

PERCENTAGE OF PHYSICALLY ACTIVE CHILDREN AND ADOLESCENTS

FACT SHEET 2.4 • December 2009 • CODE: RPG2_Hous_Ex1

Percentage of children who meet the moderate-to-vigorous physical activity (MVPA) guidelines, defined as 60 minutes per day at least 5 days per week.

This fact sheet gives an overview and assessment of the level of physical activity in children and adolescents in the WHO European Region, using the guidelines established by Prochaska et al (1), which recommend at least 60 minutes of moderate-to-vigorous physical activity (MVPA) daily. The frequency of self-reported physical activity of children and adolescents was obtained from the most recent Health Behaviour in School-aged Children (HBSC) survey (2005/2006) (2). The 2005/2006 HBSC analysis used daily activity as the cut-off point. For this fact sheet, a special analysis of the data from the survey was conducted to determine the percentage of children having at least 60 minutes of MVPA at least five days a week, to allow for comparison of the results with those obtained from the 2001/2002 HBSC survey (3). The results are interpreted taking the health, environmental and policy contexts into account, followed by an assessment of the situation in the Region.

KEY MESSAGE

☹ The HBSC 2005/2006 survey revealed that a considerable proportion of children and adolescents in all the countries and areas covered do not reach recommended levels of physical activity (2). The survey also showed that physical activity decreases with age. Nevertheless, a positive development in physical activity can be observed when these results are compared with the previous survey in 2001/2002 (3). While this result has to be treated with caution, it could indicate a positive trend that should be sustained by coordinated action to increase opportunities to become and remain active throughout childhood and adolescence. Regular monitoring is essential.

RATIONALE

Physical activity in young people has been reported to affect several indicators of health and well-being, including musculoskeletal health and fitness, obesity, type 2 diabetes, mental health and predictors of cardiovascular disease. In addition, there are indications for developmental and other effects on factors such as academic performance and quality of life (4,5). The evidence is also strong for the relationship between physical activity and/or fitness and a clustering of (particularly cardiovascular) risk factors (5–8). According to recent reviews, the evidence base is strongest for the beneficial effects of physical activity on aerobic fitness, musculoskeletal health, weight loss among overweight young people and cardiovascular and metabolic health (4,5,9). It is more limited for mental health, including self-esteem and anxiety and depression symptoms (4,9).

PRESENTATION OF DATA

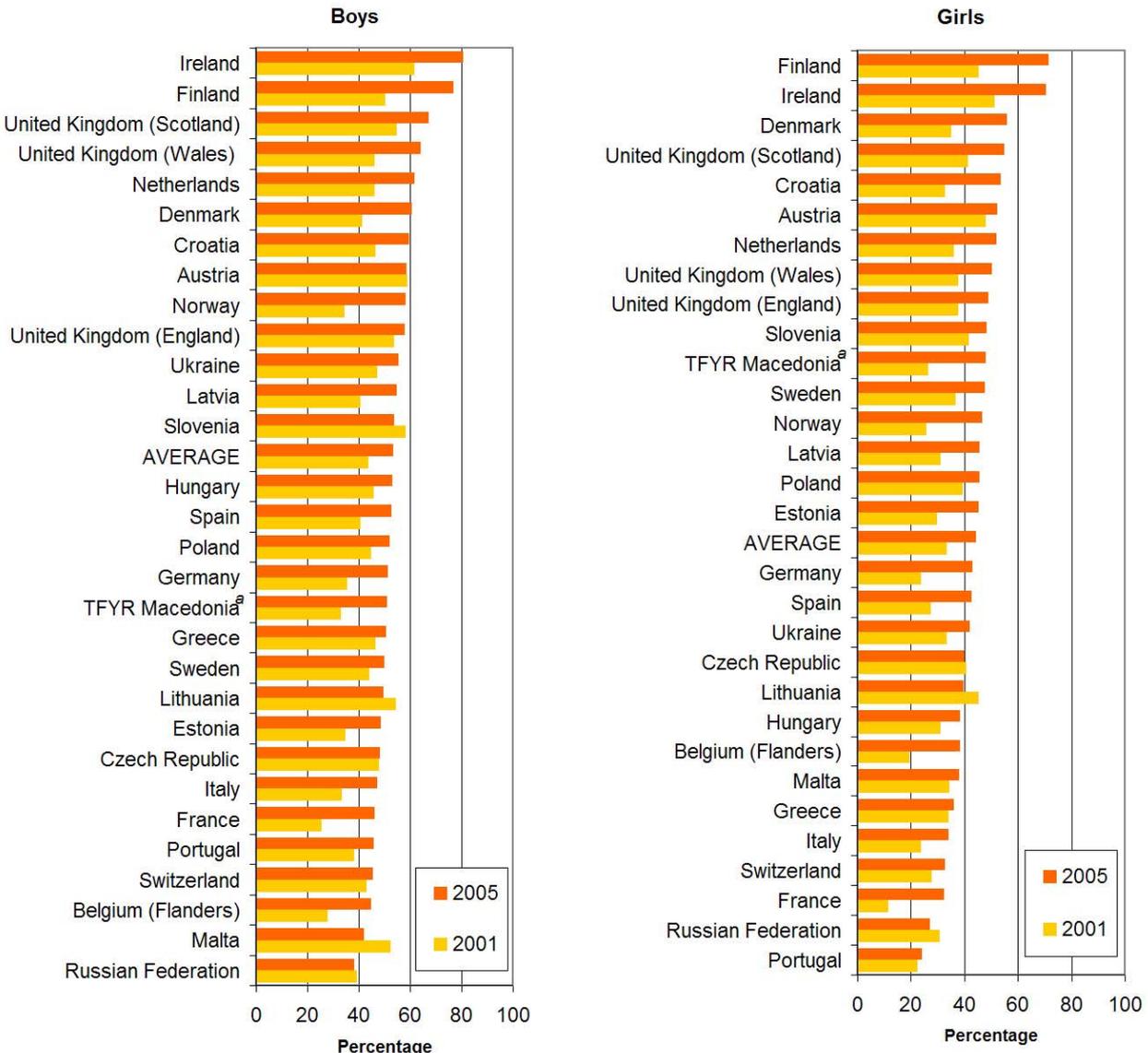
Fig. 1 and 2 used self-reported data from the countries participating in the HBSC survey (see below under Geographical coverage).

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Fig.1 shows the proportions of 11-year-old boys and girls who reached the minimum recommended level of physical activity (according to the MVPA definition) on at least 5 days per week in 2001 and 2005. On average in 2005, about 53% of boys and 44% of girls reported taking physical activity at the recommended level at 11 years of age. In most countries, more 11-year-old children reported themselves physically active at the required level in 2005 than in 2001.

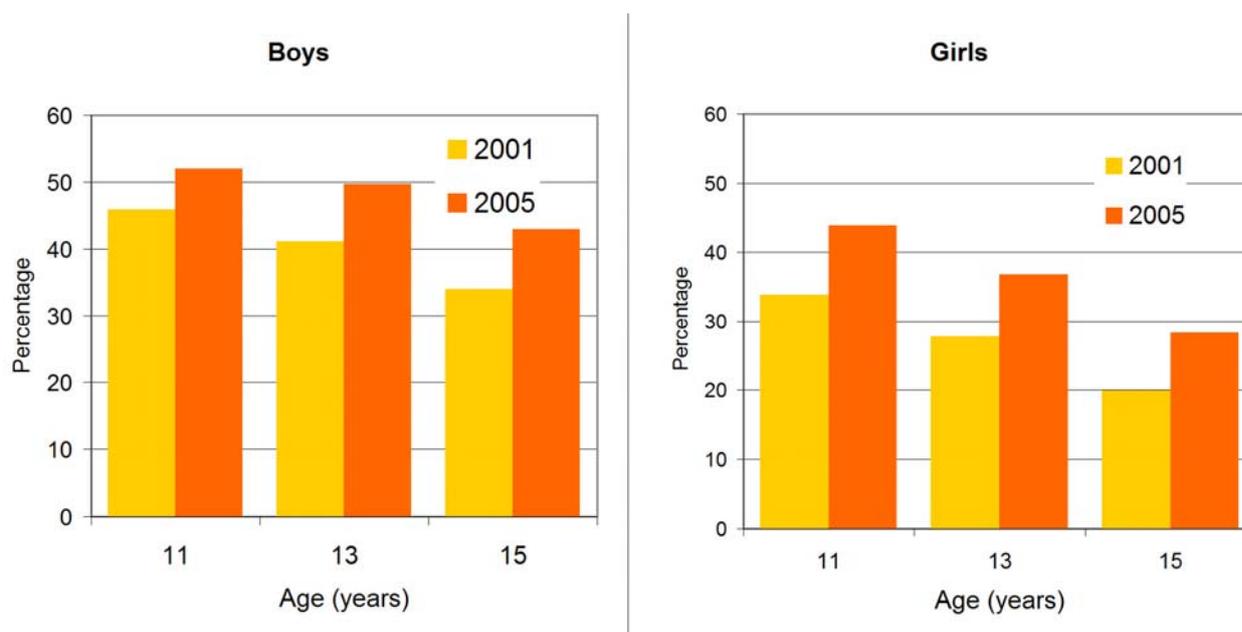
Fig. 2 shows the median proportion of 11-, 13- and 15-year-old physically active children in 2001 and 2005. For all age groups, the median percentage of children reporting to be physically active at the required level was higher in 2005 than in 2001. It can also be seen that the median percentage of children with the required level of activity decreases with age in both boys and girls: in 2005, 52% and 43%, respectively, of 11-year-old boys and girls were physically active, whereas only about 43% of boys and 28% of girls remained active at 15 years of age.

Fig.1. Percentages of physically active 11-year-old boys and girls in selected countries in the WHO European Region, 2001/2002 and 2005/2006



^a TFYR Macedonia = the former Yugoslav Republic of Macedonia.
 Source: For 2005/2006 (2); for 2001/2002 (3).

Fig. 2. Average percentage of physically active boys and girls in Europe in 2001 and 2005



Source: For 2005/2006 (2); for 2001/2002 (3).

HEALTH AND ENVIRONMENT CONTEXT

Physical activity is a fundamental way of improving physical and mental health (4,5,10–12). The effects on the prevention of many noncommunicable diseases (NCDs) – such as halving the risk of many disorders (including heart disease and type 2 diabetes), substantially lowering the risk of hypertension and some forms of cancer, and reducing stress, anxiety and depression in adults – is well documented. The establishment of healthy patterns of physical activity during childhood and adolescence that may last throughout adulthood may be an important contributor to the prevention of NCDs late in life (13,14). A recent review of the available evidence (15) indicated that data from prospective studies suggest that increased physical activity and reduced sedentary behaviour have a small but significant protective effect for weight gain in childhood and adolescence, and that physical activity at a young age may be associated with body composition in adulthood (16). Some longitudinal studies have suggested that low cardiorespiratory fitness during childhood and adolescence is associated with later cardiovascular risk factors, such as hyperlipidaemia, hypertension and obesity (17).

WHO is currently developing global recommendations on physical activity for health. Different reviews have been carried out in recent years, such as by those by American College of Sports Medicine and the American Heart Association (18), the Physical Activity Guidelines Advisory Committee of the United States Secretary of Health and Human Services (4) and specifically on children by, for example, Strong et al. (5). The general consensus is that, for healthy adults, the minimum required to promote and maintain health is 30 minutes of moderate physical activity on 5 days a week or at least 20 minutes of vigorous physical activity on 3 days a week. Young people should participate in 60 minutes or more of MVPA daily in forms that are developmentally appropriate, are enjoyable and that involve a variety of activities. Greater benefit is derived by exceeding these minimum recommendations.

Despite the clear benefits of physical activity, The world health report 2002 (19) estimated that insufficient physical activity in adults was associated with 600 000 deaths per year in the European Region alone (6% of all deaths) and 5.3 million disability-adjusted life-years (DALYs) (3.5% of all DALYs). In many countries, a significant proportion of health expenditure is related to costs incurred by lack of physical activity and obesity. An increasing incidence of obesity-related chronic diseases in adolescents, such as type II diabetes and hypertension, foretell a larger burden of disease if no appropriate action is taken.

The key determinants of physical activity include demographic factors (such as age and socioeconomic status), psychological factors (such as perceived competence and enjoyment), social factors (such as encouragement from parents or peers and cultural attitudes) and the physical environment (such as the availability of opportunities to be active). In addition to environmental conditions, physical education in schools is important to the total amount of physical activity undertaken by children. Recent

publications (20–22) highlight this issue and show that the amount of physical education at school and the way it is organized vary from country to country.

Mobility in everyday transport, such as walking, cycling and using public transportation, contribute significantly to maintaining adequate levels of physical activity. Fear of traffic can be a powerful deterrent for parents wishing to allow their children to walk or cycle to school or play outdoors, especially in deprived areas often characterized by poor road safety and fast traffic (23). Longer travelling distances, fewer green spaces and urban planning policies resulting in increasing urban sprawl play an important role in discouraging physical activity and increasing dependence on motor transport (24,25). Promoting healthy mobility offers win-win opportunities to address issues such as healthy urban planning, sustainable transport and improved traffic safety through collaboration with other sectors (10–12).

Children, especially those from lower socioeconomic groups, have more difficulty in affording the healthiest foods and have less free time and access to leisure facilities or live in environments that do not support physical activity (26); thus, they have a higher probability of indulging in unhealthy types of behaviour (such as spending more time watching television) that increase their risk of becoming obese. Further, lower socioeconomic groups often have a poorer awareness of the benefits of an active lifestyle. It is therefore important to develop opportunities adapted to the needs and possibilities of these groups of the population.

POLICY RELEVANCE AND CONTEXT

Policies promoting physical activity in children and adolescents are still a relatively new field for action. Recent policy developments at global level and in the Region, as well as at European Union (EU) level follow several principles targeting the key determinants of physical activity, as stated in the previous section (25).

The WHO Global Strategy on Diet, Physical Activity and Health (26) reflected Member States' increasing recognition that physical activity must be considered alongside a healthy and balanced diet in the fight against the growing NCD burden. WHO and other agencies are actively collaborating with sports bodies in programmes such as Sports for All, aimed at increasing access to sport across population groups. A special focus is being placed on partnership-based action to promote physical activity and sport among both boys and girls and both in and out of school.¹ The Action Plan for the Global Strategy for the Prevention and Control of NCD (27) was endorsed at by the World Health Assembly in May 2009. The Action Plan advocates for providing and encouraging healthy choices through the development of strategies for reducing risk factors for NCDs, including low levels of physical activity.

As part of the activities to implement the Global Strategy and the NCD Action Plan, the European Charter on Counteracting Obesity was adopted in November 2006 at the WHO European Ministerial Conference on Counteracting Obesity (28). It recognized the role of physical activity beyond the benefits related to reducing overweight and obesity. The Charter endorsed a vision of societies “where healthy lifestyles related to diet and physical activity are the norm”, and “where healthy choices are made more accessible and easy for individuals”. This means not only the classic health promotion approaches but also the creation of opportunities for daily physical activity, such as by promoting cycling and walking through better urban design and transport policies.

The document Promoting physical activity for health – a framework for action in the WHO European Region (29), also presented at the Ministerial Conference, provides guidance to Member States, experts and policy-makers on designing and implementing policies and activities that, through multisectoral cooperation, promote physical activity as part of the national public health agenda (29). Evidence-based guidance is available (21–24).

In 2004, the Fourth Ministerial Conference on Environment and Health adopted the Children's Health and Environment Action Plan for Europe (30), which includes four regional priority goals to reduce the burden of environment-related diseases in children. One of these goals aims to ensure protection from injuries and to promote the provision of environments that allow adequate levels of physical activity.

In 2005, the EU launched the Platform on Diet, Physical Activity and Health (11). To date, the Platform involves 34 organizations ranging from the food industry to nongovernmental organizations in the fields of consumer protection, sport, fitness and cycling. Under the leadership of the European Commission, the Platform brings together stakeholders from commercial, professional, consumer and

¹ See <http://www.who.int/dietphysicalactivity/publications/facts/pa/en/>.

other civil organizations to take voluntary action to counteract the rise in obesity, particularly among children.

In 2007, the Commission launched the White Paper "A strategy for Europe on nutrition, overweight and obesity related health issues", which sets out an integrated EU approach to contribute to reducing ill health due to poor nutrition, overweight and obesity, and also address poor diets and low physical activity levels in general (31).

In the same year, the White Paper on sport (32) was launched, emphasizing the role of sport as a tool for health-enhancing physical activity and proposing physical activity guidelines. The final draft of these guidelines was endorsed by ministers and directors of sport from the EU Member States in November 2008 (33). The White Paper on sport also recommended strengthening cooperation between the health, education and sport sectors at ministerial level in order to define and implement coherent strategies to reduce overweight, obesity and other health risks. The Commission is planning to support a EU health-enhancing physical activity (HEPA) network, building on the existing European network for the promotion of health-enhancing physical activity, HEPA Europe (34).

ASSESSMENT

On average, about half of European children and adolescents (53.1% of boys and 44.1% of girls) were physically active for at least 5 days per week when they were 11 years old. There were large cross-national differences in reported daily MVPA in all three age groups, ranging from 37.9% in the Russian Federation to 80.2% in Ireland for 11-year-old boys and from 23.8% in Portugal to 71.4% in Finland for girls of the same age (Fig. 1).

Factors that may explain some of the wide geographical differences include environmental features supporting physical activity (particularly possibilities for active travel to school), the availability of leisure facilities, and supportive built and social environments. WHO has indicated that opportunities to be physically active are unequally distributed among countries (35). Almost three quarters of EU citizens agreed that they had many opportunities to be physically active in the area where they lived. In new EU Member States, however, only a minority of respondents shared the same belief. Countries in which respondents declared that they never engaged in vigorous physical activity were also those where local opportunities were considered most inadequate.

In both boys and girls, reported levels of daily MVPA declined with age: Fig. 2 shows that about 53% of boys and 44% of girls reported taking physical activity at the recommended level when they were 11 years old but that this fell to 49.8% and 36.8%, respectively, in 13-year-olds and to 43% and 28.3%, respectively, in 15-year-olds.

A positive development can be observed when comparing the results of the 2005/2006 and 2000/2001 surveys. For all age groups and for both boys and girls, the median percentage of children reporting to be physically active at the required level is higher in 2005 than in 2001 (Fig. 2). From 2001 to 2005, the average level of those reporting to be physically active at least 5 days a week increased by 6% and 10% in 11-year-old boys and girls, respectively (data not shown) and by 5.7% and 9.1% in 13-year-old boys and girls, respectively (data not shown). For 15-year-olds, the level of physical activity was lower than for 11-year-olds (data not shown), although between 2001 and 2005 there was a 9% increase among boys and a 8.4% increase among girls (Fig. 2).

In summary, on a Regional population scale, a large proportion of young people (particularly girls) are not physically active enough to meet current recommendations, although there are first indications of a positive development. Efforts are needed to increase physical activity at all ages and to provide opportunities for remaining active throughout life. Further, since it is likely that physically active children will also be more active in later life than inactive ones, increasing and maintaining active behaviour in young people is of even greater importance.

The HBSC study should be continued, using the same methodology and wider participation of all Member States of the European Region, to allow for geographical patterns and time trends to be assessed.

DATA UNDERLYING THE INDICATOR

Data source

HBSC 2005/2006 study (2).

Description of data

In the HBSC 2005/2006 survey, young people were asked to report the number of days during the previous week that they were physically active for a total of at least 60 minutes per day. The question was preceded by an explanatory text that defined MVPA as “any activity that increases your heart rate and makes you get out of breath some of the time” (1) and gave examples of such activities. For this fact sheet, a special analysis was conducted to determine the proportion of children who reported being physically active for between 5 and 7 days per week.

The original measure, used in the HBSC 2001/02 survey, comprises two items: the amount of physical activity in the past seven days and the amount of physical activity in a typical week; these were combined to give an average score. The latter item (typical week) was dropped; there is high correlation between the two items and, to conserve questionnaire space, only the past seven days is now included. Because the two items were highly correlated, however, the results of the two surveys are considered to be comparable.

Method of calculating the indicator

$100 \times (\text{NChild}/\text{TChild})$, where NChild is the number of children of a given age meeting the MVPA guidelines and TChild is the total number of children of a given age at school.

The response categories were: 0, 1, 2, 3, 4, 5, 6 and 7 days. A score of 5 or more classified the respondent as meeting the primary recommendation of more than one hour of moderate activity a day on most days. The percentage of children having between 5 and 7 days of MVPA was calculated.

Geographical coverage

The 2005/2006 survey was conducted in 41 countries and areas, including the following 36 countries and areas in the WHO European Region: Austria, Belgium (Flanders), Belgium (Wallonia), Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, the former Yugoslav Republic of Macedonia, Turkey, the United Kingdom (England, Scotland and Wales) and Ukraine. The number of countries and areas has increased from the 35 that were covered by the 2001/2002 survey.

Period of coverage

The 2005/2006 study.

Frequency of update

HBSC surveys are carried out at four-year intervals. The 2005/2006 survey was the seventh and most recent in the series.

Data quality

The data are collected in all participating countries and regions through school-based surveys, using the international research protocol.

For more information on meta-data and calculation of this indicator refer to the methodology.

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