EXECUTIVE SUMMARY

BRIEF SUMMARY

This report examines the impact of social disadvantage on various forms of participation in sport, using data from more than 3,000 Irish adults. It found those with low income or low educational attainment are many times less likely to participate. This effect is so strong that the large majority of people who play sport in Ireland are from higher income and better educated social groups. Placed in the context of Irish sports policy, this means that public spending on sport is very likely to be regressive, with the less well off subsidising the activities of the better off. If public spending on sport is to continue to be justified on the grounds that it benefits all in Irish society, greater priority needs to be given to policies that are of clear benefit to the disadvantaged.

Objectives

The broad aim of this report is to assess the impact of social disadvantage on various forms of participation in sport. The main focus is on playing of sport by adults, but volunteering for sport-related activity, membership of sports clubs and attendance at sports events are also examined. There is also a brief assessment of whether schoolchildren's sporting opportunities are affected by attending a school designated as disadvantaged.

The report asks three questions in relation to participation in sport:

(1) How strong is the impact of social disadvantage on participation in sport?
(2) What are the factors behind it?
(3) What policy implications can be drawn?

Data

The main data source is the Survey of Sport and Physical Exercise carried out in July-September 2003, which consisted of interviews with a representative sample of over 3,000 Irish adults. The chapter on schools employs a survey of schoolchildren and school principals undertaken in a nationally representative sample of primary and second-level schools in late 2004. Both surveys were conducted by the Survey Unit of The Economic and Social Research Institute.

Policy Context

The Irish government defines people as in being in poverty if they "… may be excluded and marginalised from participating in activities which are considered the norm for other people in society."[1] Sport is just such an activity. Policies with the stated aim of increasing participation in sport by the socially disadvantaged are included in Ireland's *National Action Plan Against Poverty and Social Exclusion*.

As well as sports policy itself, the relationship between social disadvantage and sport is important for other policy areas. Sport is a major contributor to levels of physical activity within the population, which are a concern of public health policy. In addition, sport forms an important part of the school experience. Any impact of social disadvantage on schoolchildren's participation in sport therefore demands attention from education policy. Sport-related activity also forms a high proportion of volunteering within Irish society and is thus relevant to the stated policy aim of increasing social capital. Finally, sport is also used to tackle disadvantage through schemes targeted at young people considered to be at risk of substance abuse.

With respect to sports policy, previous evidence that those of lower socio-economic status participate less in sport has led to an acknowledgement of the need to increase participation among the socially disadvantaged. Some policies are partly designed with this aim in mind. The greater part of the Department of Arts, Sport and Tourism's €113 million (2004) budget for sport is given out in grants for building and improving sports facilities. In part, these grants are intended to increase levels of participation among the socially disadvantaged. A much smaller amount of public funding, part of the budget of the Irish Sports Council, is used to fund local sports initiatives and the promotion of sport. However, to assess whether the current policies amount to a sufficient response to the problem of lower participation among the disadvantaged, this report measures the severity of the impact of social disadvantage on participation in sport, and analyses who benefits from the totality of public funding for sport.

International Research

Participation in sport is a growth area in international policy research, motivated by studies that find significant health benefits associated with playing sport. In some countries, including the UK, the US and Australia, social disadvantage is strongly linked to whether people play sport, with those from more disadvantaged backgrounds playing much less. This finding is not, however, universal. Good data exist only for a few countries, but there are certainly some where the impact of social disadvantage is much less evident, for example, Switzerland.

[1] *National Action Plan Against Poverty and Social Exclusion* (Department of Social and Family Affairs), 2003.

Whether policy interventions can successfully increase participation in sport, be it specific to socially disadvantaged people or the population generally, has been a question addressed by international research. The answer seems to be that it is possible to increase participation, but that it is not easy. Canada and Finland are examples where a national policy initiative has been followed by a rise in general levels of participation. There are also examples of more local schemes that have produced a measurable and positive effect on the numbers who play sport. However, many policies that have aimed to increase participation have either failed or had short-lived effects. What unites the policy interventions that have worked is that they involve the establishment of contact or communication with groups or individuals who are non-players, to encourage them to get involved in sport.

Seen in this light, a concern with Irish sports policy is that it relies almost exclusively on improvements in facilities to increase involvement, with little contact or communication directed towards people who do not currently participate in sport. Recently established Local Sports Partnerships (LSPs) aim to reach non-participants, especially the disadvantaged, but they account for just 2 per cent of the Department of Arts, Sport and Tourism's sport budget.

Main Findings

People with low household income or low educational attainment are much less likely to play sport and much more likely to be completely sedentary (defined as neither playing any sport nor taking a recreational walk of two miles or more during the previous 12 months). This remains true when controlling for age, gender and employment status. The effects of income and educational attainment are substantially separate – of two people with similar income, the one who is more educated is more likely to play sport, while of two people with similar educational attainment, the one with higher income is more likely to play.

The impacts of income and education are very strong. For example, the data suggest that a person who is in the richest 25 per cent of the population and has a degree, has odds of playing sport that are more than five times higher than those of a person in the poorest 25 per cent who left school after Junior Certificate. Although considerably more men than women play sport and playing sport declines markedly with age, the combined influence of these two measures of social disadvantage (income and educational attainment) on whether a person plays sport is arguably greater than the combined effect of age and gender.

The impact of income gets stronger with age, but the impact of educational attainment on playing sport is constant across all age groups. This is an important finding. It suggests that the positive benefit of education on playing sport lasts a lifetime.

Put simply, when it comes to sport and physical activity, being financially and educationally better off gives people a big head start. The result of this effect is that, on average, adults who play sport

have higher incomes and more educational qualifications than those who do not. Regarding income, **more people who play sport come from the top 25 per cent of earners than from the bottom 50 per cent.** Regarding education, **43 per cent of people who play sport have a third-level qualification, compared to 28 per cent in the wider population.** Sportspeople in Ireland are richer and better educated than the population generally.

Explaining the Main Findings

The effect of social disadvantage on playing sport defies simple explanations based on attitudes and tastes. **There was no evidence in the survey that people in more disadvantaged circumstances were generally less motivated or less interested in sport.**

Explanations of the main findings based on perceptions that particular sports have a broader social base are not supported either. For example, the clear majority of soccer and Gaelic football players are higher income earners and over 40 per cent of them have a third-level qualification.

Four mediating factors were found to create an indirect link between social disadvantage and reduced playing of sport. These were: having had parents who did not play sport, having health problems, having no access to a car, and not living in a large city. In total, however, the combination of all these factors accounts for about one-quarter of the impact of low income and low educational attainment.

The data suggest it is likely, though not certain, that having low income and leaving full-time education earlier have a direct, causal effect on whether people play sport. Insight into how low income and low educational attainment reduce sporting opportunity can be gained from an analysis of people's sporting histories.

People with low income are more likely never to have played any sport. This may reflect the expense associated with playing sport outside school. A majority (79 per cent) across all socio-economic groups played sport at some stage. Most people played team sports when young. Those who continue to play usually switch from team sports to individual sports as young adults, so that adults who play sport beyond the age of 30 overwhelmingly play individual sports. **People with low income are more likely to drop out from sport altogether, rather than to make the common transition from team sports to individual sports as they get older.** This could result from the higher membership rates, pay-per-use fees or equipment costs associated with the most popular individual sports, which are swimming, golf, gym-based activities, cycling and tennis.

There is an apparent paradox here: people with low income are much less likely to play sport, but few non-players cite cost as the primary reason for not playing (Fahey *et al.*, 2004). This paradox can be explained, however. While low income makes young adults more likely to drop out from sport rather than switch sports, it does not

necessarily follow that cost remains their biggest barrier to taking sport up again later in life, when health or time constraints may predominate.

People who stay in full-time education further into adulthood are also more likely to make this switch from team to individual sports, although they are also more likely to stick with a favoured sport and to play more than one sport. Extending full-time education further into adulthood offers contact with adult sports clubs, opportunities to get involved in organising sport, and exploratory access to new sports. Developing these sporting habits and fitness in early adulthood has an ongoing impact throughout later life. **It is the time spent in the education system rather than the qualifications gained that produces the impact on sport.**

The overall outcome is that people who play sport tend to be financially and educationally better off. Meanwhile, roughly one-third of all Irish adults fall into the category of 'interested non-players' – people who play no sport but say they have an interest in playing. This group is mostly above average age, contains marginally more women and is heavily skewed towards people on lower incomes with less education. Many of this group also have low levels of fitness.

Other Effects of Disadvantage

Low income and low educational attainment has an impact on all forms of participation in sport, be it playing, volunteering, membership of sports clubs or attendance at sporting events. Thus, the disadvantaged are denied an equal share of sport's contribution to social capital – the social networks and relationships that are formed through common interest in sport. However, the impact on volunteering and attendance at under-18 events is much less severe than for playing, membership of clubs and attendance at over-18 events. This probably reflects the fact that volunteering and attending children's fixtures involve expending time and effort rather than money, and that contact with the sport concerned is provided through the involvement of people's own children. Again, it is indicative of untapped interest in sport.

There is also evidence that disadvantage begins to affect some children's involvement in sport from an early age. Primary schools classified as 'disadvantaged' offer less extra-curricular sport to their students and a narrower range of sports. This effect could not be found in the data for second-level schools, although a sporting advantage associated with fee-paying schools was detected.

Policy Implications

The following ten policy implications are derived from the analysis contained in the main body of the report:

1. The relationship between social disadvantage and participation in sport is so strong that it raises issues well beyond sports policy. The Irish government considers people to be affected by poverty if they are "… excluded and marginalised from participating in activities

which are considered the norm for other people in society". Based on the data examined here, there can be no question that many socially disadvantaged people are excluded from sport, which is one of the most popular and enduring social activities. Hence sport is important for policy on social exclusion. It is also highly likely that the socially disadvantaged suffer worse health because they play less sport – a matter of importance for public health policy. Reduced sporting opportunity for the disadvantaged begins at primary school – an issue to be tackled through education policy. Exclusion from sport also deprives the disadvantaged of social contacts and networks available to others, a fact of relevance to policy on social capital and volunteering. In summary, **the strong impact of disadvantage on participation in sport needs to be recognised as a substantial contributor to poverty and social exclusion. This fact should be absorbed by policy-makers interested in poverty, health, education, social capital/volunteering and, of course, sport itself.**

2. Central government and other agencies involved in sports policy have already determined a need to increase participation among the socially disadvantaged and made some efforts to do so. However, the main beneficiaries of public funding given to sport are the people who currently participate with clubs and organisations that receive grants for facilities. As outlined in Chapter 1, the grants under the largest scheme, the Sports Capital Programme (SCP), are preferentially given to applications from areas designated as 'disadvantaged', but the degree to which this targeting by area works is questionable. Even if this aspect of the SCP is partially effective, it is stretching credibility to suggest that the targeting is sufficient to counterbalance the over-representation among participants in sport of people with above median incomes or higher than average educational qualifications. **From the available data, therefore, it is almost certain that the substantial public money spent on sport in Ireland is regressive – it is a transfer of resources from the less well off to the better off.** Furthermore, the *funding* of sports expenditure is also regressive. The National Lottery supplies 80 per cent of the Department of Arts, Sport and Tourism's sport budget, from sales of lottery tickets disproportionately purchased by the less well off and less educated. Unless there is a fundamental change in the way this public money is targeted, it is difficult to see how inclusion in the National Anti-Poverty Strategy of initiatives such as the SCP can be justified.

3. That public spending on sport is currently regressive does not imply that the level of funding sport receives should be cut. As an activity with proven benefits, sport has a strong case for substantial public expenditure in support of mass participation. But this justification is only valid if the benefits are shared equitably. At present, public funding in principle supports mass participation, but

in practice directs most support to the better off. Therefore, **to justify public expenditure on the current scale requires a fundamental reassessment of the priorities it addresses. The strong link between social disadvantage and sport implies a need to redirect a much more substantial proportion of expenditure towards sports policies likely to benefit the disadvantaged.**

4. At present, more than two-thirds of public funding for sport is allocated to the provision of facilities, mostly via the SCP. However, based on evidence provided in a previous report in this series (Fahey *et al.*, 2004) and on evidence specific to the socially disadvantaged contained in this report, neither lack of sports facilities nor poor quality facilities is a significant factor behind non-participation, apart perhaps from at primary school level. During a previous era in the development of sport in Ireland, improving facilities may have been crucial to increasing participation. But facilities are not now a key factor in whether people initially start playing, whether they drop out, or whether they take up another sport later in life. Furthermore, research shows that defining disadvantage by geographic area is an imprecise method in Ireland (Watson *et al.*, 2005). Sports facilities located in an area designated as disadvantaged are least likely to be used by those within the area who are most poor and least educated.

Rather than facilities, the enduring impact of full-time education on playing sport throughout later life suggests that it is contact with adult sports clubs and people, off-field organisational skills, and the development of sporting habits further into adulthood that explain higher participation. This tallies with evidence from other countries concerning policies designed to increase participation (described in Chapter 2). Successful interventions employ effective contact and communication with non-participants, through local organisation, highly-publicised one-off events and marketing. **If the goal of sports policy is to increase participation, especially among the disadvantaged, public funding needs to move away from the provision of facilities and towards the creation of links between current non-participants and sporting organisations.** It needs to concentrate less on the development of physical capital and more on human and social capital. More people need to be employed to engage current non-participants, individually and in groups, and more effort is needed to promote the benefits and opportunities sport offers. International evidence suggests that mass marketing campaigns may work, though the effectiveness of well designed local campaigns is more certain. There is, therefore, a role for co-operation between sports policy and policy regarding public health promotion, to ensure consistent targeting and promotion.

5. Studies of sporting participation are beginning to produce some concrete conclusions, but research in this relatively new policy area is nevertheless in its infancy. Too few policies that aim to raise participation have been properly evaluated, while much of the baseline data on participation is inadequate for comparative

purposes. In order to establish the best policies for increasing participation in sport it is, therefore, essential that policy interventions include mechanisms for evaluating their impact and efficiency – studies that collect data before and after initiatives begin, include control groups; adopt standard measures to allow different interventions to be compared; and assess value for money. Hence, **it would be of great benefit to policy-makers in sport (and other related policy areas) to establish an ongoing system to monitor participation in sport and to evaluate policy interventions designed to increase it. This system could be designed to meet international standards of best practice and to include measures of social disadvantage.**

6. In the context of points 3-5 above, the recent development of Local Sports Partnerships (LSPs) in half of Ireland's local authority areas is particularly interesting. LSPs are supposed to be informed of local sporting needs, to concentrate on disadvantaged groups, and to market and promote sport locally. LSPs account for just 2 per cent of the Department of Arts, Sport and Tourism's sport budget. Yet they represent an attempt to develop human and social sporting capital in local areas. There are opportunities and risks associated with the development of LSPs. A majority of people who do not participate in sport but are interested in doing so (people who are, in other words, the best targets for LSP initiatives) have low income, low educational attainment, and are likely to be older. If LSPs are to work, it is these people who must be engaged with and enthused. Local sports co-ordinators and development officers in LSPs need to be aware of this opportunity, of the strength of the relationship between social disadvantage and sport more generally, and of the need to reach beyond existing local networks of people interested in sport. Even if only a few LSPs have success in engaging new participants in sport, successful methods for doing so could be spread between LSPs. It is important, therefore, that the LSPs remain a national network, overseen and co-ordinated by the Irish Sports Council, so that each LSP has the opportunity to learn from the experiences of the others. **Local Sports Partnerships represent an opportunity to engage socially disadvantaged people in sport. They need to be adequately funded, to find effective methods of contacting and communicating with non-participants, and to subject their interventions to proper quantitative evaluation, so that strategies seen to work in one area can be applied in others.**

7. The first report in this series (Fahey *et al.*, 2004) pointed out that policy aiming to increase participation would benefit not only from targeting social groups but intervening at specific stages of the life-course. An understanding of the different factors that relate social disadvantage and sport suggests that this idea may be of particular relevance to the socially disadvantaged. One priority could be to

weaken the link between social disadvantage and sport for the next generation of young adults. This requires a reduction in the number of socially disadvantaged people who never get involved in sport – an issue for policy on schools and youth sport. However, the most critical period arises when young people leave full-time education. This stage is associated with much higher levels of dropout from sport by socially disadvantaged people, who tend to cease full-time education at a younger age. Yet there is also a need to re-engage older adults who have dropped out from sport already. This calls for evaluation of which sports appeal most to older and less fit adults. Trying to weaken the relationship between social disadvantage and sport at these different life-stages probably requires different methods. Thus, **policy should not only be targeted at the socially disadvantaged, but needs to be tailored to suit people at different stages in life: disadvantaged schoolchildren, disadvantaged young adults at risk of dropping out, and disadvantaged older people who might take sport up again.**

8. Part of the relationship between social disadvantage and reduced playing of sport is that the disadvantaged are less likely ever to have played. Since people's first experience of sport is as schoolchildren, this raises the question of whether disadvantaged children get less sporting opportunity at school. The data on school sport available for this report only allowed comparison of designated disadvantaged and non-disadvantaged schools, rather than comparison of disadvantaged and non-disadvantaged children within individual schools. Nevertheless, children's sporting opportunities at primary level are significantly impaired by attending a school classified as 'disadvantaged', even though these schools qualify for a Physical Education Grant. **Social disadvantage begins to reduce levels of participation in sport at primary school. There is, therefore, a need to develop policy on schoolchildren's sport to counteract the impact of disadvantage.** Further research is required to assess the degree to which a socially disadvantaged child has less chance of playing sport relative to better off children within his or her school.

9. Most people play sport as schoolchildren. Many then drop out around the time they leave full-time education. The rate of dropout is much higher for young adults of low income and those who leave education earlier. This is the strongest component of the relationship between social disadvantage and reduced participation and it, therefore, makes sense to look for possible policy interventions that might reduce the rate of dropout among young adults. This is partly because the most common sporting life course is to switch from team to individual sports, which tend to be more expensive. Furthermore, to continue with a sport played at school or college they must establish contact with a sports club or local facility, while those who stay on at school or college easily travel further along the sporting conveyor belt provided by educational institutions. **Sports policy, at a local level, could look for ways to improve the contact between school-leavers and sports organisations and**

ways to make sport cheaper for young adults. This is a potential role for Local Sports Partnerships. Possibilities include: arranging events or systems to establish and maintain ongoing contact between school teams and local clubs; encouraging sports clubs to offer reduced membership or pay-per-use fees to young adults; or marketing and discounting local leisure cards for use at more than one facility. Research shows that where leisure cards were well-targeted and marketed in the UK they increased local levels of participation (Collins *et al.*, 1999).

10. The problem of re-engaging older adults who have dropped out of sport is very different. The data show that this group of people is large. Around one-third of the adult population do not play any sport but nevertheless say they are interested in doing so. A significant barrier faced by this group, especially its disadvantaged members, is physical ability – poor health and fitness. It is highly unlikely that they will make a sudden transition from playing no sport to engaging with any kind of intensive competitive sport alongside others much fitter than themselves. **At a local or national level, the large number of interested non-players could benefit from schemes specifically designed and marketed for people who are returning to exercise from a lengthy period of low physical activity. Promotion of walking, swimming and cycling may be particularly relevant for this large group.**

1. INTRODUCTION

1.1 Sport is a Key Player

Sport is increasingly seen as an important dimension of social policy, both in Ireland and internationally. There is growing recognition that, as far as cultural activities are concerned, sport has few competitors. Its popularity is immense and enduring. Sport appeals across social boundaries, political fault-lines and geographical borders. The challenges and potential benefits of participation in sport are personal and social. Playing sport helps people to keep physically and mentally healthy, while promoting social interaction between them. Sport displays a remarkable ability to harness collective involvement and common identity, from local clubs to national events. Rich in drama, emotion and imagery, sporting contests and their participants have become high-value commodities in a multimedia era.

Given this broad appeal and impact, recognition of the importance of sport to public policy is perhaps belated. Sporting issues have forced their way into the policy arena: where to site national stadiums and facilities; whether big events should be preserved for free-to-air television; how to encourage grassroots participation; whether support for sport helps the fight against obesity; how sport's governing bodies spend their money; how much public money they receive; and so on. Sport is no longer, if indeed it ever was, 'only a game'.

1.2 Objectives

This report is the fourth in a series of baseline studies on sport in Ireland carried out by the Economic and Social Research Institute (ESRI) in conjunction with the Irish Sports Council. It addresses the relationship between social disadvantage and sport and has three objectives:

(1) To assess the degree to which social disadvantage affects people's participation in Irish sport; as players, volunteers, members of sports clubs and spectators.
(2) To identify factors that give rise to any such effect.
(3) To draw implications for policy on sport and other relevant areas, such as social exclusion, health and education.

With heightened recognition of the importance of sport comes concern about how its benefits are shared. Just as people care not only about overall growth in the economy, but also about how income and wealth are distributed, so there are worries about whether people in less affluent circumstances get equal opportunities to participate in sport; as players, fans, club members or volunteers. Part of the definition of poverty in the *National Action Plan Against*

Poverty and Social Exclusion (Department of Social and Family Affairs, 2003) states that:

> As a result of inadequate income and other resources people may be excluded and marginalised from participating in activities which are considered the norm for other people in society.

Sport is just such an activity. By its nature, sport is collective. The favoured metaphor for sport at a community level, the 'grassroots game', is apt. The development of clubs, facilities, and leagues requires intertwined networks of many people to achieve an overall effect. Even the more individual sports still require a degree of organisation and the provision of appropriate public or private space in which to play. For an individual who is interested (or potentially interested) in a particular sport, the opportunities he or she has to pursue that interest and ultimately to reap any rewards in terms of enjoyment, health and fitness, or social benefits, may depend crucially on the community in which they live. Thus, there is concern that people from socially disadvantaged backgrounds may be excluded from the benefits of participation in sporting activities, and that such exclusion would be unfair. If so, there is a justification for public policy aimed at improving sporting opportunities for the socially disadvantaged, and for linking the intensity of that policy effort to the degree of exclusion. This issue provides the primary question addressed in this report: how strong is the link between social disadvantage and participation in sport? It is necessary to answer this question in order to gauge what scale of policy response is appropriate.[2]

Two of the previous reports in this series, while not setting out specifically to assess the relationship between disadvantage and participation, nevertheless firmly established its direction. The first report (Fahey, Layte and Gannon, 2004) revealed that those in unskilled or semiskilled manual classes play significantly less sport and experience significantly worse (self-reported) health. The second report (Delaney and Fahey, 2005) showed that people in lower socio-economic classes are also significantly less likely to volunteer for sport-related activities or to be members of sports clubs. These findings strongly suggest that social disadvantage does reduce participation in sport. But neither study set out specifically to isolate this effect independently of gender and age, to assess the strength of it, or to look at the factors behind it. These first two reports, therefore, established the need to examine the issue in more detail, which is the aim of the present report.

[2] There is debate among researchers on poverty and social disadvantage as to whether disadvantaged people are a well-defined group, or whether there is a spectrum of social disadvantage. For the present purposes this distinction is largely ignored, although it is interesting to note that the impact of disadvantage on sport reported in the chapters that follow arguably fits more naturally with the latter view – the impact increases gradually with the degree of disadvantage.

A very strong effect of social disadvantage on participation in sport would raise a number of issues for policy-makers, including a straightforward question regarding public funding of sport. If the overwhelming majority of participants in sport turn out to be people who enjoy high socio-economic status, then there is a danger that public funding of sport could be regressive – a transfer of resources from poor to rich. To assess this possibility it is important to quantify the scale of the association between sport and disadvantage – the primary purpose of this report.

Of course, even if many more people from higher socio-economic groups do participate in sport, it does not necessarily follow that public funding of sport is regressive. It all depends how the money is spent: at which priorities it is directed and how effectively it addresses them. Consider priorities first. Once the scale of the problem is assessed, public funding for sport could be directed at disadvantaged groups to redress the imbalance. Moreover, the larger number of non-participants in disadvantaged socio-economic groups might represent a bigger target for policy interventions aimed at raising levels of sporting participation generally. It is also possible that increased involvement in sport specifically by people in lower socio-economic groups may be of greater benefit, both to the individuals concerned and wider society. Disadvantage, especially in the most deprived areas, is associated with higher risks of involvement in drugs, crime and anti-social behaviour. As a potential provider of health benefits, entertainment, self-esteem, social contacts and friendship, sport may have the capacity to reduce such risks; actively to improve people's quality of life. All of these considerations mean that sports policies that prioritise the socially disadvantaged could, in theory, be progressive rather than regressive.

Nevertheless, priorities are only half the story. For progressive policies to be of benefit, put simply, they must work. This indicates the importance of going beyond an assessment of the strength of the link between disadvantage and reduced participation, to examine what causes it. There are many potential explanations for why people from lower socio-economic groups might participate less. It could result from material circumstances: the cost of equipment and club membership, the provision of local facilities, or the availability of transport. Or a key factor might be community organisation: less encouragement or opportunity to play sport at local schools, the absence of friends and colleagues interested in the same sport, a lower likelihood within the community of coming into contact with a sport that provokes interest. The chance that another member of the family plays sport may also differ according to socio-economic circumstances and thus affect participation rates. The physical demands of manual jobs may reduce interest in further physical activity. All the factors just listed are almost entirely beyond the individual's control. But individual characteristics could have an impact too, including poor health and fitness, or simple lack of interest. If these multiple potential causes can be disentangled, such that the relationship between socio-economic circumstances and

participation in sport becomes better understood, then more effective policies can be designed to change the relationship. So the second question to be addressed in this report is: what are the factors that lead to unequal levels of participation in sport across socio-economic groups?

Finally, there are several other ways in which the formation of a sports policy that prioritises social disadvantage can be assisted. First, different forms of participation (playing, volunteering, membership, attendance etc.) might produce different socio-economic pictures and can be prioritised accordingly. Second, individual policies that are currently in place can be assessed against their aims, in the light of data. Lastly, certain specific facts or findings relating to social disadvantage may throw up issues not currently accounted for in a policy framework that is cross-departmental and involves a number of national and local agencies.

1.3 Policy Context

The Irish government explicitly recognises that reduced participation in sport among lower socio-economic groups is a contributor to social exclusion. Sports policy forms part of the *National Action Plan Against Poverty and Social Exclusion 2003-2005*. This plan followed the European Union's Lisbon summit of 2000, where it became a common objective across EU member states to make a decisive impact on the eradication of poverty and social exclusion by 2010. As well as this recognition of the relevance of sport to social exclusion by central government, the Irish Sports Council is explicit about the need to tackle social disadvantage in sport. In particular, part of the remit of the new Local Sports Partnerships, which are organised through the Council, is to increase participation among the socially disadvantaged. Sport is also recognised as being of importance to other policy areas in which issues of social disadvantage are relevant. These include drives to improve public health, to increase volunteering and social capital, and to raise activity levels of children through physical education.

In the National Action Plan, under the heading "To prevent the risks of exclusion", two sports policies are listed: the Sports Capital Programme (SCP), which gives grants for new sporting facilities and improvements to existing ones, and the Young People Facilities and Services Fund (YPFSF), which aims to provide youth, sport and other recreational facilities for young people considered to be at risk of involvement with substance abuse. The most significant policy in financial terms is the SCP, which is run by the Department of Arts, Sport and Tourism. In 2004, 738 grants were awarded under this scheme worth a total of €61 million – more than half the Department's €113 million total budget for sport in that year.[3] Awards under the SCP are provided for the construction or

[3] The focus here is on policy relevant to social disadvantage. An extensive break down of public funding for policies relevant to all aspects of sport can be found in Delaney and Fahey (2005).

improvement of sporting assets – pitches, changing facilities, sports halls etc. The great majority of grants are given to sports clubs and community organisations of long standing. Schools and colleges can only apply jointly with clubs or community groups.

Having been in operation since 1979, the SCP was reviewed in 1998, after which it was reformed to include four new objectives. One new objective was "… to prioritise the needs of disadvantaged areas in the provision of facilities". This goal is pursued in two ways. First, the requirement that applicants provide 30 per cent of project funding themselves is reduced to 20 per cent for applicants in disadvantaged areas. Second, priority is given when awarding the grants to applicants who explain how they intend to use their improved facility to increase participation among the socially excluded. One possible problem with this criterion for funding is that although applicants must describe how they intend to increase participation among the excluded, no monitoring is carried out of whether the club or organisation actually then does what it promised.

The other central government funding scheme in the National Action Plan is the YPFSF. It was allocated €150 million under the National Development Plan for 2000-2006. This money is distributed as grants allocated by the Cabinet Committee on Social Inclusion. As its name suggests, the scheme provides both facilities and services. To date the fund has supported 90 capital projects and paid for the employment of 120 project workers. However, only a proportion of this money is allocated to projects relating to sport and it is narrowly targeted at those at risk of substance abuse.

Aside from the National Action Plan, one other relevant and substantial funding scheme for sport administered by central government is the ongoing Local Authority Swimming Pools Programme (LASPP), which provides grants for the restoration and provision of new pools. The Department of Arts, Sport and Tourism runs the LASPP, which spent €18 million on pools in 2004 and received a budget increase to €32 million in 2005. Thus, the SCP and LASPP account for the bulk of government policy for increasing participation by the socially disadvantaged. Obviously, both schemes have other worthwhile aims too, in particular an improved experience for those who already participate in sport. However, as regards increased participation by the socially disadvantaged, it is notable that the success of both depends on a key assumption, namely, that the provision of better facilities is the route to increased participation. Although not in the context of social disadvantage, Fahey *et al.* (2004) found reason to doubt this assumption. This issue is explored further in the following chapters.

The majority of the budget of the Irish Sports Council, which amounted to €32 million in 2004, is further distributed in grants to organisations for individual sports or events, including the National Governing Bodies (NGBs), and councils for the Olympics, Paralympics and Special Olympics. Some of the NGBs who receive these grants also have explicit aims of raising participation among the disadvantaged. Much of the remaining budget is allocated in

grants to support elite sportspeople, through the High Performance Strategy and the International Carding Scheme.

One smaller aspect of the Council's work, at least with respect to budget size, is of particular relevance to social disadvantage: Local Sports Partnerships (LSPs). LSPs originated in the government's 1999 *Programme for Prosperity and Fairness*, where they were described as local partnerships to "…promote the development of sport and recreation…" and to do so "…particularly in disadvantaged areas." Ireland now has 16 LSPs, directly administered by a team within the Council, which cover 17 of the 34 local authority areas and nearly half the population. Although the overall budget for the LSPs amounted to just €2.3 million in 2004 and many are still in an early stage of development, they represent a distinct innovation in Irish sports policy. Each LSP has a local sports co-ordinator, an administrator and, in some cases, a development officer. The LSPs are supposed to gather information on local needs, to provide sports training and education, to explicitly target disadvantaged groups, and to develop a local administration and strategy for increasing participation, which includes the marketing and promotion of sport. The LSPs were the subject of a recent review commissioned by the Department of Arts, Sports and Tourism (Fitzpatrick Associates, 2005), which found qualitative evidence for success in increasing participation among disadvantaged groups. There is, therefore, a clear justification for continued support for the LSPs and a need to develop a quantitative evaluation of their impact.

As well as sports policy itself and social exclusion initiatives that use sport to tackle exclusion, another important influence of government on participation in sport is policy relating to schoolchildren's sport. This requires the co-ordination of education policy and sports policy. The third report in this current series (Fahey, Delaney and Gannon, 2005), identified a need to integrate policy better between PE classes, extra-curricular sport, and sport played in clubs outside of school. In particular, data show that most of the sporting opportunities offered to schoolchildren are reliant on adult volunteers. Fahey *et al.*, concluded that non-specialist teachers who volunteer to run extra-curricular sport, and other adults who volunteer to help children's sport, deserve more recognition and support for their efforts. These volunteers require greater attention from and co-ordination between education policy and sports policy. This current report goes on to examine whether these conclusions have particular relevance for socially disadvantaged children.

Another policy area of relevance is health promotion. The Department of Health and Children has had a National Health Promotion Strategy since 1995, which makes it an explicit aim of government to raise levels of physical exercise. Part of this strategy included the commissioning of the Survey of Lifestyles and Attitudes to Nutrition (SLÁN), which recorded that people from lower socio-economic groups engaged in less exercise. The initial 1995 strategy set ambitious targets for increasing physical activity by 2000, though in the *National Health Promotion Strategy 2000-2005* the scale of ambition was reduced to identifying ways of encouraging activity

that work. As of yet, health promotion policies for increasing activity do not appear to be explicitly targeted at the socially disadvantaged.

Finally, as extensively reviewed in Delaney and Fahey (2005), sport has been belatedly recognised as being relevant to Irish policy on volunteering and social capital, though it is yet to emerge as a strong component of policy in the area. An open question is whether social disadvantage is an important factor in determining the scale of social capital generated by sport and who benefits from it.

Looking across this spectrum of relevant policy, one difficulty to note is that efforts to address the influence of social disadvantage on sport have the potential to fall between the different priorities of the large number of agencies involved. It is a reasonable contention that the majority of people who become involved in the administration of sport do so primarily because of their passion and knowledge regarding sport itself, not a drive to lessen social disadvantages. Similarly, people who become involved in fighting poverty and exclusion may have little interest in or understanding of sport. This pattern is an unavoidable aspect of policy regarding sport and social disadvantage. However, it is important that those who have influence and responsibility in this area understand each other's priorities and aim to reach a common understanding of the link between social disadvantage and participation in sport. Part of the difficulty is a lack of solid, quantitative research to assess the strength of the relationship and to try to identify its causes. As stated above, these are the main objectives of the present investigation.

1.4 Winners and Losers from Public Funding

The people who benefit from public funding of sport are those who already participate in sport, plus any non-participants who get involved as a result of public policy. This second category of new participants is obviously small relative to current participants, who are the main beneficiaries. Combining this fact, the knowledge that socially disadvantaged people participate less in sport, and the policy interventions described above, there is a very real danger that public funding of sport is, as it stands, regressive – a transfer of resources from the less well off to the better off.

Consider the expenditure side first. Policy primarily addresses social disadvantage through geographical targeting of the Sports Capital Programme (SCP) towards areas designated as 'disadvantaged'. Sports clubs and organisations sited in these areas receive special consideration for grants to create or upgrade sports facilities. Around half the grants are given to disadvantaged areas, although these areas can be geographically quite large (for example, towns the size of Cavan, Longford and Athy). However, research has shown that geographic location is not a very effective way to target the disadvantaged in Ireland. Watson *et al.* (2005) employed three national surveys explicitly to examine this issue. Although the study focused mostly on targeting by county, its overall conclusion was that poverty is a structural rather than spatial phenomenon and that: "Area-based policies have little role in *targeting* poor households: most poor households do not live in clearly identifiable

geographically concentrated areas." Translated into the terms of sports policy, the problem is that even if more money is allocated to clubs and organisations in areas that are on average more disadvantaged, the people involved in the clubs and organisations who benefit may be the better off people within travelling distance. Furthermore, the most recent Expenditure Review of the SCP, for 1999-2002 (Department of Arts, Sport and Tourism), found some problems with the targeting scheme. Applications from disadvantaged areas were less likely to be successful and recipients of grants in these areas reported lower figures for participation.

Thus, while there is recognition and some effort made to target public funding of sport at disadvantaged areas, it is questionable whether the beneficiaries of this money are the socially disadvantaged. Rather, the sports budget is given in grants to established sports clubs or organisations and, therefore, the people who benefit most from this public funding are simply those who currently participate in sport at these locations. What proportion of these people are disadvantaged is consequently a key question.

There is a further issue on the revenue (as opposed to the expenditure) side. Money from taxation is generally progressive – higher income people on average supply the greater proportion of government revenue. But 80 per cent (in 2004) of the Department of Arts, Sport and Tourism's sport budget comes from ticket sales for the National Lottery.[4] This mechanism for raising revenue is itself regressive – the money comes disproportionately from lower socio-economic groups. Figures from the year 2000 show that 67 per cent of unskilled workers and unemployed people played the lottery regularly, compared to 50 per cent of the top two socio-economic classifications (DKM Economic Consultants, 2001). This underestimates the degree to which the National Lottery is regressive, however, because average weekly expenditure on the lottery is also 16 per cent higher among unskilled workers and unemployed people who play regularly, compared to regular players from the top two classifications. Moreover, weekly spending on lottery tickets is higher among those with fewer educational qualifications. These figures are consistent with a considerable body of international research on who plays national or state lotteries (e.g. Farrell and Walker, 1997; Price and Novak, 2000), which finds that most lottery tickets are what economists call an 'inferior good' – one of those rare goods people buy less of as their income increases.

These expenditure and revenue patterns do not conclusively show that public funding for sport in Ireland is regressive, but they point strongly in that direction. If a large majority of people who participate in sport turn out to be from higher income groups, then it is unlikely that the provision for the disadvantaged in current policy would be a sufficient counterbalance. If the impact of social

[4]The Department of Arts, Sport and Tourism, although one of the main beneficiaries from the revenue generated, is not responsible for administering the national lottery, which is operated under licence issued by the Minister for Finance.

disadvantage is greatly to reduce participation in sport, the current system of public funding for sport may effectively amount to the poor subsidising the activity of the rich. It is, therefore, necessary to assess the true scale of the association between disadvantage and participation, which is the main concern of this report.

1.5 Data

The primary source of data for this report is the Survey of Sport and Physical Exercise, which is a national random sample of 3,080 adults, each of whom completed a face-to-face interview about their involvement in sport and physical exercise. The data were collected by the Survey Unit of the Economic and Social Research Institute (ESRI) in the second half of 2003. Findings from this source have been presented and analysed in two previous reports. Fahey *et al.* (2004) provided a picture of how much sport is played in Ireland by age and gender, and explored the health benefits people potentially derive from playing. Delaney and Fahey (2005) reported the large amount of non-playing involvement, in the form of volunteering, membership and attendance, and estimated the social and economic value of sport in Ireland. Some summary statistics showing the extent of participation in sport by adults in Ireland are provided in Table 1.1. However, the very large volume of data collected in the survey bears further analysis. In addition to the many questions it asked regarding the nature of people's involvement in sport, respondents also completed a section about social and family background. Chapters 3-5 in the present report make much more extensive use of these answers.

Table 1.1: Summary Statistics for Participation in Sport by Irish Adults

	%
Played sport in past year	43
Played at least once a month	33
Played at least once a week	28
Volunteered for sport-related activity in past year	15
Attended sporting fixture in past year	46
Member of sports club	30

To explore the effects of social disadvantage on schoolchildren's experience of sport, Chapter 6 employs a different set of data. The ESRI's Survey Unit conducted fieldwork in a nationally representative sample of 80 second-level schools and 137 primary schools in late 2004. Pupils completed questionnaires about their participation in sport, under the direction of an ESRI interviewer. Questionnaires were also filled out by school principals. The extent of schoolchildren's involvement in sport and their experience of it is reported in Fahey *et al.* (2005). For the present study, the data on schoolchildren's participation was augmented with data available from the Department of Education and Science, which publishes a list of schools involved in schemes to combat social disadvantage. In essence, the analysis focuses on differences between these schools

and the rest, in terms of the level of sporting participation and the experience of the pupils and principals.

As with all data-sets, there are issues concerning the design of the surveys and possible measurement error, as has been indicated in earlier reports. For the present purposes there are two particular issues to note. First, this report makes extensive use of household income as an indicator of disadvantage. As in all surveys of this kind, income proved difficult to measure. There are substantial levels of missing data and some figures recorded are of uncertain accuracy. For example, of the 3,080 adults who participated in the survey, no information on income was forthcoming from 24 per cent, leaving an effective sample of 76 per cent, or 2,346 respondents, for the analysis that employs income data. Of these respondents, around half again could give only an approximate category for their household income. In addition to the problem of obtaining accurate responses, it is necessary to equivalise household income figures to take account of how many people's needs the stated household income must meet. This was done using the modified OECD equivalised income scale.[5] The combined impact of approximate responses and the equivalisation procedure is that the income data employed in this report are subject to significant measurement error. Therefore, they must be regarded as highly approximate, though they are nevertheless likely to be useful as indicators of orders of magnitude. Moreover, assuming that people who participate in sport are no less or more inclined to give accurate statements of income than those who do not, the effect of measurement error is to reduce any differences between people of different incomes found in the data – measurement error is like interference that reduces the strength of a signal but does not necessarily distort its content. In other words, effects of different participation across income groups that appear in the data are not spurious, or exaggerated by inaccurate estimation. They are approximate and likely to be somewhat underestimated.

The second issue surrounding the data used in the following chapters leads to a note of caution. This report makes extensive use of socio-economic variables such as income, educational attainment, health and occupational status. These variables are highly correlated with one another – high income individuals tend also to be well-educated, more healthy and in non-manual jobs. Although appropriate multivariate statistical techniques have been used to

[5] The income figure is divided by the number of people in the household, according to a weighting of 1 for the respondent, 0.5 for each additional adult, and 0.3 for each child. Details of this method and the research on which it is based can be found at www.oecd.org/els/social.

analyse the data, when working with variables of this type it is very important to interpret associations between them carefully. Two variables, one socio-economic and one sporting, may appear to be related, yet have no causal impact on each other. The analysis is careful throughout to try to isolate associations between variables that are telling.

2. INTERNATIONAL CONTEXT

2.1 Introduction

Participation in sport, including its relationship with social disadvantage, is a growth area in international research and policy discussion. There are, therefore, lessons to be learned from research in other countries, regarding both levels of participation and the success or failure of policy. General patterns exist in the data that are common to all countries, while there also exist notable differences between countries. Almost all developed countries now have an explicit policy to increase the levels of sporting participation throughout society, with many placing a particular emphasis on the socially disadvantaged. Furthermore, there is evidence that rates of participation in some countries have significantly changed over time.

A combination of factors is stimulating international effort in this area. In developed countries, the greater threat to human health now comes from degenerative rather than infectious diseases, giving greater prominence to the impact of lifestyle on future health risks. Thus, sport has grown in importance as a potential preventative health measure. Some of the established health benefits of playing sport are reviewed in Fahey *et al.* (2004). As well as health benefits, attention has focused on the potential social benefits of sport, especially for poorer communities. Anecdotal evidence for reduced crime or drugs problems following the introduction of some sports programmes provoked a debate that has now matured into a field of social scientific research. Studies have also highlighted the contribution sport might make to social capital – the degree of social interaction and shared understanding enjoyed by individuals within communities. In essence, the link between sport and social capital translates into the straightforward claim that members of a community who regularly organise, play and watch sport together will be more likely to co-operate and help each other generally, across the rest of life's spectrum of challenges.

Roughly speaking, the international literature can be divided between studies that measure the degree of participation, those that try to disentangle the many factors that influence it, and work that seeks to evaluate policy interventions. Social disadvantage is an unavoidable issue across this work, because findings in all countries repeatedly show that people in disadvantaged communities are less healthy, less active, and play less sport. Furthermore, the volume of research published in recent years on participation in sport is such

that some updates can be made to the international picture of participation across nations presented in the first of this series of reports (Fahey *et al.*, 2004).

2.2 Levels of Playing

One of the difficulties of making comparisons across countries is that measurement methods in different countries do not match precisely. For example, whether billiards and snooker classify as sports varies between studies, as does the way different kinds of walking are categorised. Some countries prefer to gather information on how many people are physically inactive rather than how many play any kind of organised sport. Still, there are patterns that emerge from the data.

The COMPASS report in 1999 attempted to compare how many people play sport across nations in Europe. It concluded that there was a north-south divide, with the champions of sporting participation being the Scandinavian countries, especially Finland. Switzerland also had high participation. Spain and Italy had the lowest levels, with Ireland and the UK somewhere in the middle. However, while the project attempted to account for different survey methodologies in the different nations, it could not be completely confident of having done so. COMPASS therefore concluded that its findings should be regarded as hypotheses.

The Carter Report (2005) presented findings of a commission established to evaluate the UK's sports policy against international research and to address the case for increased public funding for sport. The commission concluded that there existed comparable data on regular playing of sport for nine countries since 1999. The Carter Report confirmed the European north-south divide found by COMPASS, but also compared the proportions who play sport across other English-speaking countries. Finland topped the table, with over 50 per cent of the population playing sport at least three times a week, followed by Australia (46 per cent) and Canada (39 per cent). Germany (26 per cent), France (24 per cent) and England (21 per cent) were all well ahead of Italy (11 per cent). The other countries were USA (26 per cent) and Japan (26 per cent).

The comparison between these figures and the Survey of Sport and Physical Exercise in Ireland is imperfect, because the measure of regularity is not the same. Still, Fahey *et al.* (2004) concluded that approximately 20 per cent of the adult population in Ireland plays sport with sufficient regularity and effort to gain significant health benefit – playing every week with at least moderate physical intensity. Even allowing for different methodologies, it is therefore likely that the proportion of people playing sport in Ireland is well short of Scandinavian, Australian or Canadian levels, and perhaps more in line with England or France.

2.3 The Impact of Disadvantage

Much research has been commissioned to identify social groups with low participation rates. The belief is that identifying such groups is an important step towards raising participation, because it allows them to be targeted by policy, although the work is also motivated by concern that some people are unfairly denied sporting opportunities. The difficulty with this approach is to disentangle the different and overlapping social groups. For example, across the international literature it is clear that older people and women participate less in sport. However, older people and women, particularly lone parents, also tend to be disproportionately represented within lower socio-economic groups. It is important to determine which of these factors contribute most to lower participation in sport. For example, if low participation is associated more with gender and age, then it may make sense to focus on policies such as creating and promoting swimming pools and walking trails, which tend to be more popular among women and older people. But if factors due to social disadvantage matter more, there may need to be greater focus on different aspects of sports policy, such as how much sporting facilities cost to use or whether they are easy to travel to. Although many studies have reported associations between different social groups and participation in sport, few have used appropriate multivariate statistical techniques to disentangle them. Among those that have, a pattern is starting to emerge.

A recent study by the Australian Bureau of Statistics (Stratton *et al.*, 2005a) used multivariate analysis to examine the factors behind participation in sport, as recorded in Australia's 2002 General Social Survey. The authors concluded that socio-economic variables such as level of income and education were at least as important as age and gender in determining whether an individual participated in sport. Wilson (2002) presents similar results that show a strong effect of income and education on participation in sport in the US, which has significantly lower overall levels of participation in sport than Australia. Farrell and Shields (2002) analysed the 1997 Health Survey for England. They explicitly compared the influence of income with that of age, finding that an income difference of £20,000 (sterling) extra per year was approximately equivalent to being ten years younger, in terms of the likelihood that a person plays sport. They also found people's level of education to be a major factor. One notable aspect of both these studies is that the influence of income and educational attainment was more powerful, as a predictor of participation in sport, than measures of socio-economic standing based on the type of job individuals have, or their work status. Moreover, income and educational attainment both had significant impacts independently of each other. Thus, the results showed that if two people had the same educational attainment, the richer one would be more likely to play sport. Similarly, if two people had the same income, the individual with the higher level of

educational attainment would be more likely to play sport. This suggests that, although people talk of 'social disadvantage' as a single concept, there may be more than one aspect to it, and more than one link with reduced participation in sport.

Not all investigations of this type, however, find that socio-economic variables are as powerful as age and gender. Using data from Swiss Health Surveys of 1992 and 2002, Stamm and Lamprecht (2005) found age and gender to be the best predictors of participation in sport, with much smaller effects of income and, especially, educational attainment. This comparison between age/gender and socio-economic impacts is a *relative* comparison. Therefore, the different pattern in Switzerland compared with the three English-speaking countries could be due to a larger effect of gender and age in Switzerland, or a smaller socio-economic effect. A closer look at the data reveals that the Swiss gender gap is actually narrower than was found in the Australian, US and English studies. In other words, Switzerland is simply more equal in terms of playing sport, be it equality with respect to gender or, particularly, socio-economic status.

Most surveys of children's sport that have collected data about socio-economic background have found that, as with adults, children from disadvantaged families do indeed play less sport. But few studies have conducted a proper multivariate analysis. Stratton *et al.* (2005b) have done so in Australia. They confirmed a strong effect of socio-economic background on children's likelihood of participation in sport. Children with two working parents played more sport, as did children from areas classified as better off according to a socio-economic index.

2.4 Health Inequalities

There is now a large body of research linking inequality with poor health. This research indicates that, over recent decades, life expectancy and mortality rates of poorer people have not improved relative to richer people, despite increased income levels, better medicine, and near-universal healthcare provision in most developed countries. In many countries, the health of those in disadvantaged socio-economic circumstances has fallen further behind (World Health Organisation, 2005). Academic and political debate rages about the cause of such 'health inequalities' – a debate that is well beyond the scope of this current report.

There has been little systematic research into health inequalities in Ireland. The one major report to be published found a strong gradient of social class with respect to the mortality rates of working age males for the ten-year period to 1998 (The Institute of Public Health in Ireland, 2001). The mortality rate for all main causes of death was two to three times higher among the lowest social class than among the highest.

Sport significantly interacts with individual health. People who play sport get health benefits. Poor health is an important potential reason why people might not be able to play sport. These two effects could make for a vicious circle: inactivity leads to poor health and

fitness, which in turn makes it difficult to take regular exercise. Similarly, the circle can be virtuous: playing sport leads to improved health and makes it easier to exercise. Thus, if playing sport is determined by socio-economic circumstances, such that those who have lower socio-economic status play less, sport is a potential contributor to health inequalities. On the other hand, a policy that encourages greater participation from lower socio-economic groups might contribute to a reduction in health inequalities.

2.5 Policies for Raising Participation

Almost all developed countries have a public policy to increase participation in sport and exercise. One of the first publicly funded campaigns was *ParticipAction*, launched by Canada in 1970. England has recently adopted *Game Plan*, Australia has *Active Australia*, New Zealand *Push Plan*, and so on.

An initial question well worth asking is whether there is any evidence that policy interventions can increase participation. Looking at national policies across developed countries, the Carter Report concludes that they can. It cites Canada and Finland as two examples where participation has risen significantly following policy interventions. The Canadian government and its Fitness and Lifestyle Research Institute in fact prefer to concentrate on 'physical activity' rather than 'sport', while acknowledging that most regular physical activity involves sport. Under the system set up to evaluate the success of Canadian policy, the Institute reports annually on the proportion of Canadians defined as physically inactive, which has declined from 79 per cent in 1981 to 56 per cent in 2002. In Finland, data also record a decline in the numbers defined as inactive of approximately 20 percentage points over the past twenty years. But what is especially noticeable about the Finnish case is that much of the change has been in the older population. Of the nine countries evaluated by the Carter Report, Finland is the only one in which participation in sport increases between the ages of 40 and 60 years, accounting for much of the difference between Finland and other countries.

These two successes show that increases in the proportion of people who play sport can occur, though it is not certain that they can be attributed to public policy in Canada and Finland. There are also many examples of government drives to increase participation in sport that have had no impact or only a short-lived effect at best. The US Department of Health and Human Services commissioned a Task Force on Community Preventive Services (2001) to conduct a 'meta-analysis' – a comprehensive international survey of research on policies aimed at increasing physical activity, including not only national schemes but also local and regional initiatives. The task force found one of the major problems in this emerging research field to be that many policy interventions are not designed with proper quantitative evaluation built in. The overwhelming majority of schemes the task force studied either produced no significant

impact or insufficient evidence of impact to recommended them as effective. Nevertheless, based on 94 policy studies written in the English language, the task force did find evidence that a minority of policy interventions designed to raise levels of physical activity or sport were effective.

Overall, it appears that it is possible to raise levels of participation in sport and physical activity. However, a lot of interventions fail and many others are very difficult to evaluate because they were not designed with evaluation in mind.

2.6 Designing Effective Policy

There is general agreement that policy interventions should be targeted at specific groups. Most governments target children, aiming to establish habitual involvement in sport that will last much of a lifetime, and adult groups with low current levels of participation. Where policies differ more is in the methods by which they attempt to engage more people in sport.

The strategy of targeting groups with low participation sounds sensible, though if the aim is to increase overall participation levels, its logic is by no means watertight. The idea assumes that it is harder to get additional participants from a social group with already high participation than from one with currently low participation – that within each social group there are diminishing returns to encouraging participation. One reason to believe that groups with low participation provide higher potential returns is that there is likely to be greater untapped interest within such groups – an issue picked up later in this report. If it is the case that groups with low participation make for the best targets, then the relative influence of age, gender, socio-economic or other characteristics on participation in sport matters considerably. Target groups should be defined according to how low their participation rate is, not just to redress inequality in sporting participation, but to assist a general strategy to raise participation in sport.

Once a target group is identified there are a large number of options for how policy can seek to engage new participants. Public money can be spent on grants to existing sporting organisations; on involving non-sporting social groups in sporting events; on new facilities; on upgrading old ones; on the employment of trainers and coaches; on high-profile one-off events; on mass marketing campaigns; and so on. From the 94 research studies it examined in detail, the Task Force on Community Preventive Services recommended five types of policy intervention that had been shown to raise levels of physical activity. These were: increasing the amount of sport in school curricula, launching community-wide campaigns that mix organised events and marketing; organising sporting activities through new or pre-existing social groups; offering individually tailored physical activity programmes; and improving local facilities and access combined with outreach activities. What is striking about the task force's conclusions is that the interventions it found to be measurably successful employed ongoing social contact or initial strong communication with potential participants. Provision

of facilities or opportunities in the absence of such communication was not effective.

This finding is echoed in the Carter Report on national policies, which is largely influenced by the Finnish and Canadian experiences. While both countries have improved their sporting facilities, two further aspects of Finnish and Canadian policy are particularly noteworthy. First, each established regular monitoring mechanisms to record ongoing levels of sporting participation. Second, both countries spent considerable public money on long-running public awareness campaigns, which promoted the opportunities and benefits of sport and exercise. Consequently, the Carter Report's top two recommendations for UK policy are, first, to establish comprehensive ongoing national and local participation surveys and, second, to begin a long-term marketing campaign about the benefits of sport and physical exercise.

Given that reasonably concrete conclusions about successful policy interventions are only just beginning to emerge from international research, it is unsurprising that as of yet there is very little evidence regarding which types of intervention are most suitable for which type of target group, be it older people, women, those in lower socio-economic groups, or whoever.

The one exception to this is policy regarding raising participation in sport among children. The international research literature on how best to engage children in sport is vast and multidimensional, covering issues ranging from teaching methods and training, to in-depth psychological studies of the importance of activity for children's wellbeing. But while much effort has been directed at the almost universally agreed goal of getting children to play and enjoy more sport, very little attention has focused on how involvement in sport as a child affects participation as an adult. The reason for this deficit in knowledge is straightforward: there is a lack of longitudinal data tracking the same cohort of people from childhood to adulthood. However, Finland does have longitudinal data. Telama *et al.* (2005) compared the participation in sport of a sample of Finnish schoolchildren, aged 9 to 18 years in 1980, with participation in 2001, when the oldest in the sample had reached 39 years of age. The study found a statistically significant correlation between participation as a child and as an adult, which was considerably stronger for males than for females. However, perhaps the most interesting aspect of this study was that the correlation between playing as a child and playing as an adult was quite weak, for both genders. In other words, although children's involvement in sport increased their likely involvement as adults, many adults who were not involved in sport as a child nevertheless took up sport at a later stage, while others who played as children dropped out.

This last study raises an important point regarding sport and social disadvantage. On the negative side, the unsurprising conclusion is that if socially disadvantaged children play less sport, it will adversely affect the chances that they play as adults. But on the

positive side, people from disadvantaged backgrounds who do not participate as children may nevertheless be successfully encouraged to do so during adulthood – perhaps more so than might be expected. The Telama *et al.* data is of course only for Finland, a country with very high participation in sport generally and which has experienced a strong public drive to increase adult participation. More longitudinal data is required from other countries to be sure of the finding.

2.7 Use of Sport to Tackle Disadvantage

Sport is most explicitly linked to social disadvantage when policy-makers employ sport to combat problems associated with socio-economic hardship. Common targets for these schemes are young people perceived to be at risk from drugs and involvement in crime. Although such policy interventions are usually conceived of and managed separately from interventions aimed at increasing general participation, lessons can be learned from them about the potential benefits of sport for disadvantaged groups and wider society. Furthermore, because increased participation in sport by socially disadvantaged people is a necessary component of these schemes, successful ones may reveal more about what types of scheme are best for engaging disadvantaged people in sport.

There are many individual reports of successful projects targeted at the socially disadvantaged. America has led the way in the use of sport to tackle social disadvantage, largely because in many American cities sport was mobilised in response to growing problems caused by the crack cocaine trade and gang warfare among disaffected young people. For example, authorities in Kansas City, Missouri, credited the introduction of 'midnight basketball' programmes for a drop of 25 per cent in juvenile apprehensions. A similar scheme was said to have produced a 28 per cent drop in crime in areas of Fort Worth, Texas. The problem with such isolated, anecdotal reports is that it is impossible to know whether the impact is long term, or whether a successful intervention in one local area solves a problem or merely shifts it to another area.

Consequently, various researchers have attempted a meta-analysis of individual interventions, to look for general trends among schemes that appear to work. The perhaps surprising outcome is quite widespread agreement regarding what benefits sport can bring to disadvantaged communities and which methods for encouraging participation in sport seem to work. The results of separate analyses by the Scottish Office (Coalter *et al.,* 2000), the UK's Department of Culture, Media and Sport (Collins *et al.*, 1999) and researchers in the US (Witt and Crompton, 1996; Task Force on Community Preventive Services, 2001) concur on each of the following. First, schemes that increase participation in sport can have positive effects on health. Second, they can improve young people's educational performance. Third, the evidence of reduction in crime and drug use associated with such programmes is more mixed. Fourth, the best schemes build in a system for conducting evaluative research to assess their success or failure. These conclusions about the potential

impact of policy interventions aimed at the disadvantaged are supplemented by conclusions about what kinds of intervention tend to work. Schemes that work best do more than provide facilities and opportunities, but also include an element of outreach – they operate beyond the front gate. Moreover, the better schemes tap into existing social networks and involve them in designing and implementing the scheme – bottom-up, not top-down. There is an obvious echo here of the conclusion above regarding policies to increase participation in sport more generally. To be successful, policies seem to require a strong social component and effective communication with potential participants.

2.8 Summary

Research in other countries has produced evidence that people from lower socio-economic groups play considerably less sport, particularly across the English-speaking countries. Given the similarities between Irish society and the other English-speaking nations, especially with respect to levels of inequality, there is reason to suspect that there may be a strong link between participation in sport and social disadvantage. An assessment of the relative importance of socio-economic factors for sporting participation, compared with other known factors such as gender and age, is important for targeting policy, assuming that the aim of that policy is to increase participation generally, or to redress the disadvantage experienced by lower socio-economic groups.

Identifying target groups for policy interventions is only truly valuable if policy interventions can be designed that increase the proportion of people who play sport. The good news is that there are examples of successful policy interventions – it can be done. The bad news is that there have also been many unsuccessful ones and good intentions are no guarantee of producing an effective scheme. Within the past few years, however, a consensus has begun to form regarding what kinds of interventions work best. Evidence from more successful countries, such as Canada and Finland, chimes with that of international meta-analyses that have pulled together large quantities of research into policies that aim to raise general levels of participation in sport, or to use sport to tackle disadvantage. Most notably, the policies that appear to be most successful in other countries go beyond the provision of sporting facilities and make use of mass marketing, social outreach, and local social structures to engage people in sporting activity.

Comparing this conclusion with the current state of policy in Ireland, as outlined in Chapter 1, there is a clearly discernible gap. Irish policy at present is overwhelmingly concerned with providing or improving sports facilities. But the international research suggests that it may be important for policy to go beyond the provision of facilities and to prioritise effective communication with target groups.

3. DISADVANTAGE AND PLAYING SPORT

3.1 Introduction

This chapter looks at the participation in sport of adults, as players, according to various dimensions of disadvantage. It focuses particularly on income and educational attainment which, of the variables associated with disadvantage in the Survey of Sport and Physical Exercise, turn out to have the strongest impact on participation. The strength of this association between disadvantage and participation in sport is compared to the well-documented impact of age and gender on participation.[6]

3.2 Multivariate Analysis

There is an issue of statistical principle regarding the presentation of the data that follows. Social disadvantage among adults can be defined and measured in various ways. The survey asked respondents about their employment status; health; income; educational qualifications; household composition and location. In the data, these variables are all highly correlated with one another. That is, on average, lower income people tend to be less qualified, are more likely to be in unskilled manual employment, have poorer health, and live in larger households in more disadvantaged areas. The survey also collected information on the sporting activity of family and friends, the availability of local sports facilities, and access to them via transport. These variables are also highly correlated with all of the dimensions of social disadvantage just listed. When handling data of this type, with significant correlations between similar variables, there is a serious danger of presenting spurious findings.

For example, the data show an association between manual employment and playing sport – people with manual jobs play less sport. This might lead one to conclude that manual jobs are more tiring and deter people from further physical exercise. However, manual workers are more likely to have low incomes and tend to have spent less time in education. Once these two factors are

[6] There are, of course, issues regarding which activities to count as 'sport'. The inclusive definition of sport adopted in the Survey of Sport and Physical Exercise is discussed in Fahey *et al.* (2004). However, the large majority of activity the survey counts as 'sport' is not contentious and the results presented here are not sensitive to the definition adopted.

controlled for, the effect of manual work on participation disappears: a manual worker is no less likely to play sport than a non-manual worker with the same income and education. What at first appeared to be a significant relationship is revealed as a spurious one.

To avoid this problem, the data were analysed with appropriate multivariate methods, details of which are provided in Appendix A. Decisions about which relationships to highlight in the charts and tables that follow are informed by this multivariate analysis. Any relationship that is presented as significant has been found to be significant in the full multivariate analysis.

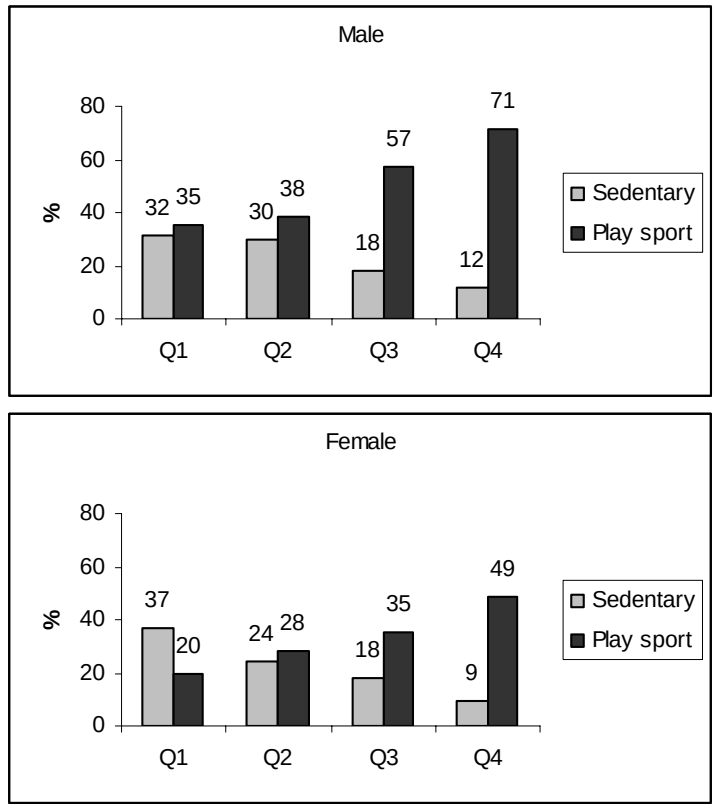
3.3 Income and Playing

To compare the effect of household income on participation in sport, respondents were grouped into income quartiles (Q1 to Q4) based on equivalised household income, as described in Chapter 1. Those assigned to Q1 correspond to the poorest 25 per cent of households in the sample, while those assigned to Q4 are the richest 25 per cent.

Two broad measures of participation serve as the main indicators of physical involvement in sport. They are defined as follows. A person 'plays sport' if they physically participated in a sport at least once at any time over the previous twelve months. Recreational walking is not counted as a sport for this measure. For the second measure, the survey asked respondents whether they had been on a walk of greater than two miles, for recreation, leisure or health, within the previous twelve months. Respondents who had not been on a walk of greater than two miles, nor played any sport, are defined as 'sedentary'.

Figure 3.1 reveals a strong relationship between household income and these two broad measures of participation, an association which applies to men and women. For each quartile, the left-hand column shows the percentage of people who were sedentary for the previous year, while the right-hand column shows the percentage who played a sport (excluding walking) at least once during the previous twelve months (those who fall into neither category are people who played no sport but did do some recreational walking). The picture is stark. Moving from the poorest quartile (Q1) to the richest quartile (Q4), people become much less likely to be sedentary and much more likely to play sport. When the male and female results are combined, more than five times as many people in the richest quartile play sport as are sedentary, while in the poorest quartile more people are sedentary than play sport, even as irregularly as once a year. The effect is not confined to extremes of rich and poor. Figure 3.1 displays a steady and strong relationship between income and playing sport right across the income distribution.

Figure 3.1: Broad Participation in Sport by Income Quartile and Gender

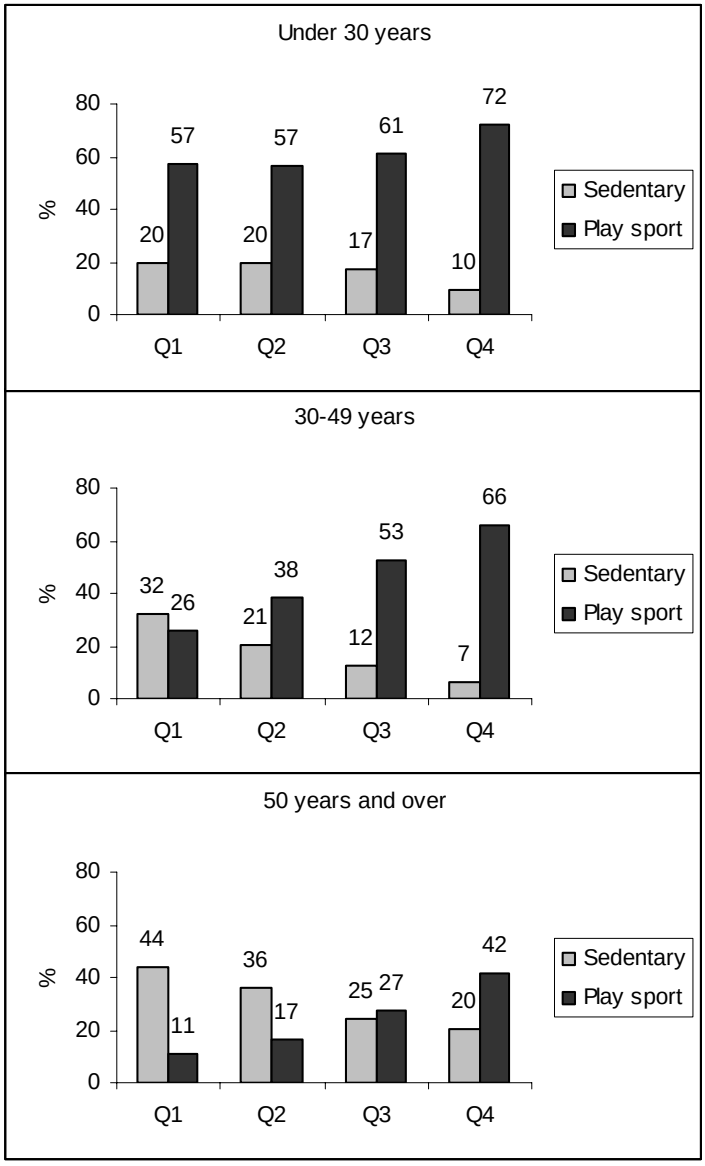


A comparison of the two charts suggests that the strong effect of income on participation in sport is similar for men and women. For both genders, the proportion who are sedentary is 22 per cent overall and the small differences between males and females within income quartiles are not statistically significant. Turning to a comparison of those who play sport, there is a greater difference. Significantly more men than women play sport overall (52 per cent versus 34 per cent, on this broad twelve-month definition), but the increase in playing across the income quartiles is significantly steeper for men. (This is harder to determine from the chart alone, but is confirmed by the significant interaction between gender and income presented in Appendix A, Table A3). In other words, the impact of income on whether men play sport is somewhat stronger than it is for women. Nevertheless, both genders produce the same general pattern of results and it is the striking impact of income on the participation of both men and women that is the dominant effect.

The relationship between income and broad participation varies considerably more with age. Figure 3.2 presents the data in the same manner, but splits the sample into three age groups: under 30 years, 30-49 years, 50 years plus. The effect of household income on participation in sport becomes stronger with increased age. Nevertheless, the top chart in Figure 3.2 indicates that a significant

impact of income on participation is present even for the youngest group, with twice the proportion of sedentary people in the bottom two quartiles as in the top quartile, and significantly fewer people who play sport in the bottom two quartiles.

Figure 3.2: Broad Participation by Income and Age

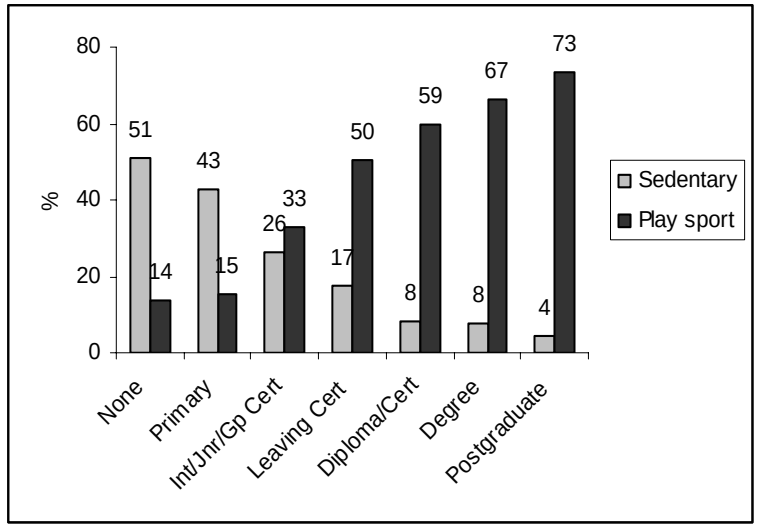


3.4 Education and Playing

Respondents were asked to state their highest level of educational attainment, ranging from no education or only primary school education right up to postgraduate degree level. Figure 3.3 depicts the relationship between educational attainment and the broad measures of participation in sport. If anything, this picture is even more stark than that for income. The two leftmost categories, people with no education or only primary education, are dominated by older people who in any case tend to play less sport. Nevertheless, the comparison between those who left school after Intermediate, Junior, or Group Certificate and those who have a third-level qualification remains very striking. As with income, the proportion of people playing sport changes strongly and steadily across the spectrum of educational attainment.

As with income and playing sport, the relationship between educational attainment and playing can be examined separately by gender and age. However, it turns out that the pattern of Figure 3.3 is consistent across both genders and all age groups. Although men play more sport generally, there are no significant differences in the steepness of the increase with educational attainment. And while older people generally play less sport, the impact of educational attainment on whether they play does not change with age. This is an important finding, because it suggests that the beneficial effect of formal education on playing sport lasts a lifetime.

Figure 3.3: Broad Participation by Educational Attainment



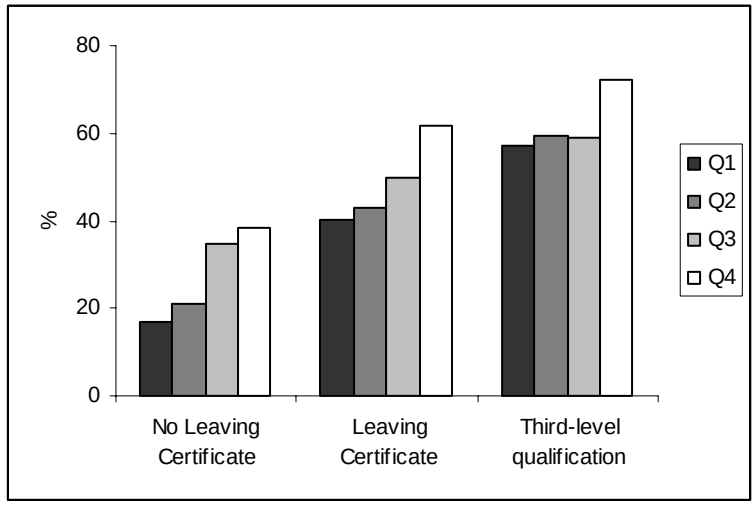
3.5 Separate Effects of Income and Education

On average, people with more educational qualifications earn higher salaries. Thus, it is possible that the two relationships depicted above, between participation in sport and these two dimensions of social disadvantage (income and education), are in fact one and the same relationship. The two charts may simply express an association between poverty and sport, say, in two different ways. On the other hand, the relationships may be different and may have different

causes. For example, one possibility is that people with low incomes feel less able to pay the costs associated with playing sport, such as for memberships fees, equipment, transport and so on, regardless of their level of educational attainment. Meanwhile, people who stay longer in full-time education might develop sporting habits, regardless of their subsequent income. So, are the effects of income and education on playing sport the same or different?

The fact that the impact of income on participation in sport changes with gender and especially age, while the impact of educational attainment is consistent across all groups, suggests that we are probably looking at two separate effects. Multivariate statistical analysis (see Appendix A) confirms this. The separate effects can be seen graphically by simplifying the categories of educational attainment into three groups: those whose highest qualification is lower than Leaving Certificate, those with Leaving Certificate or equivalent, and those who obtained a third-level qualification. Figure 3.4 shows the impact of income on whether people within each of these groups play sport. Two distinct relationships can be discerned. There is a general trend towards playing more sport as the level of educational attainment increases. Meanwhile, within each category, those with a higher income are also more likely to play sport. While people's levels of income and education both reflect forms of social disadvantage, the impacts of financial well-being and educational attainment on playing sport are substantially separate.

Figure 3.4: Playing Sport by Education and Income



3.6 Strong Impact of Disadvantage

The previous sections show that social disadvantage has a highly significant impact on the chances that people play sport; a finding that is of obvious interest to those who would like to increase the numbers of people who play, because it identifies the disadvantaged as a group to target with measures that seek to raise participation. But it is useful to try to gauge not only whether the effect of disadvantage is significant, but how powerful it is. A helpful comparison is to ask how strong the impact of income and educational attainment is relative to the impact of age and gender.

The multivariate model developed in Appendix A allows a relatively straightforward comparison to be made. The model estimates the relative impact of all the different variables on the likelihood that people play sport. From these estimates it is possible to calculate odds ratios, which express the odds that a person of particular characteristics will play sport relative to a reference case. Table 3.1 provides odds ratios that summarise the effect of gender, age, income and educational attainment on the likelihood of playing sport. The upper part of the table gives the standard finding that gender and age are major factors that determine participation in sport. The reference case (top-left) is a woman of average age, which is 44 years for our sample. Reading down the first column of the table shows that the odds of a man of the same age playing sport are 2.64 times higher. Reading across, the odds that a woman twenty years younger plays sport are almost twice as high. The bottom right cell shows the odds that a man twenty years younger plays sport are over five times higher.

Table 3.1: Odds Ratios for Playing Sport by Gender, Age, Income and Educational Attainment

	Average Age	10 Years Younger	20 Years Younger	
Female	1.00	1.40	1.95	
Male	2.64	3.68	5.14	
	Junior Certificate	**Leaving Certificate**	**Degree/ Diploma**	**Postgraduate**
Q1	1.00	1.94	2.73	4.67
Q4	2.00	3.89	5.46	9.36

The odds ratios in the top part of Table 3.1 are an indication of the strength of the influence gender and age have on the likelihood that individuals play sport. This provides a ready comparison for the impact of socio-economic disadvantage, which is given in the lower half of Table 3.1. The reference case is a person who left school after Junior Certificate (or equivalent) and is in the poorest 25 per cent of the population. Reading across the table shows how going further in education increases the odds of playing sport steadily and dramatically: nearly two-fold for a person who stayed at school to complete Leaving Certificate, up to more than four-and-a-half times the odds for someone who goes all the way to a postgraduate degree. Reading down the table, a person who leaves school at the same

stage, but has a household income in the top quartile, has odds of playing sport that are double those of a person in the bottom quartile. These odds ratios are large in themselves but, as we know, education and income often accompany each other. Once the two effects are combined, in the bottom-right corner of the table, the odds ratios become very substantial indeed, as revealed by comparison with the odds ratios for gender and age above. If a person from the bottom income quartile who left school after Junior Certificate had, instead, gone on to obtain a diploma or degree and moved into the top income quartile, their odds of playing sport would have increased over five-fold – more than the increased odds of playing sport when comparing a 44 year-old woman with a 24 year-old man. In the case of obtaining a postgraduate degree and the same rise in income, the odds increase over nine-fold.

It is also possible to produce odds ratios to compare the chances that people with different characteristics will be sedentary. In this case, there is no significant difference between the genders, so the odds ratios presented in Table 3.2 apply to both genders. The figures compare the odds of being sedentary by age, income and educational attainment, relative to a reference case. The top half of the table shows how, compared with someone of average age, a person twenty years older than average has odds 1.39 times higher of being sedentary, while a person twenty years younger has odds that are a similar amount lower. Comparing the two extreme figures shows that forty years of aging roughly doubles the odds of being sedentary. Moving to the bottom half of the table, the figures are more dramatic. Relative to a person in the poorest 25 per cent of the population (Q1) who left school at Junior Certificate (or equivalent), a person in the top 25 per cent (Q4) has about half the odds of being sedentary, while a person with a third-level qualification has their odds of being sedentary reduced more than three-fold. Again, once we consider a person who is both higher income and highly educated, the difference is very large – a person in the top 25 per cent of earners who has a postgraduate degree is more than ten times less likely to be sedentary.

Table 3.2: Odds Ratios for Being Sedentary by Age, Income and Educational Attainment

20 Years Older	10 Years Older	Average Age	10 Years Younger	20 Years Younger
1.39	1.18	1.00	0.85	0.72
	Junior Certificate	**Leaving Certificate**	**Degree/ Diploma**	**Postgraduate**
Q1	1.00	0.66	0.29	0.17
Q4	0.51	0.33	0.15	0.09

This kind of comparison is intuitive but fairly arbitrary – why choose being a different gender or twenty years younger as the yardstick? There is no perfect way to compare the impact of gender and age with that of income and education. But it appears from

Table 3.1 that socio-economic disadvantage has an influence on whether people play sport that is at least similar in strength to well-known influences like gender and age, and arguably stronger. From Table 3.2, socio-economic status is clearly a very much stronger influence on whether someone is sedentary.

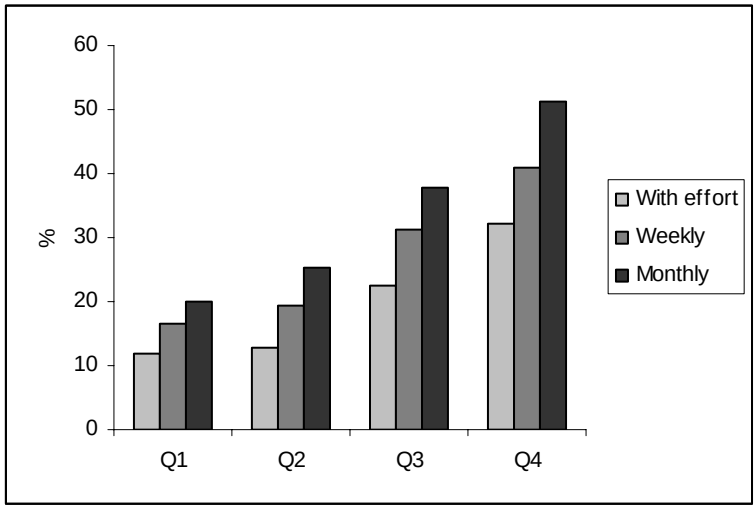
As discussed in Chapter 1, the estimate of household income employed in our survey only produced approximate figures. In principle, the effect of measurement error such as this is to add noise to the data and so to reduce the estimated strength of relationships between the approximate variable, in this case income, and other variables in the data-set. In other words, the actual impact of income on playing sport could be even stronger than the figures reported here. This same effect of measurement error leading to an underestimation of impact does not apply gender and age, which can be determined in surveys with greater accuracy.

3.7 Regular Sport and Health

The definition of playing sport used thus far is very broad – just one brief game at any point in the previous year qualifies an individual as a player. Very occasional playing of sport is unlikely to produce significant health benefits. However, Fahey *et al.* (2004) found that even people who play sport semi-regularly with relatively light levels of effort report better mental and physical health. More regular playing of sport and, especially, regular playing with significant levels of effort can provide greater health benefits. It is, therefore, important to ask whether the effects of income and educational attainment observed in the data extend to regular playing of sport with effort, from which the most significant health benefits can be gained.

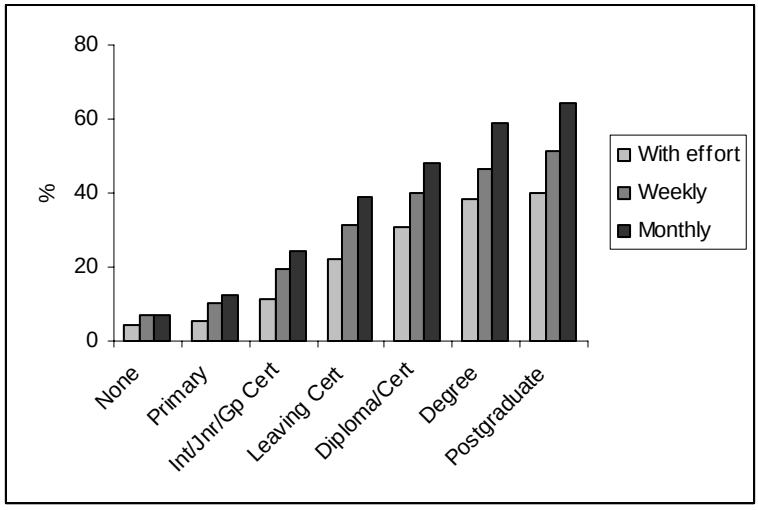
Figure 3.5 compares participation across income for three different but overlapping definitions of playing sport in the previous 12 months: those who played at least every week, at least every month, and those who played with moderate or higher effort (i.e., sufficient to increase their breathing noticeably). On all three measures the same pattern of participation is present. There is a steady and steep increase in the proportion of people who play sport across income quartiles. Roughly two-and-a-half times as many people play sport in the top quartile compared with the bottom quartile, regardless of how playing is defined.

Figure 3.5: Regular Playing by Income



When the three categories of more regular playing are compared across levels of educational attainment a similar pattern emerges, as displayed in Figure 3.6. Whichever definition of playing sport is adopted, there is a strong impact of educational attainment on the proportion of people who play, with people educated to degree level being two to three times more likely to play sport than people who left school after Junior Certificate or equivalent.

Figure 3.6: Regular Playing by Educational Attainment



3.8 Who Are the Players?

Thus far, the analysis has proceeded by examining the proportions of different social groups who play sport, where the groups are defined by income or educational attainment. However, a slightly different perspective on the relationship between social disadvantage and sport can be obtained by looking only at the people who play sport (according to the 12-month measure) by income or educational attainment. If there were no impact of income on playing sport, then each income quartile would contribute one-quarter of the players. If there were no impact of education, then there would be the same proportion of graduates among players of sport as among the population generally.

Figure 3.7: Players by Income Quartile

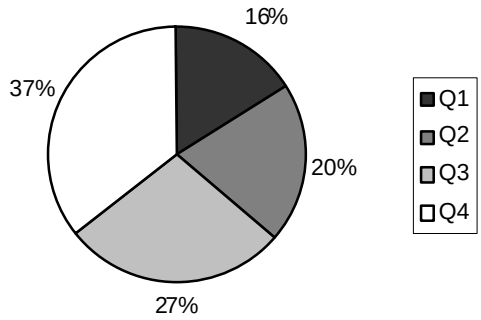
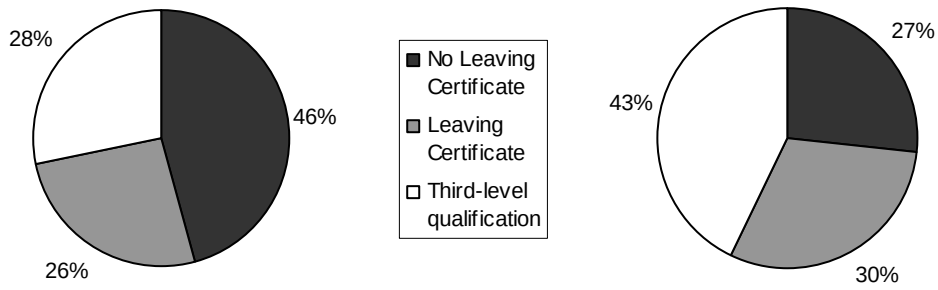


Figure 3.7 presents the real picture by income. Perhaps the most striking aspect is that more players come from the top quartile (Q4) than from the bottom two quartiles (Q1 and Q2) combined. Figure 3.8 depicts the same analysis by educational attainment, simplified into three categories. Again, the disproportionate number of players who are highly educated is very evident, with 43 per cent of people who play sport in Ireland having a third-level qualification.

Figure 3.8: The Population (Left) and Players (Right) by Educational Attainment



3.9 Conclusions

There is a robust and strong relationship between the playing of sport by Irish adults and social disadvantage, as measured by income and educational attainment. Low income and low educational attainment are both associated with a big reduction in the likelihood that a person plays sport. Furthermore, these appear to be largely separate effects. Thus, a person who experiences both financial and educational disadvantage is much less likely to play sport. The evidence suggests that social disadvantage is at least as big an influence on whether a person plays sport as gender and age, and a much bigger influence on whether they are sedentary.

The findings presented in this chapter represent a significant addition to previous results relating social disadvantage to sport in Ireland. Estimation of the strength of the relationship turns out to be surprisingly sensitive to which variables are used to define disadvantage. In particular, the first report in this series (Fahey *et al.*, 2004) examined the issue by using the social class definitions commonly employed by the Central Statistical Office (CSO), which categorise people according to their employment status (i.e. whether they are employed and the type of job they do). Although a clear impact of social class on playing sport was identified, the impact of income and educational attainment found in this present analysis is considerably stronger. This may reflect effects of low income and low educational attainment that are specific to sporting activity. Alternatively, it may be that in the modern Irish economy, where traditional distinctions between jobs (such as manual versus non-manual, or skilled versus unskilled) have become blurred, the CSO classification is a less accurate way of capturing social disadvantage.

The impact of income on playing sport changes with gender and age. Low income is associated with a slightly greater reduction in playing among men than among women, but considerably greater for older people than for young adults. Low educational attainment, on the other hand, is associated with the same degree of reduction in playing for both genders and at all ages, suggesting a lasting impact of the educational experience on people's inclination, or

disinclination, to play sport. Furthermore, this impact applies not just to irregular playing of sport but to regular playing with significant effort. It is, therefore, likely that the link between social disadvantage and sport is one factor behind the poorer health experienced by people of lower socio-economic status.

An examination of the levels of income and educational attainment among people who play sport in Ireland shows that players are disproportionately those who are better off and better educated. This breakdown is indicative of who benefits from the public funds allocated to sport.

These findings are of obvious interest to policy-makers and agencies aiming to increase the amount of sport played by targeting schemes to increase participation at specific groups. Social disadvantage is a major barrier to be overcome. To understand the nature of this barrier requires us to hunt for reasons why social disadvantage might lead a person to play less sport – the issue to which we now turn.

4. WHY DO THE DISADVANTAGED PLAY LESS?

4.1 Introduction

The previous chapter showed that education and income are important influences on participation in sport among adults – those with low income and little education play much less sport than the better off and more educated. This chapter explores why this might be so.

The Survey of Sport and Physical Exercise is not the perfect tool for the job at hand. Ideal data would track people over time and record their sporting activity at different life stages, thereby making it possible to trace how their sports participation changed as their income altered, or as they gained educational qualifications. Nevertheless, even with the data available here it is possible to gain insight into the issue. The survey asked useful subjective questions about people's reasons for playing or not playing sport. It is informative to compare these reasons across income and educational categories. The survey also asked respondents about sport they played in the past. Although subject to recall error, this information on people's sporting histories contains striking patterns. A useful picture emerges of factors behind the impact of income and educational attainment on playing sport.

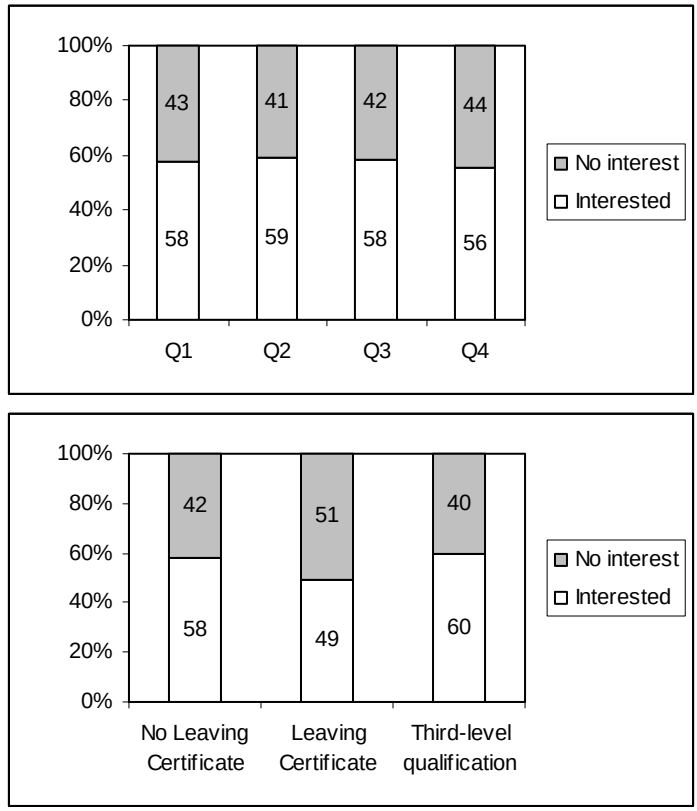
4.2 Motivation?

It could be argued that there is no direct impact of income or education on playing sport, but that people with high motivation are simply more inclined to work hard to earn money, to obtain qualifications, and also to make the physical effort required to play sport. If this were to be true, then the relationship between income, educational attainment and playing sport revealed in the last chapter would be driven by a common underlying cause, motivation, and it would be incorrect to assert that low income and low educational attainment themselves *cause* people to play less.

However, this hypothesis based on motivation finds little support in the data. The survey included a number of subjective, psychological questions about attitudes to sport and motivation. Any differences in the answers to these questions across income and educational categories are small and statistically insignificant. For

example, the survey asked those people who did not play any sport to select from a list of reasons. Of these non-players, 43 per cent said they had no interest in playing. Figure 4.1 breaks this answer down by income (top) and educational attainment (bottom). There is no significant variation from the lowest income quartile (Q1) to the highest (Q4). Educational attainment, for this analysis, was grouped into three categories to preserve sample size. Interest in playing has no consistent trend with increasing educational attainment, although there is slightly more variation, with a dip for the middle category that is borderline statistically significant. The survey also asked those who had previously played sport why they decided to give up. The answers again display no consistent trends with increasing income or educational attainment.

Figure 4.1: Non-players' Interest in Playing, by Income and Education

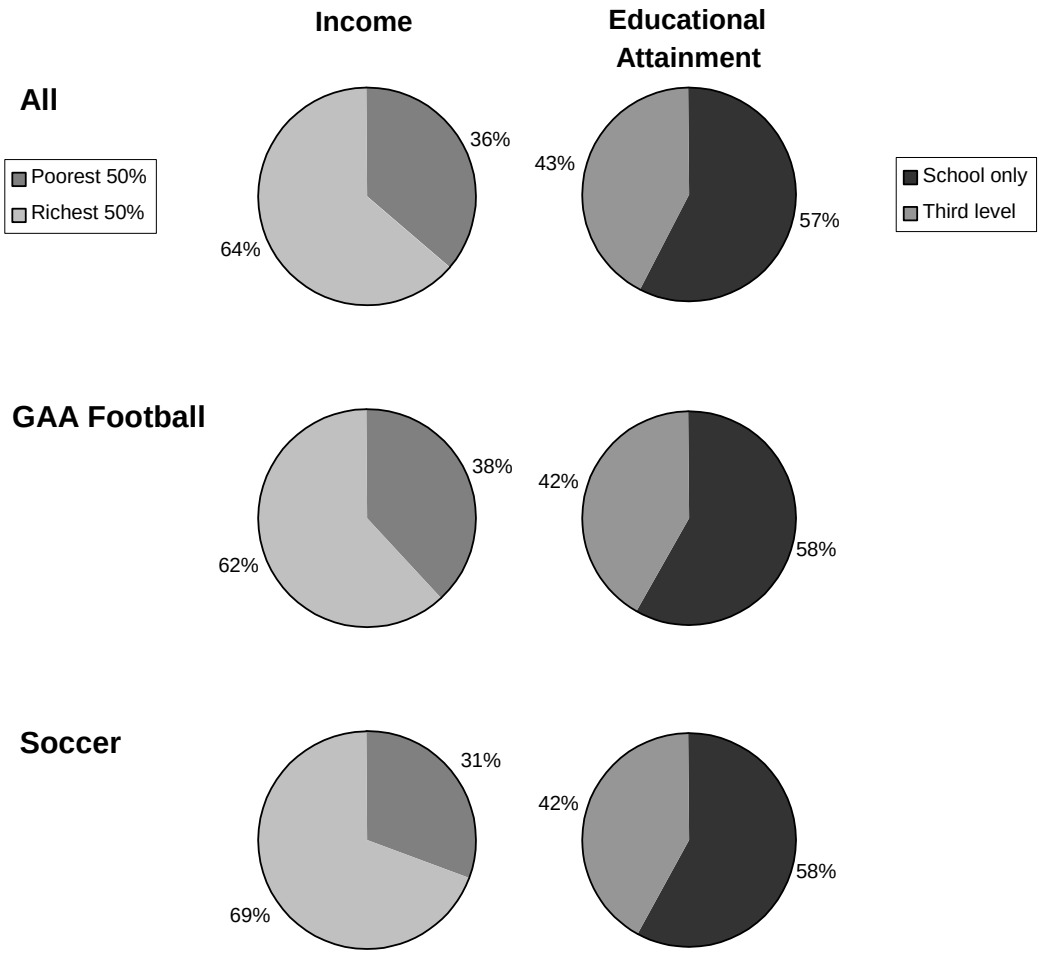


Overall, it is not possible to rule out underlying psychological causes, such as motivation. But there is nothing in the data to suggest that this is a helpful approach for explaining the strong relationships between income, educational attainment and playing sport. Furthermore, as Chapter 5 will show, people's willingness to participate in volunteering and to attend children's sporting fixtures also suggests that variation in motivation across levels of income and educational attainment is not a key factor.

4.3 The Role of Football

A second hypothesis for the influence of social disadvantage on playing focuses on the particular sports people play. There is a common conception that those from disadvantaged socio-economic backgrounds may be more inclined to play certain sports. Soccer, for example, is sometimes considered a more 'working class' sport, while GAA football is sometimes credited with being more broadly based than other sports. The physical demands associated with playing football (of both types) mean that people tend give up playing at a relatively young age. Thus, if the socially disadvantaged are more inclined to play football, they may be quicker to give up sport as they get older, rather than continuing to play into middle age and beyond.

Figure 4.2: Players of All Sports, GAA Football and Soccer by Income and Education



The data, however, do not support this second hypothesis either. Low income and low educational attainment are as strongly associated with playing football as with other sports. Figure 4.2 compares players of all sports with players of GAA football and soccer, broken down by income and educational attainment. To preserve sample size, income is categorised into the richest 50 per cent (Q3 and Q4 combined) and poorest 50 per cent (Q1 and Q2), while education is split according to those who have a third-level qualification and those who have only school level qualifications. There are no statistically significant differences between the people who play sport generally and those who play GAA football and soccer, by income and educational attainment. The effect of social disadvantage applies equally to these two popular sports. In fact, the relationship between disadvantage and sport is so strong that of the 15 sports popular enough to generate a sample of more than 30 players in the total sample of 3,080, there is not one where players from the poorest 50 per cent of the population are in the majority.

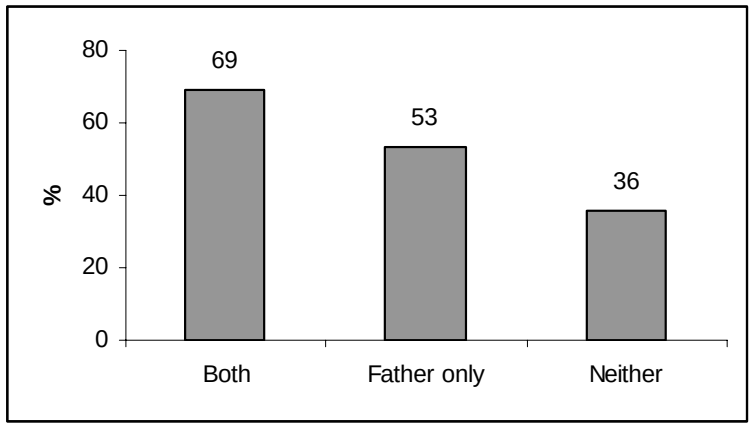
4.4 Sporty Families

If neither motivation nor a preference for football explains the effect of income and educational attainment, what does? Another potential factor behind reduced playing of sport by people of low income or educational attainment is the likelihood that they come from a non-sporting family. One reason young people might first take up a sport is the level of interest shown by their parents; socio-economic status tends to be highly correlated between generations – people brought up in low income or low education families are more likely to have low future incomes and to obtain fewer educational qualifications. Thus, if there has been a period in the past when the better off and better educated played more sport, this pattern may be inclined to replicate itself. Those born into more disadvantaged families may be less likely to have sporty parents and so be less likely to play sport themselves.

The survey asked respondents whether, during the period they were at secondary school, their parents played sport. Figure 4.3 shows the effect of parents who play sport on the subsequent playing of their children, as defined by the broad measure of having played in the previous twelve months. There is a strong impact of coming from a sporty family. Adding this factor to the multivariate model used in the last chapter (see Appendix B) shows the odds that a person plays sport increase more than two-fold if both of their parents played sport – an effect approaching the same magnitude as that associated with the difference between the lowest income quartile and the highest, or between female and male. Nevertheless, the multivariate analysis also shows that coming from a sporting family only explains a very small amount of the impact of social disadvantage. Controlling for sporting family background reduces the influence of educational attainment only marginally and leaves the influence of income unchanged. This suggests that one of the factors behind the relationship between low educational attainment and playing less sport may be that more educated parents tend to

play sport and to transfer their enthusiasm to their children. But this is only a very small part of the explanation.

Figure 4.3: Playing Sport by Whether Parents Played



4.5 Health, Transport and Locality

There are a large number of potential factors associated with low income and low educational attainment that may also be linked to playing sport, just like the reduced chance of coming from a sporty family. Each such factor might have a relatively small impact on playing, but when all are added together the impact could be large. In other words, low income and low educational attainment might not directly *cause* people to play less sport, but may be associated with many other forms of disadvantage that are very significant when combined.

Six other factors associated with disadvantage were explored in the survey: unemployment; type of job; individual health; access to transport; having children in the household; and household location. On average, people in low income and low education categories are more likely to be unemployed, to work in a manual job, to have poorer health, to have less access to cars and public transport, to have children in the house, and to live in more rural areas; each of which could potentially limit their opportunities to play sport.

The data show no significant relationship between unemployment or manual work and playing sport, once income and educational attainment have been controlled for (see Appendix B). Indeed, no significant relationship was found between playing sport and membership of any of the job categories in the standard CSO classification. No significant effect of having children in the house was found either. However, the other three variables (health, transport and location) do turn out to matter.

Figure 4.4 looks at levels of playing by categories of self-reported health, whereby each respondent assessed their general health on a five-point scale. There is a strong association between health and playing sport.

Figure 4.4: Playing Sport by Self-Reported Health

Figure 4.5 shows the effect of access to transport, broken down into three categories: those who have access to a car for sporting or social activities, those who have access to public transport only, and those who have no available transport. Again, there is a significant relationship between access to transport and playing sport.

Figure 4.5: Playing Sport by Access to Transport

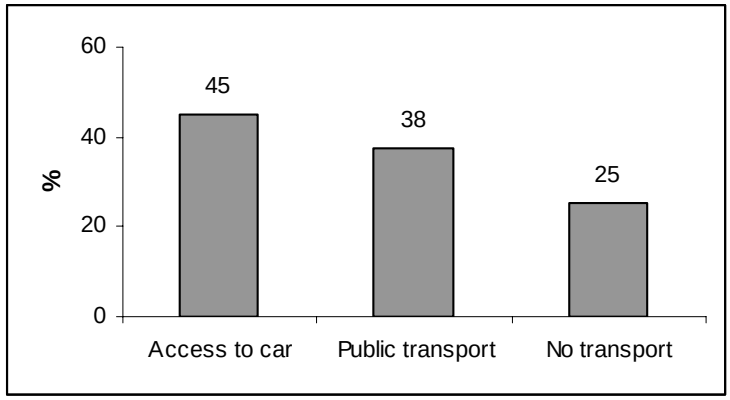
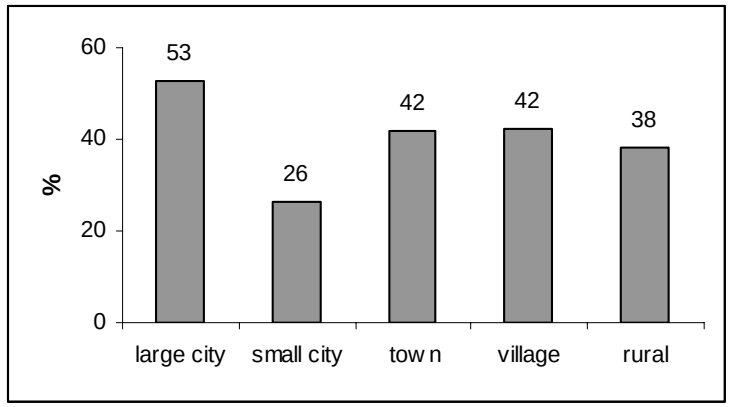


Figure 4.6 presents a similar analysis for household location. A significantly higher proportion of people living in large cities play sport, although the relationship between playing sport and location is clearly not a simple function of remoteness, as the proportion who play in small cities is the lowest.

Figure 4.6: Playing Sport by Household Location



Does a combination of these three variables (self-assessed health, transport access, and household location) explain the link between low income, low educational attainment and reduced levels of playing sport? Adding these three variables to the multivariate model (Appendix B) confirms their significance. A person who reports at least 'good' health has more than two-fold higher odds of playing sport, as does a person with access to a car, while the effect of household location is somewhat less strong. Nevertheless, once all three variables and parental playing of sport are controlled for in the model, the *combined* effect is only to reduce the influence of income and educational attainment by approximately one-quarter. In other words, the effects on playing sport of health, transport access, household location and sporting family background, while each is significant, only account for a small amount of the impact of income and educational attainment.

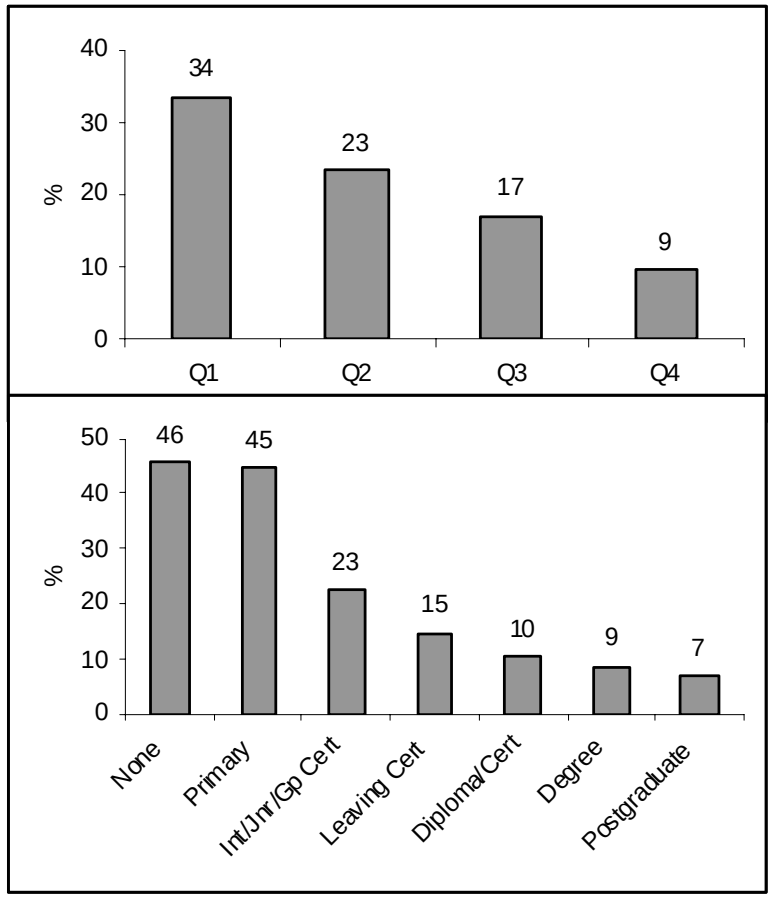
This finding, that income and educational attainment still have a strong effect even when all these other dimensions of disadvantage are controlled for, makes it more likely that financial well-being and educational attainment are directly and strongly related to playing sport. It is always possible that the current analysis is missing some other aspect of social disadvantage that explains the relationships between income, educational attainment and playing sport, including perhaps a psychological factor not measured by the survey. Thus, it should not be concluded that low income and low educational attainment definitely *cause* people to play less. However, these results are certainly consistent with that theory and it is clearly worth exploring ways in which financial and educational disadvantage might cause a reduction in playing sport.

4.6 People Who Have Never Played

One section of the survey asked respondents about their sporting history – whether they had played previously, at what age, for how long etc. The data from this section contain clear patterns with respect to the impact of income and educational attainment on playing sport.

According to the survey, 21 per cent of Irish adults have never played any sport. Figure 4.7 shows how the likelihood of never having played is related to income and educational attainment. Those who had no education or left education after primary school have a particularly strong chance of never having played sport. But once these small numbers of (mainly old) people are discounted, income turns out to have the stronger relationship with whether a person has ever played. Multivariate analysis (Appendix B) confirms that while both income and educational attainment are significant factors, income is particularly strongly associated with never having played.

Figure 4.7: People Who Have Never Played Sport by Income and Educational Attainment



This finding is striking because the measurement of income relates to a person's current household income. Yet, within this representative adult sample, whether someone ever played sport would depend in many cases on circumstances and decisions taken decades earlier. Of those respondents who had played sport at some stage, the vast majority started playing when they were under the age of sixteen. Relative income levels of families can endure for long periods, so current income may well be a reasonable guide to the income of a person's family during their youth. Thus, the finding suggests that the impact of low income for the adults sampled endured across the life cycle, such that low income during childhood contributed to a lifetime of low income and low participation in sport.

Children start playing sport both at school and outside of school through sports clubs. In their study of schoolchildren's sport, Fahey *et al.* (2005) found that, at least for the current cohort of Irish schoolchildren, about half of children's sport is played outside of school in clubs. Sport played through clubs is more likely to incur expense than sport played at school, where equipment and transport are often provided free. Hence, one possible explanation for the stronger relationship between income and never having played sport is that those with low household income were less likely to pay the membership, transport and equipment costs associated with playing outside of school. If so, one possible route into playing sport was denied to young people in lower income households, leading more of them never to take up a sport.

Although low income is more strongly associated with never having played sport, those with low educational attainment are also less likely ever to have played. This implies an association between schools that produce lower academic results and schools that get fewer pupils to take up sport, albeit a less powerful one than between income and taking up sport.

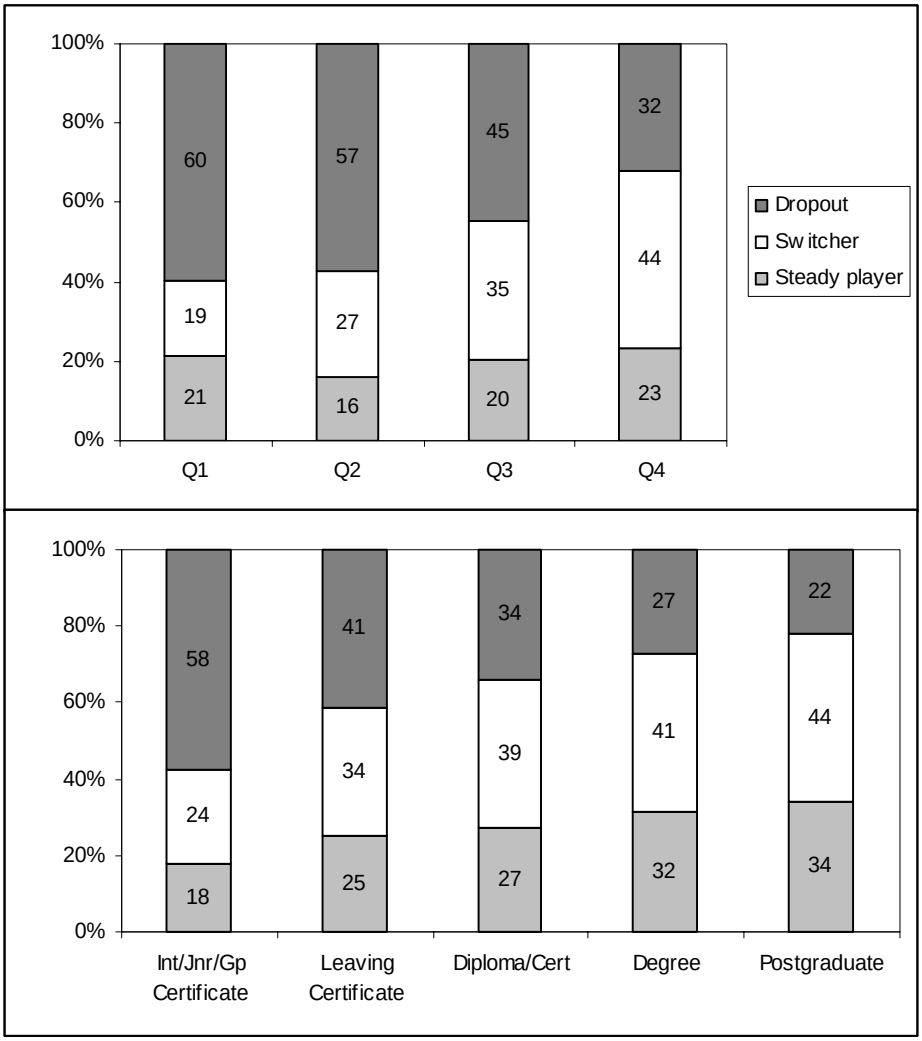
4.7 Playing Histories

Further insight can be gained from examining the sporting histories of the 79 per cent of respondents who, at some stage, did take up a sport. These people can be separated into three mutually exclusive categories: those who have always played the same sport ('steady players'), those who have switched between sports ('switchers'), and those who have dropped out from sport ('dropouts').

Figure 4.8 shows how these three categories relate differently to income and educational attainment. (In this chart, the lowest two education categories have been removed, because too few people in these categories ever played sport for the samples to be reliable). Across income quartiles (top) there is no consistent trend regarding steady players. But there is a dramatic increase of more than two-fold in the numbers of switchers, from 19 per cent in Q1 to 44 per cent in Q4, and a corresponding decrease in dropouts as income

rises. Broken down by educational attainment (bottom), there are consistent trends for all three categories. The number of steady players approximately doubles from the lowest level of attainment to the highest, while there is an increase in the number of switchers, and again a decrease in dropouts. Hence, both income and educational attainment increase switching between sports and reduce dropping out from sport altogether, but only educational attainment is associated with extending the period for which an individual plays a favoured sport.

Figure 4.8: Sporting History of Players by Income and Educational Attainment

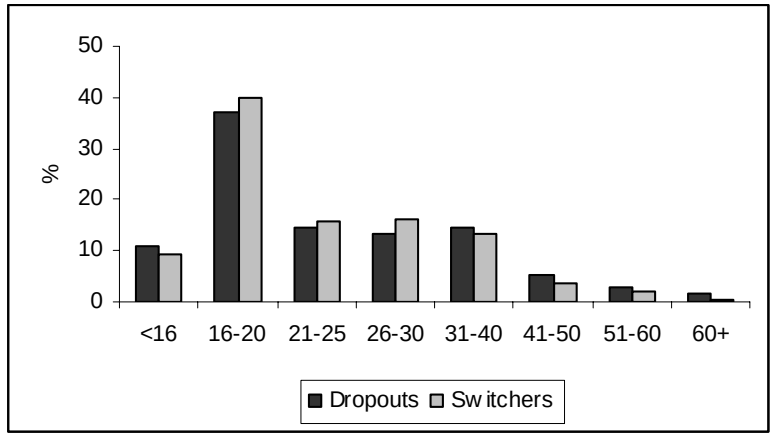


As shown in Chapter 3, the impact of educational attainment on whether a person plays sport lasts a lifetime. But this impact may be less to do with obtaining educational qualifications than with how long an individual remains in full-time education and so derives the other benefits of attending a school or college further into

adulthood. The large increase in the proportion of steady players with levels of educational attainment shows that staying in school until aged eighteen years and going on to higher education makes people less likely to give up a favoured sport when finally they leave full-time education. Playing sport with a school or college beyond the age of sixteen, especially beyond eighteen, involves easy access to facilities, provides contact with a range of sports clubs and adult teams, and offers the opportunity to take on a role in organising fixtures and facilities. Thus, the continuing impact of educational attainment in later life may reflect how continued attendance at school and college develops sporting habits and off-field skills further into adulthood, with lasting effect. More evidence for this idea comes from the fact that there is even a statistically significant increase between the proportions of graduates and postgraduates who play sport (see Figure 3.3, Chapter 3). It is hard to see how the extra educational specialisation required for a postgraduate qualification could explain this difference. Extra time spent at college is a much more plausible explanation.

The preceding analysis is supported by the ages at which people tend to give up sports, shown in Figure 4.9. There is a large spike at age 16-20 years, which strongly suggests that many sports are given up around the time people leave full-time education. This is also consistent with the finding of Fahey *et al.* (2005) that there is a drop in participation among those still in school as they reach the final years of second-level schooling.[7]

Figure 4.9: Age at Which People Drop Out or Switch Sport



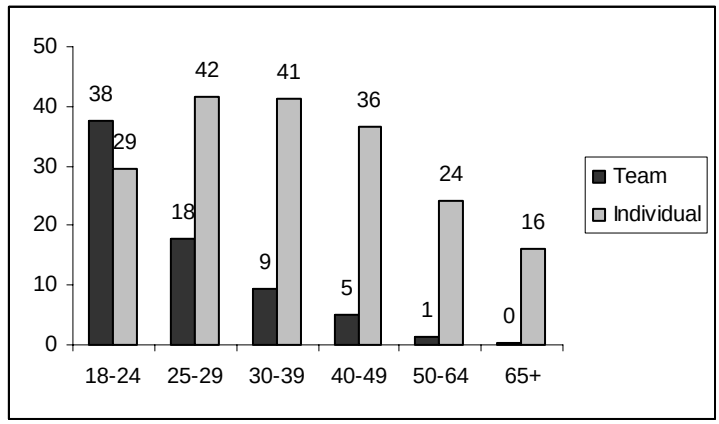
[7] Note that while this chart is useful for highlighting the spike at age 16-20 years and for comparing dropping out with switching, it cannot be regarded as accurately recording both across ages. The sample is aged 18-93 years and respondents cannot switch or dropout above their current age! Thus, part of the fall-off with age is simply due to the fact that an increasing number of respondents have yet to become that old.

Figure 4.9 also separates switchers and dropouts. Interestingly, there are no significant differences between the age profiles for the two. What distinguishes switchers from dropouts is simply that switchers managed to take up another sport. As Figure 4.8 shows, these switchers tend to be people with higher income and higher educational attainment. This impression is confirmed by a more rigorous multivariate 'survival' analysis (see Appendix B); a statistical technique for isolating factors that affect people's chance of making a transition from one state to another as they progress through life. At age 15 years, 60 per cent of the sample played sport. Survival analysis shows that as they then progressed through adulthood, those of lower income and lower educational attainment had a much higher probability of dropping out, while those of higher income and higher educational attainment were much more likely to switch between sports as they got older.

4.8 Team Versus Individual Sports

More insight into the factors behind switching and dropping out can be gained from an examination of which sports people give up and which they switch to. Figure 4.10 presents the age profile of players categorised by whether they play an 'individual' or 'team' sport.[8] The sporting life-course is dominated by the transition from team sports, which are overwhelmingly played when young, to individual sports, which are played later and more consistently throughout adulthood. Individual sports are, on average, taken up later and played for significantly more years than team sports. People are more than six times more likely to switch from a team sport to an individual sport than they are to make the opposite transition.

Figure 4.10: Age Profiles for Team Sports and Individual Sports



[8] The definition of 'team' sports covers: basketball, handball, volleyball, netball, baseball, softball, cricket, rugby, hockey, GAA football, GAA hurling, camogie and soccer. Sports that involve races (e.g. cycling and running) or one-on-one competition (e.g. tennis and golf) are classified as 'individual'. Of course, almost all sports can be played in teams, and some as 'doubles'. But the distinction, while imperfect, aims to reflect whether the sport is *in essence* a team game.

If players switch from team to individual sports as they get older, and those with lower income or lower educational attainment are more likely to drop out rather than make this transition, then it is also likely to be the case that the relationship between disadvantage and playing sport is stronger for individual sports than it is for team sports. Figure 4.11 presents the proportions of people who play individual and team sports by income quartile. The trend linking income and playing is much stronger for individual sports. Figure 4.12 does the same for educational attainment. Again, the trend is stronger for individual sports.

Figure 4.11: Players of Team and Individual Sports by Income

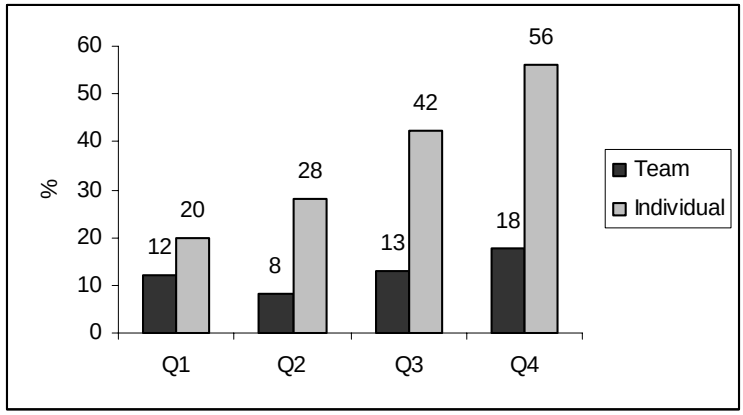
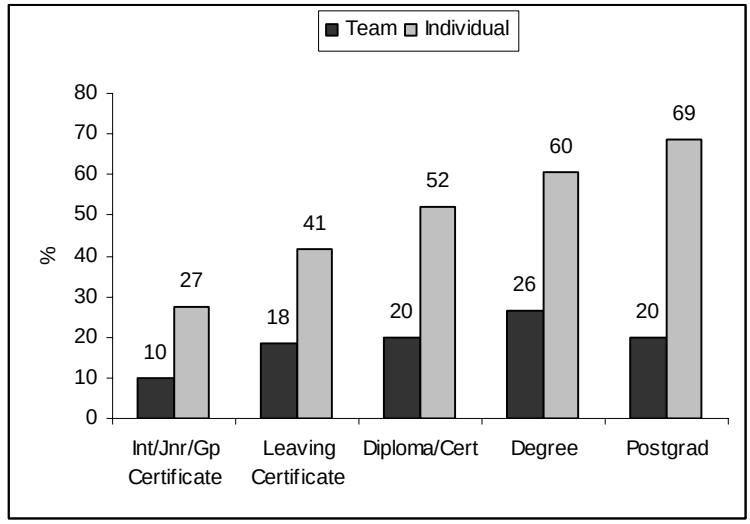


Figure 4.12: Players of Team and Individual Sports by Educational Attainment



A coherent picture, therefore, emerges regarding the primary influence of disadvantage on playing sport. Low income and low educational attainment make it harder to make the common transition associated with playing sport throughout life, namely the

switch from playing team sports when young to playing individual sports. Multivariate survival analysis (Appendix B) confirms this. Of the people in the sample who were playing a team sport at age fifteen, those with low income and low educational attainment had a much higher risk of making the transition from a team sport to playing no sport, while those with higher income and higher educational attainment were much more likely to make the transition to an individual sport. Two further aspects of this analysis are noteworthy. First, the large majority of these transitions occurred in young adulthood. Second, the probability of dropping out after playing team sport and the probability of switching to an individual sport are both greater for women, suggesting that the team sports women play when young are less attractive to them than is the case for men.

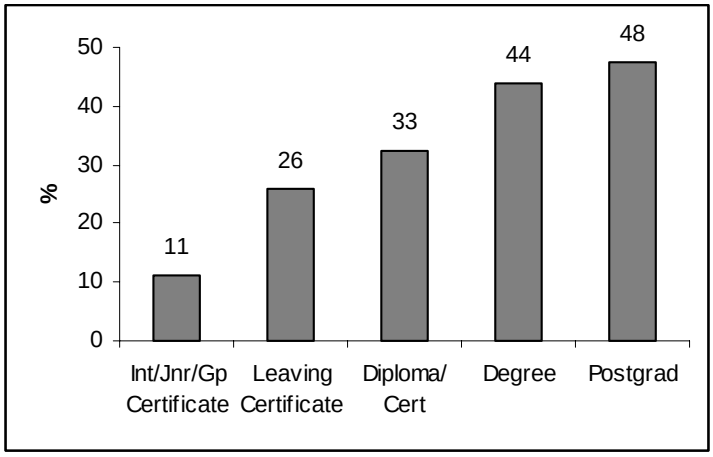
The impact of income on the switch from team to individual sports is likely to reflect higher personal expenditure associated with individual sports than with team sports. By their nature team sports tend to make efficient use of playing space and to spread the cost between more people. The most popular individual sports, on the other hand, are swimming, golf, aerobics/keep-fit, cycling and tennis, which with the exception of cycling involve costly purpose-built facilities and entail significant pay-per-use or club membership fees. Golf and cycling also require expensive equipment. Overall, switching from a team sport to an individual sport will mostly involve increased expense. This is consistent with the details on spending given by respondents in the survey. The average annual expenditure per person on memberships fees, clothing and equipment for team sports was €141. For individual sports it was €339. Moreover, the increased expense is likely to be faced during young adulthood – a time when most people are yet to reach their full earning capacity. It is, therefore, perhaps unsurprising that the higher someone's income the more probable it is that they will make the transition between team and individual sports and so continue active participation in sport.

The conclusion that income has a direct effect on the likelihood of switching sports must be squared, however, with the fact that few non-players in the survey cited cost as their main reason for not playing sport. This is not as paradoxical as it first appears. First, cost may be a factor even if it is not cited as the biggest one. Second, and more importantly, because the average age of non-players in the survey is 51 years, most had dropped out from sport many years earlier. Expense could easily have been a factor in their failure to switch to another sport at the time when they dropped out, yet be unlikely to be cited as the biggest barrier to returning to sport many years later, when other factors such as health and fitness or time constraints may have become more important.

Turning to educational attainment, staying in full-time education further into adulthood is likely to make it much easier to switch from a team sport to an individual sport. Attending a school or, particularly, a college means easy availability of a range of facilities, often provided free or at minimal cost. It provides greater

opportunity to explore new sports on a try-out basis, and to make contact with other people who play alternative sports. Evidence to support the theory that extending time spent at school or college assists in the transition between sports, comes from analysis of people who play more than one sport. A period of playing multiple sports is likely to be associated with ultimately switching sports. Figure 4.13 presents the impact of educational attainment on the proportions of people who play more than one sport. Multivariate analysis (Appendix B) shows that educational attainment is particularly strongly associated with playing more than one sport – much more so than income.

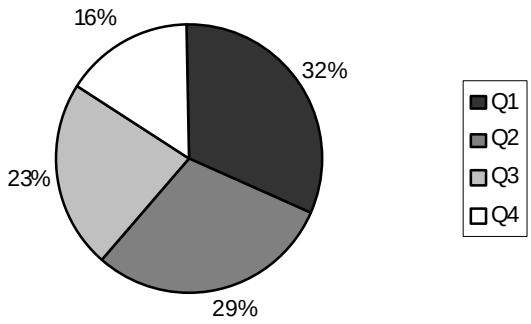
Figure 4.13: Players of More than One Sport by Educational Attainment



4.9 Interested Non-players

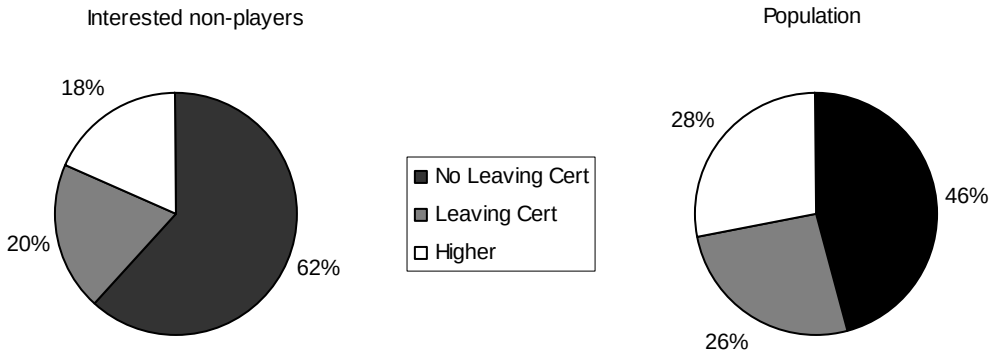
A final way of breaking down the data to obtain insight into the relationships between income, education and playing sport is to focus on the reasons people give for not playing sport. As shown earlier (Figure 4.1), just over 40 per cent of non-players say they are not interested in playing. This means that 60 per cent of non-players are interested or, equivalently, that 34 per cent of the overall population do not play any sport but say they are interested in playing. These 'interested non-players' may shed light on the relationship between disadvantage and playing sport. But they are also important for another reason. They are the most obvious target for any measures aimed at increasing the overall rate of participation.

Figure 4.14: Interested Non-Players by Income



Interested non-players are 55 per cent female and 52 per cent of them are over the age of 50 years, suggesting that there may be scope for attracting more older people to play sport. Figure 4.14 breaks the interested non-players down by income. There are twice as many in the lowest income quartile as in the highest. Figure 4.15 provides the same analysis by educational attainment, with attainment in the population as a whole for comparison. Those whose highest level of attainment is the equivalent of Junior Certificate or less make up 62 per cent of interested non-players.

Figure 4.15: Interested Non-Players by Educational Attainment

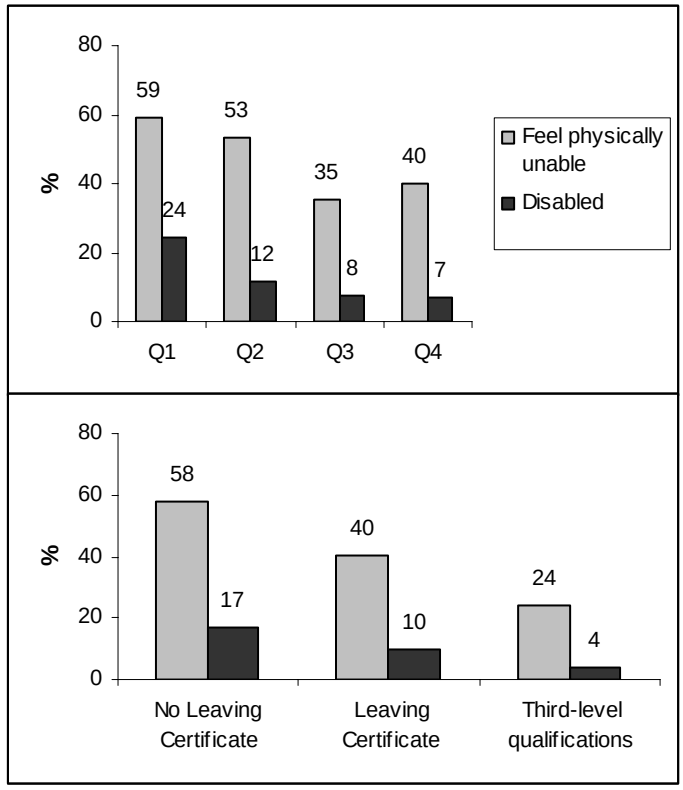


When interested non-players are asked why they do not play sport, one reason stands out above others: almost half of them feel physically unable to do so. Figure 4.16 shows the proportion of interested non-players who cite physical ability as the main reason for not playing, which is much greater for those of low income and low educational attainment (reduced to just three categories to

preserve sample size). Those of high income and high educational attainment are more likely to cite time constraints as the main reason for not playing.

At first glance, this may seem to be at odds with the earlier finding about self-assessed health, which although a significant factor in whether people play, explains only a very small part of the relationships between income, educational attainment and playing sport. This apparent contradiction is probably down to the distinction between health and fitness. People may score themselves highly on self-assessed health, because they are not regularly suffering from noticeable ill-health, yet may not feel fit enough to play sport.

Figure 4.16: Interested Non-Players who Feel Physically Unable to Play Sport, by Income and Educational Attainment



A further point to note about the influence of health and fitness is that it does not seem to be such a big factor in why people give up sports. Only 7 per cent of people who gave up a sport said it was because they were too old or no longer able to play. This suggests that there may be a vicious circle associated with giving up sport: dropouts give up, lose fitness with age, and then do not feel able to

take up sport again, despite interest. This problem appears to be more severe for the socially disadvantaged.

4.10 Conclusions

The relationship between low income or low educational attainment and reduced playing of sport is partly indirect. People with low educational attainment are less likely to have had sporty parents. People of low income and low educational attainment are on average less healthy, less likely to own a car, and more likely to live outside a large city; all of which reduce the likelihood that they will play sport. However, even the combination of all of these factors explains only a small part, perhaps a quarter, of the relationship between income, educational attainment and playing sport. The implication, although not definitive, is that low income and low educational attainment (or at least less time spent in full-time education) directly *cause* people to play less sport.

People with low income and low educational attainment, but particularly income, are more likely never to have played any sport. This may reflect the cost of playing sport outside of school for people from low-income families, or possibly less playing of sport in schools in which pupils ultimately perform less well academically – an issue addressed in Chapter 6.

Many people drop out from sport during their late teenage years, around the time they leave full-time education. People with higher educational attainment stay longer in full-time education and are more likely to continue playing a favoured sport well into adult life. This suggests that the contacts and off-field skills derived from playing sport within an educational institution as a young adult make it easier to continue to play.

The majority of sport played by schoolchildren consists of participation in team sports. This rapidly changes during early adulthood. Those people who continue to play sport mostly switch from team sports to individual sports. Both income and educational attainment are strongly associated with whether people make this transition. Individual sports tend to be more expensive to participate in and require more costly facilities and club membership. Higher income therefore makes it easier to switch from team to individual sports. Those who stay in education have more plentiful and inexpensive opportunities to try new sports while still attending a school or college, thereby assisting in making the transition between team and individual sports. This explanation is supported by the fact that people with higher educational attainment are particularly likely to play more than one sport. The contribution of income and education to the transition between sports during the sporting life-course may well be the primary influence of social disadvantage on playing sport.

Once people interested in sport have dropped out, reduced fitness is likely to make it an increasing challenge to play again. About one-third of all adults could be classed as 'interested non-players' – people who do not participate but say they are interested in doing so. Those of lower income and educational attainment form

the bulk of this category. Lack of physical fitness is the main reason they give for not playing sport.

As these explanations for the relationship between social disadvantage and reduced playing of sport are mostly based on data derived from personal recollections of sporting history, they cannot be regarded as certain. But neither are they speculative. The patterns in the data are clear and, statistically speaking, significant. The evidence points to low income limiting the initial take up of sport and constraining people's ability to follow the common course of switching from team sports to individual sports as they progress through early adulthood, while time spent in full-time education keeps people involved in favoured sports and helps them to make this same transition.

5. Disadvantage, Volunteering, Attendance and Membership

5.1 Introduction

The social and economic value of sport extends well beyond the personal benefits of playing. Sport is a significant contributor to social capital. The wider social scene that surrounds sports clubs and events creates networks and contacts, which can benefit individuals and strengthen communities, contributing to a stronger sense of common identity and shared understanding. Social capital is not easily defined or measured. But in addition to any social benefits that accrue to those who play sport, it is a reasonable presumption that social capital is strengthened when people volunteer in support of sporting activity, come together to attend sporting events, or become members of sports clubs. Delaney and Fahey (2005) recorded baseline figures for these activities in Ireland. Among Irish adults over a twelve-month period, 15 per cent had volunteered for sport, 30 per cent were members of sports or fitness clubs, and 46 per cent had attended a sporting fixture. These figures suggest the social and economic value of sport is considerably greater than that derived solely from playing.

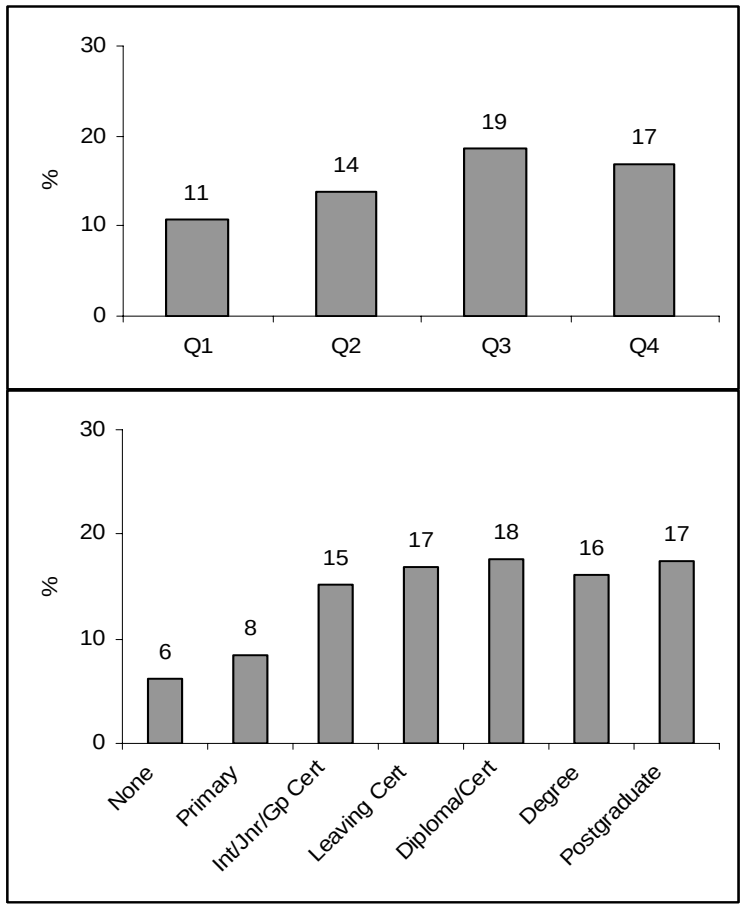
In the present context, given the stark relationship between social disadvantage and playing sport, it is important to examine how disadvantage relates to volunteering, attendance and membership. Are socially disadvantaged members of society also less likely to benefit from the social capital that sport creates?

5.2 Volunteering

Figure 5.1 presents proportions of people, by income and educational attainment, who had voluntary involvement in sport in the twelve months prior to the survey. There appears to be an impact of income and education, although the pattern is less striking than that for playing sport, as recorded in Chapter 3. In fact, this is a good example of where multivariate analysis is necessary to disentangle relationships. The multivariate analysis in Appendix C shows that although income has a significant effect on volunteering,

once educational attainment is controlled for, this effect disappears. That is, for a given level of education, income has no significant impact on whether people volunteer for sport. Furthermore, the only significant effect of educational attainment on volunteering concerns the bottom two categories – people who did not complete secondary school. Thus, the relationship between income, educational attainment and volunteering boils down to the influence of a single group of mostly older people, who had no post-primary education. They are almost exclusively in the bottom two income quartiles and they volunteer less.

Figure 5.1: Volunteering for Sport by Income and Educational Attainment



The main result to note, therefore, is that the relationships between income, educational attainment and volunteering for sport are much weaker than is the case for playing sport. This finding applies equally to different forms of volunteering, including kit maintenance, transport provision, coaching and officiating.

Are there other measures of social disadvantage, apart from income and educational attainment, that do have an impact on volunteering? Two more variables that are insignificant, once other variables are controlled for, are employment status and self-assessed health. But multivariate analysis throws up some significant (or marginally significant) predictors of volunteering, listed in Table 5.1, together with odds ratios. The reference case is a woman to whom none of the descriptions apply. The strongest factor to emerge is having access to a car, which increases the odds that a person volunteers almost three-fold. The survey found that the proportion who say they have no access to a car is 15 per cent. The second biggest factor is living with a family member under the age of 18 years, which increases the odds of volunteering more than two-fold. A third significant factor, as mentioned above, is having no post-primary education, which almost halves the odds of volunteering. The final two factors suggest an interesting relationship between volunteering and gender. Although men volunteer more than women, the effect for volunteering is not as strong as for playing. Furthermore, female involvement seems to run in families, because where both parents played sport the odds of becoming a volunteer increase significantly, while where only the father played they do not. Overall, women's influence and involvement with regard to volunteering is greater than with regard to playing sport. These findings are probably related to the involvement of their children, as 57 per cent of women mentioned the involvement of their own children as a reason for volunteering.

Table 5.1: Odds Ratios for Volunteering

	Male	Only Primary Schooling	Both Parents Played Sport	Has Access to Car	Under 18 Family Member
Odds ratio	1.68	0.55	1.44	2.84	2.27

In summary, although particularly low educational attainment and lacking access to a car are significant factors, social disadvantage has a much weaker relationship with volunteering than with playing. This is interesting in the light of the previous chapter's explanations of what lies behind the strong relationship between low income, low educational attainment and playing sport. If levels of motivation or attitudes towards sport were behind it, the strong relationship might be replicated with volunteering, which also demands effort and interest. However, all people who complete secondary education and all income groups volunteer in roughly equal proportions. That said, the income figures collected by the survey contain some measurement error, as described in Chapter 1, so it remains possible that a more accurate estimate of income might find a relationship between disadvantage and volunteering. Nevertheless, it is safe to conclude that the impact of disadvantage on volunteering is less strong than the impact on playing, which is very apparent in the data.

These contrasting patterns of playing and volunteering probably reflect the respective expense and ways in which people initially get involved. The taking up of sport is facilitated by fitness and relationships with sports clubs, especially in early adulthood. Playing also requires expense. These factors mean that income and extended full-time education raise levels of playing. Contrastingly, volunteering is often stimulated, later in adulthood, by children's involvement. Volunteering also demands time and effort more than money. The initial stimulus and the investment of time and effort it provokes are, therefore, largely independent of income and educational attainment. Transport problems aside, interest and commitment are forthcoming from those who are socially disadvantaged and those who are not.

5.3 Club Membership

Being a member of a sports club follows initial contact with the sport, contact with the club, and payment of a subscription that is often taken out in order to play. Thus, it is reasonable to expect that the relationship between income, educational attainment and membership might more closely mirror that for playing sport. Indeed, this is the case. Figure 5.2 depicts the proportions of sports club members by income and educational attainment. The pattern is very similar to that for playing in Chapter 3. The top income quartile has more than twice as many sports club members as the bottom quartile. The proportion with third-level qualifications who join sports clubs is twice as high as is it for those who left school after Junior Certificate (or equivalent).

Multivariate analysis (see Appendix C) confirms that these two effects are separate – those with equivalent educational attainment are more likely to be sports club members if they have high income, and those with the same income are more likely to be members if they have high educational attainment. As in the case of playing, the effect of income on membership also increases with age, such that older people with low incomes are particularly unlikely to be members of clubs.

Figure 5.2: Membership of Sports Clubs by Income and Educational Attainment

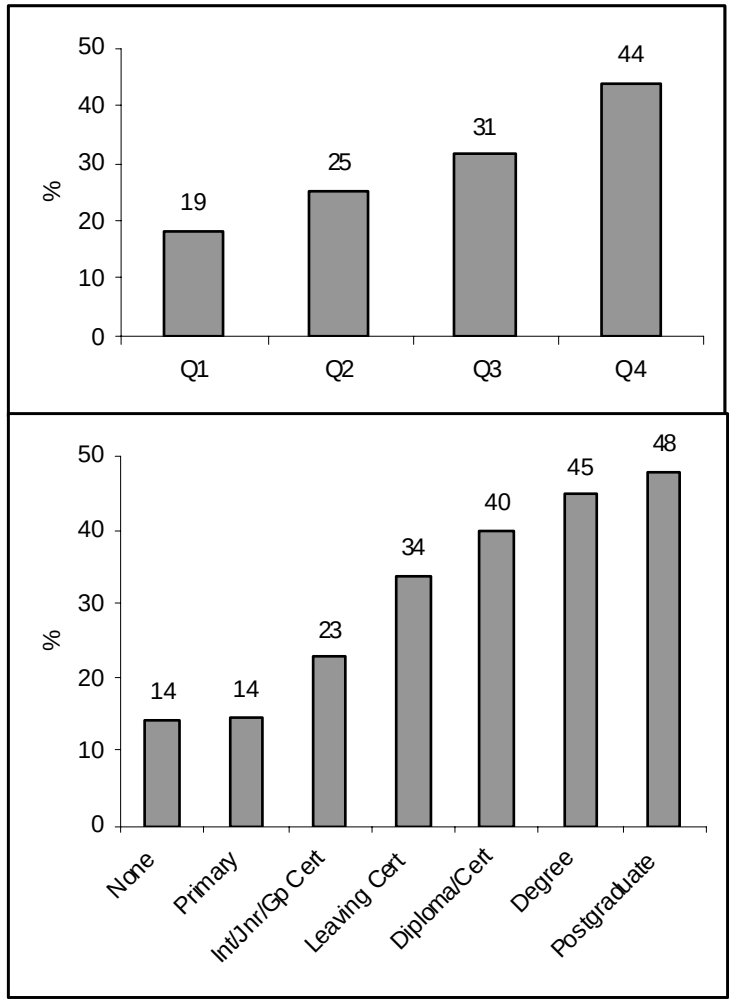


Table 5.2. provides odds ratios for membership of sports clubs. Looking first at the upper half of the table, age is a less important factor in club membership than it is with playing sport, presumably because many people are members for social reasons, or to spectate. The odds that a man is a member of a sports club are three-fold greater than that a women is – a larger gender effect than for playing. This may be due to the different sports played by men and women. In particular, fewer women play team-based field sports, which usually involve club membership; though more women swim and do aerobics/keep-fit, which frequently involve pay-per-use facilities. Turning to the bottom half of the table, the two social disadvantage variables again have a powerful influence. A person with high income (Q4) and a degree has almost four times the odds of being a sports club member than a person with low income (Q1) who left school after Junior Certificate (or equivalent); five-and-a-half times the odds for a postgraduate degree. Comparing the top and bottom

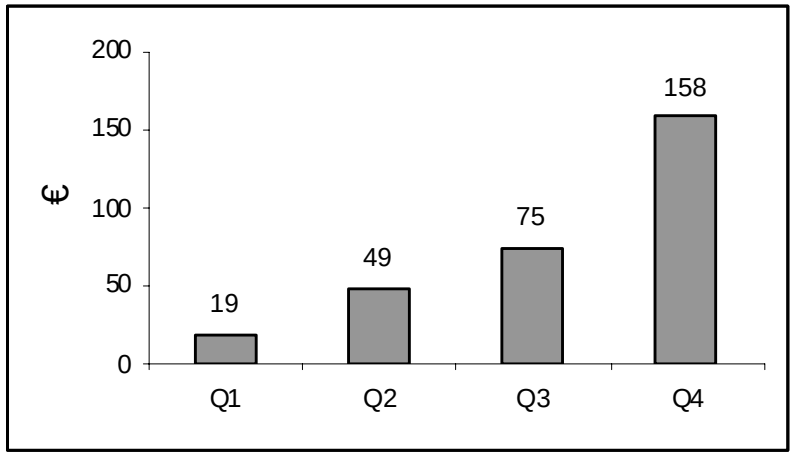
halves of the table reveals that, as was the case with playing sport, social disadvantage is as good an indicator of whether someone will be a member of a sports club as are age and gender combined.

Table 5.2: Odds Ratios for Membership of Sports Clubs by Gender, Age, Income and Educational Attainment

	Average Age	10 Years Younger	20 Years Younger	
Female	1.00	1.13	1.25	
Male	3.08	3.47	3.90	
	Junior Certificate	**Leaving Certificate**	**Degree/ Diploma**	**Postgraduate**
Q1	1.00	1.70	2.19	3.18
Q4	1.74	2.96	3.81	5.53

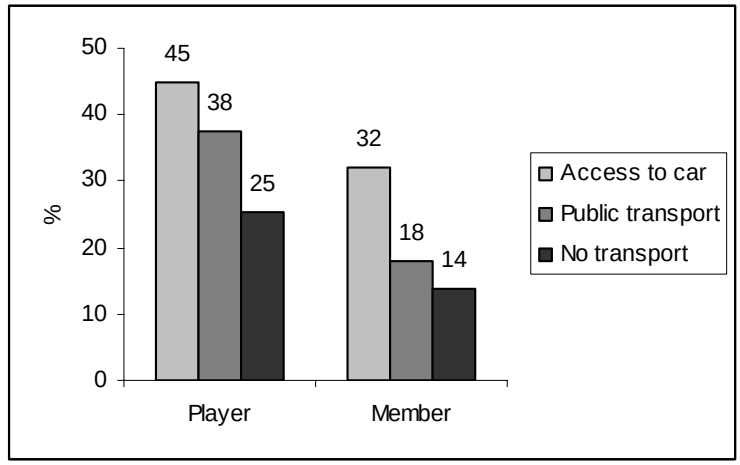
Figure 5.3 confirms the influence of income on membership by giving mean spending on subscriptions per person by income quartile. People in the top quartile spend more than eight times as much on joining sports clubs as those in the bottom quartile, or more than three times as much per member. The higher spending is associated with more expensive club subscriptions for sports like golf and tennis, but also reflects the fact that more people are members of more than one club.

Figure 5.3: Annual Spending on Subscriptions to Sports Clubs by Income



As with volunteering, there is also a significant effect associated with transport. Figure 5.4 compares the impact of access to cars and public transport on the proportions who play sport and the proportions who are members of clubs. Transport access is an issue for playing and membership, but lack of access to a car has a significantly more severe effect on club membership. Access to public transport does help, in both cases, but less so for membership. Thus, transport problems are a significant contributor to the impact of social disadvantage on sport, especially with respect to the accessibility of sports clubs.

Figure 5.4: Playing and Membership by Access to Transport



5.4 Attendance

To analyse attendance at domestic sporting events it is necessary to distinguish between adult fixtures and children's fixtures. The former are more likely to require expense, in the form of match tickets and other costs. Thus, the expectation might be that social disadvantage will not affect attendance at under-18 games, but will affect attendance at adult fixtures. Figure 5.5 breaks attendance down by income and educational attainment. Those with higher incomes are significantly more likely to attend over-18 events, but the small differences with respect to under-18 events are statistically insignificant. Educational attainment is also associated with increased attendance at over-18 fixtures, although further educational attainment beyond Leaving Certificate is not statistically significant. Multivariate analysis confirms that the education effect is separate from the income effect. As regards under-18 events, the impact of educational attainment is again limited to the bottom two categories. Therefore, for all but this small, older group with particularly low educational attainment, the influence of income and educational attainment on attendance disappears once children are involved, as was the case with volunteering.

Figure 5.6 shows spending on tickets, transport and associated costs by income quartile, separately for over-18 and under-18 events. There is no significant difference across quartiles for under-18 fixtures, while for over-18 fixtures the amount spent is higher and increases markedly with income (although, comparing with Figure 5.5, spending per attendee only rises marginally with income). This is consistent with the idea that income has a direct impact on people's spending power and that low income is a constraint that limits attendance at over-18 events, such that those with higher income are more likely to attend.

Figure 5.5: Attendance at Sporting Events by Income and Educational Attainment

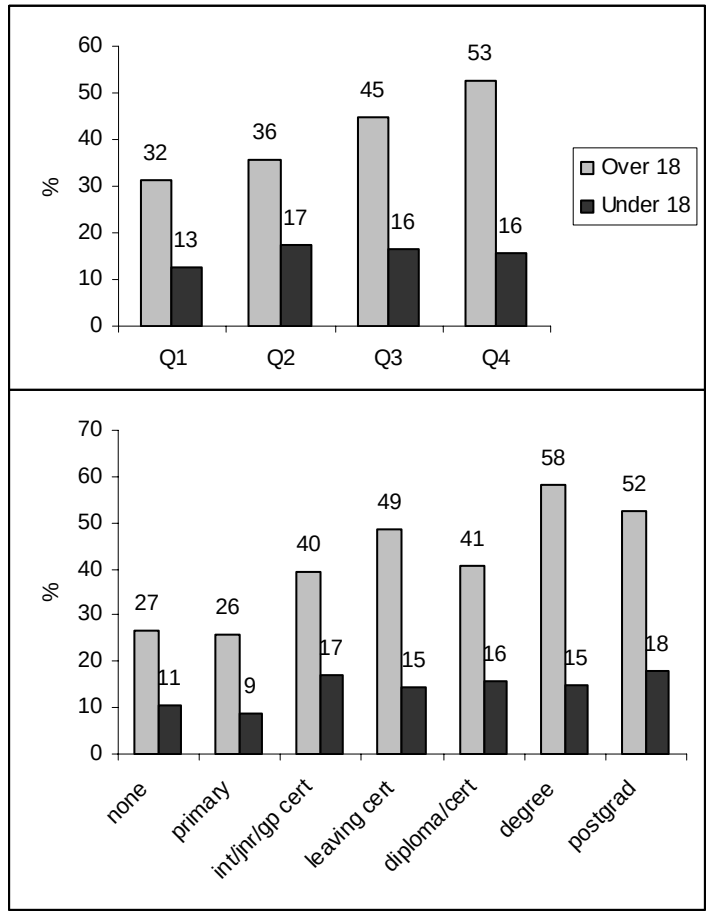
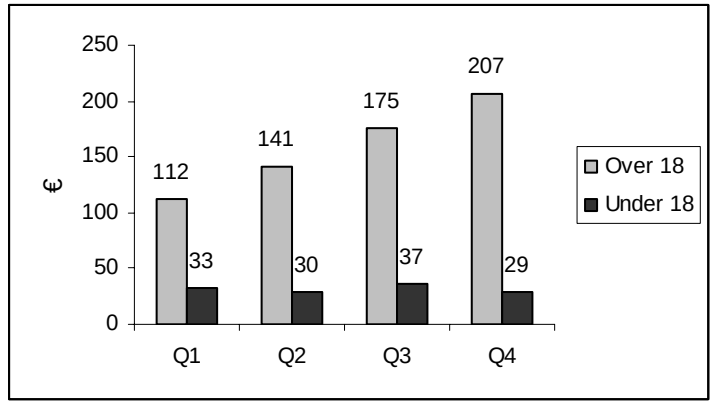


Figure 5.6: Spending on Attendance at Sporting Fixtures by Income



Multivariate analysis (see Appendix C) allows odds ratios to be calculated for attendance at over-18 fixtures. Table 5.3 gives odds ratios for gender, age, income and education. The odds that a man attends an event are more than three times the odds that a woman does, while there is a small affect of age – younger people attend more. The impact of being in the top income quartile is to increase the odds of attendance relative to the bottom quartile, although less so than for club membership or playing sport. This may reflect the fact that attending many local over-18 fixtures, as for under-18 fixtures, would be free. Because there is no significant effect of educational attainment beyond Leaving Certificate, it has a much weaker impact on attendance than on playing or on membership of a club. This is in keeping with the explanation of the links between educational attainment, playing and membership developed thus far. If staying in full-time education fosters relationships with sports clubs and helps personal fitness during early adulthood, it will drive up levels of playing and membership for people of high educational attainment. But if motivation and interest is not dependent on educational attainment then there is no reason why those who enjoy the sporting benefits of staying on in education would necessarily be more inclined to attend fixtures as a spectator.

Table 5.3: Odds Ratios for Attendance at Over-18 Fixtures

	Average Age	10 Years Younger	20 Years Younger
Female	1.00	1.17	1.34
Male	3.29	3.47	3.90
	Junior Certificate	**Leaving Certificate or Higher**	
Q1	1.00	1.29	
Q4	1.48	1.91	

Table 5.4 lists other variables that are found in the multivariate analysis to be significant influences on attending an over-18 fixture, together with odds ratios defined relative to a person who has none of these attributes. People are more likely to attend if they come from a sporty family, are healthy, have access to a car, or live in a village or rural location. The most striking result is again for access to a car, which increases a person's odds of attending more than two-fold and is the variable with the second strongest effect on attendance after gender (c.f. Table 5.3).

Table 5.4: Odds Ratios for Attendance at Over-18 Fixtures

	Father Played Sport	Both Parents Played	Good Health	Has Access to Car	Rural/ Village Location
Odds ratio	1.31	1.51	1.59	2.38	1.82

For under-18 events the picture is very different. As stated, there is little impact of income or educational attainment. Multivariate analysis finds one variable to have by far the biggest impact: having a person under-18 in the family. Odds ratios for attendance at an

under-18 event are provided in Table 5.5, relative to a person of average age who has none of the listed attributes. Older people attend marginally more – a *positive* impact of age on participation and thus a rarity in this report. Having a person under-18 in the household increases the odds of attendance by more than three-and-a-half. As well as the effect of particularly low educational attainment already mentioned, there is again a significant effect of living in a village or rural location. This finding, coupled with that for over-18 events, suggests that people in more remote locations are more likely to attend sporting fixtures generally. This could reflect stronger support for local teams or local identity, although it may also be due to there being fewer cultural activities competing for attendance, such as cinema, theatre, music and so on.

Table 5.5: Odds Ratios for Attendance at Under-18 Fixtures

	10 Years Older	Only Primary Schooling	Rural/Village Location	Under 18 Family Member
Odds ratio	1.12	0.63	2.07	3.55

5.5 Conclusions

A consistent pattern with respect to income emerges in the data once attention is turned to volunteering, membership and attendance, in addition to playing sport. Activities that require money, such as playing a sport, membership of a sports club, or attending many adult sporting fixtures, are less likely to be undertaken by those with lower incomes. Meanwhile, activities that demand time and effort but are cheap, such as volunteering or attending under-18 fixtures, are independent of income.

Educational attainment has a weaker effect on the social side of sport than on playing. The main influence of education on sport appears to be the personal fitness and the contact with adult sport it promotes in early adulthood – the impact of which lasts for life. As well as its large impact on playing sport, educational attainment is associated with higher club membership and a slight increase in attendance at adult sporting fixtures. Furthermore, those older people who had no secondary education seem to be largely excluded from sporting activity of any kind.

What can be concluded about the effect of social disadvantage on the social capital generated by sport? Where that social capital derives from playing sport, sports club membership, or watching adult sport, the disadvantaged miss out significantly. Where it is derived from volunteering and especially children's sport, they fare better. One consistent aspect of disadvantage, however, relates to transport. In Ireland's heavily car-dependent society, the 15 per cent of people who do not have access to a car experience considerable exclusion from sporting activity as a result.

6. DISADVANTAGE AND SCHOOL SPORT

6.1 Introduction

The previous chapters examined the influence of social disadvantage on adult participation in sport. Adults with low income and low educational attainment play less sport. Those with low educational attainment are less likely ever to play sport, less likely to continue with a chosen sport, and less likely to switch sport. Chapter 4 hypothesises that extended time in full-time education gives young adults more contact with organised sport (including a greater variety of sports) and improved fitness, the impacts of which last a lifetime. However, the strong positive effect of full-time education on playing sport might differ considerably between different educational institutions. This chapter makes use of a different data-set, on schoolchildren's sport, to look for a difference in the sporting opportunities provided by primary and second-level schools, according to whether they are classified as 'disadvantaged' by the Department of Education and Science.

Children at schools designated as disadvantaged may get less opportunity, on average, to play sport. If so, and if they are also more likely to leave school earlier, then their potential sporting participation would suffer from a double impact: attending a school that provides less sport and being less likely to get sporting benefits from full-time education well into adulthood. Alternatively, it might be that the particular school attended has little impact on sporting opportunities, such that individuals who stay on at school get similar sporting benefits across the spectrum of Irish schools.

This issue is of direct relevance to policy. If schools classified as disadvantaged engage fewer students in sport, then targeting policy to raise schoolchildren's participation in sport at these schools makes sense. On the other hand, if there is little variation in sporting opportunity between schools, then targeting by school is likely to be less effective.

6.2 Schools Designated As Disadvantaged

The Department of Education and Science categorises a subset of Irish schools as 'disadvantaged', both at primary and second level.[9] These schools benefit from extra teachers and funding. Cross-referencing the classification lists with the representative sample of schools in our survey of schoolchildren's sport, reveals that out of 137 primary schools in the sample 11 are classified as disadvantaged and that out of 80 second-level schools, 26 are classified as disadvantaged. These numbers are in line with the proportions of schools in the two sectors classified as disadvantaged nationwide. The difference in proportions between primary and second level mirrors the official classification system. The primary sector has many schemes for defining and addressing different dimensions of disadvantage, including early-start programmes, funding for traveller pre-schools, and so on. It also has schemes targeted by at-risk pupils rather than by school. Because of the narrow focus of these schemes, the analysis that follows compares schools according to whether they fall under the general definition of disadvantage. This definition is also used by the Department to determine whether a school receives an annual Physical Education Grant of €1,270. The second-level sector employs just one definition of disadvantage, which determines whether a school gets extra teachers and qualifies for other grants unrelated to physical education.

The difference in classification system between primary and second-level sectors means the comparison between designated disadvantaged and non-disadvantaged schools is not the same in the two cases. For the primary schools, out of the sample of 3,833 students, 381 (10 per cent) attend a designated disadvantaged school; while for the second-level schools, out of 3,114 second-level students in the sample, 998 (32 per cent) attend a designated disadvantaged school. The degree of disadvantage associated with those primary schools classified as such may be greater than for the second-level schools so classified, although the broader definition should ensure that the most disadvantaged second-level schools are definitely included. For present purposes, the key point is that the comparison of sporting activity between schools is not the same comparison, and so different results for primary and second-level schools may reflect the different definitions of disadvantage, rather than different effects on sporting participation at primary and second level.

Although the samples of schoolchildren are of good size, the sample-sizes of the schools (137 and 80) in the survey are also an issue. Small samples can produce insufficient variation to record significant differences, so significant effects associated with

[9] Since this survey of schoolchildren's sport was conducted, the Department of Education and Science has created a new standardised system for classifying schools according to disadvantage. The description here relates to the system at the time of the survey.

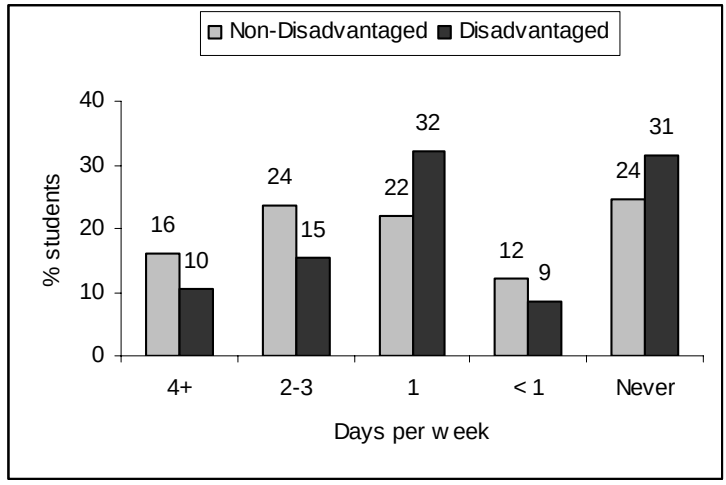
designated disadvantaged and non-disadvantaged schools could be missed. A survey with a larger sample of schools might pick up an effect that the analysis below does not detect, although if there were a big impact on sporting participation associated with designated disadvantaged schools it could reasonably be expected to appear here. The statistical significance of any differences that do emerge can, however, be regarded as reliable.

Overall, these difficulties with the data mean that the findings reported below must be interpreted with some caution. Different effects at primary and second level may not be due to genuine differences in terms of the impact of disadvantage, but to the definition of disadvantage employed, while other effects may be missed due to the small sample of schools. Nevertheless, provided conclusions are drawn tentatively, these are useful findings worth reporting.

6.3 Designated Disadvantaged Primary Schools

Students were asked how often each week they played sport at lunchtime or after school with the help of a teacher. The answers from students attending designated disadvantaged and non-disadvantaged schools are compared in Figure 6.1. While it is encouraging that over two-thirds of primary schoolchildren in both categories play extra-curricular sport each week, there is a significant difference between schools designated as disadvantaged and non-disadvantaged. More children in non-disadvantaged schools play extra-curricular sport at least twice a week and fewer of them play none.

Table 6.1: Extra-Curricular Sport by Category of Primary School

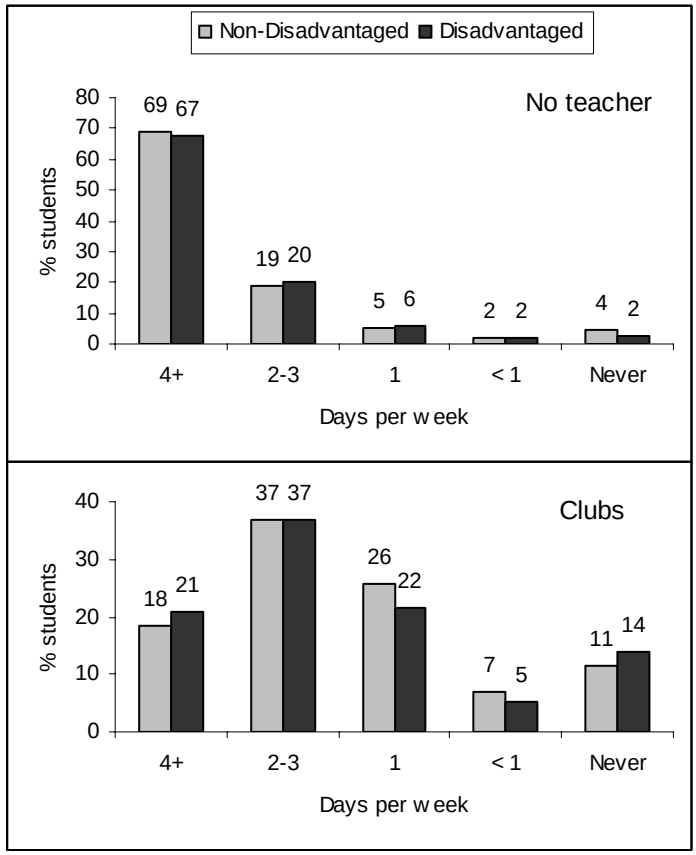


One possibility is that the difference in extra-curricular sport reflects the willingness of students in these schools to participate in sport. This can be assessed by examining their participation in sport with friends. The students were asked how often they played sport without the help of a teacher. The results are given in Figure 6.2

(top), which shows there is no difference between the two types of school. Thus, it can be reasonably concluded that the enthusiasm of students for sport is not what determines the difference in levels of extra-curricular sport.

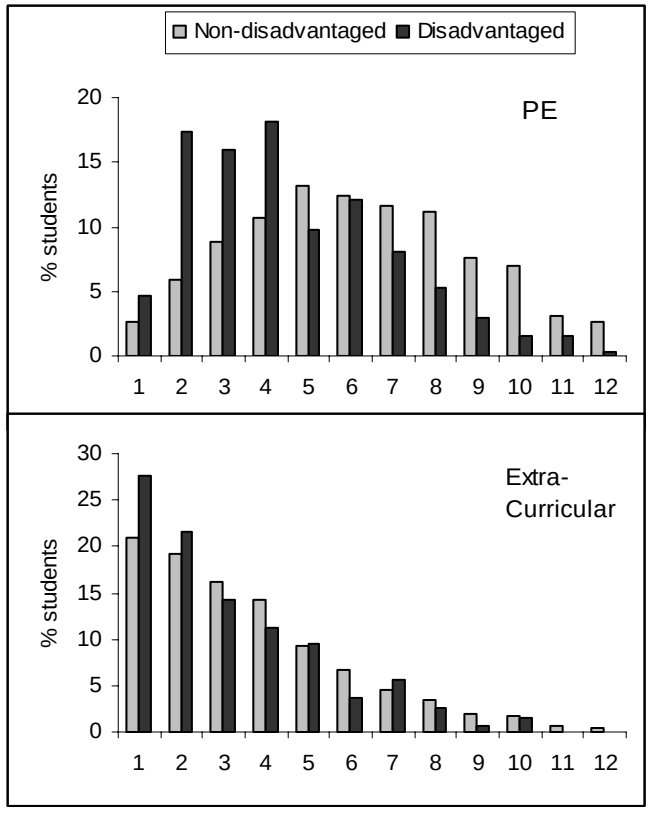
Another possibility is that the difference in levels of extra-curricular sport is due to parental influence. This might involve willingness or the flexibility required to collect children from school later, any expense associated with participation in extra-curricular sport, or simply the encouragement children receive to get involved. One way to assess this is to compare the level of involvement in sports clubs outside of school, according to the type of school attended. Figure 6.2 (bottom) shows that none of the differences in any category is statistically significant. Having ruled out children's enthusiasm and parental influence as reasons for the reduced level of extra-curricular sport played by students at designated disadvantaged primary schools, it seems reasonable to conclude that it is determined by the opportunities provided by the school.

Figure 6.2: Sport Played at School with No Teacher and in Non-School Clubs by Category of Primary School



As well as the amount of sport played at school, the type of school attended may have an impact on the number of different sports students have the opportunity to explore. Assuming that a school offering more sports increases the likelihood that students will experience playing a sport they like, the range of sports on offer could be an important determinant of whether students ever become involved in sport or whether they go on to play sport later in life. As demonstrated in Chapter 4, people from socially disadvantaged backgrounds are more likely to never take up any sport.

Figure 6.3: Number of Different Sports Played During School Year in PE (top) and Extra-Curricular Sessions (bottom) by Category of Primary School



In the survey, students were presented with a list of sports and asked to place a tick against each sport they had played since the start of the school year, in PE and during lunchtime or after school with the help of a teacher. Figure 6.3 shows that there is again a significant difference between the designated disadvantaged and non-disadvantaged schools, with the former offering their students a narrower range of sporting activities, both in PE and extra-curricular contexts.

This survey was conducted four years after the introduction in the year 2000 of Physical Education Grants to primary schools designated as disadvantaged. Nevertheless, the data confirm that, for

the approximately 10 per cent of students attending such schools, the disadvantage they experience extends to sport. They play less extra-curricular sport and get to experience fewer sports through PE and extra-curricular activity.

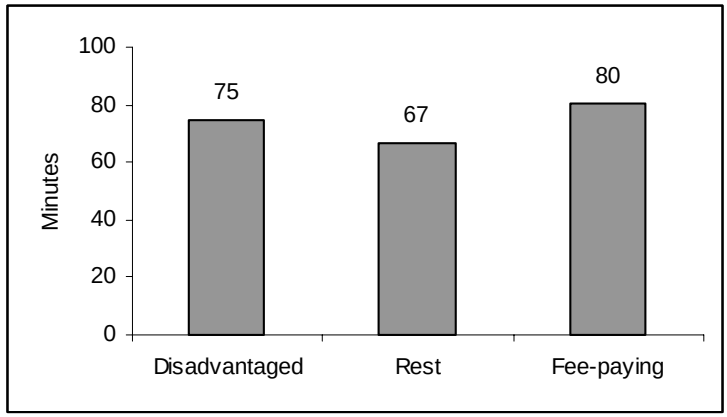
In addition to surveys completed by students, the principals of each of the primary schools also supplied responses to a series of questions about sport within their school. Compared to their counterparts in non-disadvantaged schools, the principals of the 11 designated disadvantaged schools reported, on average: a lower proportion of teachers were involved in sport or PE, the school possessed less in the way of sports facilities, and it received less assistance from local sports clubs. Principals at designated disadvantaged schools were less inclined to say that sport was very important to the ethos of the school and more inclined to describe their sports facilities as "not at all adequate". With just 11 designated disadvantaged schools in the sample, none of these differences was individually statistically significant, though in combination these answers are in keeping with the conclusion above, namely that the key factor behind the reduced amount of sport played by students at designated disadvantaged schools is what the school manages to offer. A sample containing a larger number of schools is needed to uncover more about what lies behind the inferior sporting experience available to their students.

6.4 Designated Disadvantaged Second-Level Schools

The picture in second-level schools is different. In addition to the distinction between schools designated as disadvantaged and non-disadvantaged, a significant number of second-level schools are fee-paying. In our sample, this applied to 7 of the 80 schools, giving a total of 215 students out of 3,114. These students are analysed separately, partly because to include them when comparing the amount of sport offered by designated disadvantaged schools would be unfair, but also because the issue of how much sport they offer relative to free schools is interesting in itself. Therefore, in the analysis that follows, there are 26 schools classified as disadvantaged, 7 as fee-paying, and 47 that make up the rest.

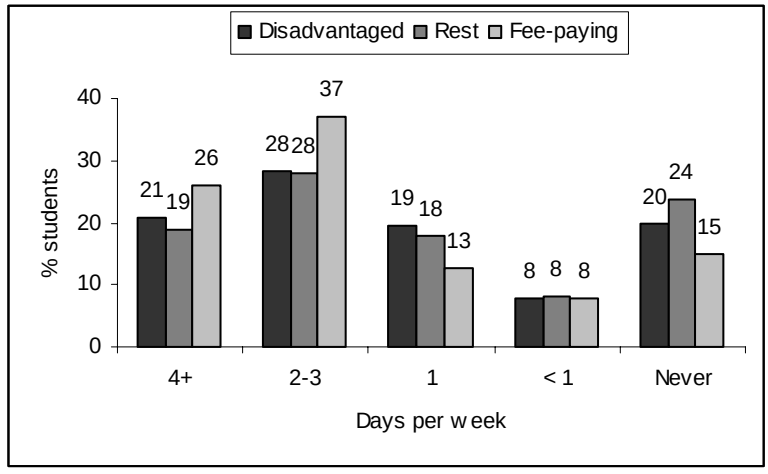
The second-level survey asked students to give the number of PE classes they participated in each week and how long the classes lasted. These responses were compiled into figures for the number of minutes of PE experienced by each student per week. The results are given in Figure 6.4. The differences between types of school are small but statistically significant. Students at fee-paying schools do marginally more PE than those at non-fee-paying schools. But, most notably, the students at schools designated as disadvantaged actually do more PE than those in other non-fee-paying schools.

Figure 6.4: Minutes of PE Per Week by Category of Second-Level School



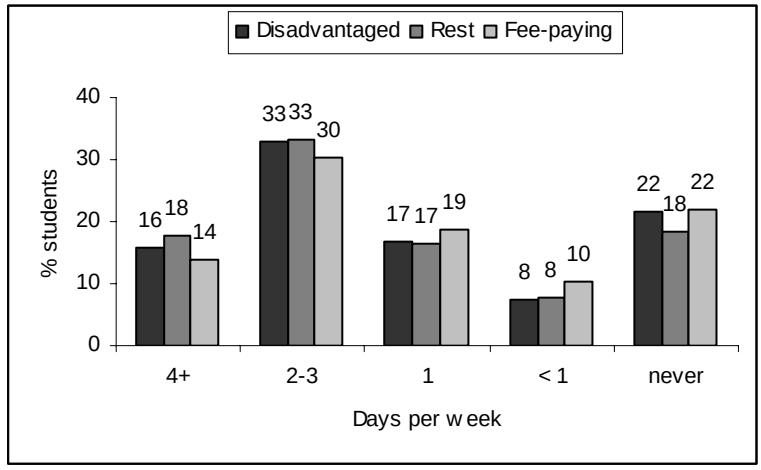
Does this pattern of results extend to extra-curricular sport? Figure 6.5 presents the number of days per week students play extra-curricular sport. Again, there is a clear advantage enjoyed by those at fee-paying schools. But this time there is no statistically significant difference associated with being at a designated disadvantaged school, compared to other non-fee-paying schools.

Figure 6.5: Extra-curricular Sport by Category of Second-Level School



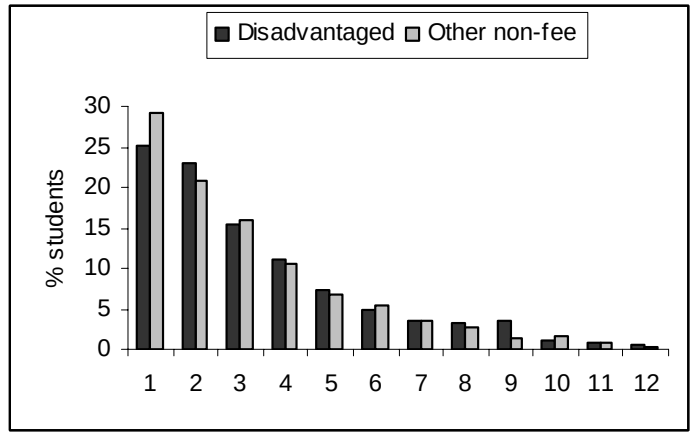
There also turns out to be no difference due to disadvantage in the amount of sport played in clubs outside of school, as shown in Figure 6.6. Interestingly, however, the children in non-fee-paying schools appear to engage with sports clubs to make up some of the difference with fee-paying schools.

Figure 6.6: Sport Played in Non-school Clubs by Category of Second-level School



Finally, if there is no difference in the level of sport played at schools designated as disadvantaged, is there a difference in the range of sports offered? Figure 6.7 compares the number of extra-curricular sports played since the start of the school year. The fee-paying schools are excluded from this chart because the sample sizes for different numbers of sports are too low to be meaningful. although the average number of sports played by students at fee-paying schools is significantly greater than at non-fee-paying schools. The slight differences between students at designated disadvantaged and non-disadvantaged schools in Figure 6.7 are not statistically significant – students in disadvantaged schools do not play fewer sports.

Figure 6.7: Number of Different Extra-curricular Sports Played in School Year by Category of Second-level School



Overall, there is no evidence in this data that students at second-level schools classified as disadvantaged get less opportunity to play sport. It remains possible that the sample of schools surveyed was too small to detect an effect, although a significant impact of attending a fee-paying school was detected from a much smaller sample (7 as opposed to 26 schools).

6.5 Conclusions

The results for primary schools designated as disadvantaged are a concern. Students at these schools, which amount to around one-in-ten primary schoolchildren, get less opportunity to play sport and are exposed to a narrower range of sports. This sporting disadvantage may affect whether they ever take up a sport or whether they go on to play sport at second-level school and beyond.

That there is no discernible difference between designated disadvantaged and non-disadvantaged second-level schools is encouraging. If there were a large difference in the sporting opportunities offered by these schools it ought to have surfaced in this data. Nevertheless, it remains possible that comparing schools according to a tighter definition of disadvantage, say the 10 per cent serving the most disadvantaged communities, as with primary schools, might throw up an effect. The results presented here, however, are nevertheless suggestive of the usefulness of the official classification of disadvantage for targeting policies to raise the amount of sport played by schoolchildren. There is a clear case for concentrating effort on primary schools classified as disadvantaged, but no equivalent evidence to support efforts concentrated on second-level schools classified as such.

It is important to note that where a school level effect is absent, this absolutely does not imply that there is no impact of social disadvantage on schoolchildren's sport – far from it. It only implies that differences in the amount and variety of sport offered by designated disadvantaged and non-disadvantaged second-level schools are insignificant. The variation between individual students according to social disadvantage may still be considerable, or even very large, as with adults. That is, within an individual school, the more socially disadvantaged students may well play less sport. Because the survey employed here relied on questionnaires given to schoolchildren, it was not possible to ask questions that would have allowed the scale of social disadvantage experienced by individual students to be measured.

7. CONCLUSIONS

This report began with three objectives: to assess the strength of the relationship between sport and social disadvantage, to identity the factors behind it, and to draw relevant policy implications. In this final chapter, each objective is assessed in turn.

7.1 The Dramatic Impact of Disadvantage on Playing Sport

Social disadvantage has a dramatic impact on the chances that a person plays sport. More specifically, there is a powerful influence of household income and individual educational attainment. Based on data from the Survey of Sport and Physical Exercise, if person A has a degree and is in the richest 25 per cent of the population and person B left school after Junior Certificate and is in the poorest 25 per cent, the odds that person A plays sport are more than five times greater than the odds that person B plays. To understand how large this effect of social disadvantage is, it can be compared with the influence of gender and age on playing sport. The difference between the odds that person A and person B play sport, is bigger than the difference between the odds that person C and person D play sport, where person C is a 24-year-old man and person D is a 44-year-old woman.

Being physically active does not require that a person play sport. As well as those who play a recognised sport, many people engage in recreational walking for enjoyment and for fitness. But a person who neither plays any kind of sport, nor engages in recreational walking, is effectively sedentary. How do person A and person B compare as regards their chances of being sedentary? The odds of the less well off and less educated person B being sedentary are seven times the odds that the better off and more educated person A will be. This is a much bigger difference in odds than between person E and person F, where person E is 65 years of age and person F just 25.

Put simply, when it comes to sport and physical activity, being financially and educationally better off gives people a big head start.

The effects of income and educational attainment are substantially separate. If two people have the same level of education, the one with higher income is more likely to play sport and less likely to be sedentary; if they have the same income, the better educated one is more likely to play and less likely to be sedentary. Nevertheless, low income and low educational attainment often apply to the same individual, meaning that both effects severely limit their chances of playing sport and being physically active.

The impact of income gets stronger with age, but the impact of educational attainment on playing sport does not. This is an important finding, because it shows that the positive benefit of education on playing sport lasts a lifetime. Although the impact of income increases with age, there is no evidence that the relationship between income and sport is specific to the present older cohort of Irish people. The current generation of young adults is beginning to display the same pattern and the sporting gap between rich and poor in this cohort is likely to widen as they get older too. Furthermore, there is reason to be concerned for the cohort following behind. Children attending primary schools officially classified as disadvantaged play less sport and experience a narrower range of different sports; though our data showed no similar effect for second-level schools designated as disadvantaged.

Sport and physical activity must be fairly regular and reasonably vigorous in order to produce significant health benefits. The impact of income and educational attainment was found to be equally prominent in the data for regular and effortful sport. This implies that the association of low income and low educational attainment with playing less sport is very likely to have a negative impact on the health of the socially disadvantaged in Irish society. Because those with higher income and more education play more sport, a large majority of Irish people who play sport are well off and better educated. More players are in the top 25 per cent of income earners than in the bottom 50 per cent, while 43 per cent of people who play sport have a third-level qualification.

Socially disadvantaged adults are less excluded from the social side of sport than from the playing side. While those with low income and low educational attainment are less likely to be members of sports clubs or to attend adult sporting fixtures, they are not less likely to volunteer for sport-related activity or to attend children's matches. Hence, the socially disadvantaged, while still faring worse than the rest of society, do enjoy a better share of the social capital that sport offers than of the physical benefits it can provide, at least with respect to children's sport.

The severe effect of social disadvantage on playing sport in Ireland is difficult to compare with similar effects found in other countries, such as the UK and Australia, because surveys and research methods vary across countries. However, there are countries where the picture is clearly less stark. The results presented here would certainly not place Ireland in the same bracket as, for example, Switzerland, where the impact of social disadvantage on playing sport is less than the impact of gender and age, which is itself weaker in Switzerland than in Ireland.

7.2 How Disadvantage Holds People Back

The underlying explanation for why income and educational attainment have such a strong effect on participation in sport is not straightforward. For example, an examination of reasons given for non-participation and of people's contribution to their own children's involvement in sport suggests that reduced participation is not caused by lack of motivation or interest, but by other barriers faced by the disadvantaged. Furthermore, the reduced participation is not specific to particular sports. For example, some people believe soccer to be a more 'working class' sport, or perhaps that Gaelic football players come from a broader social base than players of most other sports. Yet there is nothing in the data to support either view, since 69 per cent of soccer players and 62 per cent of Gaelic footballers are from the richest half of the population and, in both sports, 42 per cent of people who play have a third-level qualification. These figures are fairly similar across all the most popular sports.

So what is the explanation? Four factors linked to low income and low educational attainment have a significant impact on whether people play sport. Those from more disadvantaged backgrounds are less likely to have parents who play sport, more likely to have poor health, less likely to own a car, and more likely to live in a small city or town, all of which reduce the chances of playing. However, the combination of these four factors still only accounts for roughly one-quarter of the impact of disadvantage on playing sport. The more substantial reasons why the disadvantaged play less sport are likely to be directly associated with having less money and spending less time attending educational institutions.

The impact of lower income seems to be the most straightforward. The data show that people on low income are more likely never to have played any sport, at school or afterwards. Around half the sport played by schoolchildren is in clubs outside school, where the opportunity is unlikely to be provided free. Once outside full-time education, sport costs money. Most notably, the general pattern of playing across the life course is for people to switch between team-based field sports such as GAA games, soccer or basketball, to more individual sports such as swimming, golf, aerobics or racket sports. These individual sports tend to require greater expenditure on membership fees or pay-per-use fees, while some also require more expensive equipment. Income appears to be a barrier to switching sports as people progress through adulthood, causing many low income people to drop out altogether.

The impact of educational attainment is probably less to do with attaining qualifications than with extending the time a person spends in full-time education. The rate of drop out from sports displays a large spike in the data between the ages of 16 and 20 years, coinciding with the period when people leave education. Those who stay on are more likely to continue to play a favoured sport, more likely to switch to another sport, and more likely to play more than

one sport. By extending full-time education further into adulthood, people establish connections with adult sports clubs, make contact with a wider range of alternative sports they might explore, and are more likely to maintain their fitness through continuing to play. The result is that they have more opportunities to develop contacts, off-field skills, habits and fitness that ensure a much more significant role for sport in their future lives. Those who leave education at a younger age miss out on these contacts, opportunities and habits.

These explanations for the impact of social disadvantage on playing are consistent with the pattern of sport-related volunteering, club membership and attendance at sports events. Volunteering involves time and effort rather than expense and mostly revolves around the activities of children. Thus, the impact of income and educational attainment on volunteering is much less severe. Social disadvantage also has little impact on attendance at under-18 sports events. However, attendance at over-18 sporting events and especially club memberships, both of which involve expense and contact with adult sport, are reduced by low income or educational attainment, just as playing is. In addition, one particular factor that reduces all forms of participation (playing, volunteering, attendance and membership) is lack of access to a car, which affects around 15 per cent of the population.

The role of schools in the relationship between disadvantage and sport is harder to assess using the data available for this study. The finding that children at designated disadvantaged primary schools lose out may be explained by poorer facilities and connections with local sports clubs at these schools, though to be more certain of this explanation would require a survey with a larger sample of schools than was available for this report. Further research is also needed to establish whether socially disadvantaged children within second-level schools get fewer sporting opportunities, over and above their likelihood of leaving full-time education at an earlier age.

7.3 Policy Implications

The following ten policy implications are derived from the analysis contained in the previous chapters:

1. The relationship between social disadvantage and participation in sport is so strong that it raises issues well beyond sports policy. The Irish government considers people to be affected by poverty if they are "… excluded and marginalised from participating in activities which are considered the norm for other people in society". Based on the data examined here, there can be no question that many socially disadvantaged people are excluded from sport, which is one of the most popular and enduring social activities. Hence sport matters for policy on social exclusion. It is also highly likely that the socially disadvantaged suffer worse health because they play less sport – a matter of importance for public health policy. Reduced sporting opportunity for the disadvantaged begins at primary school – an issue to be tackled through education policy. Exclusion from sport also deprives the disadvantaged of social contacts and

networks available to others, a fact of relevance to policy on social capital and volunteering. In summary, **the strong impact of disadvantage on participation in sport needs to be recognised as a substantial contributor to poverty and social exclusion. This fact should be absorbed by policy-makers interested in poverty, health, education, social capital/volunteering and, of course, sport itself.**

2. Central government and other agencies involved in sports policy have already determined a need to increase participation among the socially disadvantaged and made some efforts to do so. However, the main beneficiaries of public funding given to sport are the people who currently participate with clubs and organisations that receive grants for facilities. As outlined in Chapter 1, the grants under the largest scheme, the Sports Capital Programme (SCP), are preferentially given to applications from areas designated as 'disadvantaged', but the degree to which this targeting by area works is questionable. Even if this aspect of the SCP is partially effective, it is stretching credibility to suggest that the targeting is sufficient to counterbalance the over-representation among participants in sport of people with above median incomes or higher than average educational qualifications. **From the available data, therefore, it is almost certain that the substantial public money spent on sport in Ireland is regressive – it is a transfer of resources from the less well off to the better off.** Furthermore, the *funding* of sports expenditure is also regressive. The National Lottery supplies 80 per cent of the Department of Arts, Sport and Tourism's sport budget, from sales of lottery tickets disproportionately purchased by the less well off and less educated. Unless there is a fundamental change in the way that public money is targeted, it is difficult to see how inclusion in the National Anti-Poverty Strategy of initiatives such as the SCP can be justified.

3. That public spending on sport is currently regressive does not imply that the level of funding sport receives should be cut. As an activity with proven benefits, sport has a strong case for substantial public expenditure in support of mass participation. But this justification is only valid if the benefits are shared equitably. At present, public funding in principle supports mass participation, but in practice directs most support to the better off. Therefore, **to justify public expenditure on the current scale requires a fundamental reassessment of the priorities it addresses. The strong link between social disadvantage and sport implies a need to redirect a much more substantial proportion of expenditure towards sports policies likely to benefit the disadvantaged.**

4. At present, more than two-thirds of public funding for sport is allocated to the provision of facilities, mostly via the SCP. However,

based on evidence provided in a previous report in this series (Fahey *et al.*, 2004) and on evidence specific to the socially disadvantaged contained in this report, neither lack of sports facilities nor poor quality facilities is a significant factor behind non-participation, apart perhaps from at primary school level. During a previous era in the development of sport in Ireland, improving facilities may have been crucial to increasing participation. But facilities are not now a key factor in whether people initially start playing, whether they drop out, or whether they take up another sport later in life. Furthermore, research shows that defining disadvantage by geographic area is an imprecise method in Ireland (Watson *et al.*, 2005). Sports facilities located in an area designated as disadvantaged are least likely to be used by those within the area who are most poor and least educated.

Rather than facilities, the enduring impact of full-time education on playing sport throughout later life suggests that it is contact with adult sports clubs and people, off-field organisational skills, and the development of sporting habits further into adulthood that explain higher participation. This tallies with evidence from other countries concerning policies designed to increase participation (described in Chapter 2). Successful interventions employ effective contact and communication with non-participants, through local organisation, highly-publicised one-off events and marketing. **If the goal of sports policy is to increase participation, especially among the disadvantaged, public funding needs to move away from the provision of facilities and towards the creation of links between current non-participants and sporting organisations.** It needs to concentrate less on the development of physical capital and more on human and social capital. More people need to be employed to engage current non-participants, individually and in groups, and more effort is needed to promote the benefits and opportunities sport offers. International evidence suggests that mass marketing campaigns may work, though the effectiveness of well designed local campaigns is more certain. There is, therefore, a role for co-operation between sports policy and policy regarding public health promotion, to ensure consistent targeting and promotion.

5. Studies of sporting participation are beginning to produce some concrete conclusions, but research in this relatively new policy area is nevertheless in its infancy. Too few policies that aim to raise participation have been properly evaluated, while much of the baseline data on participation is inadequate for comparative purposes. In order to establish the best policies for increasing participation in sport it is, therefore, essential that policy interventions include mechanisms for evaluating their impact and efficiency – studies that collect data before and after initiatives begin, include control groups, adopt standard measures to allow different interventions to be compared, and assess value for money. Hence, **it would be of great benefit to policy-makers in sport (and other related policy areas) to establish an ongoing system to monitor participation in sport and to evaluate policy interventions designed to increase it. This system could be designed to meet**

international standards of best practice and to include measures of social disadvantage.

6. In the context of points 3-5 above, the recent development of Local Sports Partnerships (LSPs) in half of Ireland's local authority areas is particularly interesting. LSPs are supposed to be informed of local sporting needs, to concentrate on disadvantaged groups, and to market and promote sport locally. LSPs account for just 2 per cent of the Department of Arts, Sport and Tourism's sport budget. Yet they represent an attempt to develop human and social sporting capital in local areas. There are opportunities and risks associated with the development of LSPs. A majority of people who do not participate in sport but are interested in doing so (people who are, in other words, the best targets for LSP initiatives) have low income, low educational attainment, and are likely to be older. If LSPs are to work, it is these people who must be engaged with and enthused. Local sports co-ordinators and development officers in LSPs need to be aware of this opportunity, of the strength of the relationship between social disadvantage and sport more generally, and of the need to reach beyond existing local networks of people interested in sport. Even if only a few LSPs have success in engaging new participants in sport, successful methods for doing so could be spread between LSPs. It is important, therefore, that the LSPs remain a national network, overseen and co-ordinated by the Irish Sports Council, so that each LSP has the opportunity to learn from the experiences of the others. **Local Sports Partnerships represent an opportunity to engage socially disadvantaged people in sport. They need to be adequately funded, to find effective methods of contacting and communicating with non-participants, and to subject their interventions to proper quantitative evaluation, so that strategies seen to work in one area can be applied in others.**

7. The first report in this series (Fahey *et al.*, 2004) pointed out that policy aiming to increase participation would benefit not only from targeting social groups but intervening at specific stages of the life course. An understanding of the different factors that relate social disadvantage and sport suggests that this idea may be of particular relevance to the socially disadvantaged. One priority could be to weaken the link between social disadvantage and sport for the next generation of young adults. This requires a reduction in the number of socially disadvantaged people who never get involved in sport – an issue for policy on schools and youth sport. However, the most critical period arises when young people leave full-time education. This stage is associated with much higher levels of dropout from sport by socially disadvantaged people, who tend to cease full-time education at a younger age. Yet there is also a need to re-engage older adults who have dropped out from sport already. This calls for evaluation of which sports appeal most to older and less fit adults.

Trying to weaken the relationship between social disadvantage and sport at these different life-stages probably requires different methods. Thus, **policy should not only be targeted at the socially disadvantaged, but needs to be tailored to suit people at different stages in life: disadvantaged schoolchildren, disadvantaged young adults at risk of dropping out, and disadvantaged older people who might take sport up again.**

8. Part of the relationship between social disadvantage and reduced playing of sport is that the disadvantaged are less likely ever to have played. Since people's first experience of sport is as schoolchildren, this raises the question of whether disadvantaged children get less sporting opportunity at school. The data on school sport available for this report only allowed comparison of designated disadvantaged and non-disadvantaged schools, rather than comparison of disadvantaged and non-disadvantaged children within individual schools. Nevertheless, children's sporting opportunities at primary level are significantly impaired by attending a school classified as 'disadvantaged', even though these schools qualify for a Physical Education Grant. **Social disadvantage begins to reduce levels of participation in sport at primary school. There is, therefore, a need to develop policy on schoolchildren's sport to counteract the impact of disadvantage.** Further research is required to assess the degree to which a socially disadvantaged child has less chance of playing sport relative to better off children within his or her school.

9. Most people play sport as schoolchildren. Many then drop out around the time they leave full-time education. The rate of dropout is much higher for young adults of low income and those who leave education earlier. This is the strongest component of the relationship between social disadvantage and reduced participation and it, therefore, makes sense to look for possible policy interventions that might reduce the rate of dropout among young adults. This is partly because the most common sporting life course is to switch from team to individual sports, which tend to be more expensive. Furthermore, to continue with a sport played at school or college they must establish contact with a sports club or local facility, while those who stay on at school or college easily travel further along the sporting conveyor belt provided by educational institutions. **Sports policy, at a local level, could look for ways to improve the contact between school-leavers and sports organisations and ways to make sport cheaper for young adults. This is a potential role for Local Sports Partnerships.** Possibilities include: arranging events or systems to establish and maintain ongoing contact between school teams and local clubs; encouraging sports clubs to offer reduced membership or pay-per-use fees to young adults; or marketing and discounting local leisure cards for use at more than one facility. Research shows that where leisure cards were well-targeted and marketed in the UK they increased local levels of participation (Collins *et al.*, 1999).

10. The problem of re-engaging older adults who have dropped out of sport is very different. The data show that this group of people is large. Around one-third of the adult population do not play any sport but nevertheless say they are interested in doing so. A significant barrier faced by this group, especially its disadvantaged members, is physical ability – poor health and fitness. It is highly unlikely that they will make a sudden transition from playing no sport to engaging with any kind of intensive competitive sport alongside others much fitter than themselves. **At a local or national level, the large number of interested non-players could benefit from schemes specifically designed and marketed for people who are returning to exercise from a lengthy period of low physical activity. Promotion of walking, swimming and cycling may be particularly relevant for this large group.**

REFERENCES

CARTER, P., 2005. *Review of National Sport Effort and Resources,* Report for HM Treasury and The Department of Culture, Media and Sport, London, UK.

COALTER, F., M. ALLISON and J. TAYLOR, 2000. *The Role of Sport in Regenerating Deprived Areas,* Edinburgh: The Scottish Executive Central Research Unit.

COLLINS, M., I. HENRY, B. HOULIHAN and J. BULLER, 1999. *Sport and Social Exclusion,* Report for the Department of Culture, Media and Sport, London, UK.

COMPASS, 1999. *Sport Participation in Europe.* http//:w3.uniroma1.it/compass/

CRAIG, C.L. and C. CAMERON, 2004. *Increasing Physical Activity: Assessing Trends from 1998-2003,* Ottawa: Canadian Fitness and Lifestyle Research Institute.

DEPARTMENT OF ARTS, SPORT AND TOURISM, *Sport Capital Programme 1999-2002 Spending Review,* Dublin: Department of Arts, Sport and Tourism.

DEPARTMENT OF HEALTH AND CHILDREN, *National Health Promotion Strategy 2000-2005,* Dublin: Department of Health and Children.

DEPARTMENT OF SOCIAL AND FAMILY AFFAIRS, 2003. *National Action Plan Against Poverty and Social Exclusion, 2003-2005.* Dublin: Department of Social and Family Affairs.

DELANEY, L. and T. FAHEY, 2005. *Social and Economic Value of Sport in Ireland,* Books and Monographs, No. 180, Dublin: The Economic and Social Research Institute.

DKM ECONOMIC CONSULTANTS, 2001. *An Assessment of the Economic Impact of the National Lottery 1987-2001.* Dublin: DKM Economic Consultants.

FAHEY T., R. LAYTE and B. GANNON, 2004. *Sports Participation and Health Among Adults in Ireland*, Books and Monographs, No. 178. Dublin: The Economic and Social Research Institute.

FAHEY T., L. DELANEY and B. GANNON, 2005. *School Children and Sport in Ireland.* Books and Monographs, No. 182, Dublin: The Economic and Social Research Institute.

FARRELL, L. and M. A. SHIELDS, 2002. "Investigating the Economic and Demographic Determinants of Sporting Participation in England", *Journal of the Royal Statistical Society* A, 165, part 2, pp.335-348.

FARRELL, L. and I. WALKER, 1997. *It could be you! But what's it worth? The Welfare Gain from Lotto.* London: Institute for Fiscal Studies.

FITZPATRICK ASSOCIATES, 2005. *Review of Local Sports Partnership Programme,* Dublin: Department of Arts, Sport and Tourism.

HEALTH PROMOTION UNIT, 1999. *Survey of Lifestyle, Attitudes and Nutrition (SLÁN),* Dublin: Department of Health and Children.

PRICE, D.I. and E.S. NOVAK, 2000. "The Income Redistribution Effects of Texas State Lottery Games", *Public Finance Review*, Vol. 28, No. 1, pp. 82-92.

STAMM, H. and M. LAMPRECHT, 2005. "Structural and Cultural Factors Influencing Physical Activity in Switzerland", *Journal of Public Health*, Vol. 13, No. 4, pp. 203-211.

STRATTON, M., L. CONN, L. CHARITY, and L. CONOLLY, 2005. *Sport and Related Recreational Physical Activity – The Social Correlates of Participation and Non-participation by Adults.* Australian Bureau of Statistics report for the 11th Annual Conference of the Sport Management Association of Australia and New Zealand.

STRATTON, M., L. CONN and T. SMALLACOMBE, 2005. *The Young and the Restful – The Effects of Recreational Choices and Demographic Factors on Children's Participation in Sport.* Australian Bureau of Statistics Report for the Social Policy Conference, 2005.

TASK FORCE ON COMMUNITY PREVENTIVE SERVICES, 2001. *Increasing Physical Activity,* US Department of Health and Human Services, Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, 50.

TELAMA, R., Y. XIAOLIN, V. JORMA, V. ILKKA, W. OLLI, and R. OLLI, 2005. *American Journal of Preventive Medicine*, Vol. 28, No. 3, pp. 267-273.

THE INSTITUTE OF PUBLIC HEALTH IN IRELAND, 2001. *Inequalities in Mortality, 1989-1998 – A Report on All-Ireland Mortality Data,* Dublin: The Institute for Public Health.

WATSON, D., C.T. WHELAN, J. WILLIAMS and S. BLACKWELL, 2005. *Mapping Poverty: National, Regional and County Patterns.* Dublin: The Economic and Social Research Institute.

WILSON, T.C., 2002. "The Paradox of Social Class and Sports Involvement", *International Review for the Sociology of Sport*, Vol. 37, No. 1, pp. 5-16.

WITT, P.A. and J. L. CROMPTON, 1996. *Recreation Programs That Work for At-Risk Youth – The Challenge of Shaping the Future.* (Out of print). Available at http://www.rpts.tamu.edu/Faculty/Witt/CasestudyBook.htm.

WORLD HEALTH ORGANISATION, EUROPE, 2005. *The European Health Report 2005: Public Health Action for Healthier Children and Populations,* Copenhagen: WHO Regional Office for Europe.

APPENDIX A

The multivariate analysis is conducted by binary logistic regression. For the results in Chapter 3, the dependent variable is either whether a respondent played sport in the previous twelve months (1 = player, 0 = non-player) or whether a person was sedentary (1 = sedentary, 0 = active)[10]. Variables were initially included in the model according to the method of stepwise forward selection, whereby the next variable to be included is the one that produces the greatest change in log likelihood. By this criterion, the first four variables to be included in the model for playing sport were, in order: educational attainment, gender, age and income. In fact, whatever standard model-building strategy is employed, including backward elimination and best subsets, these four variables dominate. The main effects models are given in Tables A1 and A2, from which the odds ratios in Tables 3.1 and 3.2 are calculated. Independent variables are gender (1 = male, 0 = female), age (divided by 10), natural log of income, and four indicator variables for different levels of educational attainment (1 = attained, 0 = not attained).

The income variable is logged to take account of the strong skew of the income distribution towards the high end. The original categories of educational attainment in the survey numbered seven, but chi-squared tests for the difference in deviance associated with nested models show that explanatory power is not significantly affected by combining the two lowest categories ('no education' and 'primary only') and two other categories ('diploma/cert' and 'degree'). The reference case in the models as presented is therefore a female with no second-level education.

Table A1 presents the main effects model for whether a person plays sport. The column labelled 'p-value' gives the p-value for a Wald test of the null hypothesis that the relevant coefficient is zero. The coefficients for all the independent variables are highly significant, including those for income and education when added simultaneously to the same model. The value Exp(β) represents the odds ratio relative to the reference case. These ratios can be converted into the odds ratios presented in Table 3.1 in Chapter 3.

[10] Different definitions of playing sport were also tried as dependent variables, including playing monthly, playing weekly and playing with significant effort. The results were very similar to those based on the broad 12-month definition, and are therefore not shown.

Table A1: Binary Logistic Regression Model for Determinants of Playing Sport

	Coefficient (β)	p-Value (Wald test)	Exp (β)
Gender	0.97	0.000	2.637
Age/10	-0.33	0.000	0.716
Ln (income)	0.44	0.000	1.559*
Jnr/Grp/Int Certificate	0.45	0.009	1.568**
Leaving Certificate	1.11	0.000	3.044
Diploma/Degree	1.45	0.000	4.274
Postgraduate	1.99	0.000	7.328
Constant	-2.73	0.000	0.065
Sample	2,318		

* Difference in mean income between lowest and highest income quartiles (Q1→Q4) is 1.566 log units. Odds ratio for Q1→Q4 is, therefore, given by exp (β * 1.566) = 2.003.

** To calculate odds ratios relative to Junior Certificate level, as for Table 3.1, Exp(β) for higher levels of attainment is divided by this figure.

The number of log units separating mean income in the bottom (Q1) and top (Q4) income quartiles is 1.566. The coefficient for income is multiplied by this and the exponential recalculated to obtain the appropriate odds ratio. In Table 3.1, 'Junior/Group/Intermediate Certificate' is used as the reference case, so the odds ratios for higher levels of educational attainment are divided by the odds ratio for this variable.

Table A2 presents similar findings for whether a person is sedentary. All the independent variables are highly significant except for gender, which has no effect. The odds ratios are calculated in a similar manner and form the basis of the values for Table 3.2 in Chapter 3.

Table A3 presents three further regressions where the dependent variable is whether a person plays sport. The first column shows a positive interaction between age and income, suggesting that income becomes a stronger determinant of playing sport as age increases. The second column shows an interaction of gender and income, suggesting that income is also a stronger determinant of playing sport for males. When the regression analysis is conducted separately for men and women (not shown), age, income and the education variables are all significant for both genders, although the coefficient on income is significantly smaller for women, in line with the interaction displayed in the second column of Table A3. The borderline statistically significant p-values when both interactions are included together, in the third column, means it is difficult to determine for sure that these interactions are entirely separate effects. The consistent result for the education variables, regardless of which specification of the model is considered, underlines the fact that the impacts of income and educational attainment on playing sport are substantially separate.

Table A2: Binary Logistic Regression Model for Determinants of Being Sedentary

	Coefficient (β)	p-Value (Wald test)	Exp (β)
Gender	0.00	0.992	1.001
Age/10	0.16	0.000	1.175
Ln (income)	-0.44	0.000	0.647*
Jnr/Grp/Int Certificate	-0.46	0.002	0.633**
Leaving Certificate	-0.88	0.000	0.417
Diploma/Degree	-1.69	0.000	0.185
Postgraduate	-2.24	0.000	0.107
Constant	1.03	0.059	2.797
Sample	2,318		

* Difference in mean income between lowest and highest income quartiles (Q1→Q4) is 1.566 log units. Odds ratio for Q1→Q4 is therefore given by exp (β * 1.566) = 0.502.

** To calculate odds ratios relative to Junior Certificate level, as for Table 3.1, Exp(β) for higher levels of attainment is divided by this figure.

Table A3: Significant Interactions in Playing Regressions (p-Values for Wald Test, null: β = 0, in brackets)

	(1)	(2)	(3)
Gender	0.96 (0.00)	-1.13 (0.21)	-0.88 (0.33)
Age/10	-0.92 (0.00)	-0.34 (0.00)	-0.83 (0.00)
Ln (income)	0.00 (0.98)	-0.26 (0.02)	-0.09 (0.70)
Jnr/Grp/Int Certificate	0.41 (0.02)	0.43 (0.01)	0.40 (0.02)
Leaving Certificate	1.07 (0.00)	1.09 (0.00)	1.06 (0.00)
Diploma/Degree	1.43 (0.00)	1.44 (0.00)	1.42 (0.00)
Postgraduate	1.96 (0.00)	1.97 (0.00)	1.95 (0.00)
(Age/10)* Ln (income)	0.11 (0.03)		0.09 (0.08)
Gender* Ln (income)		0.37 (0.01)	0.33 (0.04)
Constant	-0.26 (0.84)	-1.66 (0.01)	0.27 (0.84)
Sample	2,318	2,318	2,318

APPENDIX B

To test for other factors associated with disadvantage, extra variables are added to the specification of the binary logistic regression model described in Appendix A. Table B1 shows that with income and educational attainment controlled for, being unemployed has an insignificant impact on playing sport (column 1), as does doing a manual job (column 2).

Table B1: Binary Logistic Regressions Showing No Significant Effect on Playing of Unemployment and Manual Work (p-Values for Wald Test β = 0 in Brackets)

	(1)	(2)
Gender	0.97 (0.00)	0.98 (0.00)
Age/10	-0.30 (0.00)	-0.34 (0.00)
Ln (income)	0.37 (0.00)	0.44 (0.00)
Jnr/Group/Intermediate Certificate	0.40 (0.09)	0.44 (0.01)
Leaving Certificate	1.01 (0.00)	1.06 (0.00)
Diploma/Degree	1.46 (0.00)	1.38 (0.00)
Postgraduate	1.99 (0.00)	1.92 (0.00)
Unemployed	-0.43 (0.12)	
Manual worker		-0.10 (0.36)
Constant	-2.44 (0.00)	-2.63 (0.00)
Sample	1,426	2,224

Table B2 shows a single specification of the regression that includes four further significant variables for playing sport, complete with odds ratios in the right-hand column. Having a father who played and, particularly, having had two parents who both played sport is strongly associated with playing. Respondents in the survey gave an estimate of self-reported health on a five point scale from excellent to poor. Claiming at least 'good' health (the middle option) is significantly related to playing sport. Having no access to a car, which affects about 15 per cent of people according to the survey, has a significant negative impact on playing. Finally, categories of household location are included as indicator variables, relative to a

reference case of living in a 'big city' (precise definitions of these locations were not given to respondents, so these categories reflect their own view of where they live). There is a significant negative effect on playing sport of living in a small city or a town.

Table B2: Binary Logistic Regressions Showing Significant Effects of Parents who Played, Health, Access to a Car, and Household Location (p-Values for Wald Test β = 0 in Brackets)

	Coefficient (β)	Exp(β)
Gender	0.99 (0.00)	2.690
Age/10	-0.34 (0.00)	0.712
Ln (income)	0.36 (0.00)	1.434
Jnr/Group/Intermediate Certificate	0.28 (0.18)	1.328
Leaving cert	0.92 (0.00)	2.520
Diploma/Degree	1.12 (0.00)	3.068
Postgraduate	1.81 (0.00)	6.140
Father played	0.35 (0.01)	1.420
Both parents played	0.81 (0.00)	2.247
'Good' health	0.68 (0.00)	1.976
No car	-0.67 (0.00)	0.514
Small city	-1.12 (0.01)	0.327
Town	-0.30 (0.05)	0.744
Rural/village	-0.18 (0.19)	0.832
Constant	-2.57 (0.00)	0.076
Sample	1,946	

When all these variables are added to the model, even though each has a significant effect and each is correlated with income and educational attainment, the combined effect is to reduce the

coefficients on the income and educational attainment variables by roughly one-quarter only.

Table B3 returns to the same groups of independent variables employed in the main effects model developed in Appendix A, but examines their effect on four other dependent variables. Column (1) repeats the finding of Table A1 for the purpose of comparing coefficients. In column (2), the dependent variable is whether an individual has ever played sport; in column (3) it is whether an individual has always played the same sport; in column (4) it is whether an individual plays a sport they switched to from another; and in column (5) it is whether an individual plays more than one sport.

Table B3: Binary Logistic Regressions for Determinants of Different Categories of Players (p-Values for Wald Test β = 0 in Brackets)

	(1) Plays	(2) Ever Played	(3) Always Same Sport	(4) Switch Sport	(5) More than One Sport
Gender	0.97 (0.00)	1.19 (0.00)	0.45 (0.00)	0.76 (0.00)	1.01 (0.00)
Age/10	-0.33 (0.00)	-0.23 (0.00)	-0.41 (0.00)	-0.11 (0.00)	-0.42 (0.00)
Ln (income)	0.44 (0.00)	0.56 (0.00)	-0.09 (0.36)	0.58 (0.00)	0.20 (0.04)
Jnr/Group/Intermediate Certificate	0.45 (0.01)	0.55 (0.00)	0.53 (0.04)	0.43 (0.03)	0.40 (0.18)
Leaving Certificate	1.11 (0.00)	1.07 (0.00)	0.69 (0.01)	1.12 (0.00)	1.38 (0.00)
Diploma/Degree	1.45 (0.00)	1.41 (0.00)	0.95 (0.00)	1.29 (0.00)	1.85 (0.00)
Postgraduate	1.99 (0.00)	1.42 (0.00)	1.44 (0.00)	1.33 (0.00)	2.16 (0.00)
Constant	-2.73 (0.00)	-1.86 (0.00)	-0.40 (0.51)	-5.11 (0.00)	-2.55 (0.00)
Sample	2,318				

Looking first at the income variable. The coefficient is largest for regressions where the dependent variable is 'ever played' and 'switched', while it becomes insignificant for 'always played same sport' in column (3). Income, therefore, seems to have most impact on whether a person takes up a sport. Turning to the educational attainment variables, they remain strongly significant for all the dependent variables, although once a person stays on past Junior Certificate level, coefficients are lower for 'always played same sport' and higher for 'plays more than one'.

SURVIVAL ANALYSIS

To examine further the transitions between different types of sport, or between playing and not playing, a different statistical technique is appropriate. The binary logistic regressions employed thus far look for attributes that determine which of two categories people currently belong to (e.g. player or non-player). 'Survival analysis' is designed to examine the factors behind transitions that occur across the life course and can be used to analyse people's sporting history. It employs information regarding not only which people make the transitions between categories (e.g. from player to non-player), but also at what age each transition takes place. When applied to this survey, the technique has the disadvantage that it relies on the recollections of respondents regarding the sports they used to play and the ages they started and stopped playing, which may be subject to some recall error or biases. However, it has the advantage of being able to exploit the historical data and so isolate particular transitions and the stage in the life course at which these transitions occur. The specific method used here is Cox regression.

Table B4: Cox Regressions for Transitions from Playing a Sport at Age 15 to Dropping Out, or Switching Sport (p-Values for Wald Test β = 0 in Brackets)

	(1) Played at 15 → Dropped Out		(2) Played at 15 → Switched Sport	
	Coefficient (β)	**Exp (β)**	**Coefficient (β)**	**Exp (β)**
Gender	-0.48 (0.00)	0.62	0.22 (0.02)	1.25
Ln (income)*	-0.26 (0.00)	0.77	0.24 (0.00)	1.28
Jnr/Group/Intermediate Certificate	0.15 (0.19)	1.17	0.19 (0.24)	1.21
Leaving Certificate	-0.29 (0.01)	0.75	0.19 (0.22)	1.21
Diploma/Degree	-0.57 (0.00)	0.56	0.42 (0.01)	1.53
Postgraduate	-1.17 (0.00)	0.31	0.39 (0.06)	1.47
Sample	1,418		1,386	
Made transition	626		521	

* Difference in mean income between lowest and highest income quartiles (Q1→Q4) is 1.566 log units. Relative risk for Q1→Q4 is, therefore, given by exp (β * 1.566).

Table B4 examines the likelihood that a person dropped out from sport, or that they switched sport, using the Cox regression technique. The model includes all respondents who were playing a

sport of any kind at age 15 years. Some of these people went on to drop out, others switched sports. Cox regression estimates the influence of the independent variables on the transition in question – dropping out from sport in model 1, switching to a different sport in model 2. In model 1, the coefficients show that being male, having higher income and higher educational attainment, especially beyond Leaving Certificate, have a strongly negative effect on the chance of dropping out. The exponential of the coefficient (Exp (β)) in a Cox regression is an estimate of the relative risk of making the transition in question. Comparing these relative risks, a person with a higher educational qualification had less than half the probability of dropping out than a person who left school after the equivalent of Junior Certificate, while someone with a postgraduate degree was more than three times less likely to drop out. Turning to switching sport in model 2, the pattern reverses. The coefficients become positive, significantly so for gender, income and educational attainment beyond Leaving Certificate. In both models 1 and 2, the impact of higher education is particularly strong, much more so than gender.

Table B5: Cox Regressions for Transitions from Playing a Team Sport at Age 15 Years to Dropping Out, or to Playing an Individual Sport (p-Values for Wald Test β = 0 in Brackets)

	(1) Played Team → Dropped Out		(2) Played Team → Individual	
	Coefficient (β)	**Exp (β)**	**Coefficient (β)**	**Exp (β)**
Gender	-0.60 (0.00)	0.55	-0.42 (0.00)	0.66
Ln (income)	-0.38 (0.00)	0.69	0.31 (0.00)	1.36
Jnr/Group/Intermediate Certificate	-0.16 (0.24)	0.85	0.26 (0.20)	1.29
Leaving Certificate	-0.45 (0.00)	0.64	0.52 (0.01)	1.67
Diploma/Degree	-1.05 (0.00)	0.35	0.78 (0.00)	2.19
Postgraduate	-1.67 (0.00)	0.19	0.88 (0.00)	2.41
Sample	1,045		1,045	
Made transition	422		395	

* Difference in mean income between lowest and highest income quartiles (Q1→Q4) is 1.566 log units. Relative risk for Q1→Q4 is therefore given by Exp (β * 1.566).

This survival analysis technique is particularly useful for looking at the transition between types of sport. The sample of adults who currently play a team sport (13 per cent) is very low, making statistical analysis of the factors behind who currently plays difficult. But most people (58 per cent) played a team sport when young, so survival analysis can be used to analyse a significant sample. Table B5 presents Cox regressions for people who were playing a team sport at age 15. It considers two possible transitions: (1) dropping out from sport altogether, (2) switching from a team sport to an individual sport. The coefficients for gender and all the social disadvantage variables in regression 1 are larger than in Table B4 (regression 1), where the model also included those who played an individual sport at age 15, suggesting that people are more likely to drop out from a team sport, especially women and the disadvantaged. In regression (2), the coefficients on the disadvantage variables change sign – people with higher income and higher educational attainment are more likely to switch to an individual sport. The coefficient on gender remains significantly and strongly negative, however, which shows that women are more likely to abandon team sports generally, be it to drop out from sport or to switch to an individual sport.

From the relative risk figures, the relative risk of dropping out or switching to an individual sport, having played a team sport at age 15, can be calculated for people with different characteristics. For example, an individual in the top income quartile (Q4) with a degree can be compared to an individual in the bottom quartile (Q1) who left school after Junior Certificate (or equivalent). The person with lower income and educational attainment is over four times more likely to drop out from sport, while the person with higher income and educational attainment is nearly three times more likely to switch to an individual sport.

APPENDIX C

Table C1 presents the output of two binary logistic regressions where the dependent variable is whether a person volunteers for sport-related activity (1 = volunteer, 0 = non-volunteer). Column (1) shows that once education is controlled for, there is no significant association between income and volunteering. Furthermore, chi-squared tests for differences in deviance associated with nested models show that there is no further significant impact of education above Junior Certificate (or equivalent) level.

Table C1: Binary Logistic Regressions for Determinants of Volunteering for Sport-Related Activity (p-Values for Wald Test of β = 0 in Brackets)

	(1)	(2)	Exp (β)
Gender	0.45 (0.00)	0.52 (0.00)	1.680
Age/10	-0.05 (0.18)	0.04 (0.46)	1.036
Ln (income)	0.12 (0.23)	0.12 (0.30)	1.123
Jnr/Group/Intermediate Certificate	0.80 (0.00)		
Leaving Certificate	0.86 (0.00)		
Diploma/Degree	0.92 (0.00)		
Postgraduate	0.74 (0.02)		
No post-primary		-0.61 (0.01)	0.545
Father played		0.08 (0.63)	1.079
Both parents played		0.37 (0.04)	1.442
'Good' health		0.016 (0.50)	1.171
Car		1.04 (0.00)	2.843
Rural/village		0.20 (0.20)	1.220

In column (2), the educational attainment variables are reduced to a single variable, 'no post-primary'. Five independent variables have a significant affect on volunteering: gender, having no post-primary education, both parents having played sport, access to a car, and

having an under-18 living in the household. Odds ratios that form the basis for Table 5.1 in Chapter 5 are provided in the right hand column.

Table C2 presents a similar analysis where the dependent variable is membership of a sports club (1 = member, 0 = non-member). Here the pattern is more similar to that found in Appendix A for playing sport. Income and educational attainment are significantly and separately associated with membership, as shown in column (1). Odds ratios are also provided, which were used for Table 5.2 in Chapter 5. Column (2) adds more independent variables that have a significant or nearly significant effect on membership. Access to transport emerges as a particularly strong influence here (see main text, Chapter 5).

Table C2: Binary Logistic Regressions for Determinants of Membership of Sports Clubs (p-Values for Wald Test of β = 0 in Brackets)

	(1)	Exp (β)	(2)
Gender	1.13 (0.00)	3.080	1.12 (0.00)
Age/10	-0.12 (0.00)	0.889	-0.07 (0.08)
Ln (income)	0.35 (0.00)	1.422	0.33 (0.00)
Jnr/Group/Intermediate Certificate	0.39 (0.03)	1.482	0.20 (0.35)
Leaving Certificate	0.93 (0.00)	2.525	0.69 (0.00)
Diploma/Degree	1.18 (0.00)	3.248	0.92 (0.00)
Postgraduate	1.55 (0.00)	4.707	1.33 (0.00)
Father played			0.39 (0.00)
Both parents played			0.46 (0.00)
'Good' health			0.61 (0.00)
No Transport			-1.36 (0.00)
Rural/village			0.19 (0.08)
U-18 in house			0.19 (0.10)
Constant	-3.67 (0.00)	0.026	-4.36 (0.00)
Sample	2,307	1,937	

In Table C3 the dependent variable changes to attendance at over-18 sporting fixtures (1 = Attendee, 0 = Non-attendee). In column (1), income and educational attainment are significantly related to attendance at over-18 fixtures, although educational attainment beyond Leaving Certificate has no further impact. Column (2) pools the educational attainment variables above Leaving Certificate and the odds ratios given are used for Table 5.3 in Chapter 5. Column (3) adds more independent variables to this preferred specification, complete with odds ratios that are the basis for Table 5.4.

Table C3: Binary Logistic Regressions for Determinants of Attendance at Over-18 Sporting Fixtures (p-Values for Wald Test of β = 0 in Brackets)

	(1)	(2)	Exp (β)	(3)	Exp (β)
Gender	1.19 (0.00)	1.19 (0.00)	3.29	1.20 (0.00)	3.325
Age/10	-0.16 (0.00)	0.16 (0.00)	0.853	-0.12 (0.08)	0.885
Ln (income)	0.26 (0.00)	0.25 (0.00)	1.279	0.24 (0.00)	1.276
Jnr/Group/Intermediate Certificate	0.39 (0.01)	0.40 (0.01)	1.490	0.30 (0.35)	1.353
Leaving Certificate	0.73 (0.00)	0.65 (0.00)	1.922	0.54 (0.00)	1.723
Diploma/Degree	0.50 (0.00)				
Postgraduate	0.72 (0.00)				
Father played				0.27 (0.03)	1.309
Both parents Played				0.41 (0.01)	1.505
'Good' health				0.46 (0.01)	1.591
Access to car				0.87 (0.00)	2.384
Rural/village				0.60 (0.00)	1.823
Constant	-2.13 (0.00)	3.67 (0.00)	0.125	-3.81 (0.00)	0.022
Sample	2,318	2,318		1,946	

Table C4 repeats the analysis for attendance at under-18 events, where the picture changes. There is no impact of income in column (1) and educational attainment has no significant association with attendance once above Junior Certificate (or equivalent) level. The educational attainment variables are pooled in column (2), in which other independent variables are added, together with odds ratios that are the basis for Table 5.5 in Chapter 5.

Table C4: Binary Logistic Regressions for Determinants of Attendance at Under-18 Sporting Fixtures (p-Values for Wald Test of β = 0 in Brackets)

	(1)	(2)	Exp (β)
Gender	0.20 (0.09)	0.22 (0.09)	1.246
Age/10	-0.04 (0.36)	0.11 (0.03)	1.116
Ln (income)	-0.09 (0.34)	0.15 (0.18)	1.160
Jnr/Group/Intermediate Certificate	0.75 (0.00)		
Leaving Certificate	0.64 (0.00)		
Diploma/Degree	0.66 (0.00)		
Postgraduate	1.02 (0.00)		
Second-level education		0.46 (0.04)	1.587
Father played		0.25 (0.11)	1.280
Both parents played		-0.11 (0.58)	0.893
'Good' health		0.19 (0.40)	1.210
Transport		0.60 (0.08)	1.83
Rural/village		0.73 (0.00)	2.068
Under-18 in household		1.27 (0.00)	3.552
Constant	-1.66 (0.00)	-1.08 (0.05)	0.34
Sample	2,318	1,946	