of moderate intensity activity than women (30 minutes and 23 minutes respectively).**
- **Among both men and women, an average of just one minute per day was spent in vigorous activity.**

Sedentary behaviour (adults)

The enhanced questionnaire used in the HSE 2008 included questions on 'sedentary time', which is receiving growing interest due to its association with an increased risk of obesity and cardiovascular problems - independent of physical activity.

According to the *self-report data*:

- **On weekdays, 32% of men and 33% of women were averaging six or more hours of total sedentary time.**
- **On weekends, men were more likely than women to average six or more hours of sedentary time (44% and 39% respectively).**

There were also variations in sedentary behaviour by age. On weekdays, those aged 16-24 were more likely than those aged 25-54 to have spent six or more hours in sedentary time. From the age of 55 the proportion increased steadily to more than 60% of those aged 74 and over.

The *accelerometer data* supported the findings of the questionnaire and showed that:

- **Overall, men had significantly longer periods of sedentary time per day than women (595 minutes and 584 minutes respectively).**

Self reported physical activity levels (children)

The children's physical activity questions were completely revised for the 2008 survey in order to gather more accurate data, in particular more information on sedentary behaviour. It was assumed that all children's reported activities were of at least a moderate intensity, which is likely to lead to an overestimate of the amount of time spent in at least moderate intensity activity.

The self-report data found that:

- **32% of boys and 24% of girls were classified as meeting the government's recommendations for physical activity[‡]**

Levels of physical activity varied with age. Among girls there was a downward pattern in activity associated with increasing age:

- **The proportion of girls meeting the government recommendations ranged from 35% among girls aged 2 to 12% among those aged 14.**

Among boys significant variation was found according to age, but no clear pattern was obvious.

Physical activity levels recorded with an accelerometer (children)

Accelerometry was used on a sample of 770 children aged 4-15 to provide an objective measurement of children's physical activity. Overall, this data revealed that:

- **33% of boys and 21% of girls met the government recommendations for physical activity.**

Although this result is very similar to that recorded by the self-reported data, discrepancies are revealed when the data is studied more closely. For example, the self-reported data showed that 24% of boys and 29% of girls fell into the 'low' activity group (participating in less than 30 minutes physical activity a day), while the accelerometer data found that 47% of boys and 61% of girls were in fact achieving less than 30 minutes physical activity per day.

The accelerometer data also showed a considerable decrease in physical activity levels as age increased:

- **51% of boys aged 4-10 as compared to 7% of those aged 11-15 met the physical activity guidelines.**

[‡] At least 60 minutes moderate intensity physical activity per day

- **Among girls aged 4-10, 34% had met the recommended target, while none of those aged 11-15 had done so.**

When comparing self-reported and accelerometer data, it should be noted that the periods of data collection were not the same and it is possible that for a small number of participants one of the measurement periods was out of line with their usual pattern of activity, leading to a discrepancy.

Sedentary behaviour (children)

Self-report data found that:

- **Average total sedentary time was very similar for boys and girls on weekdays (3.4 hours each) and weekend days (4.1 hours and 4.2 hours respectively).**

Average sedentary time generally increased with age, whether for weekdays or weekend days:

- **At weekends, the proportion who were sedentary for six or more hours generally increased across all ages, ranging from 8% of boys and girls aged 2, to 40% of boys and 41% of girls aged 15.**

Overweight and obesity appear to be correlated to sedentary behaviour:

- **On weekdays the proportion of boys and girls who spent 4 or more hours doing sedentary activities was 35% and 37% respectively for those who were not overweight or obese, 44% and 43% of those classed as overweight and 47% and 51% of those classed as obese.**

The *accelerometer data* found that:

- **The majority of the waking day for most children in England is spent in sedentary time (approx. 7.5 hours) or light intensity physical activity (around 4.2 hours).**
- **Girls spend more time in sedentary pursuits than boys (a daily average of 460 minutes for girls as compared to 427 minutes for boys).**

Average time spent in sedentary pursuits increased with age for both girls and boys:

- **Boys aged 4-7 spent 374 minutes per day in sedentary pursuits as compared to those aged 12-15 who spent 484 minutes. Among girls,**

there was an increase from 398 minutes per day at 4-7 years to 534 minutes at age 12-15 years.

The amount of sedentary time recorded was broadly similar throughout the week as compared to the self-report data which suggested children had distinctly different patterns of sedentary behaviour on weekdays and weekend days. However, the self-report data only covers sedentary behaviour in leisure time whereas the accelerometers captured all sedentary behaviour including that during school time.

What do these findings mean for physical activity professionals?

Sonia McGeorge, Co-director at the BHF National Centre for Physical Activity and Health has suggested a few 'action points' for physical activity and health professionals, based on these latest findings:

- Data across the age range indicates that there are still large numbers of children and adults not participating in the recommended levels of physical activity and therefore losing out on the numerous benefits associated with activity. There is, therefore, still much work to be done to:
 - increase awareness of physical activity guidelines; and
 - identify and implement effective interventions (with a good evidence base) to increase levels of physical activity.
- The adult data in particular shows a discrepancy between self-report and objective results which indicates that adults are over-estimating the amount of activity they do. Therefore, even if an individual appears to be meeting the physical activity guidelines, there is a need to unpick exactly what activity they are doing to determine if this is indeed the case. Also, it may be beneficial to encourage people to increase the amount of activity they are doing to gain extra benefit, particularly those who appear to be only just reaching the recommended target.
- Some discrepancies between self-report and objective data are also apparent among children indicating that they, and their parents, also find it difficult to accurately assess the amount of activity they do.
- There are indications that both children and adults are spending considerable amounts of time in sedentary behaviour. With research indicating that sedentary behaviour may have an impact on health independent of physical activity levels, there is a need to consider interventions specifically targeted at reducing sedentary behaviour as well as those aimed at increasing physical activity.
- The data indicate the need to consider targeting specific groups. Of particular concern is the accelerometer data for children showing such low levels of activity among those aged 11-15 years, particularly girls.

The background is a solid teal color with several large, overlapping, semi-transparent shapes in a lighter shade of teal. These shapes are organic and abstract, resembling soft-edged blobs or stylized human forms. One large shape is in the upper left, another is in the center, and a third is in the lower left. The overall effect is a modern, minimalist design.

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