

6. Physical Activity

People who are physically active have a lower risk of CHD. To produce the maximum benefit the activity needs to be regular and aerobic. Aerobic activity involves using the large muscle groups in the arms, legs and back steadily and rhythmically so that breathing and heart rate are significantly increased.

Recent research from the World Health Organization highlights the importance of physical inactivity as a major risk factor for CHD. The World Health Report 2002 estimates that around 3% of all disease burden in developed countries is caused by physical inactivity, and that between 1 and 24% of CHD in developed countries is due levels of physical activity below 2.5 hours moderate intensity activity per week¹.

Since 1996, the Government recommendation on physical activity is that adults should participate in a minimum of 30 minutes of at least moderate intensity activity (such as brisk walking, cycling or climbing the stairs) on five or more days of the week. In April 2004 the Chief Medical Officer restated this recommendation in his report *At least five a week*, and highlighted the importance of physical activity in the prevention of coronary heart disease, diabetes and obesity².

Overall levels of physical activity

Physical activity levels are low in the UK. The latest Health Survey for England data (1998) show only 37% of men and 25% of women meet the current guidelines suggested by the Government (Table 6.2)³. In addition, over one third of adults are currently inactive, that is participate in less than one occasion of 30 minutes activity a week (Table 6.2).

These findings are supported by data from the 2000/01 National Diet and Nutrition Survey which show that overall between two-thirds and three-quarters of adults in the UK do less than 30 minutes of activity on five or more days a week⁴.

Analysis of the 1998 Health Survey for England data shows that around two-thirds (64%) of the total activity in the population is due to activity at work, 12% to walking, 9% to housework, 7% to gardening and DIY, and just 8% to sport⁵.

Age and sex differences

Physical activity declines rapidly with increasing age for both men and women, although for women this decline does not begin until the mid-forties (Tables 6.2 and Figs 6.2a and 6.2b). Whereas 58% of men and 33% of women aged 16-24 are physically active for 30 minutes or more at least five days a week, this declines to 17% of men and 12% of women in the 65-74 age group (Table 6.2 and Figs 6.2a and 6.2b).

Physical activity in children

It is recommended that all children and young people aged 5-18 participate in physical activity of at least moderate intensity for one hour a day². In 2002 in England, 70% of boys aged 2-15 and 61% of girls, were active for at least an hour a day (Table 6.3)⁶. In girls, participation rates

decline with age after about age 10. By the age of 15, only 50% of girls reach the recommended level of activity (Table 6.3 and Fig 6.3).

Temporal trends

Over the last 25 years it appears that there has been a significant decrease in physical activity as part of daily routines, but a small increase in the proportion of people taking physical activity for leisure in the UK². Data from the National Travel Survey show that in England between 1975/76 and 2002 the average number of miles per year travelled by foot fell by around a quarter and by cycle by around a third. Over the same period the average number of miles per year travelled by car increased by just under 70% (Table 6.4)⁷.

Evidence on more recent trends in physical activity levels comes from the Health Survey for England. Between 1994 and 1998 the proportion of adults meeting the recommended level of physical activity remained stable at 37% in men and increased slightly, from 22% to 25% in women; but the proportion classified as sedentary (less than one occasion of physical activity of thirty minutes a week) increased from 30% in 1994 to 35% in 1998 in men, and from 35% to 41% in women (Table 6.2).

Health Survey for England trend data on children suggest that between 1997 and 2002 levels of physical activity increased in both boys and girls. However, as the questions on physical activity in children varied substantially between the two surveys this finding needs to be viewed with caution⁸.

Regional differences

In Scotland, levels of physical activity are similar to those found in England for adults between the ages of 16 to 54. However, among those aged 55-74, adults in Scotland are less likely to meet current recommended levels⁹.

Socio-economic differences

Socio-economic differences in physical activity are complex. In men, overall activity levels are greater in manual social classes than in non-manual classes: half of those working in unskilled manual employment meet current recommended levels compared to just under a third of those in professional jobs. In women, however, there is no clear pattern according to social class in the proportion meeting the recommended activity level (Table 6.4).

The type of activity, however, does vary with social class in men and women, with more work related activity in manual classes (especially in men) and sports activity (especially in women) in non-manual classes¹⁰.

Overall activity levels vary by household income in men, being highest among those with mid-range household incomes and lowest at both extremes of the income distribution. No pattern is apparent in women (Table 6.5). However, participation in two specific types of physical activity, sports/exercise and walking, increases with income in both men and women¹¹.

Ethnic differences

Compared with the general population, South Asian and Chinese men and women are less likely to participate in physical activity, with the lowest levels found in the Bangladeshi community. Only 18% of Bangladeshi men and 7% of Bangladeshi women meet the current recommended physical activity levels (30 minutes activity on five or more days a week). Black Caribbean men and women are the most likely to be physically active at the recommended level (Table 6.6 and Fig 6.6).

International differences

Levels of activity vary across European member states, with levels of activity in the UK falling below the EU average (Table 6.7 and Fig 6.7).

Public health targets

Recent data from the Scottish Health Survey suggest good progress towards Scotland's physical activity targets for men and women (Fig 6.1).

A target for physical activity in England has recently been proposed by the Government's Strategy Unit: to increase the proportion of the adult population who participate in 30 minutes of moderate physical activity five or more times a week to 70% by 2020 (Table 6.1)¹². This is a very ambitious target requiring participation levels in England to more than double in less than 20 years.

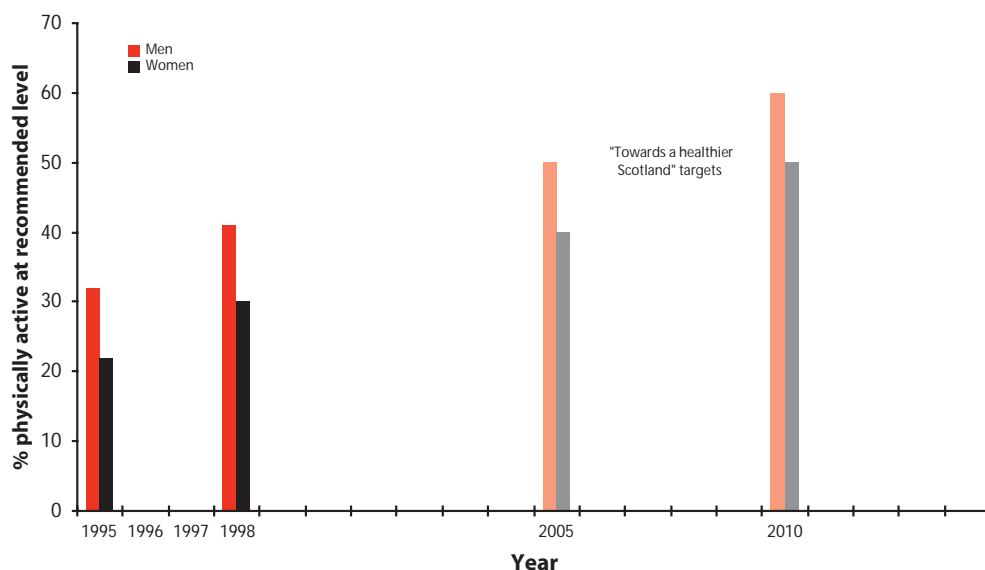
1. World Health Organization (2002) *The World Health Report 2002. Reducing Risks, Promoting Healthy Life*. World Health Organization: Geneva.
2. Department of Health (2004) *At least five a week: evidence on the impact of physical activity and its relationship to health*. Department of Health: London. See www.dh.gov.uk/assetRoot/04/08/09/81/04080981.pdf
3. *In 1998 in Scotland 37% men and 27% women were physically active at the recommended levels*. The Scottish Executive Department of Health (2000) *The Scottish Health Survey 1998*. The Stationery Office: Edinburgh.
4. Office for National Statistics (2004) *National Diet and Nutrition Survey: adults aged 19 to 64 years. Volume 4: Nutritional status (anthropometry and blood analytes), blood pressure and physical activity*. The Stationary Office: London.
5. *Analysis of 1998 Health Survey for England data presented in Sustrans March 2004 Information Sheet FH04, Active travel as physical activity promotion*.
6. *These data are self-reports of physical activity. An important limitation of this data is the tendency among some children/parents to over-claim levels of physical activity, quoting what they believe the child should do rather than what was actually done*.
7. *This survey records journeys on public highways, but excludes walking or cycling for leisure*. For the latest edition (2002) See www.dft.gov.uk/stellent/groups/dft_transstats/documents/page/dft_transstats_028347.hcsp
8. *For a comparison of children's activity levels in 1997 and 2002, see section 4.2.6 of the 2002 Health Survey for England at www.official-documents.co.uk/document/deps/doh/survey02/hse02.htm*
9. *For detailed statistics on the level of physical activity in Scotland see www.heartstats.org/scotland*
10. See Figure 5.14 p211, *Joint Health Surveys Unit (1999) Health Survey for England 1998*. The Stationery Office: London.
11. See Figure 5.1, p193, *Joint Health Surveys Unit (1999) Health Survey for England 1998*. The Stationery Office: London.
12. *Strategy Unit (2002) Game Plan: a strategy for delivering Government's sport and physical activity objectives*. A joint Department of Culture, Media and Sport and Strategy Unit Report. See www.number-10.gov.uk/su/sport/report/01.htm

Table 6.1 *Physical activity targets for the United Kingdom*

England¹ Adults	By 2020, 70% of individuals to be undertaking 30 minutes of physical activity on at least 5 days a week. An interim target of 50% of individuals by 2011
Wales²	No target set
Scotland³ Men - <i>Second Rank Target</i>	To increase the proportion of men aged 16-64 taking 30 minutes of moderate activity on 5 or more occasions each week, from 32% in 1995 to 50% by 2005 and 60% by 2010
Women - <i>Second Rank Target</i>	To increase the proportion of women aged 16-64 taking 30 minutes of moderate activity on 5 or more occasions each week, from 22% in 1995 to 40% by 2005 and 50% by 2010
Young people - <i>Second Rank Target</i>	To increase the proportion of 11-15 year olds taking vigorous exercise 4 times or more weekly, from 32% in 1994 to 40% in 2005 and 50% in 2010
Northern Ireland⁴	No target set

1. Joint Department of Culture, Media and Sport and Strategy Unit Report (2002) *Game Plan: a strategy for delivering Government's sport and physical activity objectives*. Strategy Unit: London.
2. The Welsh Assembly Government is currently developing new determinants of health indicators. The first stage of this work is underway and includes a focus on CHD. See the Chief Medical Officer Wales website, www.cmo.wales.gov.uk/content/work/health-gain-targets/determinants-of-health-e.htm
3. The Scottish Office (1993) *Towards a Healthier Scotland*. The Scottish Office: Edinburgh.
4. New strategies for CVD in Northern Ireland are being developed by the Department of Health, Social Services and Public Safety and will be issued for consultation later in 2004.

Fig 6.1 Physical activity levels, 1995 and 1998, Scotland, with "Towards a healthier Scotland" national targets



Source: The Scottish Executive Department of Health (2000) The Scottish Health Survey 1998. The Stationery Office: Edinburgh and previous edition.

Table 6.2 Physical activity level by sex and age, 1994 and 1998, England

Summary physical activity level*		All ages	16-24	25-34	35-44	45-54	55-64	65-74	75 & over
		%	%	%	%	%	%	%	%
MEN									
1994									
Group 1 - Low		30	17	19	24	28	37	46	67
Group 2 - Medium		34	33	36	33	32	33	38	26
Group 3 - High		37	50	45	43	40	30	16	7
1998									
Group 1 - Low		35	16	22	28	33	44	52	72
Group 2 - Medium		28	26	30	29	31	24	31	21
Group 3 - High		37	58	48	43	36	32	17	7
Bases	1994	7,177	968	1,434	1,329	1,127	1,001	877	441
	1998	7,193	875	1,338	1,305	1,289	987	837	562
WOMEN									
1994									
Group 1 - Low		35	27	24	25	27	37	51	75
Group 2 - Medium		43	44	49	49	46	43	39	21
Group 3 - High		22	29	28	27	27	21	10	5
1998									
Group 1 - Low		41	33	28	29	34	42	61	82
Group 2 - Medium		34	35	41	39	37	37	28	14
Group 3 - High		25	32	31	32	30	21	12	4
Bases	1994	8,627	1,080	1,723	1,520	1,300	1,059	1,120	825
	1998	8,715	1,006	1,630	1,573	1,484	1,148	967	907

Adults aged 16 and over.

* Group 3= 30 minutes or more on at least five days a week;
Group 2= 30 minutes or more on one to four days a week;
Group 1= lower level of activity.

Source: Joint Health Surveys Unit (1999) Health Survey for England 1998. The Stationery Office: London.

Fig 6.2a *Physical activity level by age, men, 1998, England*

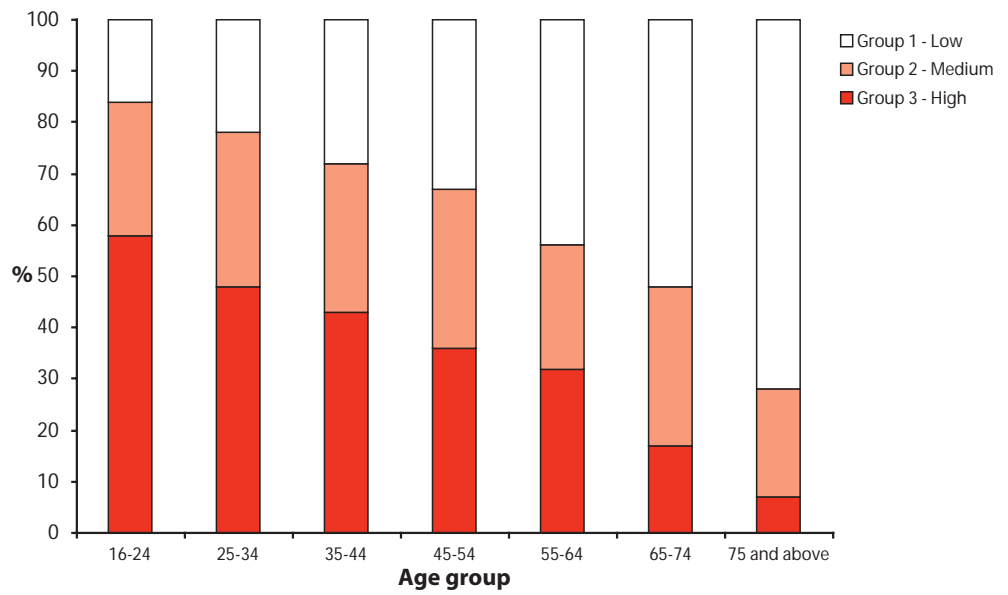


Fig 6.2b *Physical activity level by age, women, 1998, England*

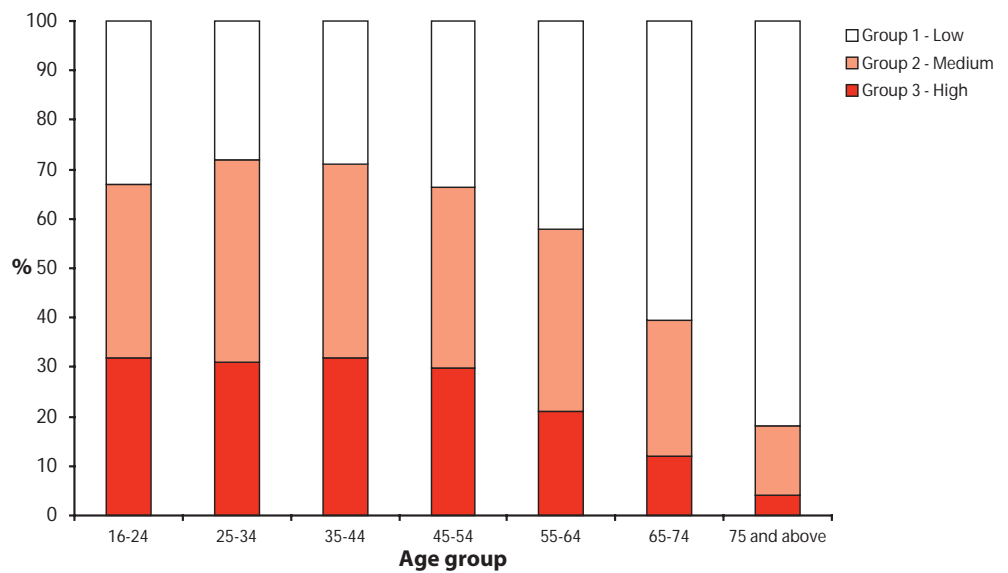


Table 6.3 *Physical activity level among children aged 2-15, by sex and age, 2002, England*

Summary physical activity level*	Total %	Age (years)													
		2	3	4	5	6	7	8	9	10	11	12	13	14	15
MALES															
Group 1- Low	17	20	12	12	17	16	14	18	17	16	14	18	15	24	17
Group 2- Medium	13	13	12	15	17	14	15	14	14	12	9	11	17	14	14
Group 3- High	70	67	76	73	67	70	71	68	69	72	77	71	69	62	69
% physically active at the recommended level	70	67	76	73	67	70	71	68	69	72	77	71	69	62	69
Base (weighted)	4,201	283	266	285	287	304	336	317	296	331	322	299	290	309	275
FEMALES															
Group 1- Low	22	23	11	21	18	18	22	19	23	17	20	26	27	35	35
Group 2- Medium	16	12	11	14	16	13	13	19	15	17	16	22	23	21	15
Group 3- High	61	65	78	65	66	69	65	62	62	66	64	52	50	44	50
% physically active at the recommended level	61	65	78	65	66	69	65	62	62	66	64	52	50	44	50
Base (weighted)	4,058	283	278	261	301	296	298	300	300	281	310	304	296	280	270

* Group 3= 60 minutes or more on all 7 days in last week;
 Group 2= 30-59 minutes on all 7 days;
 Group 1= lower level of activity.

Source: Joint Health Surveys Unit (2003) Health Survey for England: The Health of Children and Young People 2002. The Stationery Office: London

Fig 6.3 *Proportion of children participating in at least 60 minutes of physical activity daily, 2002, England.*

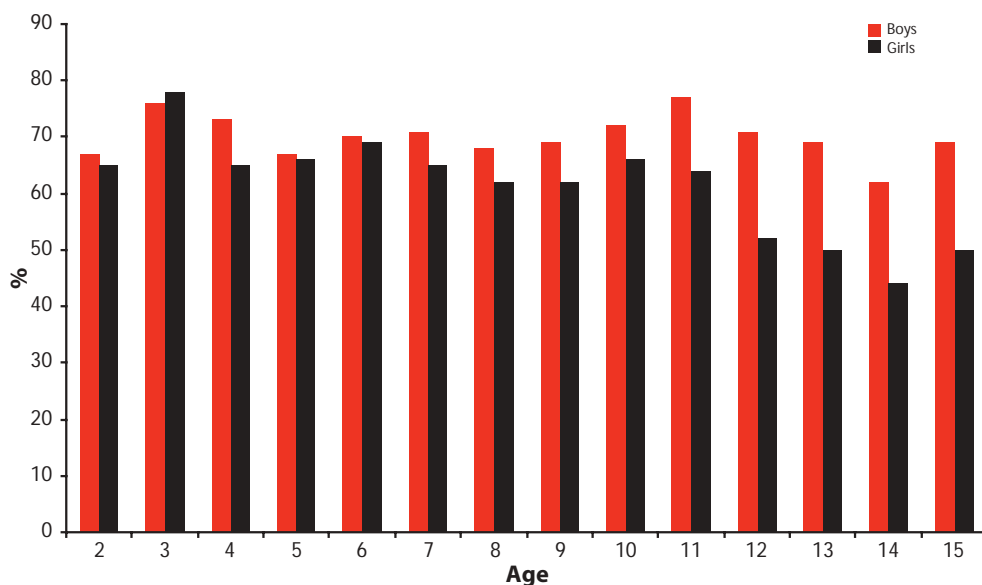


Table 6.4 Physical activity level by sex and social class, 1998, England

	<i>Social class of head of household</i>					
	I	II	IIINM	IIIM	IV	V
Summary physical activity level*	%	%	%	%	%	%
MEN						
Group 1 - Low	33	33	36	32	34	29
Group 2 - Medium	36	35	31	22	23	20
Group 3 - High	31	32	33	46	44	50
Base	503	2178	718	2265	1042	335
WOMEN						
Group 1 - Low	37	40	41	42	43	40
Group 2 - Medium	42	34	33	33	33	35
Group 3 - High	21	26	26	25	24	25
Base	515	2499	1346	2209	1374	498

Adults aged 16 and over.

Age-standardised percentages. For method of age standardisation see source.

* Group 3= 30 minutes or more physical activity on at least five days a week;

Group 2= 30 minutes or more on one to four days a week;

Group 1= lower level of activity.

Source: Joint Health Surveys Unit (1999) Health Survey for England 1998. The Stationery Office: London.

Table 6.5 Physical activity level by sex and income, 1998, England

	<i>Equivalent household income quintile</i>				
	Up to £7,186	£7,187 to £10,834	£10,835 to £17,890	£17,891 to £27,705	Over £27,705
Summary physical activity level*	%	%	%	%	%
MEN					
Group 1 - Low	42	29	31	28	31
Group 2 - Medium	26	21	25	29	36
Group 3 - High	32	40	44	43	34
Base	1002	1004	1441	1394	1362
WOMEN					
Group 1 - Low	45	43	37	41	39
Group 2 - Medium	32	32	36	33	37
Group 3 - High	23	24	27	26	24
Base	1413	1489	1653	1493	1385

Adults aged 16 and over.

Age-standardised percentages. For method of age-standardisation see source.

* Group 3= 30 minutes or more physical activity on at least five days a week;

Group 2= 30 minutes or more on one to four days a week;

Group 1= lower level of activity.

Source: Joint Health Surveys Unit (1999) Health Survey for England 1998. The Stationery Office: London.

Table 6.6 *Physical activity by sex and ethnic group, 1999, England*

	General Population	Black Caribbean	Indian	Pakistani	Bangladeshi	Chinese	Irish
<i>Number of days of 30 minutes or more moderate or vigorous activity per week</i>	%	%	%	%	%	%	%
MEN							
None in past four weeks	23	25	34	41	59	35	25
5 or more days per week*	33	37	28	23	18	20	32
<i>Base</i>	43,301	367	595	358	137	96	1,546
WOMEN							
None in past four weeks	28	31	42	50	65	39	26
5 or more days per week*	21	25	14	13	7	16	24
<i>Base</i>	51,813	503	616	370	139	113	1,988

Adults aged 16 and over.

Age-standardised percentages (standardised risk ratios x percentage in general population). For observed values see source.

Source: Joint Health Surveys Unit (2001) Health Survey for England 1999. The Health of Minority Ethnic Groups. The Stationery Office: London.

Fig 6.6 *Percentage of adults participating in 30 minutes or more physical activity on at least 5 days a week, by sex and ethnic group, 1999, England*

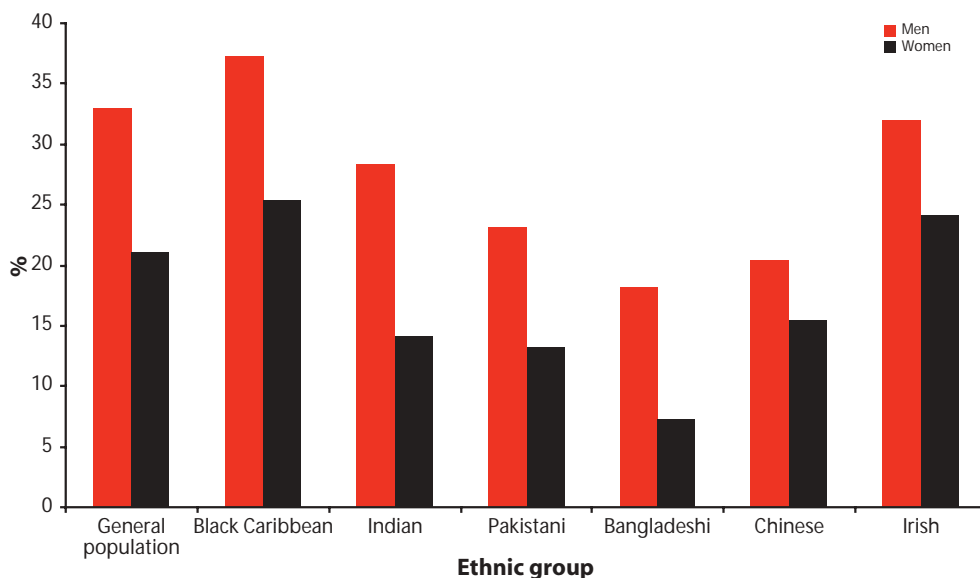


Table 6.7 *Number of hours spent participating in various physical activities in a typical week, adults aged 15 and over, 1997, European Union countries*

	None	<1hour	1-3 hours	3-5 hours	> 5hours
	%	%	%	%	%
Austria	16	4	18	20	42
Belgium	42	7	18	15	14
Denmark	24	6	16	22	30
Finland	10	5	18	26	41
France	36	7	20	20	16
Germany	31	6	19	19	24
Greece	40	4	18	22	16
Ireland	14	5	16	28	37
Italy	39	7	20	19	14
Luxembourg	20	8	19	21	30
Netherlands	19	6	18	18	38
Portugal	61	7	15	11	5
Spain	37	11	17	21	12
Sweden	12	4	16	23	45
United Kingdom	24	7	17	25	27
EU average*	32	7	18	21	21

* weighted according to population size

Source: Institute of European Food Studies, Trinity College, Dublin (1999). A Pan-EU Survey on Consumer Attitudes to Physical Activity, Body-weight and Health. IEFS: Dublin.

Fig 6.7 *Percentage of adults aged 15 and over who do no physical activity in a typical week, 1997, European Union countries*

