

1. INTRODUCTION

1.1 Objectives

The levels of affluence which are found in the developed world today have had a generally positive effect on people's health. Good nutrition, high levels of sanitation, good quality housing and widespread access to modern medical services have massively improved people's overall physical well-being and increased their resistance to degenerative as well as infectious diseases. The consequences are evident in the huge gains both in overall life expectancy and in disability-free life expectancy which have occurred over the past century and which show every sign of continuing into the future (Fogel, 2004).

However, certain aspects of modern lifestyles have had less benign effects on health. As incomes have risen, it has become more possible for people to smoke tobacco, drink too much alcohol, eat too much food, particularly too much fatty foods, take too little physical exercise, and put on too much weight. These behaviours are bad for health and their prevalence has helped keep death rates from 'lifestyle diseases' at levels which otherwise could have been avoided. Negative aspects of today's lifestyles have not been strong enough to halt the general advance in health, but they have slowed it down and have become a target of intervention on that account.

This report focuses on one of these lifestyle factors – physical activity and inactivity. It is based on a broad-ranging survey of sport and physical activity in Ireland carried out in 2003 (see below). This survey dealt not only with participation in sport and physical exercise but also with social and economic aspects of sport such as membership of sports clubs, volunteering for sports, attendances at sporting fixtures, and expenditure on sports goods and activities.

From this broad range of topics, the present report focuses on those relating to participation in sports and physical activity. **The purpose of the report is to provide a descriptive account of levels and patterns of sport and leisure-time physical activity among adults in Ireland today, viewed from a health perspective, and thereby to draw implications for policy on the promotion of sport and physical exercise for public health purposes.** The report, and the survey on which it is based, is part of a programme of research on sport and physical activity being carried out by the Sports Research Centre in the ESRI. The Sports Research Centre is a joint initiative of the ESRI and Irish Sports Council that was established in 2003. Subsequent reports in this programme will examine sport and physical activity among young people using data

on a survey of sport in primary and post-primary schools that is currently underway.

The specific aims of this report are as follows:

1. outline briefly the main findings of international research on:
 - the importance of leisure-time physical activity for health;
 - levels and trends in such activity in developed countries;
 - the role of sports promotion in addressing inactivity;
2. describe levels and patterns of sports participation among adults in Ireland;
3. identify those who are most likely to have low levels of participation and possible reasons for low participation;
4. outline the physical and psychological health profiles of those with differing levels of participation;
5. draw implications for sports promotion policy.

1.2 Policy Context

This study takes place in a context where policy on promoting physical exercise as a means to improving public health in Ireland is relatively new and is in need of both good information and effective methods of intervention. Physical activity first became a formal concern of Irish health policy in the national health promotion strategy, *Making the Healthier Choice the Easier Choice*, which was published in 1995 (Department of Health and Children, Health Promotion Unit 1995). This strategy set ambitious targets – an increase of 30 per cent by the year 2000 in the proportion of the adult population engaged in light physical activity at least five days per week and an increase of 20 per cent in the proportion of the adult population engaged in more intensive exercise at least three times per week. However, as we shall see further in Chapter 2 below, targets such as these are difficult to achieve. By the year 2000, there was little indication that there had been much change in public behaviour in the required direction (Department of Health and Children, 2000, p. 72). The Health Boards set up a Physical Activity Group to co-ordinate their work in this area in 1995 and they subsequently undertook some promotional work (Physical Activity Group, 1997; 2001).

The Irish Sports Council was set up in 1999. The promotion of physical activity for health purposes was an important part of its brief (Irish Sports Council, no date p. 10). It has launched a number of initiatives in this area, most importantly the setting up of Local Sports Partnerships in eight pilot sites in 2001, with a view to achieving full national coverage by 2005 (see www.irishsportsCouncil.ie/lsp.asp).

There has also been some innovation in regard to physical education in schools. While Irish schools have a long tradition of activity in a range of sports, the education system has been criticised for the lack of a coherent, comprehensive approach to physical

education (Mac Donncha, 2002). However, the field has been under review by the National Council for Curriculum and Assessment, and a new Physical Education curriculum for Junior Cycle was published in 2003 (Department of Education and Science, 2003).

With all these innovations in policy, there was a growing recognition that patterns of physical activity and the factors likely to affect them were insufficiently understood and needed a stronger information base. It is against this background that the present study was undertaken.

1.3 Data

The report is based on the **Survey of Sport and Physical Exercise** which was carried out by the Survey Unit of the ESRI in July-September 2003. This survey was based on a national random sample drawn from the electoral registers and was conducted by means of face-to-face in-home interviews. The achieved sample size was 3,080 individuals, which represented a response rate of 67 per cent on the originally selected sample. The population from which this sample was drawn amounts to 2,888,000 people.

Table 1.1: The Adult Sample Profile on Age and Sex Conforms Closely to Census 2002 Population Profile

Age	Sports Survey Adult Sample		Census 2002	
		Per cent		Per cent
18-24 years		15.3		18.0
25-29 years		7.9		9.7
30-39 years		17.6		19.3
40-49 years		17.9		17.6
50-65 years		24.7		20.5
65+ years		16.5		14.8
Total		100		100
Gender				
Male		48.9		49.1
Female		51.1		50.9

The sample has been re-weighted by age, sex, and region to achieve exact conformity with Census 2002.

1.4 Scope of Study

In this study, attention is focused on *leisure-time sport and physical activity*. There is no reference to physical activity arising from work (such as cycling or walking to work or physical exertion engaged in as part of one's job). This limitation is common in international research in this field, since comprehensive survey-based measures of physical activity which span both leisure time and the working day are difficult to design and field (US Department of Health and Social Services, 1996, pp. 29-32). In addition, the primary remit of the survey on which the report is based was to study sport rather than health lifestyles or occupational activity – it was not a health or working conditions survey. It therefore restricted its interest in physical activities to those which could be encompassed within an inclusive definition of sport.

There is no widely agreed, hard-and-fast definition of sport and many *ad hoc* decisions about what to include and what to exclude under the term have to be made. In the present instance, following the practice adopted in many similar surveys in other countries, walking for leisure purposes is included, but certain other kinds of leisure-time physical activity, such as dancing or gardening, are not, even though the latter can be important sources of exercise for some people. The focus on physical activity rules out sedentary past-times such as chess or card playing which might be considered as sports in other contexts.

A dedicated survey on recreational walking was recently carried out by the ESRI for the National Waymarked Advisory Committee of the Irish Sports Council (Curtis and Williams, 2003). As that survey provided a detailed account of walking, the present survey confined itself to a limited number of items on walking and devoted most of its attention to other activities. Data from the survey on walking are drawn on to supplement the present data on walking as appropriate at various points in the present report.

1.5 Validity of Measures

The data used in this report are based on self-reports of physical activity by respondents in a large-scale sample survey. This is the most widely used method of measuring physical activity levels in large populations. Compared to other possible methods, such as direct monitoring using behavioural observation or mechanical measurement devices, it is not too costly, is easy to administer and is generally acceptable to respondents.

However, physical activity levels, like all health-related behaviours, are difficult to measure validly using survey techniques. Self-reports of activity levels are liable to various distortions, such as those arising from inaccurate recall and exaggeration. The degree of distortion either in any particular survey or in self-reports in general is difficult to establish, since there are no external sources of evidence that might provide less error-prone bases for comparison.

A particular concern arises from the restriction of the scope of survey measures to *leisure* activities (as is the usual practice in surveys of the present kind, as mentioned earlier). This restriction may lead to some understatement of the levels of physical activity in the population. According to census data, for example, 6 per cent of the adult population in Ireland walk to work, and the vast majority of these walk more than a mile each way (Central Statistics Office, 2004: Table 60A). This is a substantial form of activity that is defined as outside the scope of the present survey. However, this is not to say that there is a corresponding underestimate of the proportion of the population who are physically active. Many of those in the present survey sample who walk to work may report that as an activity for the purposes of the survey. A proportion may also undertake sufficient additional activity that they would be counted in the survey as physically active anyway, whether or not they included their walk to work. One also has to keep in mind that 'worthy' behaviours such as being physically active tend to be somewhat

over-reported in surveys. As a result, underestimates which arise from excluding walking to work may be counterbalanced by overestimates resulting from over-reporting. In general, therefore, it is unlikely that the focus on leisure-related activity in the present survey leads to substantial understatement of the levels of physical activity in the population.

Despite the questions which might justifiably be raised about the validity of survey-based measures of physical activity of the present kind, they have nevertheless proved effective as predictors of various kinds of illness (see Chapter 2 below). The strong and consistent correlations that have been found between various kinds of self-reports of physical activity and subsequent morbidity and mortality rates have proved to be the strongest validators of the measures. Thus, as the US Surgeon General's review of methods in this area concluded, "although measurement of physical activity by currently available methods may be far from ideal, it has provided a means to investigate and demonstrate important health benefits of physical activity" (US Department of Health and Human Services, 1996, p. 36).

2. THE INTERNATIONAL RESEARCH CONTEXT

2.1 Introduction

This chapter provides a brief summary of the state of knowledge in international research on three issues:

1. the contribution of physical activity to health;
2. trends and levels in physical activity;
3. the role of sports promotion in raising the level of physical activity in adult populations.

2.2 Contribution of Physical Activity to Health

THE HEALTH BENEFITS OF PHYSICAL EXERCISE

Recognition of the health benefits of physical exercise dates back to classical times and has regularly been a subject of health advice literature down through the centuries. However, it was not until the second half of the twentieth century that systematic evidence began to accumulate on the precise benefits for health of different kinds of physical activity.

The consensus now is that the health costs of physical inactivity and the health benefits of even modest levels of activity are great. According to the WHO Regional Office for Europe, “**eliminating physical inactivity would result in 15-39 per cent less coronary heart disease, 33 per cent less stroke, 12 per cent less hypertension, 12-15 per cent less diabetes, 22-33 per cent less colon cancer, 5-12 per cent less breast cancer and 18 per cent less osteoporotic fractures**” (WHO Europe, 2002, p. 79). The same WHO report also refers to the results of Finnish research which showed that the most active men spent 36 per cent fewer days in hospital and the most active women 23 per cent fewer days in hospital compared to the least active people.

A landmark review of knowledge on physical activity and health by the US Surgeon General in 1996 concluded that regular physical activity reduced overall mortality rates among both older and younger adults and had positive effects in lowering the incidence of cardiovascular disease, especially coronary heart disease; colon cancer; non-insulin-dependent diabetes; osteoarthritis; osteoporosis; the risk of falling among older people; and obesity. Physical activity also promoted mental health and psychological well being, particularly in regard to depression, anxiety and mood. Certain adverse effects from physical activity could also arise, as in the case of osteoarthritis among competitive athletes later in life (US

Department of Health and Human Services, 1996, pp.81-150). There has also been some evidence from European research that some forms of sports participation may be associated with unhealthy lifestyle behaviours, such as heavy consumption of alcohol linked to the social side of sport (Watten, 1995). Nevertheless, the net effect of physical activity has been found to be undoubtedly positive.

The World Health Organisation has documented the rapidly rising incidence of lifestyle diseases in the developing as well as the developed world and has identified the interacting effects of diet and physical inactivity as the major contributory factors to those diseases (WHO 2002; 2003). Poor countries thus have a double burden of health risks: they have not yet escaped the ravages of infectious diseases and have at the same time become increasingly prone to the lifestyle diseases which formerly were associated solely with richer countries (WHO, 2002).

HOW MUCH PHYSICAL ACTIVITY IS NEEDED?

While there is now a general consensus that physical activity has strong positive health effects and physical inactivity is a major contributor to ill-health, there is less certainty on the minimum amount or the type of physical activity needed to produce health benefits. In the 1960s and 1970s, the main focus was on the level of vigorous exercise needed to develop basic physical fitness. An influential set of guidelines issued by the American College of Sports Medicine in 1978 had recommended that as a minimum basis for fitness people should take part in 20 minutes of intense exercise three times a week (that is, exercise that was vigorous enough to work up a sweat) (ACSM, 1978). These guidelines implied that people should engage regularly in fitness-oriented aerobically intensive exercise in order to safeguard their health.

Subsequently, however, researchers and fitness practitioners began to question whether these guidelines were of much relevance to large segments of the adult population in developed countries. Population studies showed that totally sedentary lifestyles were commonplace and that the activity levels recommended by the American College of Sports Medicine were well beyond what many adults were willing to undertake. American research suggested that over 60 per cent of adults were not physically active on a regular basis and 25 per cent took no exercise at all (US Department of Health and Human Services, 1996). Similar levels of inactivity were found in many countries around the world (WHO, 2003). The possibility arose that guidelines emphasising the need for vigorous exercise might set the bar too high and discourage people from engaging in *any* physical activity for health purposes.

Evidence also began to suggest that physical activity which was at too low a level to improve *fitness* (e.g. to increase the capacity of muscles and the blood to absorb oxygen) could nevertheless have beneficial effects on *health* (i.e., to reduce the risk of degenerative disease). For example, a small amount of energy expended as a result of physical activity, while of little significance from a fitness point of

view, appeared to lower cardiovascular mortality and to reduce the incidence of Type 2 diabetes and hypertension (Hardman, 1999). In particular, the conclusion was reached that it was more important for public health to reduce the numbers of those who were totally inactive than to increase the numbers who were seriously fit (Blair *et al.*, 2001).

THE ACCUMULATION APPROACH

Research along these lines gave rise to the notion that the accumulation of small bouts of physical activity could have similar health benefits to single continuous bouts if the energy expenditure was similar (e.g. three bouts of 10 minutes could be as good as one bout of 30 minutes). **This led to a new emphasis on the accumulation of physical exercise through the normal activities of daily living rather than on aerobically intensive exercises engaged in specifically for fitness purposes** (Hardman, 1999). This approach broadened the scope of possible health-beneficial physical activity beyond dedicated aerobic exercise to behaviours such as walking to work, climbing stairs and working in the garden (Boreham *et al.*, 2000). Paffenbarger *et al.* (1993), for example, took 20 flights of stairs per week as an activity threshold and found that men who climbed less than this threshold were at 23 per cent greater risk of premature death than men who climbed more than the threshold. Arising from such findings, a new concept of *health-enhancing physical activity* which embraced such daily behaviours was developed and promoted by the World Health Organisation (WHO Europe, 2002, p. 79).

Taking account of this new thinking, the American College of Sports Medicine issued a revised set of guidelines in 1990 (ACSM, 1990) and these formed the basis for a new international standard. The central recommendation of the new guidelines was the “accumulation of at least 30 minutes of moderate intensity physical activity on most, preferably all, days of the week”. These guidelines were not meant to replace the more demanding guidelines of 1978 but to complement them for the large numbers of people for whom the 1978 guidelines were too ambitious. It was felt that the widespread adoption of the new guidelines in the adult population could have enormous health benefits since the health effects of physical activity was greatest for those who moved from being sedentary to low or moderate levels of activity (Bouchard, 2001).

THE INTERNATIONAL STANDARD

The recommendation for an accumulated 30 minutes of moderate intensity activity for five or more days per week is now the most widely accepted international standard for minimum levels of physical activity for health (see, e.g. WHO, 2003) This is not to say that levels of physical activity below this minimum are of no benefit. Researchers now agree that any activity is better than none, and the health benefit increases as the level of activity rises from low to vigorous (US Department of Health and Human Services, 1996,

p. 146). The purpose of the recommended minimum of 30 minutes moderate activity is to set a target that large numbers of people can reasonably aim to attain and that is likely to produce real benefits for health. Activity can be increased beyond that minimum by increasing intensity, duration or frequency of the exercises undertaken. However, above 60 minutes of vigorous activity per day, further health benefits are likely to be limited (British Heart Foundation (BHF) National Centre for Physical Activity and Health 2004).

Many authorities also advise that people engage in minimum levels of ‘resistance training’, that is, exercise designed to strengthen muscle and bones. For example, the British Heart Foundation’s National Centre for Physical Activity and Health, 2004, in addition to its primary recommendation for at least 30 minutes of moderate physical activity for at least 5 days per week, makes a secondary recommendation that *twice a week people should undertake physical activity that promotes strength and flexibility* (BHF National Centre for Physical Activity and Health, 2004, p. 7).

2.3 Levels and Trends in Physical Activity

LIMITED DATA

Data on physical activity levels are poor in most countries and rely mainly on *ad hoc* surveys that provide little by way of information on trends over time. Harmonised cross-country data are also rare. However, cross-sectional data have begun to accumulate rapidly over the past decade, both in the developed and the developing world (WHO, 2002). While these data sources vary a great deal in quality and reliability and in the concepts and measures they use, they have begun to enable researchers to sketch in the broad picture of physical activity levels around the globe.

TRENDS

According to the WHO in Europe, Finland is one of the few countries to have instituted regular monitoring of physical activity levels in the population sufficiently long ago (in 1978) to have produced a lengthy time series. The Finnish data suggest that participation in a minimum level of weekly leisure-time activity (defined as ‘physical exercise in leisure-time at least twice a week’) increased over 20 years, from about 40 per cent to 60 per cent among both men and women (KTL–National Public Health Institute, 2002, pp. 143-146). On the other hand, occupation-related activity, such as cycling or walking to work, decreased steadily. In 1978, 30 per cent of Finnish men and 36 per cent of Finnish women said they spent at least 15 minutes daily walking or cycling to work. By 2002, those proportions had fallen to 22 per cent of men and 30 per cent of women. Reviewing these data, the conclusion drawn by the WHO was that, in Finland, “people exercise more but are physically less active” (WHO Europe, 2002: p. 79).

In the United States, the US Surgeon General’s report noted that “few national data are available on consistently measured trends in

physical activity” (US Department of Health and Human Services, 1996, p. 186). Stevens (1987) reviewed available indirect evidence and concluded that activity levels had risen in the United States during the 1960s, 1970s and early 1980s. However, there has been little indication of movement in activity levels either up or down since the mid-1980s (US Department of Health and Human Services, 1996).

CURRENT LEVELS

Whatever about trends over time, there is widespread agreement that inadequate levels of physical inactivity are now present among the majority of the population in many countries. **The WHO estimates that “world wide, more than 60 per cent of adults do not engage in sufficient levels of physical activity which are beneficial to their health”** (WHO, 2003, p. 2). In the US, it has been estimated that 60 per cent of the adult population in the US fall below the ACSM’s recommended minimum standard of physical activity (at least 30 minutes of moderate activities five or more days per week), while 25 per cent take part in no leisure-time physical activity at all (US Department of Health and Human Services, 1996, p. 200). In Europe, a pan-EU survey cited by the WHO Regional Office for Europe, used a different threshold – at least 3.5 hours per week of leisure-time physical activity – to quantify inactivity levels. It found that in the EU on average 41 per cent of the adult population were completely inactive, though this average European figure concealed wide cross-country differences in activity rates.

Apart from high overall levels of inadequate activity around the globe, research has also pointed to certain common patterns of inactivity. Inactivity is more common among women, among the old, among lower socio-economic groups and among the disabled (WHO, 2003). The decrease in inactivity begins in adolescence and continues throughout the adult years. According to the WHO, decreasing physical activity and physical education programmes in schools is an alarming trend worldwide (WHO, 2003).

2.4 The Role of Sports Promotion

Sport is an important arena of physical activity and is the main means by which many people get their physical exercise. Therefore sports promotion by public bodies can play a role in raising general levels of physical activity in the population. In considering what that role might be, three background factors have to be kept in mind.

1. **Public bodies which promote sport typically have a broad remit which can include many objectives besides raising the level of physical activity in the population.** A common objective, for example, is to raise performance among elite sports people and gain success in international competition. In addition, social, economic and cultural objectives may sometimes be included (see, for example, the draft sports strategy for Wales which includes objectives for employment and economic output in sport, cultural activities associated with

sport, and winning trophies in international sports competition, as well as raising activity levels in the general population – Welsh Assembly Government, 2003). Particular promotional activities may be directed at a number of these objectives at the same time. This complicates the task of measuring the level of effort devoted to raising physical activity in the population or of determining which promotional activities have an impact. For example, help given by a national sports body to an athlete who goes on to win a medal in the Olympics may do a great deal to promote that particular sport among young people, but the impact is difficult to measure or to compare with the effect of direct supports for the general population such as capital grants for community sports facilities.

2. **The promotion of sport and physical activity is a multi-sectoral responsibility, and the range of public agencies involved may be such that sports promotion bodies play only a part in the overall effort.** This is illustrated in the WHO's guidelines on national action plans on the promotion of physical activity for health (WHO, 2003, pp. 8-9). These guidelines refer to the health sector, the education and cultural sectors, the media, urban planning, transport agencies, local government, and financial and economic planning bodies as the sectors likely to have an influence on the level of sport and physical activity in the population. This diversity of public bodies with a role in sport makes it difficult to measure the overall level of public support for sport, to assess the outcomes of that support, or to attribute particular measured outcomes to one sector or type of sports promotion activity over another.
3. Private sector sports promotion for commercial reasons is a major business in modern societies and total expenditure in this area is likely to dwarf the amounts spent by public sports promotion bodies. The types of promotional activity undertaken by the private sector are very diverse. Examples include the promotion of professional sport to audiences of spectators, merchandising of sports goods, sponsorship of amateur and professional sporting activities, and the provision of sports facilities on a commercial basis (e.g. gyms, swimming pools, golf courses, etc.). In many cases, the boundary between public and private sports promotion in these areas is blurred, since private sports businesses sometimes receive large public subsidies. In the United States, for example, although public support for community and voluntary sports is limited, professional sports are often massively assisted by cities, particularly in the form of subventions for the construction and servicing of sports stadia (Baade, 2003). Private owners and investors in sport vary in the degree to which they are oriented to the profit motive – sometimes prestige, identity and group loyalty are more important motives (Sloane, 1977; Zimbalist, 2003). Whatever the motivation, the impact of physical activity levels in the population could be large. In some cases, that

impact is inherently difficult to assess. For example, the televising of high-profile professional soccer games – a major element of the entertainment industry in many parts of the world – might encourage some people to play soccer, but it might promote inactivity among others by giving them more reason to watch television. In other cases, the impact of private sports promotion is direct, large and positive (as in the case of commercial gyms and fitness centres or private golf courses which meet a general market demand for sports participation). In any event, the size and influence of the commercial sports and physical activity sector are likely to be so great as to dwarf the activities of public sports promotion bodies and to make it difficult to isolate the effects of public sports promotion programmes.

In sum, **the activities of public sports bodies should be seen as only one of a wide range of influences which are directly concerned with raising physical activity levels in the population in modern societies.** The promotion of physical activity among the public is likely to be only part of the remit of such bodies, other public bodies are likely to have a large role in the area, and the entire public effort in sports promotion could well be heavily outweighed by private sports-related businesses operating on market principles.

This has two implications for assessing the possible role of public sports promotion on physical activity among the public: first, that role is likely to be relatively small in the overall scheme of things, and second, its impact is likely to be difficult to separate out from the impact of other active agencies with any degree of certainty.

WHAT WORKS?

Over the past four decades, many national governments have instituted policies and programmes to increase physical activity levels in the population with a view to improving public health. **Despite the volume of activity, however, the armoury of interventions that have been proven to be effective is still extremely limited, both in their number and in the impact they seem capable of achieving.**

The lack of success in identifying effective forms of intervention arises in part because of a lack of reliable evaluation evidence, both in regard to physical activity and health promotion more generally. Evaluations in these areas are few in number and many of those that are undertaken are too short-term or insufficiently control for confounding factors to produce reliable results (Goodstadt *et al.*, 2001, pp. 521-522). The meagreness of evaluation results in turn reflects “the inherent difficulty of evaluating complex interventions that involve multi-level, multi-strategy interventions, have an extended time frame and have poor control over implementation of the initiative” (*ibid.* p. 522). The limited scope and funding for evaluation research in many initiatives is also a problem.

A more serious difficulty is that even though initiatives that are well-designed and properly evaluated can be shown to have a positive effect, that effect seems to be limited. The US Surgeon General's review of interventions to promote physical activity among adults in the United States and Canada concluded that many interventions had little or no effect, while among those that succeeded in raising physical activity among their target groups, "the effects have tended to be small, in the range 10-15 per cent, and short-lived" (US Department of Health and Human Services, 1996, p. 234).

High profile national campaigns have at best had mixed success. The 'Active Australia' campaign launched in 1997, for example, succeeded during its first three years in raising people's awareness of the benefits of physical activity for health and made more people feel they ought to take more physical exercise in the future. However, actual activity levels in the adult population fell over the same period. Between 1997 and 2000, the proportion of adults who achieved the minimum level of exercise (a total of 150 minutes per week spread over five sessions) declined from 51 per cent to 46 per cent, while the proportion who were completely sedentary rose from 13.4 per cent to 15.3 per cent (Bauman *et al.*, 2001, pp. 5-6).

Finnish public health programmes are often pointed to as world leaders in the field. Mention has already been made of the rise in the minimum levels of physical activity in the Finnish adult population from around 40 per cent in 1978 to over 60 per cent in 2002 (KTL-National Institute of Public Health, 2002).

The meagre results of physical activity promotion programmes have led practitioners to characterise research and experimentation in this and related areas of health promotion as "an emerging field" where comprehensive, effective strategies are still being sought (Rootman *et al.*, 2001).

THE ROLE OF SPORT

Although participation in sport is often thought of as an integral part of overall patterns of health-enhancing physical activity, the perspective of sports bodies and sports enthusiasts on this issue often differs from that of public health agencies. Foster (2001, p. 16) points out that sports bodies may see the promotion of non-team-based and everyday lifestyle activities as a distraction from sports skills, coaching and elite performance, as a competitor for the same limited pool of national and local resources, and as a goal that lies outside their experience and expertise. Therefore, they may have some reluctance to become involved in interventions dealing with the full range of health-enhancing physical activity. Their particular contribution in that context has to be carefully thought out and structured.

Furthermore, the forms of sport that are most relevant from a health promotion point of view are those which are relatively non-organised and informal such as walking, swimming and aerobics. These are the kinds of activities most likely to entice the main target

group from a health promotion point of view – the completely sedentary population – into at least minimum levels of physical activity. Foster asserts that the sedentary population is likely to be resistant to recommendations on exercise that mention sport. His advice is “Don’t tell them about sports but instead emphasise moderate physical activity” (Foster, 2001, p. 44).

Despite these limitations in the role of sport in raising the level of physical activity in the population, there are also important strengths in what it has to offer. The most important is the association between sport and fun: sport typically offers forms of physical activity that are appealing in their own right as well as being good for us.

2.5 Summary

The key points emerging from the brief review of the international research literature presented in this chapter can be summarised as follows:

1. Regular physical activity can have a wide range of health benefits and physical inactivity is a serious risk factor for poor health.
2. The most widely recommended minimum level of physical activity for health is an accumulated 30 minutes of moderate exercise on five days per week or more. The greatest health benefit is achieved by making the transition from complete inactivity to regular, moderate activity. Additional benefits can be gained by engaging in more vigorous, more frequent, or longer durations of activity.
3. The majority of the adult population in highly developed societies – of the order of 60 per cent – do not engage in the minimum level of activity recommended for health. A significant minority – of the order of 20-25 per cent – are completely inactive.
4. Sports promotion by public bodies has a role to play in raising the level of physical activity in populations. However, that role may be relatively modest, since effective methods of intervention in this area have proved difficult to devise and since actions to promote sport both by public bodies outside the immediate sports arena and by large commercial interests involved in sport may often be more extensive than those emerging from public sports bodies.

3. PARTICIPATION IN SPORTS AND PHYSICAL EXERCISE

3.1 Introduction

In this chapter we provide an overview of levels of participation in sport and physical activity in Ireland. We examine patterns of participation by gender, age and social class, distinguish between walking and other activities as forms of participation, make some brief comparisons with international levels of participation, and provide some detail on participation in individual sports.

3.2 Three Measures

Three types of measures of physical activity are used. These are as follows:

1. *Participation* measures: these establish whether respondents engaged in leisure-time physical activity. A *broad participation measure* established whether they participated at any time over the past twelve months. A *recent participation measure* was applied only to walking or hiking for leisure purposes and asked respondents if they had engaged in the activity at any time over the previous four weeks.
2. *Regularity* measures: these measures focused on those who did participate and asked respondents about two aspects of regularity – first, whether or not they had participated twelve times or more over the past twelve months and second, with reference to the peak two months of their participation, how many times per week or month they had participated.
3. *Intensity* measures: those who participated regularly were asked how vigorous their activity was, using a standard self-rated effort scale.¹

Of these three measures, the first is particularly important as it provides an indication of the level of sedentarism in the population, that is, of complete inactivity. Versions of this measure have been

¹ The scale is as follows: no effort – no increase in breathing; light effort – mild increase in breathing; moderate effort – noticeable increase in breathing; hard effort – heavy breathing, difficulty talking in full sentences; extremely hard effort – gasping for breath, not able to talk at all.

widely used in international research, though the reference period on which the measure is based may vary from a week to a year (see Baumann *et al.*, 2002 for a version similar to that used here). As we saw in the previous chapter, the transition from sedentarism to even low of levels of activity has special significance from a health point of view. It is therefore useful to focus in some detail on the inactive/active dichotomy and for this reason much of the analysis presented in this chapter is based on the broad participation measure.

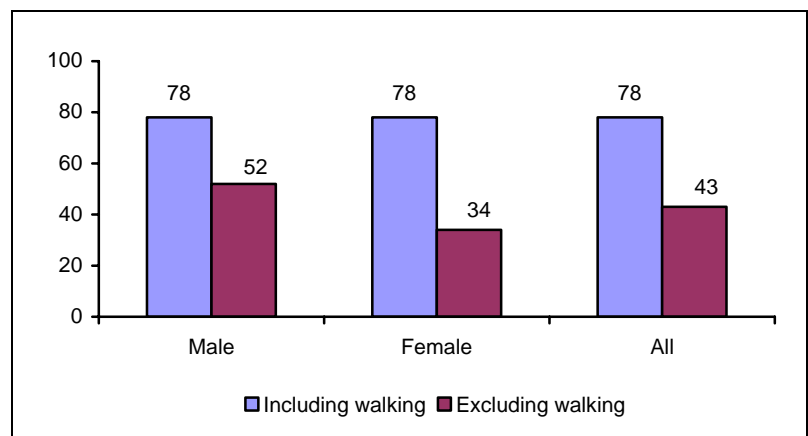
The other two measures – regularity and intensity – supplement the broad participation measure and give an indication of the degree to which those who are active reach the minimum levels of activity which have been recommended as a desirable standard for people to aim for (see Chapter 2 above).

3.3 Overall Participation

According to the broad participation measure, 78 per cent of adults had been active in sport or physical exercise on at least one occasion in the previous twelve months. **This means that 22 per cent of adults were completely sedentary:** they had undertaken no exercise in the previous twelve months, not even on one occasion. These levels of overall activity and inactivity differed little by gender.

Excluding walking, 43 per cent participated in other sporting/exercise activities. Participation in these areas of activity is strongly differentiated by gender in that men are more likely to participate (52 per cent) than women (34 per cent). The corollary implied by this finding is that walking is much more a female (44 per cent) than a male (26 per cent) activity.

Figure 3.1: Broad Participation Rates by Gender

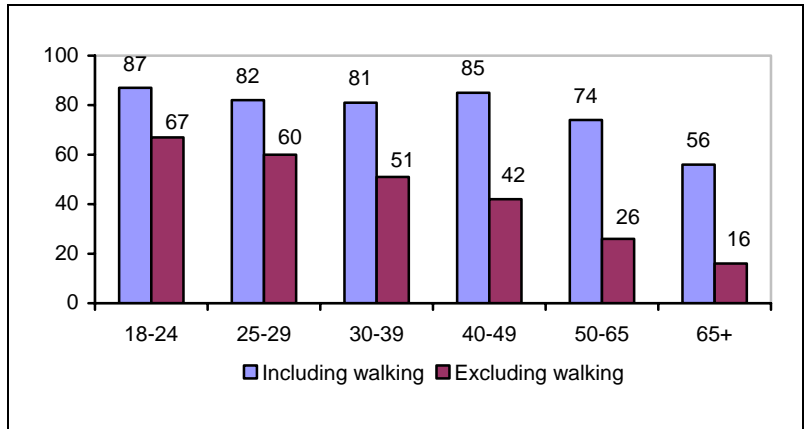


AGE

When walking is included, participation remains high until middle-age but drops off sharply at older ages. Among over-65s, almost half have taken no exercise in the past twelve months, compared to one-fifth or less among all ages under 50 years.

When walking is excluded, the decline in participation with age is even sharper, falling from 67 per cent among 18-24 year olds to 16 per cent among those aged over 65 years.

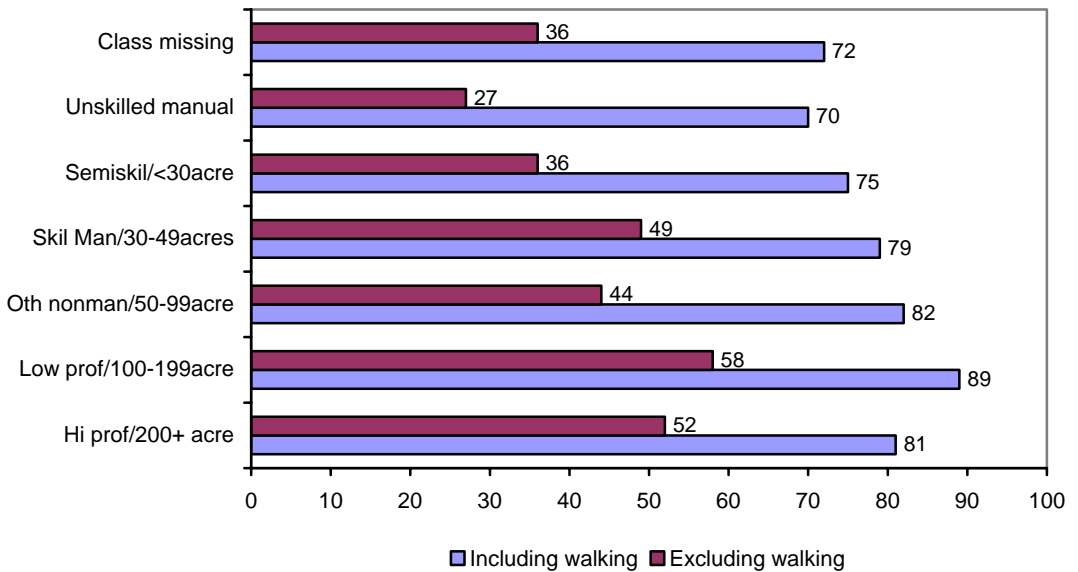
Figure 3.2: Broad Participation Rates by Age



SOCIAL CLASS

Overall participation (i.e. including walking) differs only slightly by social class but participation in activities other than walking is more sharply differentiated by social class. The participation rate in the professional classes (52-58 per cent) is double that of the unskilled manual class (27 per cent).

Figure 3.3: Broad Participation Rates by Social Class



(Note: farmers distributed across social class categories according to farm size)

**3.4
Walking and
Hiking**

Walking and hiking are by far the most important forms of leisure-time physical activity. Of adults 69 per cent have walked/hiked 2+ miles on at least one occasion in the prior twelve months and 60 per cent have done so in the prior four weeks. However, the intensity of effort involved in walking is often low: almost one third say that a typical walk entails no effort, with no increase in breathing rate, and a further 30 per cent say that it entails only light effort.

As already mentioned, a separate dedicated survey on recreational walking – the Recreational Walking Survey (RWS) – was recently carried out by the ESRI (Curtis and Williams, 2003) and for that reason the present survey did not investigate patterns of walking in detail. It is worth quoting the data on regularity of walking from the RWS here as this is a further important aspect of walking from a health point of view. Table 2.1 provides a breakdown of the level of regularity of participation in short walks (less than one hour’s duration). Of the 64 per cent of respondents in the RWS who said that they participated in short walks, about six out of ten said that they did so two to three times per week or less often. As was outlined in Chapter 2 above, international standards now set as a minimum target for people to aim for that light activities such as walking should be carried out at least five days per week for at least 30 minutes per day. This is not to say that less regular activity of this kind has no value but that it falls short of what most people could reasonably be expected to attain. Here we find that **only about one in four of all respondents were walking regularly enough to attain those minimum standards.** Thus, although walking is the most widespread form of physical activity among adults, much of it is carried out too irregularly or at too low a level of intensity to contribute a great benefit to health.

Table 3.1: Participation in Short Walks (less than 1 hour), Classified by Gender

	Male	Female	Total
	Per cent		
Adult Participation	59	68	64
Frequency of Participation			
Every day	19	19	19
4-6 times/week	14	20	17
2-3 times/week	37	44	41
Once per week	20	11	15
Less often than once per week	10	5	7

**3.5
Sport**

Apart from walking and hiking, 43 per cent of adults participated at least once in the previous twelve months in sports such as such as indoor or field games, water sports, gym based activities and other outdoor pursuits (Table 3.2). This 43 per cent consisted of 10 per

cent who were occasional participants, in that they participated less than once a month on average over the previous twelve months, and 33 per cent who participated more often. The latter 33 per cent in turn contained 28 per cent who participated at least once a week and 20 per cent who expended moderate to extremely hard effort in an average participation session. **The latter figure of 20 per cent could be considered as an estimate of the proportion of the adult population who participate in sport regularly and intensively enough to get significant health benefit from it.**

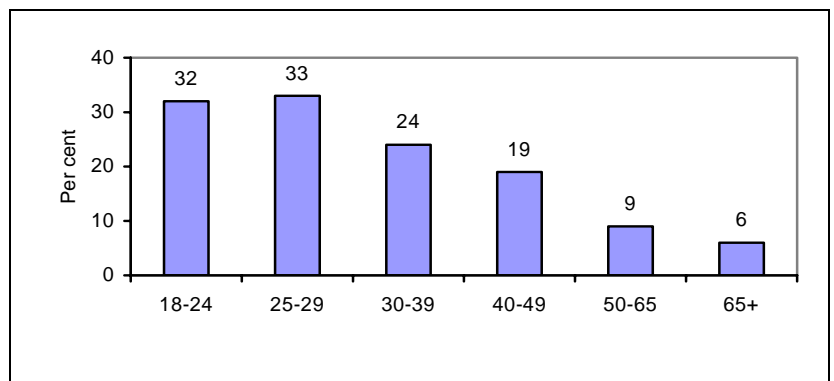
These participation levels are differentiated by gender. Of women 67 per cent did not participate in sport at all, compared to 48 per cent of men. At the other end of the activity spectrum, only 16 per cent of women expended moderate to extremely hard effort in sporting activity, compared to 24 per cent of men.

We have already seen that broad participation levels in sport are also differentiated by age: overall participation drops from 67 per cent among those aged 18-24 to 16 per cent among those aged 65 years and over (see Figure 3.2 above). If we focus here on more health-relevant participation – that is, regular participation with at least moderate effort – we find a similarly steep fall-off with age but at a much lower level in each age-group (Figure 2.4). This more demanding form of participation is practised by only 32-33 per cent of the youngest age-groups (aged under 30 years) and this declines to 6 per cent among those aged over 65 years.

Table 3.2: Level of Participation in Sport by Gender

	Male	Female	All
	Per cent		
Did not participate in sport at all	48	67	57
Participated occasionally (less than twelve times in past year)	11	8	10
Participated regularly (twelve or more times in past year)	41	25	33
<i>Of which:</i> participated at least once per week (% of total sample)	35	21	28
<i>Of which:</i> expended moderate to extremely hard effort (% of total sample)	24	16	20

Figure 3.4: Regular Participation in Sport with Moderate to Hard Levels of Effort by Age



3.6 Meeting the Minimum Standards

How many adults in Ireland meet the widely accepted international minimum standards of physical activity for health reviewed in the previous chapter? These standards require moderate activity for at least 30 minutes per day for at least five days of the week. According to the data we have just outlined, about 25 per cent of adults meet this standard through recreational walking and 20 per cent meet it through participation in sport. There is a certain amount of overlap between these two groups since some people both walk and play sport. In the present instance, 8 per cent of adults fall into this overlap category. Taking the two groups together, and adjusting for so as not to double-count, we would estimate that **something less than 40 per cent of the adult population in Ireland meet the minimum recommended activity levels**. This estimate must be regarded as a rough approximation, since our measures of activity do not exactly reflect those implicit in the minimum standards. Nevertheless, they are likely to be adequate to provide a broadly reliable picture.

3.7 Comparison with International Participation Rates

The brief review of international evidence in the previous chapter concluded that the majority of the adult population in highly developed societies – of the order of 60 per cent – do not engage in the minimum level of activity recommended for health. A significant minority – of the order of 20-25 per cent – are completely inactive. From what we have seen in this chapter, it would appear that the adult population in Ireland conform more or less to this general pattern. Taking recreational sport and walking, something less than 40 per cent of Irish adults attain the minimum level, meaning that over 60 per cent do not, while 22 per cent are completely inactive.

However, our review also found that standardised conceptual and methodological approaches capable of measuring physical activity in a comparable way across time and place have not yet become widespread. Therefore, the statistical basis for international comparisons remains uncertain. For numerous reasons, it is difficult to make international comparisons. Some surveys include walking and hiking with their definition of sport while others do not, or they vary in other ways in their boundary definitions. Surveys also differ in their methods, particularly in key aspects of their sampling frame (such as their age thresholds). These differences can have substantial effects on estimates of physical activity levels.

Keeping these cautions in mind, Table 3.3 presents a range of estimates of levels of participation in sport drawn from a number of counties and survey sources. If walking is included as an activity, Ireland would seem to be in the upper portion of the range of activity levels found in the countries covered, while if walking is excluded, Ireland's position is closer to the middle of the range. While firm conclusions cannot be drawn from these comparisons, they are sufficient to suggest that there is nothing exceptional about levels of activity or inactivity found in Ireland.

Table 3.3: International Participation Rates for Rough Comparison (definitions vary)

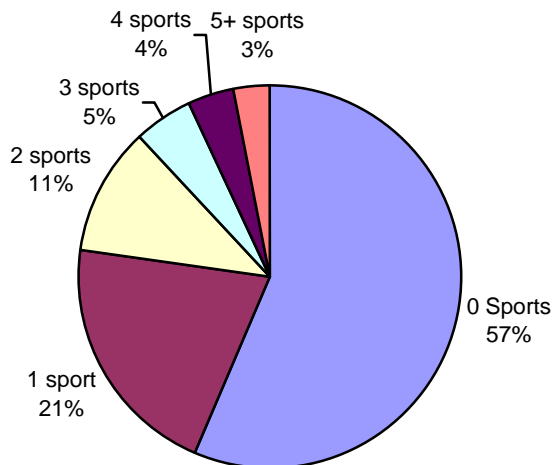
Country	Description	Year	Male Per cent	Female Per cent	Total Per cent
Ireland	Adults 18+	2003	78	78	78
Ireland	Adults 16-75	1994	77	71	74
US	Adults 18+	1994	73	69	72
England	Adults 17+	1996	71	58	64
Scotland	Adults 16+	2001	69	60	64
Wales	Adults 15+	2000/1	63	51	57
N. Ireland	Adults 16+	1991/92	65	50	57
Australia	Adults 18+	1999/0	59	51	55
Ireland	Adults 18+, excl. walk	2003	52	34	43
Scotland	Adults 16+, excl. walk	2001	59	46	52
England	Adults 17+, excl. walk	1996	54	38	46
Wales	Adults 15+, excl. walk	2000/1	44	31	37
Canada	Adults 15+, excl. walk	1998	43	26	34

Sources: Ireland 2003: this volume; Ireland 1994: Health Promotion Unit/Department of Health, 1996; US: US Department of Health and Human Services, 1996: 188; England: Sport England 1999: 1-2; Wales: Sports Council for Wales/Cyngor Chwaraeon Cymru, 2002: 6; Northern Ireland: Sports Council for Northern Ireland, 1994: 27; Australia: www.abs.gov.au/ausstats (Participation in Sport and Physical Activities, Australia, 1999-2000); Canada: Statistics Canada, 2000: 12.

3.8 Participation Rates in Individual Activities

When looking at the sports (other than walking) that people take part in, we need to note first that some people are active in more than one sport (Figure 3.5). Of the 43 per cent who take part in some sport, over half play at least two, and in some cases, three, four or more sports. Thus, as a counterpoint to those who are inactive in any sport or recreational walking (which, as we saw above, amounts to about 22 per cent of adults), there is a similar percentage who are active in two or more sports.

Figure 3.5: Number of Sports/Activities Participated In



Tables 3.4 and 3.5 show that swimming, golf and aerobics/fitness are the top participation activities. Soccer is the most popular team sport. GAA football and hurling come sixth and eleventh. The popularity of activities differs by gender. Golf and soccer are the most popular male activities, while swimming and aerobics are most popular among women. There is also a strong age profile in the popularity of particular sports (Figure 3.6). Swimming is relatively evenly spread across major age groups, though with a slight tilting towards older ages. Golf, by contrast, is strongly weighted towards the middle aged, especially those aged over 50 years, while soccer and GAA sports fall off very sharply over the same age range. These associations between age and particular kinds of sport are an important feature and have implications that we will explore further below.

Table 3.4: Participation Rates for the 15 Most Popular Activities (Excluding Walking)

Rank	Activity	Male Per cent	Female Per cent	Total Per cent
1	Swimming	12	17	15
2	Golf	17	3	10
3	Aerobics/Keep fit	5	10	8
4	Soccer	13	2	7
5	Cycling for leisure	6	3	5
6	GAA football	8	<1	4
7	Billiards/Snooker	6	<1	4
8	Pitch & Putt	4	2	3
9	Tennis	3	3	3
10	Jogging	3	2	3
11	GAA hurling	5	<1	3
12	Fishing	4	<1	2
13	Soccer 5-a-side	4	<1	2
14	Weight Lifting	4	1	2
15	Ten pin bowling	2	2	2

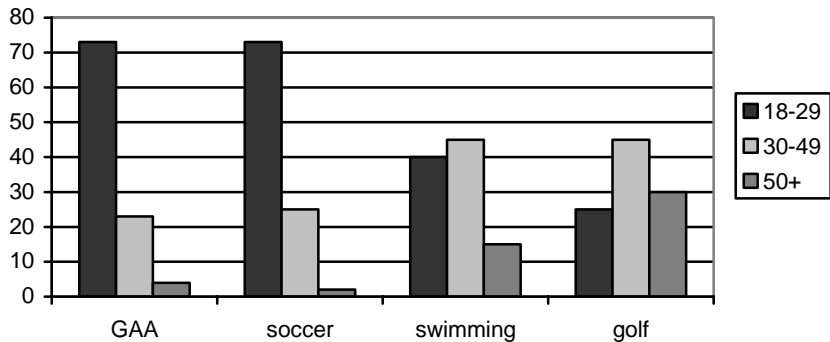
Table 3.5: Top 10 Most Popular Activities Among Males and Females (Excluding Walking/Hiking)

Rank	Males	Participation rate Per cent	Females	Participation rate Per cent
1	Golf	17	Swimming	17
2	Soccer	13	Aerobics/Keep fit	10
3	Swimming	12	Cycling for leisure	3
4	GAA football	8	Golf	3
5	Billiards/Snooker	6	Tennis	3
6	Cycling for leisure	6	Jogging	2
7	GAA hurling	5	Basketball	2
8	Aerobics/keep fit	5	Pitch & putt	2
9	Soccer 5-a-side	4	Ladies football	2
10	Fishing	4	Ten pin bowling	2

The age patterns of participation differs markedly across different sports, as is indicated by Figure 3.6 which compares the age distributions of those who play four major sports – GAA, soccer, swimming and golf. GAA and soccer are similar in that their players are overwhelmingly younger – over 70 per cent are aged under 30 years. Swimming is more evenly balanced between those aged under

30 years and those aged 30-49 years but few partake after age 50. Golf emerges as distinctive in that a substantial proportion of those who play (30 per cent) are aged over 50 years. It is the only one of the four sports in Figure 3.6 in which participants aged over 50 years outnumber those aged under 30 years. This unusual age-weighting in golf is an important feature as far as promotion of physical activity levels among older people is concerned, and we will consider it further below with reference to life course patterns in sports participation.

Figure 3.6: Distribution of Players of Selected Sports by Age



3.9 Conclusions

The present survey shows that about 22 per cent of adults in Ireland are completely inactive in sport or recreational walking. The balance of 78 per cent are engaged in physical activity to some degree, but only about 40 per cent took part regularly enough and with enough intensity of effort to approximate to the minimum standards of physical activity recommended by the World Health Organisation. The strongest influences on participation are gender and age: men participate more than women and the young more than the old. Age is particularly important in regard to participation in sport at moderate to hard levels of effort: this drops steadily after age 30 and falls to very low levels by old age. Social class also has an influence, in that higher socio-economic groups had higher levels of participation.

Recreational walking is by far the most popular form of leisure-time physical activity, especially among women. However, much walking entails little intensity of effort or is engaged too irregularly to contribute a great deal to the minimum recommended levels of physical activity. About 25 per cent of people walked often enough and vigorously enough to meet those standards.

Apart from walking and hiking, 43 per cent of adults had taken part in some sport in the twelve months prior to the survey, and about half of these participated regularly and intensively enough to attain the minimum recommended standards of physical activity. The most popular sports that people take part in are golf, soccer, swimming and GAA games for men, and swimming and aerobics for women. Age patterns of participation differ between sports. GAA

and soccer players are concentrated among those aged under 30 years, swimmers are more evenly spread across the younger and middle age-groups, while golf is unusual in having a substantial proportion of players aged over 50 years.