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**A Geographical Study
of Scottish Sport**

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Abstract

The thesis identifies a lack of research in the general subject area of sports geography and in particular Scottish sports geography. A new conceptual framework for the analysis of the geography of sport is developed from an extensive review of the literature. This framework is then used to illustrate three case studies of the sports landscape in Scotland at three geographical scales. Case study one considers a national sport and traces curling, from its origin to the international Olympic sport it is today, through time and the geographical concepts of space, place, and environment. The sport of curling is shown to be a distinctively Scottish despite influences of modernisation and internationalisation. At the regional scale, case study two identifies two key sporting attributes. Recent survey data are used to highlight regional variations in sports club membership and volunteering in sport. For example the highest rate of sports volunteering in the population is found in the north of Scotland, while the biggest contribution to the sport volunteer workforce comes from large urban towns nearer the central belt. Finally case study three examines a local sportscape. Factors relating to the local population and to the individuals within the sportscape are combined to propose a model for the analysis of sports places.

Each case study has added to the knowledge of sports geography in Scotland, however the real benefit of the thesis is to the overall understanding of sports geographical analysis. A new conceptual framework has been developed for the geographical analysis of sport and this has been applied to three case studies to illustrate its efficacy. This is a first Geography of Sport in Scotland.

Declaration

I declare that I alone composed this thesis and that it embodies the results of my own research. Where appropriate, I have acknowledged the nature and extent of work carried out by others included in this thesis.

Signed :

Date :

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Chapter 1 : Introduction

At the annual conference of the Royal Geographical Society in 2008 over 1,000 delegates considered the theme “Geographies that Matter”. Topics as diverse as economic geographies, lifelong geographies, climate change, education spaces, landscapes of diaspora, mapping as method and imperial geography was debated over four days. Geography is clearly seen as critical to a whole number of fields. In the introduction to the conference, chair Professor Noel Castree asked “What are the geographies that matter, to who and why?” Surprisingly sport was neglected here. Sport was headlined in only one session, that highlighting “fit cities” and was perhaps part of just a few others.

The importance of sport to geographers can be seen in a number of different ways. Massey (2006) used the example of a Mancunian (herself) being a Liverpool Football Club supporter as an illustration of the diversity that exists even in very local places, notwithstanding the processes of globalisation that may be making places more similar. In using that example, she reached out to all those in the audience who may not have understood geography but who can relate to supporting a football team or watching sport. Sport is something that, at least in the United Kingdom, most people would recognise. Other geographers have similarly identified sport as a key aspect of society and one that should not be ignored any more than economics or politics (Bale, 2003; Rooney, 1974). It is possible to go further and suggest that due to the very nature of sport, geography may be the only appropriate field for its study. There certainly is a lack of recent published research in sports geography. This thesis begins to fill a gap in the geographical research and to propose a framework for future researchers to follow.

Bale (2000) suggested that research in sports geography was lagging behind sports research within other disciplines such as sociology and economics, but he anticipated it to be catching up with the publication of the journal 'Sports Place'. Unfortunately that journal was only active for 10 volumes between 1987 and 2000 – and since then the field of sports geography has not increased significantly.

This lack of a research base in sports geography is a problem for some sectors of government and the sports industry. For example, in the wake of the protests that marred the journey of the Olympic torch around the world in advance of the Beijing Olympics in 2008, the organisers of the 2012 Games in London are considering a journey around the UK in a “sports heritage tour” (O'Connor, 2008) that would bring the flame within 30 minutes of the entire British population. St Andrews, the home of golf, has been mentioned as one such stop on a tour of classic sporting venues. The idea of sports heritage combines location (or space) and meaning (or place) and identification of an itinerary for the Olympic Torch would be a task for the sports geographer. To London 2012, sports geographies certainly matter.

Sport in Society

Definitions of sport are many. For the purpose of the literature review and thesis, a wide definition including all sports and physical activity will be embraced. This is discussed in more detail in chapter 2.

Sport is a very important part of society. More than 80% of Scottish adults were physically active for 15 minutes in the 4 weeks before they were surveyed in 2003 (Bromley, Sproston, & Shelton, 2005). Approximately 38% of all 16-74 year olds in Scotland are considered physically active enough for health; that is they accumulate 30

minutes of exercise per day on at least 5 days in a week. For men, the most common activity was sports and exercise, and for women housework, followed by sport and exercise (Bromley et al., 2005; Gillespie and Melly, 2003). The latest sports participation figures show that in 2006 there were large variations in levels of sports participation both around the country in different local authority areas and in the same areas amongst different groups of people. For example 69% of men in Moray were sports participants, while just 29% of women in Glasgow City took part in sport (Coalter & Dowers, 2006). The National Physical Activity Strategy targets remain at 80% of children and 50% of adults in the population physically active – making sport a significant part of the lives of the majority of the population of Scotland (Scottish Executive, 2003).

Sport makes a significant contribution to the economy of Scotland. The most recent research undertaken in 2004 shows that consumer spending related to sport was £1.6 billion (2.7% of total consumer spending), 45,500 people were employed in sport (1.8% of all employment) and sport added £1.5 billion to the Scottish economy, nearly 2% of gross value added¹ (Bromley et al., 2005). The economic impact of sport has increased steadily both in real terms and in percentage contributions to the economy since 1995 when measurements were first made. In fact the economic value of sport is likely to be considerably higher than these figures as sportscotland suggests that the economic contribution of sports events and sports tourism are underestimated (sportscotland, 2007b) and in addition quality of life benefits derived from sport do not have a directly measurable economic value to include (at present). For example the Mountain Bike World Cup held near Fort William in 2002 is estimated to have brought almost

¹ Value added is a measure of the contribution to the Gross Domestic Product (GDP) of the country. Value added is the difference between the total revenue and the cost of the raw materials – the increase in value of the raw materials through processing.

£600,000 into the local economy (sportsScotland, 2007b; Taylor, 2003b). Gillespie & Melly (2003) estimated that future savings to the NHS and the wider economy of £70million over 20 years could be achieved if the percentage of the population taking part in sport and physical activity increased by 5%.

Scotland is committed to hosting a number of major sporting events in the future, for example the Open Championships in 2009 and 2010, Ryder Cup in 2014 and Commonwealth Games also in 2014, with regular international events in many sports. In addition, Event Scotland has up to £5 million per year to spend in order to attract further major sporting events to Scotland and to boost tourism and the profile of Scotland.

Sport is ever present in the media. Newspapers have a sports section and channels on television and radio are dedicated to sport. Sport is reported even in the business sections of newspapers, although Boyle, Dinan & Morrow (2002) found that coverage of the business aspects of sport (in this case in relation to Celtic football club) was not always appropriate. Televised sporting events attract large audiences, for example more than a million people in Scotland (50% of the possible audience) watched Scot Andy Murray playing Richard Gasquet in a five-set thriller at Wimbledon in 2008 (BBC Online, 2008; Tandon, 2008). The worldwide television revenue for the Open at St Andrews in 2005 was £40 million and an audience from 194 different countries watched coverage of the event (Scottish Government, 2006).

Geography

Geography, the study of the earth's surface as the space within which the human population live, is relevant to everyone. Geography is part of the curriculum in primary

and secondary schools in Scotland and in 2005 approximately 19,000 pupils took geography at standard grade level (Scottish Qualifications Authority, 2005). Although there is generally a split between human and physical geography, in some cases the differentiation between the two parts of the discipline is being reduced as for example interaction between the environment and human society is recognised on both sides. In fact there is an increasing recognition of the dynamic nature of process studied by geographers.

“Human geography is not just about describing the spatial manifestations of economy and society; it is about explaining how space is transformed and shapes economies, societies and social processes. Thus geography is not a passive outcome ; it is a critical component of social and economic processes” (Daniels, Bradshaw, Shaw, & Sidaway, 2005, p3).

Sports Geographical Research

Sports studies is a relatively new academic subject. Despite several early writings on aspects of sports geography beginning in the late 19th and early 20th centuries (see Bale, 2003 for more details; for example Hildebrand, 1919), The Dictionary of Human Geography did not include an entry on the geography of sport until its 3rd edition (Johnston, Gregory, & Smith, 1987). Physical education within schools and teacher training colleges was only formally funded following the Royal Commission Report (1903) and Dunfermline College of Physical Education opened in 1905 (Webb, 1999). The study of sport outside of physical education began even later, for example the sociology of sport was not formally recognised until 1965 (Coakley & Dunning, 2000) and Andreff and Szymanski (2006) trace the emergence of the economics of sport to 1956. Mitchell & Smith (1985) identified sport geography as a discipline that was

increasing in interest to researchers in the period 1976-1982. This increase in interest continued with publications such as *Sport and Place* (Bale, 1982), *Landscapes of Modern Sport* (Bale, 1994), *Atlas of American Sport* (Rooney & Pillsbury, 1992) and the journal *Sport Place*. Compared to other academic subjects both the study of sport and the study of sports geography have relatively short histories.

Both geography and the study of sport have developed from all-encompassing to disciplines with very specific individual fields of study. For example first there was a split between human and physical geography and then further splits on philosophical lines creating sub-disciplines such as feminist geography, spatial science, social geographies and then further specialisation into areas such as urban geography. Similarly study of sport initially focussed on physical education and hygiene before the field split into sport science, physical education and cultural studies of sport. These have then further divided into for example sports physiology, sports biomechanics and sport psychology on the science side and sport history, sport sociology are example of the cultural turn. However while sport would appear to be a very promising avenue for geographical study, and geography a very relevant subject for those studying sport, research into the geography of sport has been limited up to this point. This thesis is vital in re-engaging the two subjects in going forwards.

Research into sport should be undertaken from a geographic perspective. In fact the nature of sport may make this the most appropriate form of research. Bale (2003) outlines the geographical bases of modern sport that show what might constitute geographies of sport. Concepts of space and place are central to the definition of (modern) sport and understanding of its significance. Spatial characteristics are some of those that distinguish sport from play, recreation and work. Place influences sporting

outcomes for example through home advantage, and sport can give a place pride and make links to politics and community. Place provides a social anchor to which clubs relate and certain sports places have symbolic significance.

Original Research in this Thesis

No geography of sport in Scotland has been written. There have been some historical accounts of the development of a sport or sports in Scotland (or in the UK), but these have not given geography a voice. Previously there has been no consideration of scale and the impact of scale on the questions asked and answers found when doing research. There have been very few previous studies on the aspects selected as case studies, and those that have written about for example curling have done so in a very un-critical and descriptive way. Sports clubs, sports club membership and sports volunteering are under-researched.

This thesis proposes an updated framework for the study of sports geography, and illustrates its application. Previous research has not done this in the Scottish sports landscape. Sports research has been based on sociology, identity, economics, history, psychology, development, coaching, and science but rarely geography. Some of the research has been undertaken in Scotland, but most in North America. The study of sport in Scotland has not considered space or place. Only Bale (1982) included Scotland within a sports geography of the UK, but this was limited.

Within the thesis, each case study is also original work in its own right. There is no previous research on sports hotspots, or any detailed studies of sports clubs in Scotland. There is also no research on sports volunteering in Scotland. A study of sports clubs in 1991 was made but not of club membership trends. While there have been histories of a

number of sports in Scotland, none have looked from a geographical perspective at aspects of space and place in a national sport. The Scottish physical environment has only been considered in a few instances relating to sport, for example in golf course design, skiing, and mountain biking. Application of findings from each case study could make a difference in a number of spheres such as facility planning, policy-making, sport development planning, and in setting targets for, and then evaluating sports programmes and initiatives. However a major contribution of the thesis will be to present a new way of analysing the sporting landscape of Scotland to better reflect the geographical variations that exist in space and time.

Organisation of Thesis

The aim of the thesis is to demonstrate the utility of a sports geographical framework for research into sporting landscapes. To do this, the previous limited work in sports geography will be critically evaluated and put into the context of geographical and sports research. A framework for sports geography research will be developed. This will then be used to undertake three case studies – at three different scales. Each case study will illustrate the use of sports geographical questions to understand and explain the sporting landscape. At the national scale, the history of one of Scotland’s oldest sports will be mapped and its development explained in relation to space, place and environment. At the regional level, two sporting phenomena will be considered and patterns in these identified and explained. And finally at the local level, a hotspot for sports participation will be selected and some reasons for its existence hypothesised. The thesis is divided into the following chapters:

- Review of the work done previously on sports geography

- Development of framework for sports geographical research and notes on method
- Illustration of use of that research framework in 3 case studies : at 3 different scales : national, regional and local
- Conclusions and recommendations for future work.

Where is Sport in Scotland?

Scotland has a proud history of sporting participation and excellence. The first Open Championship was played at Prestwick Golf Club in 1860, and the Commonwealth Games was held in Edinburgh in 1970 and again in 1986. Following the Beijing Olympics, Scottish gold medallist Chris Hoy was proclaimed “King of Scotland” in newspapers and on billboards throughout the country. Scotland also has a unique combination of physical, social and cultural factors that create the “landscapes” that are Scottish Sport today. In order to begin to describe, understand, explain and potentially influence these landscapes, a research framework for the analysis of sports geography is required. This will set out ways of considering sport that may not have been used in the Scottish context before, or that may have been used only in relation to one or two aspects.

Scotland has more than 5 million people, with a variety of ethnicities, ages, social classes, rural or urban dwellers, spread over a land area of 78,000 km² (only 2% of which is classified as urban). Sportscotland has recognised 51 national governing bodies of sport (NGBs), however some of those cater for more than one sport; new sports are evolving every year and there are many more physical activities out there. So the challenge is how to make sense of it all. The study of Scotland has been attempted by a great number of different academic disciplines, including geography. The sub-

discipline of sports geography has been neglected and very little attention has been given to Scotland in this field.

Landscape

Landscapes can take a variety of forms, for example physical, social, political and virtual and are a combination of what can be seen (the assemblage of objects that make up a landscape) and a way of seeing (from the outside, and from a number of different viewpoints). Sports geographical study has considered the physical landscape at a number of scales from micro (local) to macro (global) level.

Initially much sport was determined by the physical landscapes within which it took place. For example mountaineering and skiing made use of natural landscapes and real tennis was played in human-constructed landscapes of courtyards. Bale (1988) identified two key points that transform this relationship between sport and landscapes. First, the increasingly spatial confinement of the sites within which sport is practised and second the gradual artificialisation of the sports environment make great impacts on landscapes. With the advent of modern sport, the staging of events and the need to construct pitches and venues of standard measurements, landscapes began to be changed by sport. That is not to say that all pre-modern sport had no impact : many folk games, such as folk football, had used the existing landscape, but modern rules demanded standardised playing surfaces. This development led to the construction of permanent landscape changes. Golf courses, football stadia, and race tracks all altered the terrain in which they were set. As sport has grown in its commercial scale, so the demands for sporting complexes, which serve a set of different purposes, not solely the staging of the game, have increased. The hosting of a major event such as the Commonwealth Games, can transform the landscape of an entire city.

In the post-modern era, landscapes have again begun to influence sport, and new adventure sports such as eco-challenge depend heavily on the natural environment rather than requiring any altered or specific sport landscapes. Spatial confinement and artificialisation however have begun to occur in some of those adventure sports and they have been transformed by modernising processes. For example snow boarding, that began as an alternative to rule-bound, competitive sports, has become formalised and in some places artificial tracks and courses have been constructed to enable judging or racing and it has even become part of the Winter Olympics.

Globalisation continues to influence the relationship between sport and landscapes. While the impacts of landscapes on sport may be decreasing with standardisation of sport facilities, the impact of sport on landscapes may be increasing as artificial facilities are created. In the future, other aspects of landscape including social and cultural landscapes may become more important in sport studies.

Sports spaces can be located and mapped but are dynamic and change over time. Sports spaces in the natural environment are harder to locate. For example a beach or a mountain is not a sports venue all of the time but it is transformed into one when participants arrive. Sport places are constantly changing and are unique to an individual and time. These places need not be where participants are present but could be where the individual watches the sport on television or where the person dreams about sport.

A First Geography of Sport in Scotland

This thesis is the first step towards a geography of sport in Scotland. Sports places and spaces are important. Sports geography matters. There has been only limited research

on geographies of sport in Scotland. This thesis begins to redress the balance and puts the Scottish sports landscape at the heart of a variety of sports geographies.

A first geography of sport in Scotland will be developed through the following research question: How can a geography of sport in Scotland be understood? A new conceptual framework for the geographical analysis of sport will be presented and from that three sub-questions will be answered as part of the thesis;

- How did a national sport develop – from prototype to internationalisation?;
- Is there a regional variation in sporting attributes?;
- Describe and explain a local sportscape.

Each sub-question considers the Scottish sports landscape at a different scale and chapters 5, 6 and 7 illustrate them for particular case studies:

- Where did curling develop in Scotland? (national scale);
- Descriptive analysis of the nature, intensity and distribution of sports club membership and sports volunteering at a regional scale. (regional scale) ;
- Why is Linlithgow a tennis hotspot? (local scale).

Finally, the use of the new conceptual framework will be evaluated based on the illustrative case studies. The thesis aims to understand a geography of sport in Scotland.

Chapter 2 : Geography and Sports Geography : A Review of the Literature

This chapter will outline some of the previous research undertaken in the fields of geography, sport and sports geography that is relevant to the present study. Firstly geography and geographical thinking will be outlined, then a larger section of sports geography (mostly outside Scotland) and finally the sports geographical research undertaken in Scotland will be summarised. The aim of the chapter is to place the present study in the context of the bodies of knowledge that currently exist in geography, sports research and sports geography (particularly sports geography of Scotland).

2.1 Thinking Geographically

Definition of Geography

“Geography can be formally defined as the study of the earth’s surface as the space within which the human population lives” (Johnston *et al.*, 1987, p220). A more recent definition is “the study of the distribution of human and natural structures and processes over the earth’s surface, and the role of space and place in understanding these human and natural structures” (Montello & Sutton, 2006, p10). These definitions do not differentiate between human and physical geography and in fact the separation between the two sub-disciplines only became commonplace in the mid 20th century. Before that time studies of a region considered all aspects, human and physical together. According to Johnston, Gregory & Smith (1987, p220) three essential geographical characteristics can be identified :

- “1. location
2. society-land relations
3. regional analysis”

In particular human geography is defined as “concerned with the spatial differentiation and organisation of human activity and its interrelationships with the physical environment” (Johnston, Gregory, Pratt, & Watts, 2000, p353). Another definition given by Cresswell (2004, p1) cites “the study of places” as what human geography is about. However Cresswell goes on to discuss the difficulty of using the idea of place as a means of definition. For example everyday usage of the term place or places gives it a “commonsense” meaning that is different in different situations to different people. Cresswell’s work then adopts Agnew’s (1987) aspects of place as

location – fixed objective co-ordinates

locale – material settings for social relations

sense of place – subjective and emotional attachment people have to place.

Key geographical concepts as identified by Holloway, Rice and Valentine (2003) are space, place, landscape, and scale. These essential characteristics are at the centre of geography and any work that is written with these at the heart of the work is geographical in nature. This has been the case in particular with sport geography. Much work has been written in a number of fields other than geography (and not necessarily in sports) that is essentially geographical. For example, the recent publication “Football in Africa” (Armstrong & Guilianotti, 2004) indicates that it contains “ analyses of football in each region of Africa” (p1) thereby locating itself in the regional analysis category above. However the authors look at the analysis from a

number of disciplinary perspectives including anthropology, history, sociology, political science and geography.

Human geography is characterised by a number of different approaches to knowledge or paradigms, and is continually looking at itself and its history for understanding of human geography and the world. Since the 1970s, three strands of thought, positivist (behavioural), humanistic, and radical have co-existed. This means that the paradigm model of disciplinary development does not apply to geography as one approach has not been overtaken by another in a type of revolution. For example a growing body of work “critical human geography” stresses the difference between is and ought to be, between observations of what the world is (and has been) like and views of what it should be like, and seeks to increase self and mutual awareness and facilitate emancipation rather than prescribe specifications of appropriate conduct. Other contemporary approaches include cultural geography, postmodernism, post-colonialism and feminist geography. Many geographers have rejected the search for a “grand theory” and instead explore the tensions between various approaches.

Montello and Sutton (2006) comment on how physical geography and physical and life sciences overlap, human geography and social and behavioural sciences overlap and then specialities in geography overlap with other specific subjects such as history, computer science and philosophy. They conclude “Given its very broad subject matter and pluralistic nature, geography in the early 21st century is remarkably multidisciplinary and interdisciplinary” (2006, p12). However, as with much of the geographical literature, a lot of human geography has been biased to English language. Although there were different schools in French, German and Spanish (and Latin American), they have received much less attention. This Anglo-American focus is one

of the critiques of a number of schools of thought and Eurocentrism is a major issue for colonial and post-colonial geography.

Space

There have been different ideas of space proposed. Absolute space is a physical reality and objects have a unique location in space that appears to be an undisputed empirical fact. Relative space is not seen in terms of specific location of objects, but their position relative to other objects. This relative space can change over time. Geographers' conceptualisation of relative space has also developed over time. In the "quantitative revolution"(1960s), locational analysis "presented space as a surface upon which patterns created by non-spatial process were inscribed" (Haggett, 1965, p6). However in the 1970s interest in inequalities linked locational information to demographic and social processes and recognised relative space as an integral part of social processes as opposed to a passive outline (Harvey, 1996). This led to an understanding of different relative spaces as existing simultaneously all produced by diverse social and cultural processes.

Valentine (2001) notes that the way in which geographers have conceptualised space has become more sophisticated over time. In the beginnings of geography, space was seen as an objective physical surface with specific fixed characteristics upon which social categories were mapped out. Those social identities were assumed to be fixed and mutually exclusive. However in modern times understandings of space and society have been reassessed. Some writers recognise that space plays an active role in the constitution and reproduction of social identities and social identities and relations produce material and symbolic or metaphorical spaces. So space and society are mutually constructed (they do not just interact with or reflect each other). In fact

individuals and groups have multiple identities, occupying positions along many separate lines of difference at the same time and identities develop between the boundaries of social categories. Previously dualisms (that is people are one or the other) have structured geographical analyses of space, now geographers looking a different way at thirdspace (Soja, 1996).

Place

This key geographical concept has changed over time. In the early geography, place was important as geographers identified distinctive and unique “regions” of the earth. These regions were documented in detail in terms of environmental, economic and social phenomena. This regional way of thinking about place is bounded in physical locations. Later authors, for example Massey (1994) viewed place as historically specific and socially constructed. Thus the distinctiveness that defines a place is NOT a unique and distinctive location but instead a “combination of social relations juxtaposed together in place and the connections they make to elsewhere” (Massey, 1994). Place is personal to an individual at a particular time and the relationships between that individual and others, between others in the same space and also to those not in the same physical space combine to create the sense of place for that individual.

In the 1970s humanistic geography developed as a reaction to the ideas of absolute or relative space. Humanists argued that those conceptualisations of space did not capture the human experience of being in a location and that places were spaces given meanings by human feelings, for example home or community. The humanistic view realised place would be part of human identity, but did not recognise that different individuals or groups would feel differently about the same space thereby making assumptions about meanings of particular places, for example home (or indeed Scotland). Tuan (1974)

described place as “humanised space”. Most recently the cultural turn in geography has considered ways in which many of the meanings through which places are made are bound into social identities and struggles (Pain, 2003). Thus tensions between those sharing a sense of place but different meanings of that place can be studied. Often, the implicit duality of place and identities is contested, linking to the idea of “thirdspace” (Soja, 1996).

Cresswell (2004) explains that a combination of increased mobility, new communication technologies and the consumer society has been blamed for a rapidly increasing homogenisation of the world. It is suggested that places (including sports places) have less connection to the local environment and may look and feel the same all around the world. Relph (1976) proposed an idea of placelessness associated with a reduction in authenticity. Authenticity was gained through the feeling of belonging to a place and the feeling of being an insider. Outsiders had no appreciation of the deep significance of a place or appreciation of the identities associated with it, instead they adopted a socially convenient attitude to a place. Therefore placelessness is a phenomenon that can be applied to sport places when the link between people and a sense of belonging to the place in that particular location has been broken. At a recreational level, increasingly artificial (and uniform) sports facilities are being provided, such as a centralised astroturf pitch replacing a number of local grass fields and an indoor tennis centre replacing several local outdoor courts. The increasing similarity between stadia, especially those that have been newly constructed, and the requirements of sports for standard conditions, for example through artificialisation of the natural environment by creating a sliding roof, contribute to placelessness. However there are still some very specific meanings and social significance attached to place and individual sports stadia (Bale & Moen, 1995). In fact Massey (2006) suggests

that the idea that processes of globalisation have created a smaller more similar world may not in fact be entirely correct.

Landscape

The definition of landscape is a contested one and it has a number of meanings. It can be the appearance of an area, the assemblage of objects used to produce that appearance or the area itself. Sauer (1925) used a landscape approach as a critique of environmental determinism and made the main focus of objective study the human impact on the “natural” environment. However there were problems with tracing the “natural” landscape (as all landscapes had been subject to human impact) and instead Sauer and the Berkley School studied cultural history through the landscape. The “new cultural geography” of the 1980s and 1990s redefined landscape as a “way of seeing” (Cosgrove, 1998) rather than an image or object. Modern usage of the term landscape includes the social relations that make up an assemblage not simply the objects that produce the area. The debate as how best to conceptualise landscape continues.

Scale

Scale is a central organising principle of geography and where geographical differentiation takes place. It is now understood that scale is not natural or given, but constructed and changes over time. Johnston et al (2000) defined scale as “one or more levels of representation, experience and organisation of geographical events and processes” . Scale exists in three different forms.

Cartographic scale is the level of abstraction of a map. This determines what is included and what is excluded (for example is the whole of a town shown or just part of

it, can individual paths in a park be seen or just the outline of the park) and the overall image. Methodological scale is the appropriate level to gather information to answer a research problem. The researcher decides what information and what detail is required. The final scale is called geographical scale, but is a more complex idea. The geographical scale acts to define dimensions of specific landscapes for example watershed, or urban. It is not about administrative boundaries but relating to the landscape. Again how that landscape is defined depends very much on the researcher, so it is a contested idea. More recently, Dorling (for example in Barford & Dorling, 2007; Dorling & Thomas, 2004; Shelton, Birkin, & Dorling, 2006) has popularised an approach to mapping and scale which shows information both in relation to the land area and the population density. His work showing maps and cartograms simultaneously has been used by the media to illustrate election results and social phenomena for the general public.

“Specific geographical scales can be conceived as platforms for specific kinds of social activity. They are platforms of absolute space in a wider sea of relational space.” (Johnston *et al.*, 2000, p725). That is, a scale can help define an actual space for study or understanding but that space is still seen relative to other spaces and places in the world (and at other scales). Often scales are shown as a hierarchy, for example the body being at one end and global at the other end of a continuum that contains community, regional, and national scales.

Geographical Approaches

A variety of geographical approaches to knowledge have been taken and may be relevant to a study of sports geography. For example prior to the 1940s, a number of geographers, led by Hartshorne (for example 1939) proposed the dominance of regional

geography, encompassing all aspects of a region from soil type and climate to cultural practices, and ensuring that there was a coherence between physical and human geography. Empiricism and spatial science flourished in the 1960s and 1970s as part of the quantitative revolution and human geography in the 1970s and 1980s was characterised by internal specialisation and philosophical pluralism. As the influences of other social sciences combined with critiques of the focus on spatial analysis impacted, a number of sub-disciplines developed and made use of various theories and methodologies. The main human geography sub-disciplines are economic, historical, political and cultural geographies.

There have been critiques of the philosophy of positivism from a number of positions. Johnston et al (2000, p607) suggest that four of the tenets of positivism, “empiricism, exclusivity, autonomy, and universality” are particularly problematic. To positivists empiricism implies that the facts can speak for themselves. This has become increasingly shown to be not necessarily the case and different statistical analyses can reveal different results from the same inputs. Exclusivity has been challenged in geography by the use of both quantitative and qualitative methods at the same time and the (one) scientific method was shown not to be the only way to research. Researchers are no longer understood to be always objective and separated from the phenomena they study – in fact the subjective nature of enquiry has been embraced. It has therefore been accepted that rather than being able to theorise universal laws that would apply everywhere geographies constitute local knowledge and may not be uncritically applied elsewhere. Behavioural, radical and humanistic geographies developed in part from the critique of this positivist approach. Johnston and Sidaway (2004) highlight that rather than there being one dominant paradigm of geography for the modern period, a number of different philosophies for example empiricist, positivist and modernist have

competed to explain geographical phenomena, none accepting that there is no best method and all existing at the same time. Various post-modern approaches have also been used, for example McEwan & Blunt (2002) consider post-colonialism and Jarvie (2006) globalisation.

Rather than a single geography this plurality of approach leads to a number of geographies. The future of geographical study appears to lie in the development of the interface between these approaches and the synthesis of these ideas in a spatial context. As Daniels, Bradshaw, Shaw & Sidaway (2005, p3) noted “geography is not a passive outcome” and in fact the dynamics between places and spaces and processes transforming those places and spaces is the interface of geographies today. Johnston & Sidaway (2004) note that there were three main paradigms that characterised geography in the modern period (1945 to 1980). These were exploration, environmental determinism and possibilism, and region and regional geography.

Contextual and critical histories of geography have been produced that recognise that geographical knowledges arise from specific settings and privilege particular objects of study and work on assumptions about the nature of society that are not universally valid (Johnston *et al.*, 2000). In particular Thrift (1999) highlighted the interactions between time, places and people and their resulting connectedness to suggest that there was no case for one grand theory, rather each situation had to be considered in context. Thus the historical geography produced under this theme starts from the understanding that a researcher views from vantage points that are limited and situated (partial) rather than an objective perspective where s/he can (re)construct the past in a “correct” and complete fashion.

In the 1980s, “new cultural geography” grew from a criticism of Sauerian notions of culture and landscape and researchers investigated the social construction of space and the social relations of production. The cultural turn in the 1990s has transformed cultural geography and made it extremely influential in human geography today. Post-colonial geography recognised that traditional cultures were not passive but active determiners of the landscape and their culture, and the idea that they existed in harmony with nature was in itself colonial. The meaning of culture and landscapes is actively constructed by individuals, and then negotiated and contested in a social world. So there is no one definition of cultural geography, and it is characterised by a pluralism of methodologies and approaches, all of which put the partial and situated nature of knowledges at the centre of their thinking.

There are variety of approaches and sub-disciplines that make up geography. Should geography follow lines drawn by sub-disciplines, to differentiate between for example human and physical geography or between political or historical geography, or instead should it follow the different approaches or theoretical slants used in geography? Massey, Allen and Sarre (1999) consider this problem when writing “Human Geography Today”. They identified space, place and nature as the central geographic ideas and decided on a thematic approach considering imaginative geographies, geography and difference, spatialities and power, and space and place as broad headings under which to classify their discussions. They highlighted the need to see past traditional boundaries and that geographies were by necessity overlapping amongst themselves and other academic areas. This “geography of today” resembles that of early geographers who based their studies around all aspects of a particular region. Here the underlying geographical themes of space, place, landscape and scale have been briefly examined, and then approaches to knowledge and the geography of leisure,

recreation and tourism have been outlined. It is clear that rather than a single geography there are multiple geographies.

Pacione (1995) conducted a descriptive analysis of deprivation in rural Scotland. The study pre-dated the development of the Scottish Index of Multiple Deprivation (SIMD) and involved consideration of which of 64 possibly relevant census variables should be used as indicators. Some variables were mapped by local authority area to look for patterns, and finally a map of Scotland was produced showing quartiles of multiple deprivation (by local authority). Pacione noted that in geography a distinction between a top-down approach to understanding issues such as uneven development and more locally-sensitive research had been made recently. The top down approach might regard an area as a passive space to which economic or social processes were applied by policies or development, hence marginalising the significance of local action. Instead a two-way interaction between the area and social or economic processes acting upon it can be conceptualised. Pacione highlights “the causal significance of the local context” and the “importance of work at the regional-local scale for understanding the socio-spatial differentiation of ... space” (1995, p174).

Geographies of Leisure, Recreation and Tourism

The geography of leisure, recreation and tourism has been studied more than that of sport, and tourism as a subject area in its own right has developed from that. However there are common themes between the geography of leisure and recreation and the geography of sport depending on definitions adopted. Key authors in the geography of leisure and recreation were Patmore and Glyptis in the 1970s and 1980s (Glyptis, 1982; Glyptis, 1991; Glyptis, 1993; Glyptis & Riddington, 1983; Pack & Glyptis, 1989; Patmore, 1970; Patmore, 1983). Patmore wrote a classic geography of leisure in 1970.

Patmore (1983) examined the spatial distribution of leisure (both rural and urban) and considered demographic and cultural issues. He concentrates on the three aspects of leisure – time, activity and attitude and then carefully separates recreation and leisure by defining leisure as relating to time, and recreation to the activities undertaken in that leisure time. Importantly he notes a life-cycle of leisure which means that rhythms of opportunity exist over each day, week, year, and working life and are changing. In an analysis of supply and demand relating to leisure he identified different capacities of a landscape to provide leisure. Physical, ecological, perceptual and economic capacities were outlined and researched. He identified three different types of demand for leisure. Expressed demand is that which is evident from the use / activity levels currently observed or recorded. Latent demand is people who would like to participate but do not due to some constraint. Potential demand is what could be generated in the future. These then led to an economic analysis to identify different constraints to leisure that have been followed up by authors since, for example Coalter (1993). The constraints model has been challenged for example by Raymore (2002) who proposed a model based on facilitators to leisure rather than constraints limiting leisure. Patmore (1983) also warned against an increasing focus on constraints and suggested instead considering the context within which activities were pursued and looking at “leisure lifestyles”. This has been taken up by a number of authors, for example Wheaton (2004), Hall & Page (2006). Patmore recognised the importance of the past determining the present patterns of leisure activity: “leisure patterns have rarely been static for long... contemporary leisure patternshave been moulded by the legacy of time as well as the opportunity of place” (1983, p51).

Mitchell & Smith (1985) detailed the development of the discipline of recreational geography 1960-1982 and identified an increase in papers presented to conferences,

articles published in key journals and PhD theses submitted to US Universities over the time period. They noted that the nature of the research tended to be descriptive or quantitative and bemoaned the relative lack of conceptual or theoretical developments in their literature review.

Geography is a wide ranging discipline which makes use of a number of approaches to knowledge at the same time. Human geography has three key concerns; space, place and environment which are enacted at a number of scales. It recognises various sub-disciplines, of which one (albeit very minor) is the geography of sport. Geographies of leisure, recreation and tourism have been part of mainstream geographical thinking since the 1970s. Dynamics between landscapes and the processes transforming the spaces and places that make up these landscapes are the core of the multiple geographies of today.

2.2 Sport Geography

There are a number of structural issues to face when organising a chapter on previous work on sports geography. Clearly there are definitional and contextual issues to discuss. Thereafter material could be grouped according to date, that is tracing the sports geographical thinking over time – rather in the manner of Johnston & Sidaway (2004) for human geography, or according to scale as Valentine (2001) has done for social geography or by theoretical approaches to study as Gregory (2000) for physical geography or by sports geographical themes. Within geography the variety of approaches to study that can be taken mean that there is no one overarching research paradigm at this time. The differing philosophies result in different authors viewing a situation or problem from very different perspectives and therefore it has become more appropriate to refer to geographies rather than simply geography. For example Women

and Geography Study Group (1997) and McEwan and Blunt (2002) refer to feminist and postcolonial geographies respectively. In order to study sports geography (or geographies) some definitions of sport geography and of sport will be considered. Then the themes of sport geography as set out by Bale (2000) in the most recent resume of the sport geography field will be outlined. This involves some consideration of the changes in thinking over time, and at a number of geographical scales within each theme.

Emergence and Context of the Geography of Sport

Different geographers have explained the focus of geography in different ways. One definition considers geography to be the study of the space within which the human population lives. In which case sport is part of human culture and society and takes place in spaces where humans live and is therefore worthy of geographical study. Another way is to view geography as the study of places (Cresswell, 2004), that is “knowing where places are” and “knowing what places are like”. Bale (1989; 2000) adopts Agnew’s (1987) three aspects of place as location, that is a place with fixed, objective co-ordinates, locale, the material setting for social relations and sense of place, seen as subjective and emotional attachment people have to place. Bale then uses those three ideas of place on which to base his geography of sport. Bale (2003) explains the three broad themes of sport geography as

- the location and spatiality of terrestrial phenomena
- human-environment relations
- regional differentiation

Rooney said the key question was “where are people involved in sport?”. Rooney suggested six subdivisions of a geography of sport

- “1. The spatial variations in sports, that is the place-to-place differences in the games which people play and with which they identify.
2. The spatial organisation of sport at different competitive levels.
3. The origins and diffusion of sports and sports men.
4. The social and symbolic impact of the spatial organisation of sport
5. Effect of sports on landscape
6. Relationship between spatial organisation of sport and national character” (Rooney, 1974, p3-10)

In Bale’s (1982) work he defines sport geography as “who plays what where” and explains that the tools of analysis and conceptual frameworks of geography could add to sports studies in a number of ways. For example these might give new insights on sports, they might uncover new spatial patterns of sport which might assist in understanding the significance of sport in society and potentially enable more equitable distribution of sport in the future, and they might enable objective exploration of myths that identify places with sport(s). Daniels et al (2005, p3) noted that “geography is about explaining how space is transformed and shapes economies, societies and social processes” and “geography is not a passive outcome; it is a critical component of social and economic processes”.

Bale (2000) outlined his rationale for a geography of sport on a number of fronts. Sports exist (as do other phenomena) in time and space and as such are issues for geographical study. In fact the fundamental bases of sport and geography are the same - space and place. Sport involves struggles over space – for example covering a distance fastest, and entering an opponent’s space to score in their goal. Modern sport is governed by rules and a number of these are explicitly spatial. In fact the definition of

modern sport may depend on the bounded nature of sports space. Sports teams, especially in professional or elite level sport nearly always represent a place or nation state and people identify with places through sport, for example Brazil is associated with football in many people's minds and Hague and Mercer (1998) found Raith Rovers signified more than a football team to those within the local community of Kirkcaldy.

Sport is also affected by and affects the landscape and natural environment which are traditional areas of concern to the physical geographer. Ideas of territoriality and hierarchy from geography are critical to modern sport and regions form central features of organisation of sport, from league make-ups to eligible nations. Sport is of major interest to the media and is an important part of culture, as such is worthy of academic study. The way people move and interact in geographical space is of immense interest.

Bale (2003) and most other sports geography texts focus on serious sport, that is top-class, achievement sport at elite level. Recreation has coverage in other geographical texts such as Patmore (1983), Torkildsen (2005), Hall and Page (2006). Sport has been approached by those interested in sports geography specifically such as Bale (for example 1981; 1982; 1993; 2000) and Rooney (for example 1974; 1975; 1987; 1992), and those whose main interests lie in another subject area, but include sport, for example Eichberg (1998) looking at sports space, Andrews, Sudwell and Sparkes (2005) considering social relations in a bodybuilding gym, and Springwood (1996) and Giamatti (1989) trying to understand the 'meaning' and culture of baseball landscapes. In common with current mainstream geographical thinking, there is no one sports geography, but a number of sports geographies. Most authors have been from the USA and Europe and many fewer contributions to the field come from authors from Africa or Asia.

Bale explains

“sport geography is concerned with exploration of sports activity on the earth’s surface and how the spatial distribution of sport has changed over time, the changing character of sports landscape and the symbiosis between the sport environment and those who participate in it, the making of prescriptions for spatial and environmental change in the sport environment at a variety of geographic scales” (2003, p5).

Bale (2003) continues to outline the geographical bases of modern sport that show what might constitute a geography of sport. Concepts of space and place are central to the definition of (modern) sport and understanding of its significance. Spatial characteristics are some of those that distinguish sport from play, recreation and work. Place influences sporting outcomes for example through home advantage, and sport can give a place pride and make links to politics and community. Place provides a social anchor to which clubs relate and certain sports places have symbolic significance.

The definition of sport to be studied geographically is another problem for sport geographers. Sports writers have also attempted to define sport in a number of different ways. The Council of Europe definition labels sport as

‘Sport means all forms of physical activity which, through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competitions at all levels’ (2001, p3).

While Coakley suggests sport is

‘institutionalised competitive activities that involve rigorous physical exertion or the use of relatively complex physical skills by participants motivated by internal and external rewards’ (2004, p21).

Mason defined sport as

‘a more or less physically strenuous, competitive, recreational activity ... usually ... in the open air and [which] might involve team against team, athlete against athlete or athlete against nature, or the clock’ (1989, pp4-5).

Hill proposed that there were two big differences between types of sport activity

‘participation and spectating; and elite and mass performance’ (2002, p11).

Jarvie (2004) illustrates the wide interpretation of the word sport when he gives several different descriptions of sport (p580)

“ritual sacrifice of human energy
providing a common cultural currency between peoples
means of compensating for deficiencies in life
mechanism for affirmation of identity and difference
no longer being sport but business
a social product
a contested arena shaped by struggles both on and off the field
of play”

It is hard to find a single agreed definition of sport and Bale (1994) points out that there are a number of different points of view, a great variety of activities and that activities and landscapes will be perceived differently by different people and differently by the same people but at different times. He is keen to dispel the idea of a dichotomy

between games and sport and in fact again sees a false dialectic in the idea of some things being a sport and everything else not sport. He quotes Wickham (1992, p220) in explaining that sport is what those who write about or practise sport make it

“(sports are)... those practices defined as sports by those institutions engaged at any time in defining them”.

The basic geographical concerns with “space, place, spatial interaction and landscape” (Bale, 1982, p3) are central to a geography of sport. However Bale uses a less than conventional definition of sport when considering what to include within his geography. In fact he makes a distinction between geography of sport and geography of recreation and this definition slices through the current accepted definitions of sport. Bale includes only competitive and physically active sports in his classification and excludes sports such as bowls for being not active enough and recreational swimming as non-competitive. Bale’s sport geography is a geography of clubs, teams and elite performers not of participants and he also excludes motor racing, horse racing and gambling on those grounds.

In the geography literature the areas of recreation, leisure and tourism have been treated as a congruent sub-discipline thereby ensuring an incomplete treatment of the recreation and leisure aspects nearest to the Bale definition of sport. For example an early geography of leisure and recreation was outlined by Patmore (1983) and he defined leisure in terms of time undertaking activities while feeling one was not at work, and recreation as those activities undertaken in leisure time. There is considerable crossover between the Sports Council definition of sport and Patmore’s recreation, where there is almost none between Bale’s more performance sport and recreation, thereby limiting the extent of academic work relating to it. The geography of recreation has also tended to

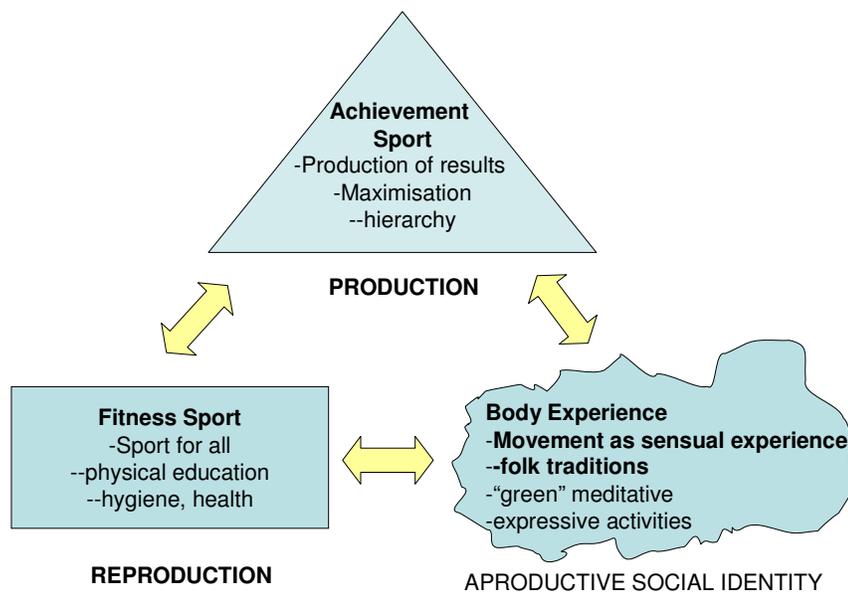
neglect competitive sports even in the non-achievement category instead focussing on outdoor activities, visits to parks, and entertainment such as bingo.

In contemporary sport literature, sport is sometimes used alongside the term physical activity and again there is clarification required before considering sport geography (Biddle & Mutrie, 2001). The term physical activity is generally used where there is movement, energy expenditure and a positive link to physical fitness. Thus sport might be considered to be one aspect of physical activity, and leisure, recreation and exercise considered to be other aspects of physical activity, rather than sport, leisure, recreation, and exercise being mutually exclusive categories.

Imaginative geographies, or those that are perhaps constructed in our minds, in writing or images, may be closer to cultural studies than sports geography. Certain regional or sport images may be stereotypes but are nonetheless strong representations to each of us (Appadurai, 1990, p307). Sport spaces can also be seen as symbols or metaphors as in baseball and the frontier (USA) and cricket and “Merrie England” (UK).

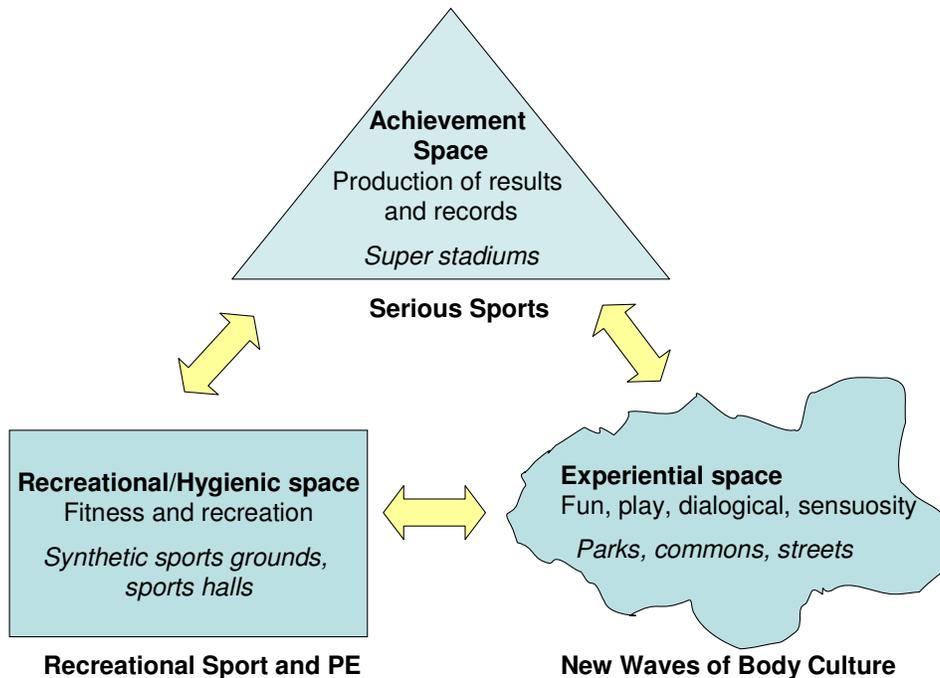
Eichberg (1993) proposed a body cultural trialectic to define different “movement cultural” activities. According to Eichberg, the philosophical basis for movement culture varies from an emphasis on production of results to improvement of health, fitness or hygiene to the sensual experience of movement and expression. Those varying philosophical bases are shown in Figure 1 from Bale (2003, p8). This trialectic avoids a dualism between what is and what is not sport or play or recreation and allows different emphases to apply to different motivations, times or places. It is clear that “production”, or perhaps in sportscotland terms “excellence”, is different to reproduction (performance), is different to aproductive social identity (participation), however they are not necessarily mutually exclusive in that some elements of more than

one can be present at any time. Relevant to the geography of sport (or movement culture in these terms) is the idea that each of these forms of body culture could take place in different landscapes. For example high achievement sport tends to be held in heavily bounded settings and subject to timings or referees, while active play might take place anywhere and need not be a specific “landscape of sport”. A similarity in this arises in relation to the definition of leisure, which includes ideas about time, experience, attitude and quality (Torkildsen, 2005). In defining leisure it is the attitude of the individual that is most important in determining the nature of the activity (for example between work or leisure) and this attitude continues through Eichberg’s ideas with the individual’s philosophy determining the type of activity (achievement sport or fitness sport for example) depending on the seriousness of their intent.



Source: Bale (1994, p6; After Eichberg, 1989; 1990; 1993).

Figure 1 : An Interpretation of Various Forms of Movement Culture



Source: Bale (2003, p9)

Figure 2 : A Body Cultural Trilectic

Bale adopts the ideas of Eichberg (1998) and replaces the term sport with an idea of body culture or movement culture – taking away some of the assumptions linked to definitions of sport and leaving instead the idea of any physical practice (see Figure 2). He then looks at what Eichberg called the body cultural trialectic to explain the philosophical basis for body culture or movement culture and to link back to more familiar terms such as play, recreation and sport. The use of a trialectic is to extend the traditional dialectic to take account of other possibilities. This links again to the rejection of the dualistic thinking that identifies sport as totally separate from recreation for example or play and sport as completely different. There may be elements of each in an activity or movement culture. Despite Bale identifying this terminology of movement culture rather than sport, he does return to the terms sport, recreation and play regularly, leaving a little confusion. Bale appears to associate sport with the achievement sport category, recreation with the fitness sport category and play with the

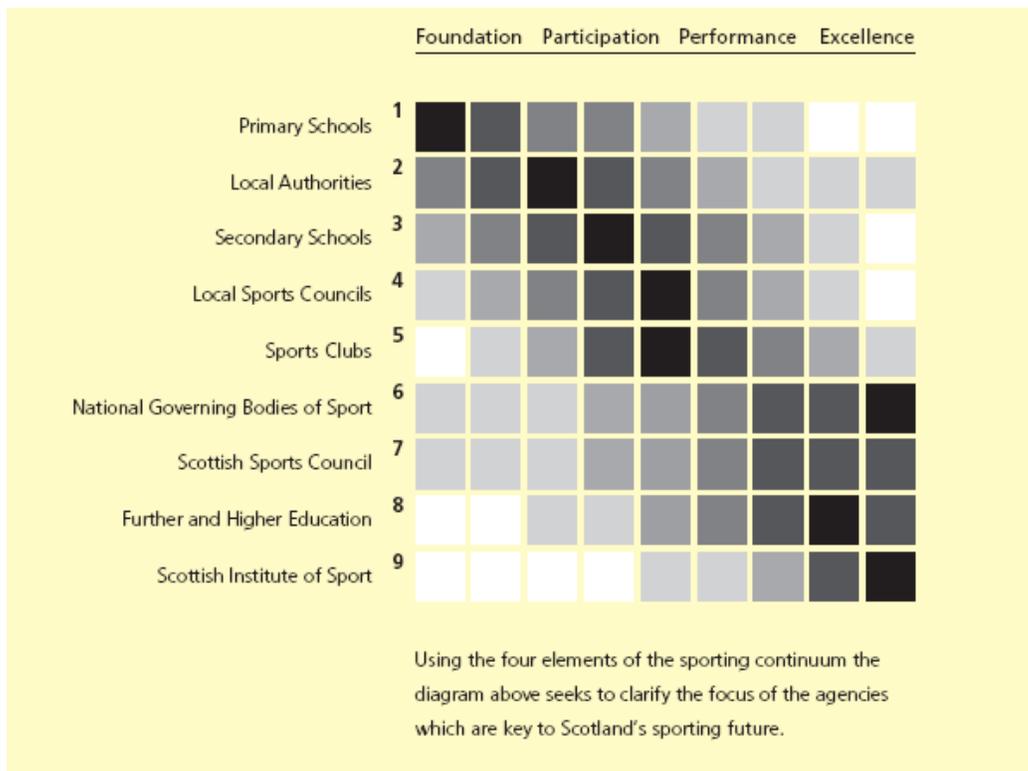
body experience category, although this is not stated explicitly. Bale does point out that as it is philosophy behind the activity that is important, not the standard of performance, therefore those involved in “serious” sport even at a relatively low standard of performance would fall into his category of sport or Eichberg's category of achievement sport. Bale then uses the achievement sport as “sport” for the rest of his early sports geography work.

Bale (1994) outlined some characteristics of achievement sport from Guttman (1988). These include specialisation of roles (including separation of genders), competition, quantification, record-keeping, record-breaking and bureaucratisation. Again note that the standard of performance is not a critical characteristic. These characteristics are similar to some of those normally used to distinguish modern sports from their pre-modern equivalents. He continues to highlight enclosure of the sportspace, monoculture and uneven population in terms of class or gender as further differences between “sport” and recreation and play or between achievement sport, fitness sport and body experience. Here there is confusion, as terminology gets mixed up and the real-life issues of “summer hockey” or recreational tennis are missed out in the jump to more professional achievement sport.



Source: Hylton, Bramham, Jackson, & Nesti (2001, p3)

Figure 3 : The Traditional Sports Development Continuum



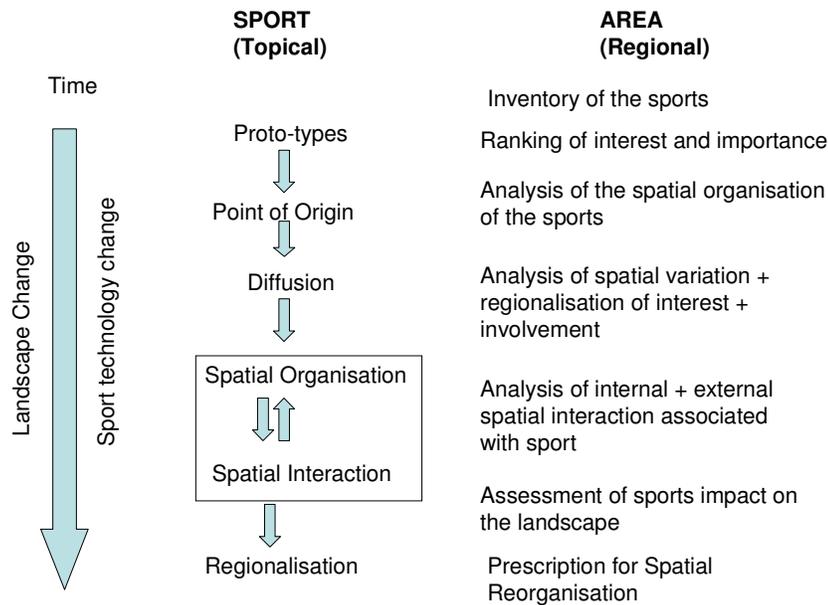
Source: sportscotland (2001b, p12)

Figure 4 : Focus of Agencies Delivering Sport 21

The traditional sports development continuum as shown in Figure 3 shows most clearly how planners were considering sport and sports development in the late 20th century. Adjustments to that model retained the basic components of different levels of ability and perhaps recognised transitions between these levels (and that they occurred both ways) more explicitly. In Sport 21, sportscotland began to display some thoughts on where these different levels might be taking place – as can be seen in Figure 4 – at least in relation to which agency might be delivering at each level. Thus the different types of sport were associated with different spaces of provision.

Sports Geography Framework

Rooney's (1975) conceptual framework for the geographical analysis of sport is shown in Figure 5. This included a topical approach that involved looking at a sport and its geographical spread for example through diffusion over time; a regional approach considering all sports in a particular region, perhaps creating an inventory, describing and explaining their spatial organisation, variations in that spatial organisation either in space, time or between sports, regionalisation, impact on the landscape of the region ; and the themes of a changing landscape of sport through time and the impact of changes in sports technology.



Source: Based on Rooney (1975, p56), cited in Bale (1982)

Figure 5 : A Conceptual Framework for the Geographical Analysis of Sport

Updating of this conceptual framework to reflect sports geographical thinking of the 21st century has been carried out in chapter 3.

Geographical Variation in Sporting Attributes

Bale (2003) identified regional dimensions to sport geography, and acknowledged that the regional approach was one of the most popular. For example studies of a sport region, that is one area (could be part of a country, a country or a number of countries) identifying with a particular sport (for example Price, 2002), or national differences in sports performance perhaps shown through the Olympic medal table have been made (for example Armstrong & Guilianotti, 2004; Bale & Sang, 1996; Rooney, 1974; Tcha, 2004; Tcha & Pershin, 2003).

Rooney suggested there were geographical variations between regions and that the importance of sport to any region could be assessed by measuring :

"-amount of participation, interest level of local population-visible in terms of monetary support, game attendance, press coverage, nature of playing facilities and the ability to generate high-quality players" (1974, p15). He found that the easiest method of differentiating between regions was to count the number of performance athletes produced, and he did this for a number of "national" sports in the USA.

Bale (1982) attempted to map out a number of themes in a UK geography of sport. Sports were ranked using a number of different indices for example participation numbers, spectator numbers, number of clubs, and TV spectator hours. However, while football ranked at the top on many indices, other sports are less consistent and he was unable to come up with a definitive list. He did not differentiate between areas of the UK to give different rankings for different places and then explain them – which would have been very interesting, although he does do this for specific sports, for example cricket and racket sports.

Bale (1982) identifies a number of problems with looking at sport from a geographical perspective, including the regional approach. Firstly the regional approach has at present very little data attached to it, making it very difficult to research. What data there is, is often partial, for example knowing how many people have played golf in the last year, but not how often or where. Selection of the regional area to study may be random and / or subjective yet extremely important. Different types of data lead to different geographies of opportunity, emphasis, production and consumption. Opportunity looks at facilities available in a region and differences. Emphasis considers the number of participants, clubs, or teams in a particular region; production refers particularly to commercial or performance sport and the number of elite or professional players produced by places (born, schools etc). Geographies of consumption look at spectator patterns across regions and sports. Finally the very idea of mapping some of the data may be flawed as finding that participation in for example tennis per head of population is highest in the most affluent region does not mean that the most affluent individuals are participating in tennis as this would involve an inference from one level of geographical scale (regional) to another (individual).

Bale (1982) also identified a number of different types of sports region. These included the administrative region which was set up simply for convenience of solving a particular problem – for example to have a league for a number of clubs that are relatively close to one another or perhaps to coincide with government regions. The nodal region is an area that surrounds a sports node – that could be a stadium, sports club or sports facility – and is tied to that node through spatial organisation. A nodal region is not immediately recognisable and can be a negative or positive area. An example of negative “sphere of influence” (such as Mason & Robins, 1991) might be the area around a stadium where nuisance is experienced, while a positive sphere of

influence might be a fan region or catchment area for a facility. These nodal regions can be different sizes for different events or sports and result in spatial competition between nodes. These can be plotted and mapped. The perceived region is one that exists only in the minds of people and can be more important than what really exists resulting in a mind map of for example sporting opportunity that results in a pattern of participation. It is with the fourth type of region, the uniform region that early sports geographers spent a lot of research time working on. For example Rooney (1975) in his *Atlas of American Sport* devised an index of football participation per capita of particular US States in order to plot those where the value for football was particularly high or particularly low. Other authors have followed this looking at other sports and Bale continued to use that methodology to search for sites of production of elite Kenyan athletes (Bale & Sang, 1996).

Spatial Dynamics of Sports (changes in spatial distribution over time)

Enclosure

Bale (1993) considered the historical development of football from a folk-game played over an indeterminate amount of space that initially was used for a number of different activities to one played in a confined stadium. This process of confinement may have taken place due to a number of factors. Firstly, an increase in commercial activity in the seventeenth and eighteenth centuries meant land-uses were divided and a specific space would have been developed for sport separate to, for example livestock rearing or a marketplace. The idea of territoriality is proposed – where control of space is an expression of social power, and it is suggested that increased territoriality accompanied some of those social changes. In the nineteenth century the achievement orientation of sport meant that the spatial parameters needed to be standardised to facilitate

meaningful competition. In the more recent past, safety and control of spectators resulted in confinement of spectators in “pens” or “cages”.

Bale (1993) has described the process of enclosure in a four-stage hypothetical model shown in Table 1. Confinement is said to mirror the changes in wider society taking place.

Table 1 : The Stages of Enclosure

STAGES	CHARACTERISTICS OF THE ENVIRONMENT	EXAMPLES OF THESE CHARACTERISTICS
1	Permeable boundaries Weak rules of exclusion	- no spatial limits - uneven terrain - spatial interaction between players and spectators -diversified land use
2	Enclosure	-limits of pitch defined -players segregated from spectators
3	Partitioning	-embankments, terraces, grandstands -payment for entry -segregation of spectators by social class -start of segregation in crowd -specialised land use
4	Surveillance Rules of exclusion Strong impermeable boundaries	- enclosed ground - synthetic pitch + concrete bowl -TV replay screen - total segregation within crowd - panopticism - diversified land use

Source: Bale (1993, p129)

This model he has suggested might be applicable to other sports. A particularly interesting example relates to the sport of women’s lacrosse where enclosure of the playing space by boundary lines to separate spectators from players and to regulate the dimensions of the pitch more strictly has been introduced as recently as in the last ten years in Scotland, while the men’s version has played with “hard” boundaries for many years longer. New versions of the sport have also been developed to be played indoors (box lacrosse). In a newer sport, squash was initially played in indoor spaces of

whatever size was manageable and anecdotal evidence in Dunfermline was of a court of a completely different size to those in purpose built courts being used for recreational and even competitive league matches before the building of the Dunfermline Squash Club (at McKane Park) in the 1970s.

The idea of increasing control and confinement of the sport and spectators has been linked to the rise in hooliganism and violent behaviour that has become associated with crowds and in particular with football fans. It is pointed out that perhaps an element of “moral panic” gave more emphasis to the violence at football matches than was really apparent and thus some of the measures of control and surveillance were not really required. In particular comment is made on the issue of all-seater stadia following the Taylor Report (Lord Justice Taylor, 1990). Bale (1993) suggests that the ideal image of modern sport has a clear separation between representation and performance, between players and spectators and between activity and passivity where outside influences (for example crowd noise) would not impact on sporting contests. This would then become a “placeless” environment. He speculates on how close football might come to this ‘ideal’ commenting on the amount of resistance within the UK (in comparison to the USA). In fact he feels that perhaps post-modern might be a more appropriate description for some stadia, with a blurring of some of the polarities (less obvious segregation for example), but more surveillance, potential for multi-purpose land-use (for example for rock-concerts, other sports) and perhaps more spectacle rather than impassioned supporting.

Modernisation

Bale & Moen put forward the view that sports are “highly rationalised representation of modernity” (1995, p4) and have the potential to eliminate regional differences (as do

other types of culture) because of their nature as rule-bound, ordered, enclosed and predictably segmented forms of landscape. They suggest that a geographical sameness of sportspace is encouraged by its synthetic and technological nature, but differences are not totally eliminated. They speculate that some sport landscapes might be post-modern rather than modern.

The precursors of modern sport were local folk games of various kinds, for example in Britain and some physical exercises with an educational or hygiene rationale in Scandinavia. The modernisation process changed play into display (that is more spectators than participants), and play into more like work for the participants, the games became bound by rules that applied across regions and required bureaucracy to maintain them and records of events, scores, etc. First regional, then national and then global sports governing bodies were set up to regulate the modern sports (see Bale (1994) for evidence of most growth in late 19th century). Mazrui (1976, p411) commented that “the first laws ever to be voluntarily embraced by men from a variety of cultures and backgrounds are the laws of sports”. As western sports spread to other countries, a form of sport colonisation took place and landscapes of western sport, for example tennis courts and running tracks became permanent features of a landscape in which evidence of pre-colonisation, pre-modern movement cultures was scarce, and those movement cultures either overtaken or changed into tourist attractions. The development of spatial parameters as part of the rules of sport was outlined earlier. The enclosure of the sport landscape began to encourage “sameness” wherever in the world that sport is played. This allowed global enforcement of the rules, but a type of placelessness in the sport landscape. Modern sport has standardised spatial and environmental forms and the modern sports landscape has been described as a “technoscape” (Bale, 1989).

Relocation

The work in this area has mostly considered locational changes associated with sports and sports clubs. These might be relocation either within a city or into new regions, clubs or sports starting up or dying out or balance of power shifting from region to region in terms of success (perhaps linked to economic or social factors).

Bale (1993), in looking at football in England, notes that there are two types of locational change, at two different scales, one in the national distribution of clubs and the other in their location within the city. In England the national distribution of clubs has changed over time, with initial emphasis on the northern clubs that led to 64% of Football League clubs being located in the North in 1930 changing over time so that in 1990 only 25% of the Football League clubs were located in the north. Intra-urban locational change has been in three phases. Initially 1860s-1920s was a period of locational flux when there was a lot of movement as clubs moved to more commercial sites and generally the industry developed to clubs on sites that they owned. The key location factors were proximity to a large number of people who were willing to pay to watch football and links to transport nodes. Following that period of flux there was a period of “geographical stasis” (Bale, 1993, p135) lasting until the 1980s where very little change took place. The current “modern” period has been typified by a number of relocation and ground sharing proposals and even experiments, but mostly these have not continued due to various reasons. Bale outlines the present-day pressures for change as three types of geographical pressure – micro-spatial or integral to the stadium, new locations (spaces) and new sites (places within those spaces) and suggests that locations that were the most suitable at the end of the 19th century are not those most suitable now.

Dyreson (2008) comments on the neglect of the study of specific places and places where sport took place, not just in the USA (which is his focus) but throughout the world. He explains that the connections between people, politics and sports stadia reinforce the “power of sport in shaping modern American spaces and places” (p1425) and suggests that “sports landscapes dominate American culture”. Diffusion and growth and globalisation of sports (for example Bale, 2002) and talent migration within and between countries (for example Bale & Jenkins, 1983; Bale & Maguire, 1994; Bale & Sang, 1996), are other aspects of the spatial dynamics of sports. These approaches recognise the spatial dimension to the history of sport and sometimes explicitly recognise the role of colonialism in the processes both in the past and today. The processes of globalisation are considered widely by researchers separately in sport and geography (for example Jarvie, 2006; McGrew & Lewis, 1992). In sport, sociologists, economists and those studying mega-events comment on a geographical phenomenon and geographers writing on globalisation may use examples from the world of sport to illustrate their arguments. Neither group is seeing the processes as sport geography.

Spatial-economic and Environmental Impact of Sports

Jarvie identified a strong link between sport and nationalism and suggested seven characteristics of sport that contributed to a nationalist agenda (1994, p78). Sport:

- “is inherently conservative – working to consolidate official nationalism, patriotism and racism
- has inherent property that makes it possible instrument of national unity and integration
- provides safety valve or outlet of emotional energy for frustrated peoples/nations
- helps reinforce cultural nationalism

is often involved in process of nationalism as a national reaction
to dependency/uneven development
at times has contributed to unique political struggles
contributes to quest for identity e.g. through nostalgia,
mythology, invented/selected traditions”.

An important focus of study for both sport geographers and urban geographers has been the sports stadium. Major sport geography works which address the sports stadium include Sports Geography (Bale, 1989; 2003), Sport, Space and the City (Bale, 2001) and The Stadium and the City (Bale & Moen, 1995). Others interested in the topic include Baade and Dye considering economic impacts of stadium development (1988; 1990), and Eckstein and Delaney (2002) considering social and community impacts on cities in the USA. Bale (2003) suggested positive externalities might be income or psychological benefits while negative externalities might include aspects of sports pollution.

Bale (2001) begins by setting out the importance of sports stadium in modern city life. He compares the fans in the stadium to a congregation in a church and draws a comparison between the stadium and a cathedral. The nature of attendance at the stadium with set times of attendance, regular intervals and an annual cycle with accompanying ritual serve to provide some of the function of a church and the nature of the monument of stadium as an object of attachment, with ever more ambitious design serves to increase the similarity. He describes the rectangular or circular stadium as an icon of modernity (as it began to be built in the 19th century) while noting that it is very similar to ancient amphitheatre structures that included sport displays in Greek and Roman times. The stadium is the major container of the modern crowd. There are various other metaphors for the image of a stadium. For example features such as fixed rows of seats, geometrical segments, container architecture, video surveillance and the

presence of police could be seen as parallel to the image of a prison and in fact in some places stadiums have been used as prisons in times of civil unrest. The names of many grounds reflect a pastoral image which may in the past have been more firmly linked to the stadium, for example East End Park, Murrayfield. The development of all-seater stadia created a more passive audience for a dramatic performance creating more of an image of theatre. A neo-Marxist perspective would see the stadium as a machine generating product and providing income.

In explaining Tuan's (1974) ideas of topophilia in relation to the football stadium, Bale (Bale & Moen, 1995) starts to investigate the meanings of the football stadium to some people. He illustrates the religious, homelike, scenic, historic connotations that the stadium has for the fans and also in some cases the people of the city as well as the economic benefits associated with a stadium. He maps the "positive externality" field for the stadium and considers the activism of fans when faced with threats to "their" place (stadium). Just as the positive externalities were mapped, similarly negative externalities are discussed and mapped as a negative sphere of influence. Problems such as traffic, parking, noise, hooliganism and vandalism are discussed. When the costs and benefits are charted in relation to distance from the stadium, it is concluded that generally very close to the stadium there are more negatives, but slightly further from the stadium there are more positives.

The main period of stadium building was in the late 19th century and cities have changed greatly since then. Relocation of stadiums can occur within a city (for example from inner city to an out-of-town or suburban location) or between cities. There is often a great deal of opposition to change in location (even across short distances). Whitsun called stadia "men's cultural centres" (cited in Bale & Moen, 1995, p14).

They are a place of ritual and there is resistance to conversion to sanitised space. However there is some evidence that even a modern stadium (that is sanitised space) can be special and engender a sense of place and topophilia (Nielsen, 1995).

Especially in the USA, stadium building is carried out in cities to host sports franchises and attract investment. Often claims for positive outcomes of a new stadium may be exaggerated and the negatives for example unruly crowds, aggressive localism, traffic and crowding might be played down in the quest for improving the image of a city by linking it to a successful sports team. Trumbour outlines the true cost to the “people” of the building of new “cathedrals of sport” (2008, p1583) as underestimated often by as much as 40%. These supposedly privately funded stadium-building projects in cities in the United States have, he suggests, diverted taxpayer spend onto projects that benefit a small number of more affluent individuals while much less is spent on projects upgrading basic infrastructure such as bridges and sewers .

Bale (1993) addresses a number of themes relating to the city and football stadia. These include what the stadium as a focus for football means to different groups in the city and the implications of those meanings for the future of British football. He draws on the ideas of Foucault in relating stadia to prisons (or asylums) and attempts to place the control of sporting experiences for fans into a modern or post-modern framework. He considers the issues at two different scales, at the intra-stadium scale considering the places and spaces within the stadium (some of which have been addressed as enclosure earlier in this chapter) and at the intra-urban scale examining issues that apply outside the stadium but within the city.

In mapping positive and negative externalities of stadia Bale considers the value to the community of a sport stadia site within it, and also pushes and pulls for relocation of

stadia based on a rational model. He concludes that in fact rationality does not play as important a part as topophilia and topophobia (dislike of place) in location (and relocation) of stadia. In drawing comparisons with the USA and Europe, he notes that stadia can be publicly owned and the local government associating their success with their ability to attract a franchise (USA) or achieve success in leagues as well as by positive economic indicators based on increased tourism, city centre spending etc. These positives are mostly associated with the USA situation, where sports fans tend to be more middle class and show different entertainment and shopping tendencies to UK soccer fans, although most research has been carried out by bodies with a vested interest in showing positive economic benefits such as building contractors so may not be unbiased.

There is evidence to show that large multi-sport events such as the Olympics, Football World Cup and Commonwealth Games generate a number of economic benefits to the host city and country. These benefits tend to be long-term, however, rather than something felt immediately. This has been coined as “legacy” by organisers of future events and governments (for example Olympic Delivery Authority, 2008). For example Barcelona has improved its economic position in the world since hosting the Olympics in 1992. These mega events can also prove costly in the economic short term with investment required in the infrastructure and facilities in particular. Gratton, Shibli & Coleman (2006) in a review of ten mega-events in the UK (three of which were held in Scotland) found that providing no major investments were required to host the events, economic benefits would accrue to the host city and its surrounds. Horne & Manzenreiter (2006) mention the suggested social benefits of hosting mega events, such as increasing self-esteem and quality of life and reduction in social exclusion and crime. However they note that the amount of research that has been conducted into these

aspects is much less than that conducted into economic benefits. They conclude that if there are social benefits that they are unevenly spread. Much more rigorous research is required into the impacts of hosting mega events on the people and places both near to the event and distant from it.

Space and Sport

Sport has 'rigorously enforced spatial parameters' (Bale, 2003) while recreation does not *require* specified courses, pitches, or courts of a particular size as sport does. Bale (2003, p9) notes that 'recreation and play are ubiquitous, but because of its spatial specificity sport is relatively localised'. That is there is a particular space and place for sport. The spatial boundaries within sport may be explicit, for example in the rules (sport is a struggle over space but within defined limits) or implicit, for example unmarked but recognisable (GK should not "stray" into midfield). They may also exist in the landscape surrounding sport, for example the locker room as has been described by Fusco (2004). Spatial-analytic techniques can be applied at micro level to the field of play e.g. Hughes & Franks (2004) in notational analysis of competitive sport, Gould & Gattrell (1979) ideas of "interaction space". It is also hypothesised that the spatial confinement of sport makes social interactions happen more quickly. This could result in bonding of teams or people together, or be discriminatory, for example in stacking.

Puig & Ingham (1993) summarised the five themes from the special issue of the International Review for the Sociology of Sport that focussed on sport and place. This gives a flavour of the research status of sport and place at the time, and only in a few instances have significant advances been made in the following 15 years.

1. "sport space is a social space"

Social space is a very complex phenomenon. All space is social, a construction by humans and none is objective or outside of our beliefs. Space is at the same time about identity, diffusion, transformation and many other ideas. There are many objects of study when looking at space and explanatory theories attempt to reconstruct phenomena and the reason for their existence. For example, in what socio-historical circumstances was this space produced? How did society produce this space and reproduce their power relationships through it? There has been some writing about how spaces produce particular behaviours although it has not been shown to be a simple causal relationship (Bronfenbrenner, 1979; Woodside, Caldwell, & Spurr, 2006). In general sport people do not pay attention to the social nature of sports spaces, but look at practical issues like size of pitch, boundaries etc. Social scientists have sociological, historical, geographical, and anthropological ways of looking at sports spaces and view sport space as “a social construction that merits examination from a scientific perspective” (p101).

2. “history of sports space”

The differentiation between sport spaces and other spaces is a historically recent phenomenon, in fact as recent as modern sport. The second half of the 19th century saw the emergence of places more adjusted to sports purpose and more separate from space in general. During the 1970s sports space in Western European countries was linked to state politics and the development of capitalism. In the 21st century sport is a more open system. There are different spatial forms and space is understood as a relative concept rather than an absolute. For example sports spaces can be used for a number of different purposes including but not exclusively for sport (stadium, beach etc.).

3. “Uses of sports space”

The uses of sports space(s) have been analysed to reflect how social behaviour, ideologies, and conflicts reflect upon it (Pfister, 1993). Sport space could be seen as a field of confrontation or indeed a field of reproduction of those uses. The sensations of comfort or dissatisfaction with particular spaces are social phenomena and can be investigated as such, for example looking at the use of sports space by women or the urban sports culture. Puig (1993) how the sports facilities that are available vary from region to region depending on the characteristics of the local population.

4. "Urban development and sports space"

Sports spaces in urban development have been considered in a number of ways. Firstly in a historical sense describing the designation of particular places as for sport alone as part of the process of space/time differentiation that accompanied urbanisation. Secondly as a process of relocation of those spaces and places in response to modern planning needs, for example the suburbanisation of sport facility development as urban population moved to outskirts of the city. The planners making decisions about sports spaces are part of society and respond to the changing prevailing views of society.

5. "Territorial impact of sport + ecological, economical and cultural implications" ...

The impact of sport on the environment has received some recent emphasis, but gaps remain regarding the exact evaluation of impact, theoretical analysis of phenomena to explain existence of and show how to change to decrease problems, and understanding that the sport system is not outside ecological debate but part of the wider environment.

Place and Sport

Sport binds people to place through ascription (naming) and gives one of the main ways of collective identification. Representative teams can have a bonding effect at whatever level – school, city, regional, or national, however game can sometimes spill over into real conflict. Catchment areas of fans could link to cultural variables and both at the intra-urban scale and the regional scale, sport reinforces these loyalties. For example religion splits Celtic and Rangers fans, and pelota as an element of Basque culture strengthens the links between peoples in Northern Spain and South West France.

Place-pride is generated by success. It can be spontaneous, for example flags or banners, or deliberately fostered as in civic processions to celebrate victories, for example Liverpool winning the Champions League in 2005. In the USA Bale (2003, p11) shows that towns have welcome boards showing the link between the town and its sports teams, but this is not common in UK, although sometimes graffiti does display territorial boundaries for example. Marxist thinkers have suggested that attachment to place could divide society along geographical lines and prevent class struggle and reinforce class relations in the status quo.

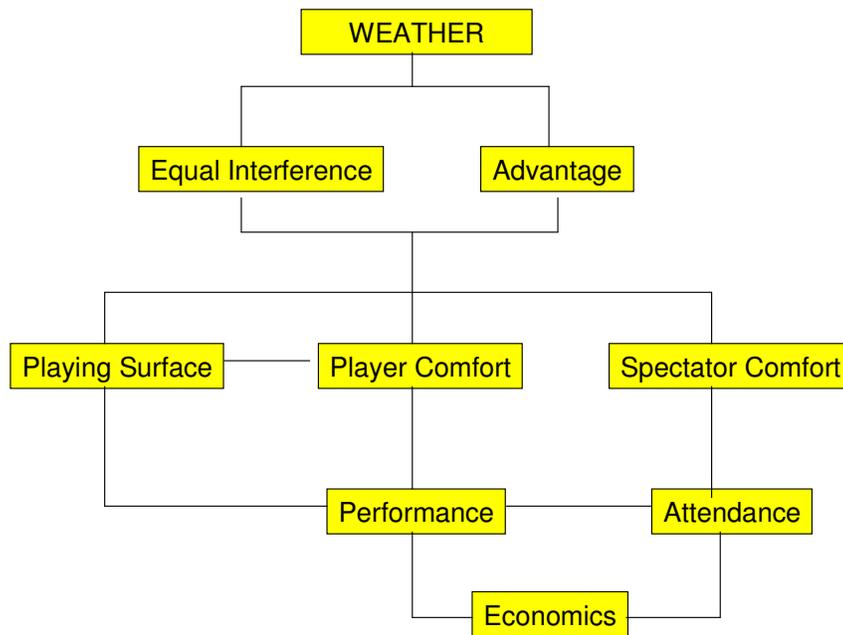
Sport may unite classes together in support of a place (represented by a sports team), and it is most often politically defined places such as cities and nations that have teams. It is very unusual to find teams representing either physical geographically defined or multi-cultural units. Ireland in rugby is an exception to this. As sport teams represent nation-state or local-state they cannot be independent of politics and may play a role in international relations or propaganda. As the state is a major provider of sport this also gives a political dimension to sport provision decisions.

Topophilia, that is affection for a particular place has been discussed by Bale (1988; 2000; 2003) and he builds on the ideas of Tuan (1974). He suggests that this love of place extends to the sports stadium for fans and results in fans resisting changes to “their” stadium such as redevelopment or relocation as if it were their “home”. Hague and Mercer (1998) found that ‘local memory’ was linked to sport in terms of Raith Rovers football club. The interpretive approach sees landscapes as individual to each person and it is critical to understand the meaning of a landscape to the individual. For example Hague and Mercer delved deeper into the meaning of the sports landscape in investigating the football club Raith Rovers and the town of Kirkcaldy. They found a specific “geographical memory” concept when social memory has a spatial element and a link to place (in this case between the town of Kirkcaldy and the team of Raith Rovers). The geographical memory of Raith Rovers was a link between family, community and place and in the minds of people with that memory put “Kirkcaldy on the map”. The study did not ask any person outside of the town of Kirkcaldy for their view of Raith Rovers or their perceptions of the team or the town, so the “map” was in the minds of townspeople who already knew where it was. However memories about Raith Rovers often linked stories about family members, places in Kirkcaldy linked to the ritual of football matches and “great” games, illustrating meaning to those individuals. Hague and Mercer viewed football as an important factor in the local identity of a person.

In relation to design of sport facilities, Eichberg (1993) stated that many sports facilities are designed as functionalist, rationalist spaces and contain straight lines, right angles, and follow international standardisation. Post-modern and feminist thinking leads to alternative architecture and in Denmark for example this has resulted in an innovative

design of a “movement house” for “movement culture”. He believes that the design of the space impacts on the place (meaning, use etc).

Different places produce different sports performers and sports performances. This has been investigated by those researching spatial differentiation. However the landscape aspects have been less considered. The physical environment of a place may possess unique characteristics which influence sports performance. The modernisation of sports places tends to neutralise effects of physical environment, for example by making use of artificial surfaces, indoor arenas etc. Climate, relief, soil, vegetation, slope, weather, and altitude all may vary either in space or time and this can impact on sports performance. For example changes in weather can be critical and can have a differential effect – especially in golf or other events where all competitors do not play at the same time. In addition attendance at events may depend on weather and thus economic or supporter factors may be different. Bale suggests ideal conditions for sport would be ‘weatherless’ (2003, p29). Certainly as Kay & Vamplew describe various sports and events affected by adverse weather conditions they illustrate their initial assertion that “the only certainty is that the ... weather ...(is) beyond our control” (2002, p7). Figure 6 shows the effect of weather on sports.



Source: Adapted from Thornes (1983), cited in Bale (2003, p29).

Figure 6 : The Effects of Weather on Sports

There are apparent differences in performance by sports teams at home and away locations. Home wins are more common than away wins in football and rugby in UK and in college and professional teams in North America. There appears to be a relationship between distance travelled and winning and there are several suggestions as to why this might be. It might be linked to territoriality and the identification of the team with a specific place (home ground), or very detailed knowledge of the home venue (like the sloping cricket pitch at Lord’s). It could be linked to travel, that might affect the away team more. It has also been suggested that home teams benefit from referee bias and the social effect of fans support, but it remains unclear what is the most important factor in home advantage. One suggestion is that fans might make the biggest difference as the biggest differences in home advantage have been shown for sports where the venues are most uniform, for example basketball. However winter Olympics studies have shown that subjectively-judged events may show the greatest bias towards

a home nation. As with a great deal of sport geography research the focus has been on a few professional team sports at the top level, and mostly male teams, so there is a great deal of work to be done in this area at other levels of sport, with a variety of sports and also different genders.

Landscapes of Sports

Bale (2003, p29) identified the sports landscape as an important area of study. He noted that distinctive sportsapes would have particular sites, sights and impact on the senses. There might also be impacts on the landscapes due to sports, either permanent or temporary.

Bale (2003) notes that the sports landscape can be at a variety of scales from the micro – few square metres for example a squash court, to the macro – a few square kilometres for example a golf course. (There could also be a mega scale – perhaps thousands of square kilometres for example a round the world yacht race.) The sports landscape, as well as sitting somewhere on the scale continuum, may be more or less natural or artificial, and more or less rural or urban.

In focussing on modern sport landscapes, Bale (1994) looks for previous work in a variety of fields. He comments that while sports landscapes have been addressed in planning documents and in a number of subject areas, sports landscapes have mostly escaped the attention of scholars and remain to be fully interpreted. Even cultural geography texts on landscape pay little attention to sportscape, although Price's (1994) work on Scottish golf courses and the physical geography of landforms that make up these courses does address some issues surrounding the environment of (one) sport.

Again Bale (2002) notes that there are difficulties associated with defining landscape. Johnston *et al* (1994) considered landscape a contested term and the subject of ongoing debate. They suggest it could be the appearance of an area, the assemblage of objects used to produce that appearance or the area itself. The issue of whether a landscape is “natural” phenomenon was addressed by Sauer (1925), and Sauer and the Berkley School assumed almost all landscapes had been affected by humans and so studied cultural history through the landscape. The “new cultural geography” of the 1980s and 1990s redefined landscape as a “way of seeing” (Cosgrove, 1998) rather than an image or object. Bale states that sports are not natural forms of movement and landscapes on which body cultures take place are part of a cultural landscape rather than a natural one. He defines the sports landscape as “everything we see around us, including people and buildings in a sports context” (1994, p9). Three possible ways of looking at the sports landscape are identified. One way is an interpretation paradigm that explores meanings given to landscape and its social and cultural context. Another is a perception paradigm that explores perception and attitudes towards landscapes. A third paradigm considers landscape quality, and ways of evaluating and measuring it.

To begin, Bale (1994) follows the ideas of Meinig (1979) in considering “ten views of the same scene – how might they be interpreted” and looking at ten views of the sports landscape. This illustrates the different meanings that different people or cultures might give sportsapes.

1. Sport, Landscape and Habitat (a)

Sports landscapes are not natural and in fact they are “anti-nature”. Certain sports can make use of a landscape for a one-off event and then leave it, for example orienteering,

sailing, white-water canoeing. In these nature is used for sport but not sportised permanently.

2. Sport, Landscape and Habitat (b)

Sports landscape is part of a human habitat and a conscious decision to use land for sport is made. Sports landscapes are not natural, but may be a related form – a “blending of humanity and nature” (p10).

3. Sports landscapes as Artefacts

Almost none of modern British landscape is strictly “natural” and there has been a human impact on the landscape. Modern sports often disregard natural or semi-natural landscape and seek to create artificial surfaces, totally destroying what was there before. In fact many sports require an indoor, flat arena to eliminate all environmental factors.

4. Sports Landscapes as Systems

A landscape can be viewed as a series of inputs, a process and outputs. Thus for example economic impacts of an event can be assessed, or inputs from the environment such as rain can impact on the output such as number of spectators.

5. Sports Landscapes as Problem

Observer sees sport landscape as “gone wrong” (p11). Social or environmental pollution, erosion might be part of the landscape. Examples of this include erosion of ski slopes and traffic congestion around stadium. This can lead to activism for example objecting to a new stadium or exercising power or territoriality for example crowd control.

6. Sport Landscape as Wealth

Land is a raw material (factor of production) and sports landscape can influence that positively and negatively, for example by generating revenue through an event, but reducing house prices around a stadium venue.

7. Sport Landscape as Ideology

A particular sport landscape can be reflection of a particular (or a number of) ideologies. For example a tartan track shows achievement ideology and a modernism, as it is a symbol of competition, record-keeping and artificial technological development.

8. Sports Landscape as History

Similar to the Berkeley School mentioned earlier, a sports landscape shows evidence of past landscapes and perhaps explains present-day landscape. A reading of the landscape might give insight into the societies or communities that created or influenced it.

9. Sport Landscape as Place

Some geographers see landscape and place as different due to their different scales – landscape broad and place narrow. However humanistic geographers see place as more important than landscape, and sense of place as an aspect of the environment.

10. Sport Landscape as Aesthetic

Different landscapes possess different aesthetic qualities, for example golf course might be perceived as beautiful or a blot on the landscape. The portrayal of landscapes in

various media are projected, perceived, and interpreted differently by different people. There are also examples of mythical iconic images in the media for example English cricket as a rural idyll.

National Sports

Sport plays an important role in reinforcing national identities. Certain sports appear to have a particular resonance in specific countries (for example Jarvie & Walker, 1994) and the concept of national sports has been studied by a number of authors (Bale, 1982; Bale, 1986; Bale & Sang, 1996; Eriksen, 2007; Jarvie, 1993; MacLennan, 1998; Magnusson, 2001; Rowe & Lawrence, 1996). Bairner (2009) recognises that defining a nation is problematic, and acknowledges that there is a continuum of opinion ranging from a primordialist or ethnosymbolist perspective, which considers objective attachments for example language, ethnicity, geography, religion, despite the fact that they pre-date the existence of nations, to a modernist perspective where nations are regarded as a modern invention emerging in response to environmental conditions. While neither perspective considers space explicitly (Lefebvre, 1991), Bairner argues that it is recognised more in the primordialist. He finds a position between these two extreme approaches, where nations and nationalism may be modern but they depend on certain historic criteria – both real and perceived – for their continued existence. There can also be confusion amongst sporting organisations as to the status of nations. For example, in a number of high profile sporting events, Scotland competes as a nation (for example in Commonwealth Games, some world championships, football and rugby tournaments) and in others Scots compete as part of a Great Britain team.

National identity is a weaving together of objective and subjective factors. Kotnik (2007, p59) explains that to Slovenians, skiing has been presented as the “prototype of

Slovenianness” and that they regard skiing as an “indigenous” sport – when in fact there is no evidence to support that. The media within Slovenia appear to have drawn on the natural scenery (identifying iconic Slovenian scenery with skiing), the high profile sporting events (for example World Cup Downhill races) and national heroes (Slovenian champions, certainly performing better than skiers from their neighbouring countries) to create a myth of the natural Slovenian skier.

This idea of national imagery was investigated by Bale (1986). He asked people to create mental maps of where the heartland of four different sports was in the UK. Although he found good agreement between the mental maps and reality in golf and rugby, the discrimination of mental maps appeared to be identifying regions within countries, rather than national sports.

Five criteria for deciding whether a sport is in fact a national sport were put forward by Bairner (2009). These criteria form a useful starting point for a critical discussion of national sports rather than a definitive method by which to judge the status of a sport.

Firstly, the popularity of a sport within a country could be a criterion. Unfortunately, while this may have the most resonance for many people living within a country, there are several problems with it. For example, the most popular sporting activities in a country might be those that are not competitive such as walking, jogging or angling. In addition, is it the number of participants, or the number of spectators (live, or on television) that counts? It is also quite possible that on the basis of popularity the national sport of most countries in the world would be football and that could be argued is not therefore a national sport, but a global one.

Secondly the place of invention of the sport, or the unique nature of the sport could be a criterion. This is also problematic as many sports have a disputed place of invention, but with a bias towards Britain as codification and formalisation of modern sports tended to be done mostly in England. Jarvie and Burnett (2000) identified curling and golf as two national sports that had been invented in Scotland. The unique nature of the sport could be a relevant criterion, and in fact shinty, which is played exclusively in Scotland, is viewed as one of the Scottish national sports (MacLennan, 1998). However, other sports that have been identified as indigenous and unique to Scotland including back-hold wrestling and quoits are not regarded as national sports (Jarvie, 2007).

Thirdly, the success of a nation in a particular sport, or importance at critical phases in its development could be a criterion. For example while lacrosse is an indigenous North American game, women's lacrosse was never played by the aboriginal people, and was developed by a Scot in the late 19th century (Claydon, 2009). However this single fact is unlikely to be enough to designate what is a minority activity as a national sport. The example of New Zealand and rugby union certainly could be seen as one where success at a sport has been part of the driver for its adoption as a national sport.

Fourthly, the importance of the sport in the tourism and marketing of a particular country could be a criterion for a national sport. This is more focussed on the perception of a country to the outside world and to visitors rather than that of the residents in relation to their own national sport.

Finally, the relationship between a sport and the national landscape could be a criterion for determining the national sport. While not all sports are played in the natural (outdoor) landscape, Bairner notes that "the overwhelming majority of national sports

possess some relationship to the outdoors” (2009, p11). For example golf and seaside links courses are part of a national landscape of Scotland, Gaelic games and rural Ireland are part of a national landscape and frozen icescapes and ice hockey are critical to the landscape of Canada. However, real landscapes are not usually unique to just one nation, nor typical of the whole of a country.

Not all writers agree with the criteria suggested by Bairner (2009). Kotnik suggests that a “national sport can be roughly defined as a sport which is considered to be a culturally intrinsic part of a country or national milieu” (2007, p64). The framework proposed by Rooney (1975) and shown in Figure 5 indicates a number of factors that should be considered when analysing a sport at a national level. Rowe and Lawrence (1996) suggest that it is not possible to address national cultural sporting formations (for example national sports) due to the overwhelming influences of globalisation. Another view sees the world of sport as primarily transnational. Eriksen (2007) considers the uneven diffusion of sporting practices around the world and suggests using a theory of natural selection, and filling ecological niches to explain this. He suggested three factors that might contribute to a sport becoming a global rather than local phenomenon; it should be simple to learn (not culturally specific), it should have an appeal that is greater than local concerns, and it should be effectively marketed across the world.

Drawing on the example of speed skating in Norway, Eriksen (2007) describes a sport which was the undisputed “national sport” between 1900 and 1980 yet which now is no longer dominant. The complex nature of the sport (many races, complicated points systems), the length of the events (lasting a whole weekend) and the competition from sports which are more television-friendly have filled the “ecological niche” and marginalised the sport of speed skating. In contrast he describes the “survival” of the

Gaelic Games in Ireland where hurling and Gaelic football have carved out a local niche that so far has not been susceptible to competition from globalised sport.

Finally the dynamic nature of the interplay between many of the factors mentioned makes for an ever-changing landscape of national sports. The situation is not static and “...landscape provides the context in which national sports are played and watched, it is the playing and watching of these sports which in turn give the landscape added meaning” (Bairner, 2009, p3).

2.3 Scotland and Sports Geographical Research

Sports research in Scotland has been carried out for four main purposes. Firstly by the Scottish Executive (and now the Scottish Government) and local authorities to inform policy; secondly by staff of or consultants acting on behalf of formerly Scottish Sports Council, now sportscotland to inform policy, locate new facilities, justify or allocate funding and also to design or evaluate programmes; thirdly by students and academic staff at Universities and Colleges in Scotland, and to a lesser extent throughout the UK; and finally National Governing Bodies of sport or sports clubs may have histories of their organisation, kept detailed records or carried out some studies for example curling (Kerr, 1890), tennis (Robertson, 1995), Hawick RFC (Maclaren, 1972), and Freuchie CC (Drysdale, 2008). Each of these research purposes carries a greater or lesser influence into the research process, and while carrying out “research” may in fact not be as objective as might be expected (if in fact that is what is required given earlier discussion on the subjective nature of much sports research).

Some of the research carried out has been spatial in nature. Sportscotland commissioned an extensive relocation review (PMP Consultancy, 2002) to consider

where it (and its National Centres) should be based in future linked to the Scottish Executive policy of dispersing public sector jobs across Scotland. That property review, West Lothian facilities strategies (Torkildsen Barclay, 2004; Torkildsen Barclay, 2005), development of the facility planning model (Campbell, 2004) and planning guidance for open spaces (Ironsides Farrar Ltd, 2005; Scottish Executive, 1996) have looked at the location of facilities in space. Others have had Local Authorities of Scotland as a focus and could therefore be considered geography of a region or regions, for example the evaluation of the school sport co-ordinator programme and regional analysis of sports participation (Coalter & Dowers, 2006; Coalter & Thorburn, 2003).

Some of the government funded research includes the National Physical Activity Strategy – Let's Make Scotland More Active (Scottish Executive, 2003), and the report of progress towards one of its recommended targets – daily PE in Scottish schools (Scottish Executive, 2006b). In addition annual research into sports participation in Scotland has resulted in fairly regular research reports (for example Coalter, 1998; Research Unit Sportscotland, 2006a; sportscotland, 2001e; Sportscotland Research Unit, 2006; Sportscotland Research Unit, 2007). Information about specific groups has also been gathered, about social class and participation (Coalter, Dowers, & Baxter, 1994), in relation to girls (Biddle, Coalter, Donovan, MacBeth, Nevill, & Whitehead, 2005), in the Higher Education sector (Taylor, 2003a) and in relation to women in leadership roles in sport (George Street Research, 2004). To facilitate organisational and national planning, sportscotland also commissioned research in a number of areas, for example entrance charges (Coalter, 2002), about a number of specific sports, for example tennis, bowls, cricket (sportscotland, 2001a; sportscotland, 2001d; sportscotland, 2002b), sports clubs (Allison, 2001b; Reid Howie Associates, 2006) and also evaluation on whether targets were being met (sportscotland, 2001c; sportscotland, 2006). Minority sports

indigenous to Scotland were also studied (Zuleeg and Whyte, 2007). Differences between Local Authorities and areas of deprivation and a general review of sport and regeneration were also studied through work funded by sportscotland (Coalter, Allison, & Taylor, 2000; Coalter & Dowers, 2006). In addition those within the Scottish executive have carried out reviews of the evidence for policy formation, for example Ruiz (2004).

Sports research at the level of the human body could be considered to be geographical – as discussed previously the body is a valid geographical topic for study and more and more geography is considering the body. However studies such as that conducted by Donoghue, Harrison, Laxton and Jones (2008) on the movements of runners with chronic Achilles tendon injuries, or by Sanders (2007) on the flutter kick in young swimmers would not fall into the category of sports geography as defined earlier. In addition some research has focussed on the body and also the movement of the body around the field of play. An example of this would be the recently published research on hockey players in competition linking heart-rate (at the body level) and motion analysis (at the pitch level) (Johnston, Sproule, McMorris, & Maile, 2004).

Some research that has been undertaken considering the UK as a whole may also be relevant to sports geographies of Scotland, for example previous research on volunteering in sports in the UK (Nichols, Taylor, James, King, Holmes, Gratton, & Kokolakadikis, 2004; Shibli, Taylor, Nichols, Gratton, & Kokolakadikis, 1999).. In addition research on sports geography in other countries such as England may be of relevance to future work to be undertaken in Scotland (for example Burnett, 2006; Nichols & Collins, 2005).

Economic benefits of sport and physical activity in Scotland have been researched by those considering savings in health as well as those looking at income in terms of participants, spectators, equipment and associated spend (Gillespie, G. and Melly, D., 2003; Radford, Riddington, Anderson, & Gibson, 2004; sportscotland, 2007b; Taylor, 2003b). Galloway, Bell, Hamilton & Scullion considered improvements in quality of life in Scotland that sport and physical activity could provide (2006). Following the Gold Medal won by Great Britain in the Winter Olympics in 2002, curling was studied to evaluate the impact of success on participation levels (Mori, 2004). These studies again used geographical ideas, but not explicitly. Mason & Moncrieff (1993) did complete a study of the relocation of St Johnstone Football Club from the centre of Perth to the outskirts and concluded that there fewer people were affected by the negative externalities associated with an out-of-town stadium site.

Other benefits to Scotland and Scots have been considered by a number of authors (these are independent scholars or in the University sector) for example Hague & Mercer (1998) found Raith Rovers Football Club to be an important part of the identity of people in Kirkcaldy. Coalter (2007) has taken a critical view of the role of sport in increasing the social capital of communities. A comparison of the physical activity of youth in Glasgow and Dunedin, New Zealand showed very much lower rates of activity in Scotland (West, Reeder, Milne, & Poulton, 2002).

Authors have outlined a history of sport in Scotland (for example Burnett, 1995; Burnett, 2000; Burnett & Jarvie, 1999; Jarvie & Burnett, 2000) and Tranter (1987) considered just central Scotland in the 19th century. The importance of sport to the identity of Scots is explored by Jarvie & Walker (2004).

Any research that is about sport in a specific place (for example Scotland or West Lothian) could be classified as sports geographical research. Most of the research mentioned can be loosely described as sports geography but almost none has an explicit geographical aim. An example of a studies that do set themselves into geography are those around the facilities planning model (Campbell, 2004). Its main purpose is to aid with the local and economic and geographical implications of situating a facility in a particular place. Research was required to develop the planning model, for example into use of indoor sports facilities (sportscotland, 1999). Similarly the national facilities audit sought to quantify the economic requirements for upgrade and maintenance as well as to locate all the facilities (Kit Campbell Associates, 2006; Professional Sportsturf Design, 2006). On the other hand sports participation figures (for example sportscotland, 2001e) usually contain socio-demographic information such as gender, age and social class of respondents, but these are not interpreted or explained.

Some research on the environment (other than related to planning) has been carried out (for example on skiing Harrison, Winterbottom, & Sheppard, 1999; and golf courses Windows, 2004). There have been some studies of impact of changes in the climate, weather (Kay & Vamplew, 2002), home advantage (Nevill, Newell, & Gale, 1996) and also the changes over time in a specific sporting location, such as St Andrews golf links (Jarrett, 1995) and East End Park, Dunfermline (Donovan, 2006). Classics such as Price's study of landforms on Scottish golf courses (2002) are rare and the Scottish Natural Heritage publication about wildlife on golf courses is an exception (when hunting, shooting and fishing are excluded) (Scottish Natural Heritage, 2004). While there are numerous publications relating to maintenance of natural sports surfaces (there is a bibliography of more than 200 titles listed on the Sports Turf Research Institute

website) these are not specifically about Scotland and deal with a very micro-level geography) (Sports Turf Research Institute, 2007).

Of the work so far carried out in sports geography in Scotland there is no pattern of methodological approach. Authors and researchers have either assumed the method they used is appropriate or justified it within their own field and as the field of sports geography has not existed as such they have used approaches favoured by their own discipline. It can therefore not be said what the dominant approach to knowledge is and there appears to be no one dominant paradigm in the sports geography of Scotland. As noted before geography is a discipline that uses a number of approaches to knowledge simultaneously and this appears to be the case in the body of work that makes up Scottish sports geographies so far.

Research into sports geographical themes in Scotland has been carried out by a few agencies and individuals. There is no coherent sports geographical approach in evidence and mostly the authors have not considered their work to be geographical in nature. Much of the work carried out has been based around surveys and quantitative data so explanations and place have been neglected. In fact there are a great number of topics that have not been considered at all as yet.

2.4 Gaps in the Literature

There are limited studies of the spatial distribution of sport. Those that have been carried out relate mostly to planning and facility development, and while for some that is grounded in geographical thinking – such as what is the carrying capacity of the area around a proposed swimming pool site for example and is the facility required – for

others the geographical aspects relate to the fact that there is a bounded area being considered. There is scope for work on this aspect.

Interpretation of the spaces of sport (place) has been limited. For example socio-demographic information has been gathered about participants but this has rarely been interpreted. While some studies have picked up on the meanings of places to those taking part in sport or spectating, these have not been set in the context of geographical thinking about ideas of place. There has been only limited consideration of place and placelessness in relation to sport in Scotland, however the idea of sport as an important part of the cultural life in Scotland is embraced by government and policy makers (for example Scottish Executive, 2000).

There have only been limited studies relating to the environment. Ways in which new technologies, such as GIS and interactive mapping might be used within the study of sport have not been investigated, nor has their utility to their publics been assessed.

Geography has a number of texts focussing on the development of geographical thinking, methods and approaches to knowledge. While sports studies and sports science have books considering specific methodologies these do not match the navigational gazing carried out by geographers over the past 60 years. There are no texts dealing with the specific approaches to knowledge appropriate for a geographical study of sport.

A number of individual pieces of writing or research focus on an aspect of sports geography, perhaps an example or one place in Scotland, however none are set within a context of geographies of sport. There is no overall theoretical framework in evidence within which any of those individual pieces of research could have been set. Not only is there a lack of information about the geography of sport in Scotland there is also an

absence of a framework within which any that have been done could be set. Scottish sport geographies have yet to be documented.

2.5 Conclusion

In 1974, Rooney proclaimed “There is much to be done, if we are to realise the vast potential inherent in the geographic study of sport” (Rooney, 1974, p289). This chapter has shown what potential has been realised, but also where gaps in our knowledge remain, particularly in Scotland.

The definitions of terms such as sport and landscape were considered. Sport geographical research has in part been limited by definitions of sport that focussed on performance or professional sport. For example sports stadia and professional footballers have received more attention than recreational grass pitches and Sunday leagues. Authors on recreation and leisure tended to ignore sport and concentrate on less active pursuits. Recreational sport has received only very limited attention. It is suggested that sport should be viewed as one aspect of physical activity, while leisure, recreation and exercise are other, not mutually exclusive aspects. Sports landscapes and sports places are dynamic and their meanings change according to the individual, the time and the activity being undertaken. There are multiple geographies of sport in Scotland, not just one.

Geography has been a recognised academic discipline since the 1870s. It now has a number of sub-disciplines of which the geography of sport is (a small) one. Geographers use a variety of approaches to research and sometimes these are quite different in philosophy but used concurrently. Sport has been part of the academic curriculum for almost as long as geography, however initially it was studied primarily

as physical education. For example Coakley and Dunning (2000) in the Handbook of Sports Studies note that while the first book on sport sociology was written in 1921 (*Soziologie des Sports* (Risse, 1921)) that sociology of sport and sports studies were not really formalised until 1965 when the International Committee for Sport and Sociology (ICSS) was formed (it is now known as International Sociology of Sport Association ISSA). In that same year the first journal dealing with sport sociology, *International Review of the Sociology of Sport* (IRSS) was published. Coakley and Dunning suggest the increased awareness of sport as a social practice in those teaching physical education students at university created a demand for research and publications in the subject.

This relatively late entry of sport into the academic world outside of education might explain why the geography of sport has not been embraced more fully by geographers. The review of research and literature both in sports geography and more particularly into the geography of sport in Scotland has shown that in the last forty years there has not been enough focus on the issues relating to space, place and environment in the study of sport whether from the perspective of geography or sports studies. As Horne & Manzreiter suggest, emphasis should be on “the variability of sports’ impact on different people at different times and places” (2006, p17). That is exactly what an explicit geography of sport, based on a framework for study would provide. There has been some sports geographical research into the themes of space, place and landscape. There has been limited research into themes of space, place and landscape in sport, studied through other disciplines such as sport sociology, football studies, regional studies and economics of sport. Very little of the research has been explicitly about or within a framework of a geography of sport. The research that has been carried out has been predominantly in the USA, and very much less has been relevant to Scotland.

The potential identified by Rooney (1974) has not been realised. This thesis will present a conceptual framework for geographies of sport and illustrate the contribution a geography of sport in Scotland could make to research in sport, geography and society.

Chapter 3 : Towards a New Conceptual Framework for Geography of Sport

A framework for the analysis of the geography of sport was first proposed by Rooney (Rooney, 1975). This was described in chapter 2 and illustrated in Figure 5. Bale (2000) comments that this framework is a useful organising tool, but perhaps does not pull out the inherently geographical nature of sport. Therefore this chapter considers improvements to this conceptual framework in order to make it appropriate for study into geographies of sport in the 21st century.

3.1 Geographic Matrix

Another framework for the study of geography had been proposed by (Berry, 1964) in the Annals of the Association of American geographers and that article was reprinted later in the book “Spatial Analysis” (Berry, 1968). This “Geographic Matrix” was an attempt at organising information or “geographic facts” (p26). His matrix involved an infinite number of boxes, each containing a fact. He proposed that rows in the matrix would refer to a characteristic such as Human (sub category for example economics) and that the columns would refer to locations. Thus by considering rows, spatial variations in a particular characteristic (for example economics) could be mapped and by considering columns the various characteristics of one location could be investigated. This was the two-dimensional version, but Berry went further. He recognised that the dimensions of location and characteristics were not fixed and believed facts were only true for any one point in time. He therefore brought in a third dimension, time. This resulted in the matrix becoming a three-dimensional figure reflecting characteristic, location and time. Analysis of the known facts could then be

undertaken in three possible dimensions or any combination. This was designed to specifically address regional geography and the need to apply the (at that time) new positivist approaches such as statistical analysis. This approach has since been adapted and developed by geographical information science (GIS) to enable computer mapping and spatial analysis using geographical information systems. Berry proposed ten modes of geographical analysis that could be applied to known geographic data. These were

- a) “The arrangement of cells within a row or part of a row
- b) the arrangement of cells within a column or part of a column
- c) comparison of pairs or whole series of rows
- d) comparison of pairs of columns or whole series of columns
- e) the study of a box or sub-matrix
- f) comparison of a row or part of a row through time – the study of changing spatial distributions
- g) comparison of a column or part of a column through time – the study of changing character of some particular area through a series of stages, otherwise termed the study of sequential occupance
- h) study of changing spatial associations
- i) study of changing areal differentiation
- j) comparison of a sub-matrix through time , a process that could involve all of the preceding approaches individually, but more properly undertaken requires their interplay” (Berry, 1968, pp28-29).

The known geographic data were also to be categorised in a hierarchical way. Berry suggests that any row could be subdivided a number of times for example splitting human and physical geography, human geography into social, economic and political and economic into resources, industrial etc, etc. This is shown in Figure 7 below. In addition the locations can be organised hierarchically. Berry suggested following the classification of major world regions by Hartshorne (1939) and successively grouping

smaller regions together to create larger ones. Finally Berry added the third dimension time- and illustrated in Figure 7 is the time slicing of the matrix showing the characteristics and places at different times.

TIME 1 Past

TIME 2



TIME 3 Present

Present			MAJOR WORLD REGIONS					
CHARACTERISTICS			Region 1					
			Subregion 1					
			Place 1					
Human	Population Geography		Variable 1					
			Variable 2					
	Cultural	Social	Settlement					
		Economic	Resources					
			Industrial					
		Political						
	Physical	Biotic	Vegetation					
Climatic								
Geomorphic		Landforms						

Source: Berry (1968, p30)

Figure 7 : Traditional Grouping of Dimensions in the Geographic Matrix

Berry's view was that in studying any aspect of geography, a selection was made as to how long, how wide and how deep the matrix was to be and this determined the number of characteristics and the scale at which they were to be studied and the time-frame to be considered. The regional thinking that Berry was continuing has become less accepted now, and regional studies are often based on the people and processes that are shaping the landscape, which are seen as much more important to human geography, rather than based on the physical characteristics of a location.

The matrix proposed by Berry would have been in the public domain before Rooney made his simple framework, however it does not appear to have had any influence on Rooney. While Berry was a statistical geographer focussing on spatial science, Rooney was looking at the contribution of sport geography to the sociology of sport. Both were using quantitative methods, but the framework and matrix have other similarities. Firstly the idea of time as an influence is included in both models, although Berry visualised slices of time, showing snapshots of the landscape at different times, while the configuration of Rooney's is less clear. Rooney certainly saw time as an important influence to the model. Secondly both include a location or area as a valid means of examining a region and accept that there are different boundaries or scales for the existence of the region. For Berry this involves a nested hierarchy of locations, and Rooney suggests it as a National or Regional scale (no specific size). Both models could also facilitate the investigation of one "box" in the matrix. For example baseball clubs in California in 1965 could be considered a characteristic of a place and time in the matrix and in the conceptual framework either as the topical column of baseball, with a point in time (diffusion and spatial organisation would be the topics of study) or as the area column with California as the region and any of the analyses performed for a specific time.

3.2 Development of Conceptual Framework

Bale (2006) claimed that the “history of sports geography is a bit of a non-history because it is so fractured. You can’t really force too much coherence on it.” He continued on that theme suggesting that sports geography has “never been institutionalised as a group” and therefore there is no annual meeting of a World Sports Geography Society, and no associated academic journal. Research in the field has mostly been done by non-geographers and has been published in a myriad of journals and books. However amongst this unstructured academic field, John Rooney stands out as the “godfather of sports geography” (Bale, 2006).

The framework when first outlined by Rooney (1975) came at a particular stage in thinking both in geography and sports studies. Human geography especially was embracing the ideas of spatial science. Spatial science was the dominant paradigm in human geography in the 1960s and 1970s and was formulated during the quantitative revolution. It is associated with positivism. Spatial science sees space as playing a fundamental role in influencing organisation and operation of society and the behaviour of its members. The derivation of general spatial laws from quantitative data was a key part of spatial science and individual human agency was less important than spatial characteristics of society. According to Nystuen (1968) generalisations were based on three fundamental spatial concepts, “directional orientation, distance, connectedness (or relative position).” The nature of enquiry in spatial science was entirely quantitative and the approach to knowledge was one of an objective rational scientist formulating laws about the world. Berry and Marble (1968) said the purpose of spatial science was “building accurate generalisations with

predictive power by precise quantitative description of spatial distributions, spatial structure and organisation, and spatial relationships.”

Since the 1970s there have been many criticisms of spatial science. For example Sack (1974) said that spatial separatism postulated the incorrect view that geography should focus on independent role of space as an influence on human behaviour. Sack felt that geometry (or simple spatial science) could be used to describe but not explain as it could not encapsulate human decision-making. A number of geographies developed as a critique to spatial science, for example radical geography, behavioural geography and humanistic geography. These did focus on either human decision-making (behavioural) or on the role of individuals in social relations and processing and underlying meanings of spaces and places (cultural, humanistic) or on the importance of class and capitalism in explaining the structures (Marxist, radical geography). Bale (2006) suggests that Rooney’s failure to grasp the importance of cultural geography and apply it to sport led to the narrow cul-de-sac of describing through maps without useful ways to interpret these images. This cul-de-sac was something Rooney did not escape from and the failure of the journal *Sports Place* was in part a result of this narrow cartographical focus (already mentioned in chapter 1).

Today, research relating to sports geography requires searching in a very wide variety of academic journals and fields. Bale (2006) commented “it has a fairly low level of development the whole geography of sport and it is still very marginalised within geography, but not outside, The people interested in the geography of sport are people in sociology, cultural studies, PE all this kind of thing”. The lack of interest from geographers perhaps reflects the non-status of

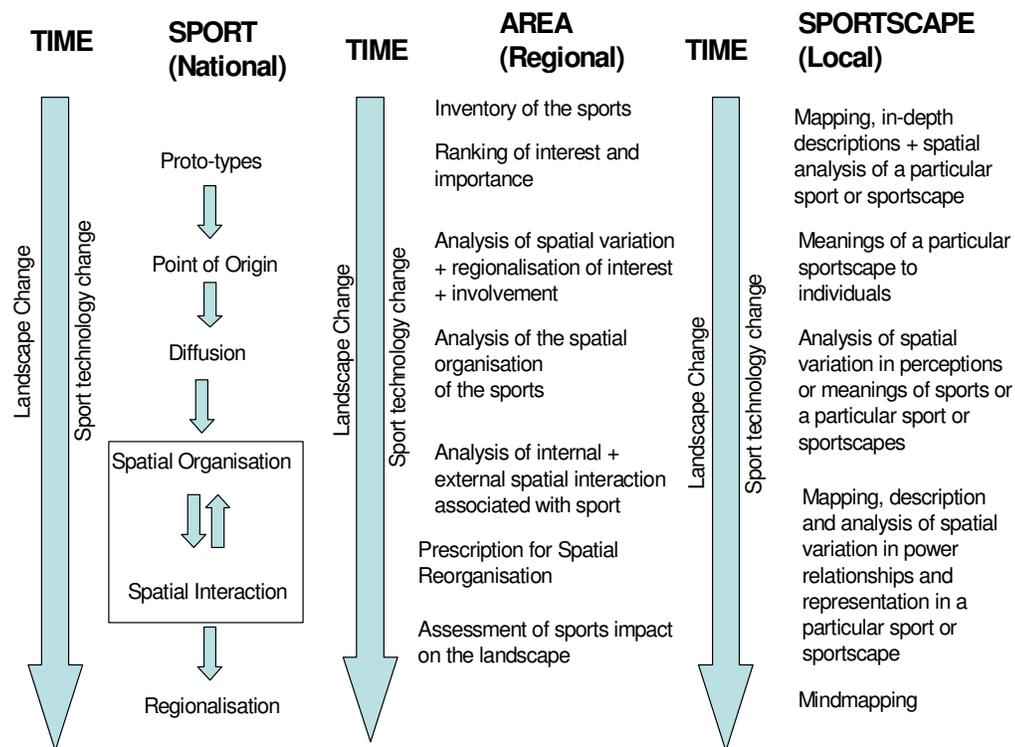
sports geography as a sub-discipline of geography or sport within universities. For example there are no degrees available in the UK on Sports Geography and it is rare to find even an undergraduate module incorporating sport and geography. The exceptions in England are: the Geography of Sport and Sports Tourism is an optional module for 3rd year geography students at University of St Mary's Twickenham, Sport Tourism is a 2nd Year option for students at Coventry University studying geography and tourism and at University of Brighton geography students can select a module on the geography of sport and leisure. No University in Scotland appears to offer a module in the geography of sport.

Bale is the most prominent sports geographer today and he appears to have followed the changes in geographical thinking in his development. His sports geographical writings have moved from descriptions of distributions and maps (similar to Rooney) to more interpretive and humanistic approaches such as utilising Tuan's (1974) ideas about love of place and post-modern and postcolonial methodologies (Bale, 1994; Bale, 2002). Current thinking recognises the importance of social relations and processes in understanding the spatial characteristics of society. There has been a significant change to include a situated or qualitative approach, and highlighting the importance of place.

The framework proposed by Rooney does not include concepts of place that are now central. The framework shown in Figure 5 has three main categories of enquiry, Time, Sport and Area. The category of time was to include the changes in sports landscape and technology over time, sport considered diffusion and regionalisation, and area considered a host of ideas at the regional level (Figure 5). These ideas are

not specific to sport and could apply to any phenomenon. In addition key geographical themes of space and place are not included.

The proposed framework (Figure 8) has addressed these problems and is a much more complete analysis tool. Firstly the category of time is transformed from a single theme considering changes in a landscape over time, instead to apply at each of the identified scales and amongst the concepts identified. For example in the area category, an inventory of the sports could be investigated at any point in time, but also changes that take place over time could be studied.



Source: Adapted from Rooney (1975)

Figure 8 : Developing a New Conceptual Framework for a Geographical Analysis of Sport

Each of the categories sport, area and sportscape give an opportunity for research at a different scale. Within the framework, the suggested topics remain the same in the

categories of sport and area. These apply now as they did then for Rooney, although additional approaches and methods may be employed. However it is in the introduction of a third scale, the local that the opportunity for research has been transformed. Research into geographical phenomena at the local scale requires a different approach to knowledge than that used by Rooney. Instead of scientific rational enquiry using quantitative research methods, the landscape at a local scale – or sportscape – can only be fully understood through the use of a mixture of approaches to knowledge and methods. Thus any study is required to recognise the situated nature of qualitative research into meanings of place as well as the more objective quantitative research into space.

With the understanding of key themes of geography as space and place, the framework can be expanded to consider the different scales at which these might be studied. The national scale is identified as that at which a whole sport might be studied, considering the issues of diffusion, regionalisation, changes to space and place relating to the sport over time. At the regional scale, there might be very similar subjects of study as those identified by Rooney (1975), but ideas of place might be incorporated into the thinking, as well as an ongoing consideration of changes over time at that scale. On a local level, the sports landscape can be described as a sportscape, with the characteristics of a landscape as in chapter 2. Place would be very much more important here, although space and spatial distributions would still be studied at this scale. For example mapping of locations of location facilities for sport might be done alongside investigating the meanings of the places to those who use, or do not use them. Throughout the model, the concepts of space, place, environment and time are applicable at each scale. This creates a myriad of possibilities for the study of many geographies of sport, not least when

each locality is considered as a different space or even a different place according to the person perceiving it as such.

SPORTS LANDSCAPE			
	SPORT	AREA	SPORTSCAPE
(SCALE)	National	Regional	Local
SPACE			
PLACE			
ENVIRONMENT			
TIME			

Figure 9 : A Matrix Illustrating the New Conceptual Framework for Geographical Analysis of Sport

This framework does not consider sport specifically and the word sport could be substituted for another phenomenon which has spatial variations. It is in the interpretation of the topics suggested by the framework that the sports geographer makes their mark. It is possible to look at research that has been done to date and place it into one or two categories within the conceptual framework. For example Hague and Mercer (1998) were working at the local scale looking at the meanings given by individuals to sportscares and also to some extent mindmapping as it was perceptions of Kirkcaldy and Raith Rovers that respondents were asked for. Massey (2006) questioned our ability to differentiate between scales when investigating processes and highlighted that local has an impact on the global and global has an impact on the local. This interdependence emphasises a weakness in the framework in Figure 5, that of the separation between scales. Any study of the local sportscape has to recognise processes taking place in the region, nation and world-wide that might impact on the local situation, and also what the local means for the rest of the world. Therefore in Figure 10 there are two-way arrows between the different scales

of enquiry to signify a dynamic, continuous interaction to be considered by researchers.

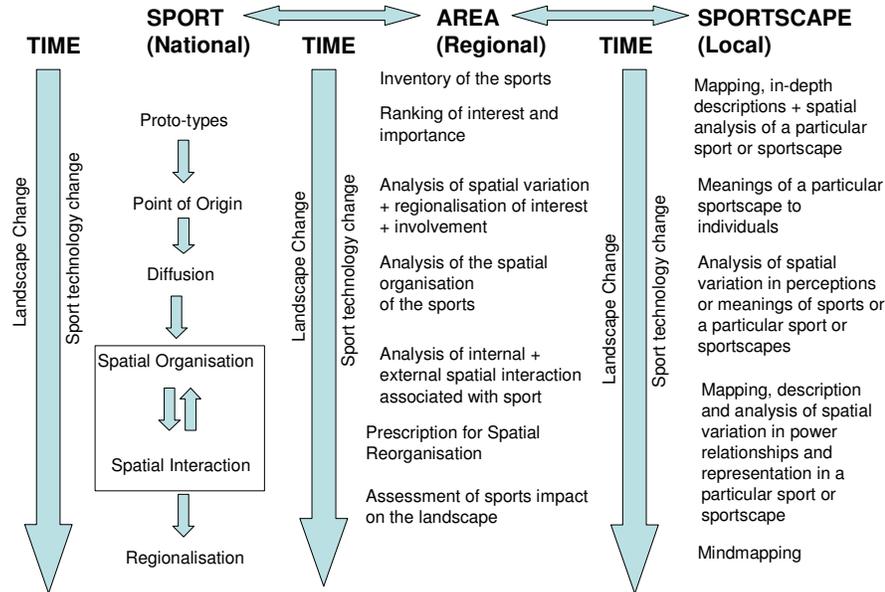


Figure 10 : A New Conceptual Framework for a Geographical Analysis of Sport

3.3 Approaches to Knowledge

The previous chapter on geography and sports geography outlined a number of approaches to knowledge adopted by geographers and sports researchers. This new conceptual framework (Figure 10) allows for research making use of a number of approaches and does not demand research from any one specific viewpoint. In fact the nature of the research, exploring the geographical study of sport, requires a number of different approaches. For example spatial science can be applied to large data sets utilised at the Regional scale in case study 2, while interpretivist thinking is required to undertake in depth qualitative interviews regarding the local sportscape in case study 3. Throughout the thesis and in each case study, a view that whatever method is most appropriate to research the question has been used, rather than taking

an overarching philosophical stance in favour of one approach. This chapter describes and evaluates the methodologies and methods used in the research, both generally and case-study by case-study.

There are two (opposing) approaches to the nature of knowledge. These are positivism and interpretivism. Each approach has different assumptions about the philosophy of reality (ontology) and how knowledge is required (epistemology). This author argues that these two approaches are not incompatible and that research can be carried out using a combination of the two to complement one another. Especially in the past, some authors believed that it was not possible to truly combine these methods and that as a researcher one had to be either a positivist or an interpretivist (for example Berry & Marble, 1968; Harvey, 1969). Montello & Sutton (2006) suggest that there are characteristic metaphysical beliefs held by most scientists (and therefore geographers). These include a belief that the world exists independent of people thinking about it, a belief that cause and effect exists only forwards in time, and a belief that the simplest explanation is the most likely one. However they stress that geographers recognise that one limitation of scientific thinking as portrayed above is the idea that other ways of thinking have no value. In fact geography should be a discipline that can recognise the value of both approaches.

Ontology is “the philosophical study of the ultimate nature of reality” (Montello & Sutton, 2006, p15). That is how one understands the world and the way one views reality. Morgan (2000, p204) highlighted an ontological question as “what is reality?” Hubbard, Kitchin, Bartley & Fuller (2002) explain an ontology as a belief

about what exists and therefore what can be known and they suggest some different ontologies to be (p7)

“the things we experience are the things that exist”

“the things we agree amongst ourselves to exist, exist”

“what exists is what is perceived to exist”

Morgan (2000) goes on to explain that a key ontological question in sports studies is what makes a given physical activity a sport as opposed to recreation, play or dance for example. The very idea that a sport can be defined and labelled as either a sport or *not* a sport misses the deeper meanings that might have changed perhaps over time or over space for example in the cultural meaning of sporting activities. Morgan also notes that there are alternative ways to defining sport – either in “formalist” or “contextualist” terms (p207). Formalists determine whether an activity is a sport from examining the written rules of the sport, while contextualists consider the rules but also importantly the ethos of the activity as shown in the social conventions that surround interpretations of the rules for example. Thus formalists would see that hockey is a game where the winning team is that that has scored the most goals at the end of the match time. Contextualists would argue that when the version of hockey recognised as “summer hockey” in Edinburgh is played, the fact that there is an unspoken convention that a team can only score by pushing the ball into the goal rather than striking would be critical. To those playing summer hockey the ethos of co-operation between teams to make the game happen becomes more important.

Massey contends that

“there are distinct ways of understanding the world around us

... human geography’s take on the world derives from its

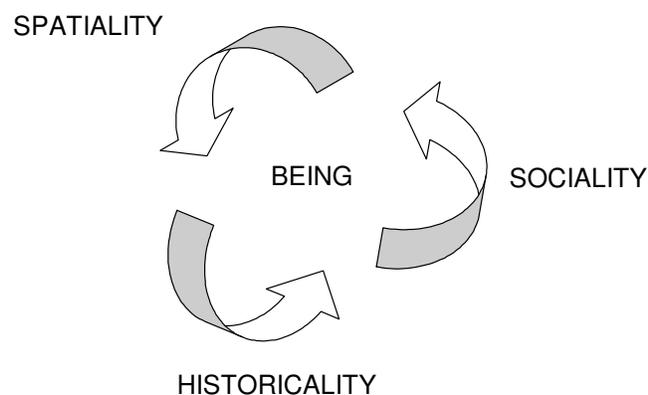
standing on the ground of the triad of space-place-nature...
this approach...can contribute significantly to the studies
pursued from the standpoint of other perspectives” (1999,
p4).

Hubbard et al (2002) consider two opposing ontologies, one the scientific approach and the other a situated approach, with corresponding epistemologies and methodologies. The scientific approach sees scientific enquiry as rational, objective and undertaken from a neutral perspective. The facts are established and add to the already established body of scientific knowledge. The situated approach recognises that all knowledge is found within its own context, that it is subjective and in part a social construction.

The author believes that the world is made up of a number of different realities, depending on the perspective of the observer, and while it is possible to find out specific “facts”, the interpretation of these is dependent on the view of the observer. This way of understanding the world means that the author believes there are both spaces and places to be investigated. There is a recognition that interpretation of these places and spaces will necessarily be made from the author’s perspective as a Scottish, white, female, mature PhD student. The author’s own experiences will also influence her interpretation of the world, for example 35 years as a tennis club member may impact on the way she understands the Scottish Sports landscape.

Epistemology is “the philosophical study of how people can acquire knowledge about reality” (Montello & Sutton, 2006, p14). In essence Hubbard, Kitchin, Bartley & Fuller (2002), while suggesting two “opposing” ontologies of scientific and situated, are following a well-trodden path for human geographers. Over the

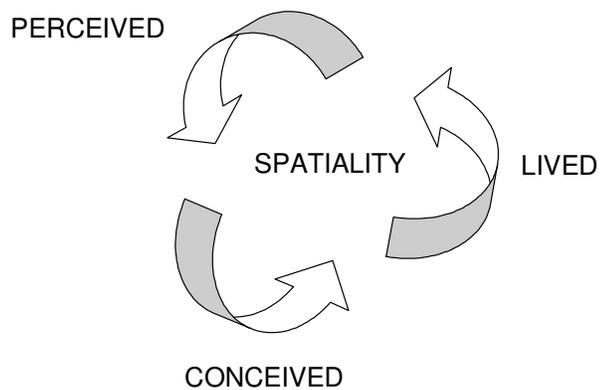
development of the discipline, human geographers have focused on a regional approach, then adopted wholeheartedly positivist ideas and then subsequently undertaken a “cultural turn” to at least include a situated approach. Massey et al (1999) goes further and with a number of other human geographers rejects dualisms at all levels instead outlining the “relational thinking” (p12) that has been important in adopting some ideas of trialectics and thirdspace from Soja (1996).



Source: Soja (1996, p71)

Figure 11: The Triialectics of Being

In Figure 11 Soja shows three different influences on the world as perceived or being: sociality, historicity and spatiality interconnect and are interdependent with no one dominating. According to Soja this trialectic allows a deeper understanding of the world as thinking is no longer confined by dualities or opposites. In fact spatiality itself can be considered as a trialectic with the ideas of firstspace as perceived space (directly experienced world, spatial science), secondspace as conceived space (subjective and imagined) and thirdspace as lived space. Rather than assuming a space to be somewhere on a continuum between that measured through spatial science and that understood through concepts of space and place instead Soja’s trialectic of spatiality sees three dimensions as shown below (Figure 12).



Source: Soja (1996, p74)

Figure 12 : The Trialectics of Spatiality

Morgan (2000) sees the key epistemological question as “what is knowledge” and for him how knowledge of sport is obtained is important – for example is it experienced first hand or is it obtained from more abstract means such as reading, observing, reflecting. He suggests that sports studies literature has had little consideration for this area of enquiry and speculates it may stem from the traditional links between sports studies, physical education and education departments. Geography appears to have no shortage of those interested in writing about how they understand the world and where their knowledge comes from as exemplified by “Human Geography Today” (Massey, Allen, & Sarre, 1999) where 19 different authors each contribute a different approach to knowledge within the general framework of situated and relational thinking and recognising that as p21 states “human geography is ...of the world and a part of making it”.

Different approaches, positivist and interpretative, generally make use of different types of data. A positivist approach uses quantitative data and considers measurement of numbers and amounts collected from objective measurement or observation by an unbiased observer. The deductive approach involves starting with

a hypothesis and then researching to disprove it. The data (usually a large sample) can then be analysed statistically, often to make generalisations about a wider population. Qualitative data is collected by a researcher using the interpretative approach and relates to feelings, meanings, and ideas that cannot be captured by numbers alone. There is no attempt to be objective; in fact the subjectivity of the researcher can form part of the process. Often the researcher does not begin with a hypothesis, but draws theories from the rich, descriptive findings in an inductive theory-building process.

The aim of the thesis is to develop a geography of Scottish Sport. It is not within the scope of the research project to study every aspect of Scottish sport in every place within Scotland. It has therefore been considered appropriate to adopt a case study approach to illustrate the application of sports geographical methods and principles to the study of sport. Future studies can then build on these initial case studies to begin to complete a geography of Scottish Sport. The thesis aims to develop a framework for sports geographical research and to test the usefulness of this approach in the development of a Scottish sports geography.

Gratton and Jones (2004) propose the case study approach to research one specific case in depth. They suggest the justification for the use of a case study is the view that it is not possible to understand human activity without taking into consideration the whole context of enquiry. Case study research is about a holistic view. Seale (2004) notes that the case study approach is often linked to realist qualitative or interpretivist research methods. The size of a “case” appropriate for study in the case study approach is not defined in the research methods literature; rather it is left to the individual enquiry to justify the case. Seale (2004) suggests that a nation could make

up one case study although it contains many millions of individuals all of whom could be considered individual case studies. In this thesis, a case study is taken to be a specific example of the object of enquiry, and the scale is taken from the geographical framework Figure 10. The choice of case study (or example) is not based on either randomness (in terms of a statistical sample) nor on typicality (to make generalisations). Bale (2006) showed that a case study of one was valid.

Yin suggests that case study is not just a method but an entire research design and gives a technical definition of a case study as

“..an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis.” (2003, p13)

Thus according to Yin, the case study method is used in order to deliberately include the context in the research. That is not to attempt to make a distinction between the subject of study and the conditions around it, such as might be done in an experimental design. It is not necessary to always include direct observations or measurements in a case study and while the use of survey data in the second case study has a limited view of the context, a number of different data sets are combined in this instance. The entire research project is based around demonstrating the

usefulness of an approach to the study of sport and therefore there are ideas guiding the data collection and analysis.

There are several limitations of the case study approach. Montello & Sutton suggest case studies are more useful in the early stages of a research programme and that they are at best “suggestive about causality rather than definitive” (2006, p124). There is also a risk that in selecting a case-study a very unusual example has been selected, so generalisations must be made with extreme caution.

While two approaches to research will be utilised, positivist and interpretivist, it could be argued that the case study approach is located nearer the qualitative, interpretivist end of the continuum (Johnston *et al.*, 2000). However within each case study, as suggested by Yin (2003) both qualitative and quantitative methods have been used.

This thesis comes from an approach that recognises a number of perspectives. Therefore no one methodology will be appropriate. Using the analogy from (Soja, 1996) above, to investigate perceived space, spatial science methodology may be adopted, for example to study, map and potentially explain a pattern of distribution of curling rinks in Scotland. To further understand that pattern it may be necessary to investigate the perceived space that curling rinks occupy and further to find out more about the lived space and the everyday experience of those people using and not using the curling rink.

If, rather than subscribing to the view of Massey (1994) and Soja (1996), dualisms are still apparent, a mixed group of methodologies is still appropriate. A mixture of extensive research design, in relation to area - finding patterns in large data sets and

explaining through causal processes (positivist, deductive, quantitative) and intensive research design, in relation to sportscape through interpretation of small number of case studies (qualitative, inductive) will be used (Clifford & Valentine, 2003).

Reliability, validity and quality are key issues for all researchers using any approach. These broad ideas can be shared across the two traditions interpretivist and positivist (scientific), however the application of them is different. Therefore they are dealt with separately in the sections below, beginning with the scientific or positivist tradition.

Reliability is the repeatability of scores or measured values. It applies to quantitative data collection, where a researcher would like to be able to find the same value if measuring again. Montello and Sutton (2006) list three types of reliability ; remeasurement, internal consistency and inter-rater. Remeasurement reliability involves measuring the value again at a later time using the same procedures. This may not be useful if the value or measurement is of a variable that changes over time or is dependant on a context that may have changed through time. Internal consistency relates to understanding a complex construct through a number of variables, for example answers to questions in a survey, and the need for those variables to relate to the construct and also to agree with each other (Gratton & Jones, 2004). One way of assessing this is to take measures from half of the variables (in a large sample) and correlate these with the other half of the variables to check that the overall measurement is similar between the two halves (Montello & Sutton, 2006). Inter-rater reliability is required when data is collected or analysed by more than one person. Here agreement between two or more researchers on scores

or meaning would be judged. In any study it is not possible to get perfectly reliable measurement, but high (80%) agreement is preferable (Montello & Sutton, 2006).

These concepts can be illustrated for a study carried out into recreational use of a public park. A count of the number of people jogging in the park between 10am and 11am on a Saturday taken on a number of different Saturdays would give an increased level of reliability compared to a single count taken on just one day. Caution would be required to evaluate this remeasurement reliability because different factors might have an influence on different days such as the weather, other events in the park, and the time of year. A questionnaire could be used to ask individuals about their safety within a park. The internal consistency of their answers could be monitored through asking a number of different questions that related to the complex idea of personal safety. Questions could be split into two groups (both asking about aspects of personal safety) and the answers from the whole sample compared between the two groups of questions. If the results were similar this would indicate that the participants understood and were agreed upon the concept of personal safety. Inter-rater reliability could be checked through all the researchers involved counting users of the park during the same time period on the same day and then comparing their findings.

Validity is how true the findings of the research are. In quantitative (positivist) studies there are four classes of validity; internal, external, construct, and statistical conclusion. Internal validity relates to causal relationships in the research, the likelihood that a relationship shown statistically to be caused by one variable is in fact the result of another. External validity is concerned with the generalisability of the findings from sample to population. All aspects of the research design can

impact on that. In addition ecological validity links the findings to those in a real-world setting. Construct validity concerns how well the variables measured actually represent the concept that the researcher is interested in. One way to enhance this is to use a number of different ways to represent the concept. Statistical conclusion validity is about how true the conclusions drawn from statistical tests are: using appropriate tests and interpreting them correctly increases this type of validity. Issues include the statistical power, chances of type I and type II errors, and conducting multiple tests on one data set looking for significance.

The four classes of validity can again be illustrated through the example of the study into recreational use of a public park. Internal validity would be compromised if a statistical link was found between the time of year and the number of people jogging in the park in the evening and assumed to be a causal relationship. This might be an incorrect conclusion as other factors such as air temperature and hours of daylight might be the real causal factors at work, and these are also to some extent dependant on time of year. In order to generalise from the findings of the research study of a few days of use in a park to either all the people who use the park or even to the wider population of all people who use parks, external validity is required. A higher level of external validity could be achieved through increasing factors such as the number of interviews undertaken and the number of time periods over which measurement of usage was undertaken. The construct validity of the questionnaire would have been improved through asking a number of different questions about the concept of personal safety. However, asking participants about personal safety would actually be finding out about their perception of personal safety and the “real” level of personal safety may be better measured either by observing activity and counting the number of attacks or intimidating situations that took place (!) or

utilising police statistics on reported attacks in the park. Improvements in statistical validity could be made through ensuring one uses an appropriate level of significance at which to reject the null hypothesis.

Validity can also be compromised by the research process. Researcher-case artefacts occur when the subject(s) of the research is (are) influenced by the research process (interactional) or when the researcher uses their understanding of a situation as research (non-interactional). No researcher can be completely objective and the interpretivist tradition mentioned earlier acknowledges this and moreover recognises the constant and ever-changing relationship between the researcher and the researched as part of the research process.

Researcher-case artefacts can be suggested in the study of recreational use of a park. An interactional artefact might be the researcher undertaking fieldwork during winter evenings and becoming influenced in their view of the park as a cold and frightening place. Previous experience can result in non-interactional artefacts for example if the researcher had been attacked when jogging in a different park the previous year, he or she might interpret actions they observe in a more intimidated and frightened way than another researcher with a different background.

These ideas are in contrast to those within the interpretivist tradition now outlined. Lincoln and Guba (1985) adapted the ideas of the scientific tradition to apply to qualitative research. Table 2 shows their translation of terms.

Table 2 : Lincoln and Guba’s Translation of Terms

Conventional Inquiry	Naturalistic Inquiry
Truth-value (Internal validity)	Credibility
Applicability (External Validity)	Transferability
Consistency (Reliability)	Dependability
Neutrality (Objectivity)	Confirmability

Source: Seale (2004, p77).

Credibility: There is no one truth; instead there are multiple constructed realities. It is suggested that instead over time research is shown to be more likely to be correct if there have been many continuous observations, triangulation between a number of methods and findings and criticism by academics. Seale also advocates “member validation” (2004, p78), or showing the subjects of the research the interview transcripts and reports so they can say if they agree with them. Triangulation has been proposed by a number of researchers (for example Denzin, 1978; Gratton & Jones, 2004; Seale, 2004). The idea of triangulation is that findings are confirmed (or validated) by making use of more than one type of information. Denzin (1978) cited in Seale (2004) listed four types of triangulation. Data triangulation can be used when there are many different sources of data, for example from different places or times. Investigator triangulation means many observers or researchers conducting fieldwork and discussing their findings to reduce individual biases. Theory triangulation involves the researcher having more than one hypothesis or theory to test when conducting the research. Methodological triangulation is the most common form of triangulation and this requires the researcher to make use of more than one methodological approach in order to look for supporting findings, for example using quantitative and qualitative methods.

Transferability : Rather than being able to apply the findings of one study to a wider general population or to all cases, Lincoln and Guba (1985) felt this idea reflects the depth of information collected about one case in a qualitative project. Instead findings can only be transferred to a situation very similar to the original case and knowledge of both the case (perhaps from the very detailed descriptions in the study) and the instance of possible transfer is required.

Dependability : A process called “auditing” by Lincoln and Guba (1985) could rate the dependability of the results. The audit would involve scrutiny of all documentation and methods used in the research as well as the findings by a panel of “auditors”. If the audit is carried out by the researcher it is an exercise in reflexivity, providing a self-critical account of the research undertaken in order to understand where, for example, researcher bias might have affected the process.

Confirmability also makes use of the audit to establish whether the findings can in fact be shown to be possible and replaces the idea of neutrality of the researcher.

Instead of counting users of the park and administering a questionnaire, a naturalistic inquiry might make use of interviews with open questions. As the researcher would not be looking for one truth, they would not be expecting to find it. Participants might be shown transcripts of their interviews to see if they agreed that is what they had said (and it was actually what they meant (member validation)). The researcher might also observe the behaviour of the participant in the park on a number of occasions to check that the information given in one way (through the interview) agreed with findings from another source (observation). This would be one form of triangulation. Other types of triangulation might involve a number of researchers

conducting interviews and discussing the findings, or the researcher having more than one theory in mind when conducting the research. Findings from a naturalistic study undertaken in this particular park would not be transferable unless to a very similar park in an almost identical setting, well-known to the researcher. To assess the dependability of the research, an audit carried out either by the researcher themselves or by panel of auditors could check the research process for flaws or bias. The auditors could decide if the findings were possible and thus confirm the findings of the study as realistic.

Seale (2004) suggested a number of ways of increasing the quality of qualitative research and these involve a number of the concepts just outlined (Figure 13).

Triangulation Member validation Search and account for negative instances or deviant cases that contradict emerging ideas Produce well-grounded theory with good examples of concepts Demonstrate the originality of findings by relating these to current social issues or social theories Combine qualitative and quantitative methods Use low inference descriptors that show the reader a very full account of observations made, reducing the extent to which the reader's interpretations are involved in recording raw data, as in conversation analytic transcriptions Present a reflexive account of the research process so that the reader can see where the ideas and claims come from

Source: Seale (2004, p80)

Figure 13 : Ways of Enhancing the Quality of Qualitative Research

These approaches to knowledge and means of ensuring reliability, validity and quality are reflected in the individual methodologies employed in each of the illustrative case studies in chapters 4, 5 and 6. Each of these chapters has a more detailed methodological section to describe and explain the methods used.

3.4 Conclusion

Rooney (1975) proposed a framework for research in sports geography. The author has adapted this to include “new cultural” developments in sport geography. Rooney’s conceptual framework for the geographical analysis of sport included

- a topical approach – looking at a sport and its geographical spread, diffusion over time, etc
- a regional approach - looking at all sports in a particular region – perhaps creating an inventory, describing and explaining their spatial organisation, variations in that spatial organisation either in space, time or between sports, regionalisation, impact on the landscape of the region
- the changing landscape of sport through time and impact of changes in sports technology

Berry (1964) proposed a matrix for statistical analysis of geographical facts. This used a geographical characteristic, a location and a time to pinpoint key facts and has been more recently used as the basis for GIS research and development. Both of these geographical models were positivist in nature and relied on the existence of objective truth. More recent developments in geography have shown that there is more than one “truth” and that a researcher is situated rather than unaffected by their surroundings. The importance of meaning and feelings has been reflected in the New Conceptual Framework presented in Figure 10 and an entire column is given over to the local sportscape. However the shift in approaches to knowledge is reflected in the inclusion of ideas on space, place, environment and time at each scale (as illustrated in Figure 9). Each of these themes can be identified in research at different scales.

The new framework allows for the concurrent use of more than one approach to knowledge to carry out research into the many different sports geographies that exist. Some general issues about approaches including ontology, epistemology and methodologies have been explored in this chapter. Details of the methods used to research each case studied are given in more detail in chapters 4, 5 and 6.

The case studies were carefully selected to illustrate the framework. Each provides new insight into the topics found within the framework – history of a national sport, regional variation in sporting attributes, and explaining a local hotspot. However in one sense the exact subject of research is unimportant because the case studies are simply examples of what can be done using the approaches outlined. However in another sense the subject of each case study is very important as each is a piece of research into sporting phenomena which are of interest to those in the field of sport and sport studies. The findings of each case study add to the body of knowledge about the specific subject. In addition the case studies while investigating different topics, do link together through a common thread of changing scale. The fact that case studies are undertaken at each of the three scales in the framework – national, regional and local – is critical.

The new framework (Figure 10) has been constructed to provide a more coherent structure for research into geographies of sport. In itself the framework will not do it, however it is hoped that research stimulated by and organised through this model might identify and address areas where previous research has been lacking, providing guidance on where within the sub-discipline of sports geography a researcher's interest lies, and to provide structure for the academic development of the discipline of sports geography in Universities and schools. It is intended to provoke discussion

and debate, bring together research from a variety of fields but relating to a sub-heading of sports geography, or to a particular region and provide a framework for future research in the field of the geographies of sport.

Chapter 4 : CASE STUDY 1 : The National Scale

This chapter investigates the landscape of a national sport using the framework for the geographical analysis of sport (national scale) developed in chapter 3. It uses this approach to understand a sport and its history more fully as well as to explain its current structure. Within sports studies, a history of a sport with descriptions of changes over time is relatively common. Scottish curling has at least five such histories written by curling enthusiasts (for example Cowan, 1985; Kerr, 1890; Murray, 1981; Smith, 1981; Welsh, 1969; 1985). Histories of Scotland and Scottish culture present information about curling – but mostly gleaned from these sources. An alternative, and academically more critical, analysis of the landscape is required.

The chapter will answer three questions:

Is curling a National sport?

Does the framework for analysis of geography of sport assist in the answering of this question and how?

How can a landscape of a sport be described and explained at a national level?

The aim of this chapter is not to compare the validity of different approaches to answering these questions to one using the framework for analysis of the geography of sport, but to present the usefulness of the national approach from the framework for consideration. This was called “topical” in Rooney’s (1975) original framework. The selected section of the framework is in Figure 14. As already noted, it is not possible to consider the subject of study at one scale only as processes of change at

all scales are constantly impacting on the subject and the subject is impacting on many other factors outside of the object of study. It is an interdependent world. However, for the purpose of this case study, an attempt will be made to isolate the factors acting at a national scale. Note that time is not always linear or one-dimensional.

In answering the third question the factors from the framework (Figure 14) will each be examined in detail and then the knowledge of the curling landscape gained will be evaluated.

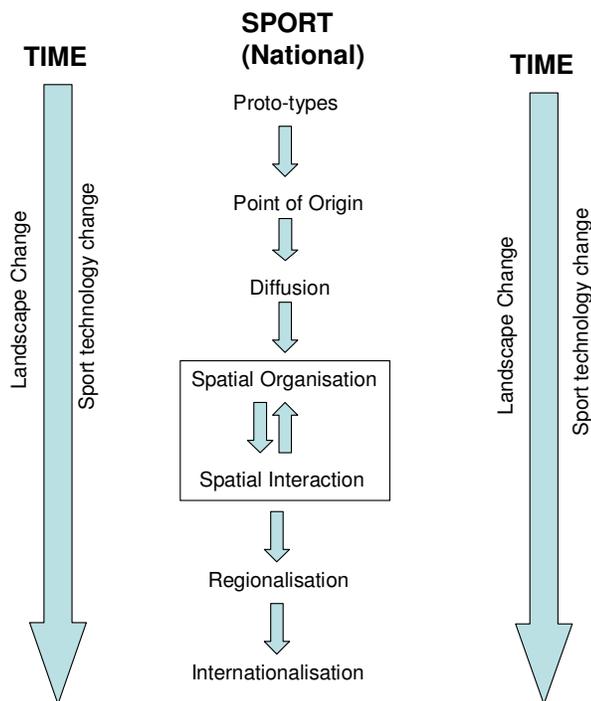


Figure 14 : Extract from the New Conceptual Framework for the Analysis of Sport

The structure of the chapter is based on the New Conceptual Framework (Figure 14). Following an outline of methodologies and methods, each aspect of sport at a national scale is considered in turn, examining geographical themes of space, place, environment, landscape change and sports technological change.

4.1 Methodologies and Methods

Much of the historical evidence for the development of curling has been obtained from documentary sources, mainly books written about the history of curling, or about curling at the time they were written. These histories must be understood in that context – the people who wrote them chose what aspects to highlight and what to miss out, they put their own particular views into the text as “fact” and by the nature of the publishing were enthusiasts not researchers (Black, 2003). Therefore the information found in the various histories has been treated with caution. In addition there are a number of web and actual archives available, for example of Canadian Curling Association at www.curling.ca, Royal Caledonian Curling Club (RCCC) at www.royalcaledoniancurlingclub.org and Royal Commission on the Ancient and Historical Monuments of Scotland (SCRAN). These contain a mixture of others’ interpretation of the historical documents, actual memoirs written by curlers, newspaper reports, interviews and a huge number of photographs of Scotland and explanations about them written by historians. However most are published (either on paper or on the web) by those interested in promoting the sport of curling. Thus particular aspects may be emphasized as being “good” for the sport. In addition, modern historical reports, such as that carried out for sportscotland following the success of curling at the Olympics (Mori, 2004) are generally commissioned for a particular purpose.

Black (2003, p479) has suggested a series of questions that should be asked about any source of historical data

“Is the source genuine?”

How accurately was the information recorded?
What was the original purpose of gathering the information?
How has the process of archiving the information imposed a
classification and order upon historical events?"

These evaluative tools were used on each source of information.

In addition to these accounts of curling in the past, there were also references to curling in literature, particularly in poems and songs, and again these have been treated with caution. But as noted by Black (2003), the use of sources such as ballads gives a feeling of the experience of the past as well as a description of the physical spaces. More recent accounts of curling include a background report prepared for Sportscotland and the review of Sport 21 and a survey into the change in popularity of curling following the Olympic win in 2002 (Mori, 2004; sportscotland, 2002a). Key figures in the historical research and documentation of curling in Scotland were contacted. Interviews were recorded (with their permission) and personal communications (by e-mail) have been fully referenced.

Baker suggested historical geographical analysis is :

“A series of balances between fact and interpretation,
between the particular and the general, between the empirical
and the theoretical, and between the objective and subjective”
(Baker, 1997, p238)

By considering the source of the information and interpreting it through the framework, the author attempts to make that balance between the “truth” and “understanding”. While attempts have been made to assess the quality of the data,

triangulation through data from more than one source is particularly difficult as many refer to each other.

Geographical Information Systems (GIS) were used in the interpretation and analysis of information. The GIS system ArcGIS was used in this study to enable maps to be produced from spreadsheet data that had both locational (postcode) and attribute (for example type of curling facility) information. Heywood, Cornelius and Carver (2006) suggest that there are three critical parts to GIS and these are common to the various definitions. These are a computer system (hardware, software and procedures), spatially referenced data, and management and analysis of the geographical data. Geographical information science is the science behind GIS. Any data that has both a spatial component (for example an Ordnance Survey Grid reference or a UK postcode) and attribute information (information about the process event or activity being measured) can be used in a GIS (Harris, Sleight, & Webber, 2005). GIS analysis can be used to store data and display it, to look for patterns in data and to model future changes (Heywood, Cornelius, & Carver, 2006).

Any source of spatial data may be influenced by some, or all, of the following factors

- “the purpose for which they have been collected,
- the scale at which they have been created,
- the resolution at which they have been captured,
- the projection which has been used to map them,
- the spatial referencing system used as a locational framework,
- the nature of the spatial entities used to represent real-world features,
- the generality with which these entities have been modelled,

the topological structure used to represent the relationship between entities” (Heywood *et al.*, 2006, p67-68).

All of these factors need to be considered before making use of the spatial data for whichever of the three purposes mentioned above. “GIS models are only as good a representation of the real world as the spatial data used to construct them” (Heywood *et al.*, 2006, p68). Therefore if the location data is accurate to within 50 miles, any map drawn using GIS cannot be more accurate. For this chapter, locations mapped are plotted through modern postcode data and their location is accurate to within approximately 50 metres. However presentation of locations is on a national basis, so the definition of the map does not require anywhere near this level of detail.

The limitations on this case study reflect the limitations of the data sources themselves and the interpretation of these by the researcher. Firstly historical accounts often make use of the same initial facts or reference earlier historical accounts. There are very few primary sources. Those who wrote the accounts have been mainly curling enthusiasts or archivists relating the interpretations made by the enthusiasts. Secondly the researcher began the process with a very limited knowledge and understanding of the sport of curling. This presents advantages and disadvantages. There is no biased presentation of facts based on a particular view, but there is also no critical interpretation to recognise when there is inaccuracy in the original report. Understanding of the ethos of the game is secondary and not first hand reporting. These would be at a number of scales (not simply the national) and in fact some ethnographic and local studies might illustrate the transformations most effectively. The most recent work about Scottish curling was published in 1985 so there is no other record of the most recent landscape changes.

4.2 Prototypes

Smith (1981), in "an illustrated history of curling", has shown the progress of curling from a pastime, which was undertaken by men in the community when bodies of water were sufficiently frozen, to the present day when curling is a sport for many people across the world, not just in Scotland, on artificial outdoor ice rinks or in indoor rinks. The first written record of curling dates from 1541 and related to a challenge between a monk in Paisley Abbey and a representative of the Abbot in throwing stones across the ice (Smith, 2008a). Other early references to the game including "kuting" as a name (Murray, 1981). The prototypes of curling will be described and explained using the key geographical ideas of space, place, environment, and themes of landscape change and sports technology change.

Many historical writings about Scotland or about curling claim that curling originated in Scotland, (Kerr, 1890; Smith, 1981; Welsh, 1969; Welsh, 1985). However all acknowledge that a very early piece of writing by Ramsay (1811), a member of the Duddingston Curling Club, sets out evidence that shows that curling came to Scotland from the Low Countries. His assertion was based on two paintings by a Flemish painter Pieter Breughel (1530-1569) that show curling or a game like curling being played on a frozen pond and some etymological evidence of the language used in curling. The game of "eisschiessen" similar to that seen in the Breughel painting is still played in Europe, but is different to curling, using a wooden "eisstock" rather than a curling stone and no broom. Welsh (1985) suggests that the evidence of ancient curling stones in bogs or in other places in Scotland shows that curling took place there in the 16th century. Smith (2008a) presents the ledger containing the earliest reference to a game throwing stones across ice in Paisley in

1541. It is only in Scotland that curling stones from the 16th century have been discovered (Murray, 1981). In other parts of Europe, for example the Low Countries, no curling stones dating from that period have been found. Welsh explains that if in the Low Countries, frozen sods of earth were being used as curling stones, that would explain why none had survived to this day, however, a game played using frozen sods of earth would not be curling. Kerr (1890) in the classic "history of curling" refuted Ramsay's suggestion, and instead proposed Scotland as the birthplace of curling. Murray (1981, p16) stated "the Scots have given several games to the world : the earliest shinty,... then golf.... and finally curling...These then are Scotland's three national games, in the sense of being native to the Scots". Whatever the true prototype of curling was, Welsh concludes the debate with "wherever curling began, it is Scotsmen who nurtured, regulated, and exported the game" (1969, p14).

In these times, the link between the everyday activities of the majority of the population and the prevailing weather would have been very strong. The activities resembling curling were also dependant on the natural environment. A combination of a body of water, extremely cold temperatures and a local population was required. A prerequisite condition was ice, and in the 15th and 16th centuries that would have been ice on lochs, rivers, some dammed streams, for example millponds, and even the sea. Dawson (2008) has documented the climate of Scotland in the late middle ages and describes in detail the impact of the "Little Ice Age" on the climate and people. For example during the winter of 1607 a severe frost across Scotland began in November and continued until 20th February 1608. This resulted in the sea freezing up to the low tide mark and estuaries freezing across – the Forth could be crossed on foot one mile east of the Airth-Alloa ferry. This winter was exceptional,

but throughout the 17th century there continues to be evidence of extremely long periods of freezing weather. For a period in the 1640s and 1650s there seem to have been slightly milder conditions, but these were followed by the coldest decade of the previous 300 years. The 1690s saw sea-ice around Scotland preventing boats entering Scottish harbours. The sea temperatures are estimated to have been 5 degrees colder than today (Murray, 1981) and in fact open water could not be seen from the highest mountains such was the extent of the sea ice around the coast of Scotland (Dawson, 2008). At this time, sea-ice completely surrounded Iceland and two “Finn-Men” reached Orkney probably from the much expanded Greenland Ice shelf in small kayaks. The majority of the population lived in the countryside, and during these long winters there would have been no work for the people on the land as the ground would have been frozen. In addition much of the lowland was yet to be drained and improved, so there were a large number of small lochs and marshlands where ice would form. Murray (1981) suggests that living conditions at the time would have made sheltering indoors for many months impractical and uncomfortable, encouraging people to be active outside in the fresh air. These are favourable conditions for the development of games involving the ice. However the desperate poverty and famine conditions that were a result of the deterioration of the climate would not have been conducive to the development of leisure activities. Dawson (2008) reports that harvests failed for many years, that mills were unable to operate when the mill ponds and streams were frozen for long periods and that many thousands of people starved. These conditions are not those normally associated with the pursuit of leisure and recreation. Scottish curling appears to have survived and continued through these difficult conditions, and this in part may be due to the structure of the rural landscape in which it was practised. Before the 18th century,

landowners were often involved in curling, perhaps organising matches between parishes, but certainly providing the land for the pond. Perhaps these same landowners were those that were more sympathetic to the plight of their tenant farmers and therefore conditions for those people were not so harsh. There is a strong tradition of “brotherhood” in Scottish curling and it is possible to speculate whether this came from earlier acts of solidarity between curlers of different means.

It is unclear what prototype games of throwing stones on the ice might have involved. We do not know what the rules were nor how games were organised (or whether they were). We also do not have evidence of more than the varying stones that developed over time of how the prototype activity became a sport. Bale (2003, pp37-38) showed the structural differences between folk games and sports that had been identified earlier by Dunning and Sheard (1979). In this case the first activities of a game throwing stones on the ice could be considered a folk game rather than a sport. Table 3 shows a dualism – either something was a folk game or a sport, and implies that there is a single point at which an activity crosses between the two. This is almost never the case. To begin with, the earlier described “third way” as proposed by Eichberg (1998) indicates that in fact an activity need not be either a folk game or a modern sport, but something else entirely. Secondly each indicator relating to folk game or modern sport places an activity in a point in time (or a place) somewhere on the continuum between the two categories – and the movement in time and space is along that continuum making a specific break point for each property hard to identify. Thirdly as there are a number of properties identified as relevant, and the activity will be at different points on the continuum between folk games and modern sports for each of the properties, a decision as to which properties are more important or for how many of the properties the conditions of modernity

must be satisfied is extremely hard to make. Nonetheless, the examination of each of these structural properties and identification of points in time and space when the conditions of modern sport were met forms an important part of a sport geographical study. In this thesis, the section relating to the point of origin of the sport will consider some of these factors. The descriptions of the characteristics of folk games closely resemble the characteristics of the first curling activities in the 16th and 17th centuries. These characteristics have a strong sports geographical component, and those that are particularly relevant to the ideas of space and place are highlighted in yellow in Table 3.

Table 3: The Structural Properties of Folk Games and Modern Sports

Folk games	Modern Sports
Diffuse informal organisation implicit in the local social structure	Highly specific, formal organisation, institutionally differentiated at the local, regional, national and international levels
Simple and unwritten customary rules, legitimated by tradition	Formal and elaborate written rules legitimated by tradition, worked out pragmatically and legitimated by rational-bureaucratic means
Fluctuating game pattern; tendency to change through long-term, imperceptible drift	Change institutionalised through rational-bureaucratic channels
Regional variation of rules, size and shape of balls, etc	National and international standardisation of rules, equipment, etc
No fixed limits on territory, duration or numbers of participants	Played on a spatially limited area with clearly defined boundaries, within fixed time limits, fixed number of participants, equalised between the contending teams
Strong influence of natural and social differences on the game pattern	Minimisation, principally by means of formal rules, of the influence of natural and social differences on the game pattern: norms of the quality and "fairness"
Low role differentiation (division of labour) among the players	High role differentiation (division of labour) among players
Loose distinction between playing and "spectating" roles	Strict distinction between playing and spectating roles
Low structural differentiation; several game elements rolled into one	High structural differentiation; specialisation around kicking, throwing, use of sticks, etc
Informal social control by players themselves within the context of the ongoing game	Formal social control by officials who stand "outside" the game, appointed and certificated by central legislative bodies and empowered, when a breach of the rules occurs, to stop play and impose penalties
Higher level of socially tolerated physical violence; emotional spontaneity; no restraint	Low level of socially tolerated violence; high emotional control; high restraint
Generation of relatively open and spontaneous form of pleasurable "battle excitement"	Generation of more controlled and "sublimated" form of "battle excitement"
Emphasis on physical force as opposed to skill	Emphasis on skill as opposed to physical force
Strong communal pressure to participate; individual identity subordinate to group identity; test of identity in general	Individually chosen as a recreation; individual identity of greater importance relative to group identity; test of identity in relation to specific skill or set of skills
Locally meaningful contests only; relative equality of playing skills among sides; no chances for a national reputations or money payment	National and international superimposed on local contests; emergence of elite players and teams; chance to establish national and international reputations, tendency to standardise terrain, monetisation of sports

Source: Bale (2003, p37-38)

During the prototype phase, there were a great number of technological advances in the stones used for curling. Old stones have been found in drained lochs or ponds and also recovered from marshland. Some of the first stones appear to date from earlier than the first inscribed stone (dated 1511) and found near Stirling. These early kuting stones were unshaped and possibly developed from the game of quoits that was played in the 14th century.

There are a number of phases of development of curling stones that have been identified by Murray (1981). The first two are part of the prototype phase:

1500-1650 : The first kuting stones were stones found in rivers and weighed between 2kg and 12kg. They often had a thumbhole in the top and grooves for the fingers on the bottom and were approximately 15cm thick. If the stone was heavier than around 5kg then it may not have been easily used by women or children and the number of heavier stones found indicate that strength and strong men were important in the playing of the game. There is no evidence of any attempt to improve the stones found in the river – to smooth or shape them.

1650-1800 : Channel stanes or loofies were large rough boulders taken from the river bed and fitted with handles made of iron or occasionally wood. The first loofie or channel stane was found in Dunblane and has been dated as 1551. A gradual change to these larger stones (weighing more than 10kg) with handles may have begun with larger kuting stones fitted with handles and Murray (1981) speculates that by the end of the 17th century almost all curling would have been done using stones with handles.

Figure 15 shows one of those early handled stones found in East Lothian and thought to have been in use up to around 1850. Despite the work to improve the stone by adding a handle very little work was done to improve the stone itself. Some stones appear to have been hewn with hammer and chisel and the stones came in all shapes and sizes. In fact there is evidence that the stones became heavier and heavier during the 18th century to allow curlers to throw the stones further and faster – an average of approximately 50kg with one or two individual stones found as heavy as 60kg! This focus on heavy stones may have distracted curlers from making other improvements to the stones or game that came a little later. By the end of the 18th century, it is thought that each player had just one stone (their own), which they polished and the handle was individually decorated. It is at this point in time that curlers discovered the round curling stone and some major changes in the game began to take place. In 1967, a group of curlers experimented using a number of antique stones such as the one shown in to play a game of curling, indoors at Haymarket Ice Rink (Figure 16). The stones were all different, varying in age from 130-200 years (dating from 1837-1767), and in weight from 32lbs to 54 lbs. Some had iron handles, others had wooden handles, and all seemed to have different soles. The players had difficulty judging how to deliver a stone but noted that by the end of the morning they could play most of the usual shots of the modern game with these antique stones and get a few into the house (Smith, 1968). They used modern brushes and other equipment and of course indoor “keen” ice. It is hard to tell what the difficulties might have been had the curlers been outside on a frozen loch and using traditional equipment!



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www.dcu.ie/~eppd/1/02181819.jpg 1 22-04-2009

Source: Licensor www.scran.ac.uk, ©East Lothian Museums Service.

Figure 15 : Curling Stone from Balgone, East Lothian (used around 1850)



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Source: Licensor www.scran.ac.uk, ©The Scotsman Publications Ltd.

Figure 16 : Curling Using Antique Curling Stones, Abbotsford Curling Society at Haymarket Ice Rink, 1967

4.3 Point of Origin

This section will consider the period of transition where curling changed from a folk game or pastime to a modern sport. Burnett (2000) suggests that the idea of looking for a point of origin of a sport that evolved over time is inherently a misunderstanding. As sport is part of popular culture, slow changes and a combination of different activities would be expected to reveal no specific moment of invention. In addition the modern concept of sport with particular rules and formats every time it was played would simply not apply in the past. It is much more likely that variations due to the number of people or implements available, the

weather, the time of year, the number of spectators, the time available for play etc would determine the format of the game rather than a pre-determined universal pattern. Thus it could be said that attempting to identify a point of origin is not relevant to the landscape of sport.

Instead the ideas proposed by Dunning & Sheard (1979) for the modernisation of sport (Table 3) will be taken to suggest transitions that would have been taking place over a period of time as a pastime moved towards being a modern sport. The prototypes of curling were in evidence in Scotland from the 16th century and some of the developments in curling stones and the game have been documented earlier. The difficulties in investigating the point of origin have also been noted. Possible key dates and places in the transformation of curling might be :

The first record of a curling club - Kinross Curling Club in 1668 (Murray, 1981).

The first written rules of curling, adopted by the Duddingston Curling Society in 1806.

The formation of the first national governing body of sport in Scotland - the Grand Caledonian Curling Club constituted in 1838 in the Waterloo Hotel, Edinburgh.

Another classic view of the modernisation of sports was put forward by Guttmann (1978). He identified seven features of sport that would require to be transformed as part of the modernisation process. These are shown in Table 4 with the difference between sport in medieval times and modern sport shown. Using these questions, the point where curling became a modern sport could be considered. For Guttmann all of these characteristics needed to be in place for the sport to be a modern sport.

Table 4 : The Characteristics of Medieval and Modern Sports

Feature	Question	Medieval Sports	Modern Sports
Secularism	Is there no link to religion and religious ceremonies?	Yes and no	Yes
Equality	Do all have access to the sport (gender, class, age)	No	Yes
Specialisation	Is there a division of labour among players and professionalism	No	Yes
Rationalisation	Are rules set for the sport wherever it takes place and that can be changed if necessary? Is there scientific application of knowledge to improve performance?	No	Yes
Bureaucratisation	Are there officials and administration of the sport?	No	Yes
Quantification	Are measurements made and statistics kept ?	No	Yes
Quest for records	Are records of results kept and do players look to beat these levels of performance?	No	Yes

Source: Guttmann (1978)

This section will consider the transformation taking place in curling in Scotland during this transition period between the end of the 16th century and 1838 while the modern sport was being established. Somewhere between the time that the first club was formed in 1668 and the formation of the (Grand) Royal Caledonian Curling Club in 1838, is the period of origin of the sport. During that time a number of transformations took place in the activity of curling that could be described as modernisation and that certainly took curling into the realm of a sport. As mentioned above, not all of the criteria of modern sports were present in curling even in 1838, but major transformations are in evidence between 1668 and 1838.

Through the transition period, actual curling locations or curling spaces underwent some changes. As far as is known, the curling rink was any size from 30 yards long

upwards during the early phase of the development of the game. There were no rules consistent for the whole country and teams agreed the rules between themselves, including the length of the rink. Markings, of the house (circular target at the far end of the rink) and the hog lines, were made on the ice and players aimed for a tee marked by a button or coin originally and then by an iron disc spiked into the ice and latterly (and still in outdoor play) by a wooden dollie (skittle) placed on the tee.

The formal rules written by the Duddingston Curling Society were adopted on 6th January 1806 by the members of that club², and later these rules formed the basis of the rules of curling written by the newly constituted Grand Caledonian Curling Club in 1838. Before 1838, the rules of curling differed between parishes and thus while some competition between parishes was taking place, this was characterised by irregularity and individual agreement of format of a match. In fact regulations such as the number of players in a team or 'rink' and the number of stones each player threw, were not universally observed until well after the RCCC had set out the official rules (Welsh, 1969). Kerr (1890) notes that while the RCCC aimed to provide rules that would apply to all curling throughout Scotland, even those clubs that affiliated to RCCC continued to use local versions of the rules for a number of years.

The rules written by Duddingston Curling society allowed there to be some flexibility in the length of the rink depending on circumstances – between 36 and 44 yards long – and for this length to be altered once the game had begun if the majority of players wished it. They make no mention of the length of the game, nor the number of players per team. Indeed there is no specific mention of how the game is

² The Duddingston Curling Society was an exclusive members club and advocates and solicitors were among the members. This may have been a factor in the construction of formal rules of play.

to be won or lost (Kerr, 1890, p146). A later version of the rules (1809) describes how points might be scored by individuals for a points medal.

In 1668 when the first club was formed, the majority of curling would have been part of the structure of the community. It was very much a local activity. That is evidenced through the involvement of lairds and landlords, church ministers and magistrates. Burnett (2000) notes that the larger matches were played between parishes, but also curlers within a parish might have played based on where they lived, or their status (married men versus bachelors, men of different trades). Examples of these are documented by the Dumfries Museum (2006).

To understand more about the local networks surrounding curling, or curling places, it is useful to consider curling clubs. A number of written accounts of curling and curling clubs appear in the 17th Century. Kerr (1890) identifies 42 curling clubs that were formally constituted before 1800 (Table 5). Despite the first recorded club dating from 1668, Murray (1981) suggests that a club network did not begin to develop until 1716 when the Kilsyth and Kirkintilloch clubs were formed, closely followed by 12 others. The spatial distribution of curling clubs before 1800 can be seen graphically in Figure 17. The earliest clubs were relatively closer to at least one other club and also each other, and it was only later that those in the south and west of the country were constituted.

Curling clubs or societies were needed for a number of reasons. Whereas in the past the landowners might have arranged matches, more of these became absentee landlords and therefore not physically present to organise curling. The clearances meant that people may not have been in their traditional villages and towards the

middle of the 19th century industrialisation and urbanisation were affecting the social structure of Scotland and social ties in the community had to be created in different ways. These clubs kept records in minute books and created or maintained traditions of curling. Some of the clubs had detailed rules of behaviour and these were written down and enforced through a system of fines (Murray, 1981). Clubs also had a particular type of initiation ceremony known as a “curlers court” (Kerr, 1890).

The most important curling club in Scotland at the end of the 18th century was the Duddingston Curling Society that had been formed in 1795. It numbered the very cream of Scottish society amongst its 160 members, including Lords, doctors, surgeons, and advocates. Murray recounts

"By ancient custom, the Provost (of Edinburgh) and magistrates used to open the curling season by marching in procession with bands playing both to the Nor'Loch, before it was drained in 1780 and to Cannonmills" (1981, p71).

The original rules set down by Duddingston Curling Society, explained the way disputes could be resolved, first by agreement between the leaders of both parties and second by intervention of a neutral observer. However curling etiquette very much emphasised the taking part and the playing fair rather than the winning.

Table 5 : Curling Clubs Constituted before 1800

CLUB	COUNTY	DATE FORMED
Kinross	Kinross	1668
Kilsyth	Stirling	1716
Kirkintilloch	Dumbarton	1716
Govan	Lanark	1725
Delvine	Perth	1732
Doone	Perth	1732
Strathallan, Meath Moss	Perth	1736
Dunfermline	Fife	1738
Muthill	Perth	1739
Grahamston	Stirling	1740
Ardoch	Perth	1750
Borestone	Stirling	1750
Canonmills	Midlothian	circa 1750
Earlston	Berwick	before 1756
Lesmahagow	Lanark	1770
Coupar Angus and Kettins	Perth	1772
Saline	Fife	1772
Anderston	Lanark	1773
Sanquhar	Dumfries	1774
Balyarrow	Fife	1775
Cupar	Fife	1775
Hamilton	Lanark	1777
Wanlockhead	Dumfries	1777
Grougar	Ayr	1781
Blairgowrie	Perth	1783
Muirkirk	Ayr	1784
Lasswade	Midlothian	1785
Cambusnethan	Lanark	1789
Newliston	Linlithgow	1789
Bridge of Allan	Stirling	1790
Gargunnock	Stirling	1790
Jedburgh	Roxburgh	1790
Kelso	Roxburgh	1790
Linlithgow	Linlithgow	before 1792
Douglas	Lanark	1792
Duddingston	Midlothian	1795
Sandholes	Renfrew	1795
Cumbernauld	Dumbarton	1796
Yoker	Dumbarton	1796
Forfar	Forfar	1797
Camelon	Stirling	1800
Dundee	Forfar	1800

Source: Kerr (1890, p115)

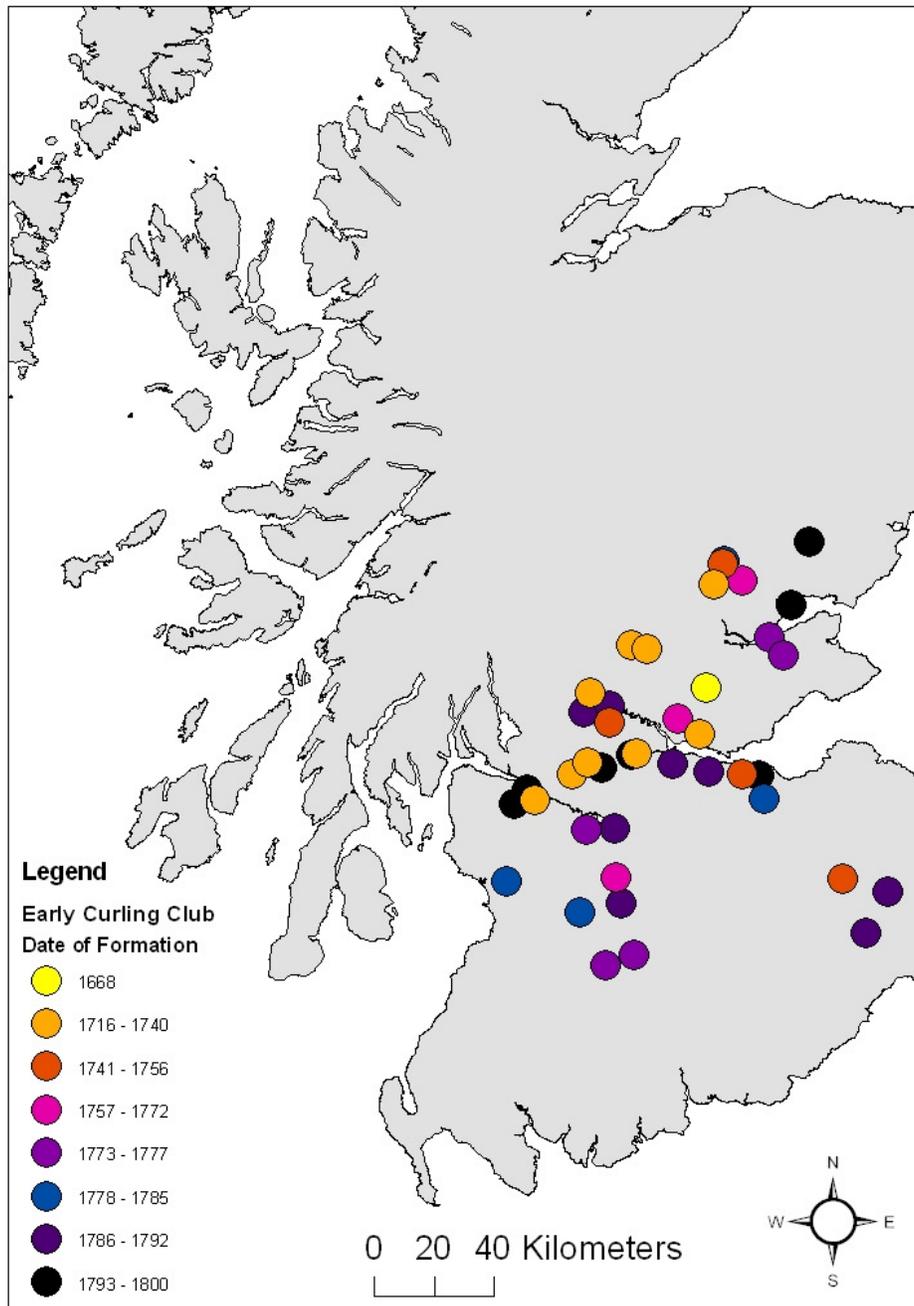


Figure 17 : Map Showing the Formation of Curling Clubs in Scotland 1668 - 1800

By development of a structure of curling clubs around the country, competition could be more easily organised between different clubs. Agreements about rink lengths, stone weights and rules of play were required. In the 1820s and 1830s disagreements about the number of stones per player, number of players per team and the size of the stones and rink disrupted the county bonspiels between Midlothian, Peebles and Lanarkshire in 1823 (Murray, 1981). This need for universal rules was part of the driving force behind the formation of the Grand Caledonian Curling Club in 1838.

Murray (1981) and Kerr (1890) explain that there were no consistent rules of curling used in matches throughout the country until after the formation of the RCCC. In fact matches could be between teams of between 4 and 20 players and there were differences in how many stones each player threw (one or two). The stones themselves could be of any shape. Guidelines had been suggested to standardise curling stones – making all of them round – but that had not happened everywhere until 1850. By 1800 there was some agreement that 31 shots made a game (Murray, 1981) and there was no time limit set. Any changes to the RCCC rules were considered by a committee and voted on annually at the AGM of the Club.

Thus by the end of the transition period being considered, the landscape of curling had changed dramatically. The constitution of the first national governing body for sport in Scotland, the Grand Caledonian Curling Club was a definitive step in the modernisation of the sport. Burnett (2000, p52) maintains that between 1780 and 1880 curling “was played by more people in Scotland than any other sport”.

At the first meeting of the Grand Caledonian Curling Club, 44 curlers attended in the names of 36 curling clubs. They drew up the rules (based on those written by Duddingston Curling Society) and constitution and stated an aim to "unite curlers throughout the world into one Brotherhood of the Rink" (Murray, 1981, p79). The assembled then took part in a curler's court (presided over by officials from Kinross Curling Club) and a dinner. Initially there were 28 member clubs. In 1843 the Grand Caledonian Curling Club became the Royal Caledonian Curling Club (RCCC) when Prince Albert became patron. This royal connection was achieved following a visit to Scotland by Victoria and Albert. They stayed with the Earl of Mansfield (a keen curler) at Scone Palace, and he presented them with curling stones. They tried curling on the drawing room floor and were amused!

This attempt at indoor "floor" curling was not the only innovation taking place during the transition period. Between 1700 and 1838 there were significant changes in the technologies of curling. In the previous section, changes in the curling stones were documented. Some of those changes were taking place during this transition period and gradually the round stone was being adopted more generally. Murray (1981) suggests that while most curling stones were of the round variety by 1825, the stones were still heavy, with very variable weights – between 10kg and 30kg. The stones also might have different soles (for example convex or concave), have different types of handle and be made from different material. Sources of the stones at the time might have been Ailsa Craig, Burnoch River, Ayrshire, and Sanquhar for example. Early brooms (or kowes) were any kind of twigs bound together and as much for clearing the loch of snow as making a difference to the line of the curling stone as in modern curling today.

Curlers had long made use of whatever body of water was available – whether natural or man-made. During the Little Ice Age all types of water were frozen for long periods – even the sea, so finding suitable ice was not a problem. However, as the milder climate developed and changes in society meant more curlers living in towns and villages rather than in the countryside, the curling rink became a specific venue rather than a piece of frozen water. Certainly depopulation of the countryside of Scotland gathered pace and the clearances, emigration to USA and Canada, famine, and urbanisation contributed. The climate appeared to provide cold winters and plenty of curling ice during the transition period, although towards the end of that time in 1828 Cairnie (1833) developed the first artificial curling rink in order to enable more curling. This was made of non-porous clay and allowed play on just a very thin film of water that could freeze overnight. The more formalised space of the artificial pond although part of a modernising process, was still not a permanent site for curling as freezing temperatures were required. The innovation of artificial pond building did not spread immediately and whether that was to do with the expense of constructing such a rink, or the severity of subsequent winters, Murray speculates

"perhaps curlers felt reluctant to introduce any kind of artificiality into a sport so closely bound to the natural elements for so many centuries" (1981, p66).

It is clear that rather than a single point of the origin of curling as a modern sport, there was a period of transition. Looking at Table 3, it can be seen that a number of the changes suggested by Dunning & Sheard (1979) as part of the modernisation process did in fact occur between the end of the 17th century and 1838. However several transitions did not occur until much later. All of these identified

characteristics do not need to be present for a sport to be a modern sport for that model. However that proposed by Guttmann (1978) does require all the features to be of a modern sport (Table 4). Taking the end of the transition period as the constitution of the RCCC in 1838, these features of curling are considered. Curling is not specifically linked to religious ceremonies. While women have significantly less access to curling, they are able to participate and men from all walks of life curl. There is no evidence of specialisation of roles within the team of curlers, but there is in relation to curling clubs – for example someone to maintain the curling house, keep the minutes, preside at curler's courts etc, and as yet there is no professionalism. Rules have been set down and adopted nationally and these can be changed through the AGM of the RCCC. The administration of the sport is carried out by officials of the RCCC and they keep detailed records of statistics and results of matches. The points totals for example are recorded to see who has the highest in the country. Curling in 1838 meets the criteria set by Guttmann for a modern sport. During the transition period, a number of innovations and ideas diffused around the country and these will be examined in the next section. Burnett concludes "curling changed enormously between 1770 and 1840 in equipment, venue, rules and organisation. It ended the period as the first modern sport played widely in Scotland" (2000, p57).

4.4 Diffusion

Johnson, Gregory, Pratt & Watts describe diffusion as "the spread of a phenomenon over space and through time" (2000, p175). They suggest diffusion is enacted through human agency and is part of cultural geography. Over time sports change, and while usually this is evolutionary (and the changes then diffuse slowly)

sometimes there are revolutions where change happens suddenly and the innovation is adopted very quickly (Vamplew, 2004). This section will consider the historical spread of the sport of curling, and in particular the early formation of curling clubs or societies, membership of the Royal Caledonian Curling club and participation in the Grand Match. Other aspects of diffusion present future research agendas, such as the spread of technological changes in artificial pond making and ice production techniques, adoption of RCCC rules and much more recent innovations such as mixed doubles competition formats. Sauer (1925) suggested that the importance of geography to diffusion was to reconstruct diffusion pathways and to evaluate the influence of barriers that prevented the spread of a phenomenon. Curling was almost unknown in other parts of the UK during the 18th century (Dumfries Museum, 2006 referring to; Pennant, 1774), but had spread to parts of Canada and USA with Scots emigrants. More details of this aspect are considered later in the chapter. It appears that "In the 19th century curling was by far the most widely played sport in Scotland. It was distinctively Scots : no one else curled" (Burnett, 1995, p5). And at the beginning of the 20th century Huggins (2004, p204) notes that "sports were unevenly distributed across Britain. Curling, not soccer, was the "national game" of Scotland" (quoting from Sporting Chronicle, 6 February 1899). One place where curling was very important was Duddingston Loch. Figure 18 shows the curlers on a shallow constructed pond alongside Duddingston Loch in 1906. The Curling House can be seen in the far background³.

³ Thomson's Tower, the curling house at Duddingston Loch, was built in 1825 and was used for meetings of the Society and storing their curling stones. It was restored as a curling museum in 2009.



Source: David B. Smith Collection

Figure 18 : Curlers on a shallow pond constructed alongside Duddingston Loch, Edinburgh, 1906

One way of understanding the diffusion of curling through Scotland might be to consider where and when people were curling. Curling Places (compiled by curling historian David Smith (Smith, 2006) and available on the RCCC website) is a list of ponds and curling rinks mentioned in written records and on maps. This list is being updated constantly and data within it is based on information on where curling took place in Scotland from its earliest reference (Smith, 2008a). Evidence has been gathered from newspapers or contemporary written accounts such as diaries, paintings and illustrations, maps and any other sources. The information is therefore varied in its detail and reliability. This was tested out using curling in the area of Dunfermline as an example. Dunfermline was one of the 6 curling clubs involved in the original foundation of the Grand Caledonian Curling Club in 1838. There are 31 references to Dunfermline within Curling Places. 20th Century Dunfermline : Curling compiled by Robin Park (2000) and several historic ordnance survey maps

available in the local Dunfermline Library (OS First edition 1896 and 1915) were consulted.

Table 6 shows the 31 references to Dunfermline in Curling Places. 10 are simply headings in the index, leaving 21 actual entries that refer to Dunfermline. Of these 21 a number include double references, for example entry 67 below mentions the place name Dunfermline twice. So excluding those, there are 14 individual entries relating to Dunfermline. One of these was an away match in Cleish. Looking at these individual entries, David Smith has attempted to triangulate when different sources have offered different information about the same sites, but this has not been done entirely successfully. For example the artificial ponds mentioned at Transy and at Park place are likely to be exactly the same pond as on the Ordnance Survey Maps of 1915 it is clear that an artificial pond has been created on the Transy Estate and at the end of Park Place. In addition earlier records referred to in Park (2000) indicate that the Dunfermline Curling Club had a permanent curling pond on a site in near Appin Crescent, now known as East End Park. This is a clue that the Dunfermline Pond (271 below) and East End Pond (1311 below) might well have been one and the same. However it is not clear where the Town Green Pond was. The Ordnance Survey Map for 1915 shows a naturally-shaped curling pond at Brucefield adjacent to the Lynn Burn but there is no name given, so it may or may not be one of those identified in Curling Places.

Therefore it can be seen that the use of Curling Places as a guide to the landscape of Scottish curling in the past may well be flawed, as the original data is not able to be precise enough. In addition as the study is at a National Level, this one local example is just used to show the difficulties with the data, and what a local and

detailed approach would be required to map this data accurately on a national scale.

This is currently being undertaken by RCCC through a volunteer project.

Table 6 : Extracts from Curling Places in Scotland Relating to Dunfermline

Ref Number	Description	Grid Reference	Date, Where Reference Found
67	Town Loch, Dunfermline, Fife, just to the north of the burgh. Match Dunfermline v. Crossgates.	OS NT 0989.	Annual 1880. The Scotsman, 24 Jan., 1871.
132	Crossgates Pond, Crossgates, Fife, south west of Dunfermline.		Annual 1880.
181	Calais Quarry Hole, Fife, near Dunfermline. OS 6 in., 1st ed., 1856, shows quarry, apparently with water in it.	OS NT 1286.	Annual 1857.
257	Transy Pond, Dunfermline, Fife. OS 6in., 1st ed., shows a trapezoidal curling pond. OS 6 in., 1897, shows the pond, not named curling pond. OS 6 in., 1920, shows site occupied by football ground.		Annual 1865.
271	Dunfermline Pond, Dunfermline, Fife.		Annual 1868.
385	Lochhead, Dunfermline.		Annual 1845.
1308	White Loch, Cleish Hills, Fife. (Dunfermline v Kinross)		<i>Dunfermline</i> p.5.
1309	Valleyfield Pond, Fife.	OS NT 0086.	<i>Dunfermline</i> , p.8.
1310	Town Green Pond, Dunfermline, Fife.		<i>Dunfermline</i> , p8-9. 1844
1311	East End Pond, Dunfermline.		<i>Dunfermline</i> , p.15. 1895
1312	Park Place, Dunfermline, Fife, artificial rinks.		<i>Dunfermline</i> , p.24. 1910
1313	Transy, Dunfermline, Fife, tarmac ponds.		<i>Dunfermline</i> , p.27. 1923
1559	Dunfermline Artificial Pond, Fife.		<i>Stirling Journal</i> , 12 Feb. 1847.
1622	Towngreen Pond, Dunfermline, Fife.		<i>Stirling Journal</i> , 4 Feb. 1870.

Source: Smith (2006)

Another way of looking at the diffusion of curling through Scotland might be to consider the change to curling on artificial and indoor ice rinks. In the 19th century, curlers frustrated by the lack of frozen lochs and mindful of accidents on thin ice, had taken the step of constructing artificial curling ponds (Cairnie, 1833). The advent of tarmac rinks, the first installed in Edinburgh in 1902, meant that a fine spray of water when the temperature was low enough could create a playing surface. Murray (1981) highlights the importance of the tarmac rinks when he notes that Moffat curling club in Dumfriesshire recorded 40 days of curling to have been possible on water-borne ice between 1906 and 1913, with 200 curling days on tarmac rinks over the same seven-year period. Figure 19 shows a constructed pond at Balerno in 1905.

The first artificial indoor ice was the glaciarium in London in 1842 (Welsh, 1969). Throughout England a demand for ice suitable for figure skating prompted the development of technology to maintain artificial, indoor ice. The first recorded indoor curling match on such a rink took place at the Rusholme Rink in Manchester in 1877 (Adams, 2004). It was not until 1907 that a similar artificial indoor ice facility opened in Scotland, at Crossmyloof in Glasgow. This was used for various ice activities, not just curling. Thereafter there was a slow increase in the number of indoor curling facilities in Scotland until a high of 30 rinks in 2000. Since then there have been a number of closures and in 2008 there are 24 indoor ice rinks with some availability for curling. The timeline of opening and subsequent closure for the various ice rinks is shown in Table 7 and Figure 22.

The 1930s was significant in the building of indoor rinks, and two rinks built then are still in use. At that time Great Britain had won gold in the Winter Olympics of 1936

and the influence of ice-hockey as a spectator sport resulted in a number of large rinks with seating for fans. In the decades during and after the second world war, no new ice facilities were constructed. In fact Fitzjohn & Tungatt (1993) point out that between 1940 and 1964 almost no new leisure facilities of any kind were constructed. The demand for leisure reached unprecedented levels in the 1960s as the shorter working week and an increase in car ownership changed the pattern of recreational activities across the country (Cherry, 1993) and Torkildsen (2005) described an “explosion of leisure facilities” including “leisure ice” (p20). Curlers were now more able to travel to play on indoor ice. The Borders Ice Rink in Kelso was opened in 1964 and this was the first of a string of ice rinks to be built serving smaller towns away from the central belt of Scotland. Figure 24 and Figure 25 show indoor ice rinks that are no longer open at Crossmyloof (Scottish Ice Rink) and Livingston. Smith (2008a) speculates that changing patterns of leisure altered the way curlers viewed the sport in the second half of the 20th century. The opportunities for regular, comfortable curling at indoor rinks presented an attractive alternative to increasingly uncertain outdoor activities. For those living near enough to an indoor rink, the weather no longer played a part in the curling calendar and instead regular practices, games, leagues and bonspiels could be planned.

At the start of the 21st century, curling in the north or highland areas of the country still takes place outdoors on a (fairly) regular basis, mostly on tarmac artificial rinks. Additionally, as can be seen in Figure 23 these areas might well be far (in distance and/or travel time) from an indoor facility. In particular with the closure of rinks in more rural areas such as at Brora, Pitlochry, Aberfoyle and Aviemore, curlers must rely on frosts or travel long distances to curl indoors.



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Figure 19 : The Curling Pond at Johnsonburn, Balerno, Currie, 1905



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000-000-464-629-R | 02551379.jpg | 22-Oct-2008

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Figure 20 : Curling on Island of Coll, Argyll, 1900

In 2000 there were 30 indoor rinks used for curling. The facilities fall into four broad categories: local authority operated ice centres where curling is one of the uses (skating and ice hockey are others); hotels where curling is the primary use for members or hotel guests; community sports clubs and trusts operated on a not-for-profit basis either for curling alone or for a number of ice sports; and commercial businesses. The majority of ice rink provision is in community sports clubs and trusts near larger centres of population. Local authorities in the West and South appear to have been more willing to invest in ice facilities than those in other parts of the country (see Figure 21). A number of resort hotels built ice rinks in the 1980s along with other leisure facilities and these are generally found further from the central belt as tourism and curling as a holiday activity form part of their core market. Today there are no indoor curling rinks on the islands of Scotland, but Figure 20 shows curlers at the beginning of the 20th century on a pond in the centre of the island of Coll.

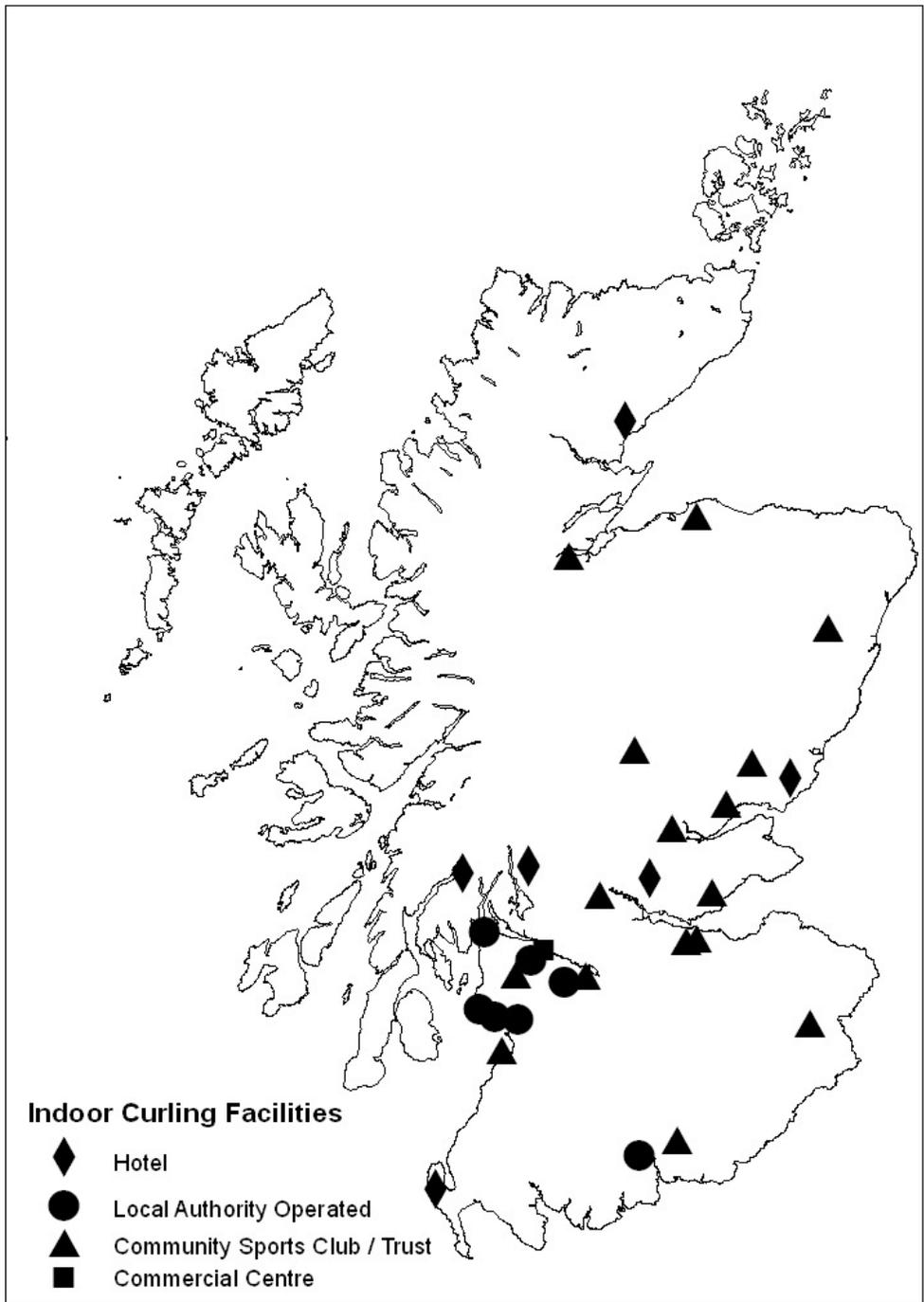


Figure 21 : Indoor Curling Facilities in Scotland in 2000 Showing the Type of Provision

Table 7 : Indoor Curling Facilities in Scotland (at December 2008)

ICE RINK	LOCATION	POSTCODE	OPENED	CLOSED
Crossmyloof	Glasgow	G41 3TW	1907	Closed 1917
Lochrin Ice Pond	Tollcross, Edinburgh	EH3 9QJ	1912	Closed 1918
Edinburgh Ice Rink	Haymarket, Edinburgh	EH125BY	1912	Closed 1978
Aberdeen Winter Rec Institute	Aberdeen	AB243UT	1912	Closed 1917
Scottish Ice Rink	Glasgow	G41 3TW	1928	Closed 1986
Perth	Perth	PH2 0TH	1936	
Paisley Ice Rink	Paisley	PA1 1QA	1937	Closed 1977
Falkirk	Falkirk	FK1 1UJ	1938	Closed 1977
Fife Ice Arena	Kirkcaldy	KY1 3HS	1938	
Dundee-Angus	Dundee	DD2 3SQ	1938	Closed 1992
Dunfermline	Dunfermline	KY12 7RZ	1938	Closed 1955
Donald's Ice Rink	Aberdeen	AB243UT	1939	Closed 1982
Murrayfield	Edinburgh	EH125XN	1939	Closed 1942
Ayr	Ayr	KA8 8DG	1939	Closed 1972
Border	Kelso	TD5 7SL	1964	
Aviemore	Aviemore	PH22 1PN	1966	Closed 1999
South of Scotland	Lockerbie	DG112AR	1967	
Lanarkshire Ice Rink	Hamilton	ML3 6BS	1967	
Inverness	Inverness	IV3 5SR	1968	
North West Castle	Stranraer	DG9 8EH	1970	
Ayr	Ayr	KA8 8DG	1973	
Magnum	Irvine	KA128PP	1976	
Green Hotel	Kinross	KY138AS	1977	
Gogar Park	Gogar, Edinburgh	EH12 9BS	1979	Closed 2007
Greenacres	Howwood	PA9 1DE	1979	
Murrayfield	Edinburgh	EH125XN	1979	
Stirling	Stirling	FK7 9HQ	1980	
Atholl	Pitlochry	PH165DS	1982	Closed 2008
Aberdeen	Aberdeen	AB156LN	1983	
Letham Grange	Arbroath	DD11 4RL	1984	Closed 2004
Forest Hills	Aberfoyle	FK9 3TL	1984	Closed 2005
Crystals Arena	Glenrothes	KY6 2RA	1984	Closed 1993
Brora	Sutherland	KW9 6QS	1984	
Summit Centre	Glasgow	G3 8AU	1986	Closed 1998
Drimsynie	Lochgoilhead	PA248AD	1986	
Icelandia	Livingston	EH54 6HR	1987	Closed 1995
Galleon Centre	Kilmarnock	KA1 1QY	1987	
Harvies	Stevenson	KA203JR	1988	
East Kilbride	East Kilbride	G741PG	1989	
Forfar	Forfar	DD8 3EL	1989	
Cumbernauld Ice House	Cumbernauld	G67 1QR	1991	Closed 1994
Dumfries Ice Bowl	Dumfries	DG2 9AN	1992	
Lagoon Leisure Centre	Paisley	PA1 1NB	1992	Closed 2008
Elgin	Elgin	IV301AP	1993	
Waterfront Leisure Centre	Greenock	PA151EW	1997	
Braehead	Glasgow	G514BN	1999	
Dundee Ice Arena	Dundee	DD2 3SQ	2000	

Colour coding relates to the decade in which the ice facility closed.

The diffusion of indoor ice rinks since 1907 can be seen in Figure 22, Table 7, and Figure 23. The particularly important periods of ice rink building can be identified as 1930s, and 1980s. This is evident in where there is a fall in the total number of indoor rinks available during the 1940s and 1950s before building begins again in the 1960s. Spatially, Figure 23 shows the change from clustering around the central belt of Scotland, to indoor ice being available both in the north east and south west of the country. Despite recent ice rink closures, there is still a spread of indoor ice facilities at least in the south of Scotland. There remains a gap in provision in the west and north highlands where no indoor ice is available.

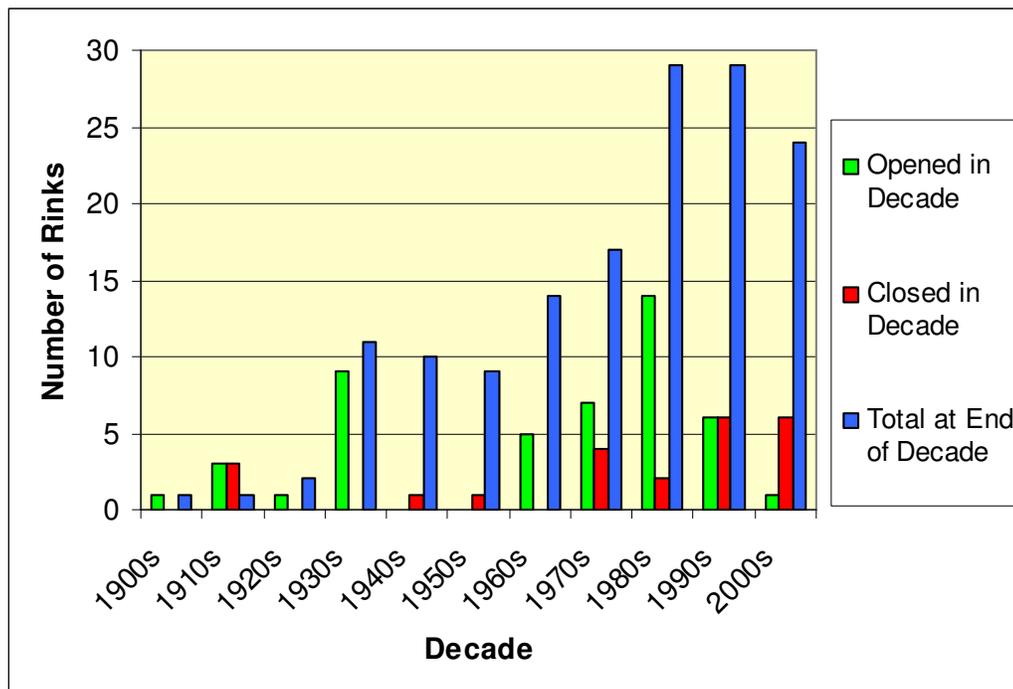
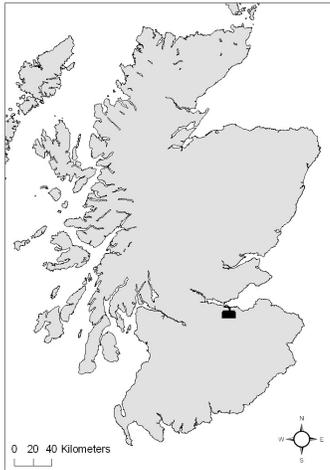
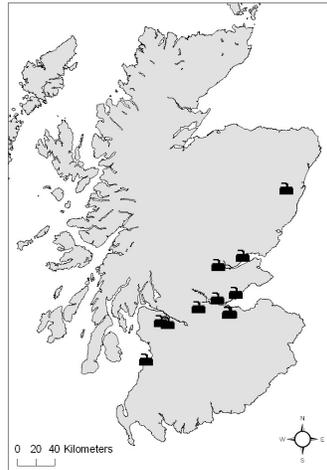


Figure 22 : Indoor Ice Rinks Available for Curling in Scotland by Decade

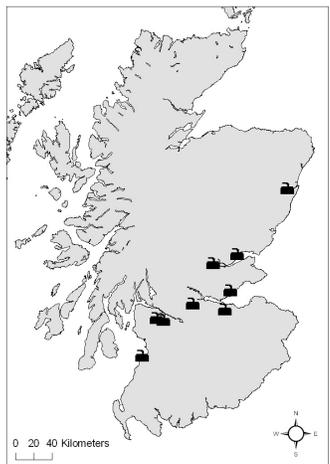
1920



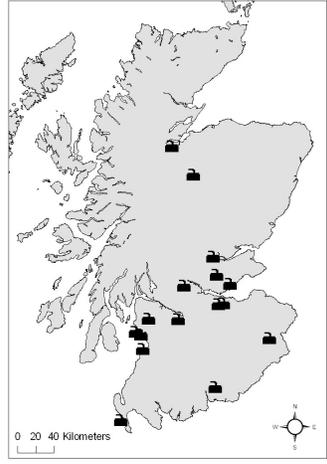
1940



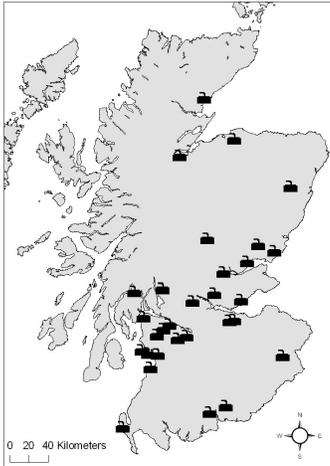
1960



1980



2000



December 2008

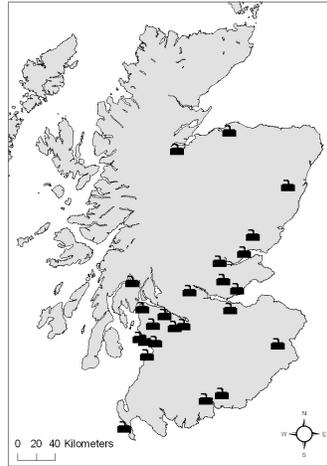


Figure 23 : Changes in Indoor Ice Facilities 1920 - Present Day



Source: Photo courtesy of Bob Cowan//Scottish Curler/ magazine.

Figure 24 : Alley Curling Club in Action at Scottish Ice Rink, Crossmyloof, Glasgow in the 1950s



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Source: Licensor www.scran.ac.uk, ©Almond Valley Heritage Trust.

Figure 25 : Icelandia (Livingston Ice Arena) 1991

The case of the “diffusion” of indoor ice rinks is not straightforward. The number of venues where curling takes place is hugely reduced when indoor ice becomes available, as all curlers in the area make use of the same indoor facility rather than many small local outdoor ice rinks (at least the majority of the time). Thus the spread of the indoor ice rink matches the shrinking of the number of curling spaces in use.

The benefits of indoor ice rinks have been diffused to many curlers, however there are barriers slowing the adoption of indoor curling. There may be reduced interest in the sport of curling if it is to be carried out indoors rather than outside in the frosty open air. For some, there may be no equivalence to the outdoor game in an indoor, artificial rink. In addition curlers might like to adopt the innovation but cannot afford to do so due to the cost of constructing such an indoor facility. For example Welsh (1969) documents the efforts of curlers in the Borders in fundraising for the development of the ice rink in Kelso, which opened in 1964. In the 21st century, ice rink closures reflect the high costs of maintaining indoor ice.

Another aspect of diffusion is about the spread of meanings and cultural understandings associated with a curling – curling place. At the time when the prototype of curling was being played in Scotland, accounts of the life of ordinary Scots are rare. Burnett (1995) comments that it is extremely difficult to know what the general population were doing in their leisure time in the 16th and 17th centuries as records often focus on those who were richer, or the nobility. It is only after 1745 that lives of the common people begin to be documented. This makes it hard to understand what meaning curling would have had for people in its early and prototype stages. However in the 18th century there was a surprising amount of

poetry written about sporting activities and curling was included in this. Authors such as Robert Burns, Alexander Pennecuik, and Sir Alexander Boswell are among those quoted (Burnett, 1995). Through poetry and song was one way that curling traditions and cultures were created, maintained and passed on. The grace, published on the website of the Royal Caledonian Curling Club would have been heard before many curling suppers around the country. Curlers are reminded of the upright moral character that makes a curler “true and keen” and of the good Christian values associated with curling. Kerr (1890) notes that of the 20,000 members of RCCC in 1888, 500 were clergymen (1 in 40) and that of the 461 affiliated clubs at that time, 350 had a chaplain as one of their office bearers. The Curlers’ Grace is still published by RCCC on their website (Royal Caledonian Curling Club, 2008b).

At these post-curling dinners and events, there was a tradition of curlers having a very enjoyable evening. The description of these experiences, having been written down, served to etch the events into the collective memory and also pass on to others the spirit of the friendship created through curling. This extract from a poem by a member of Duddingston Curling Club (written before 1838), cited in Murray (1981, p55-56) illustrates this:

Cauld, Cauld Frosty Weather

But now the moon glints thro’ the mist
The wind blows snell and freezing,
When straight we bicker aff in haste
To whare the ingle’s bleezing;
In Curler Ha’, sae bein and snug,
About the board we gather
Wi’ mirth and glee, sirloin the tee,

In cauld, cauld frosty weather.

In canty cracks, and sangs and jokes,
The night drives on wi' daffin,
And mony a kittle shot is ta'en,
While we're the toddy quaffing.
Wi' heavy heart we're laith to part,
But promise to forgether,
Around the tee, neist morn wi' glee,
In cauld, cauld frosty weather.

The RCCC from the outset sought to write down and spread the traditions of the curlers courts to all curlers. Kerr (1890) gives some details of the various different traditions with written evidence of the curlers court present before the constitution of the RCCC. It appears that visitors to an area who took part in curling, might be “made” and then take the tradition back to their own club. Such a process is documented by Kerr (1890) when a member of a club in Blairgowrie took part in a match with Duddingston curlers in 1782 and was initiated with them that evening. He then took the tradition back to his home town and members of that club were then “made”. Kerr also notes a number of different clubs, quite widely distributed – from Sanquhar (1774) to Hamilton (1796), Lasswade (1829) and Montreal (Canada, 1807) all using a version of the “word” and curlers court. The RCCC formed a committee to consider “regulations, mysteries and ceremonies and to prepare a mode of initiation and a set of rules and regulations” (Murray, 1981, p52). They adopted the word from the Kinross Court and printed a copy of the details of the proceedings of that court for any club that wished to apply for them. There is no evidence as to how

many clubs applied for the proceedings, nor how many then held curling courts in the same fashion⁴.



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000-000-464-978-R | 02551728.jpg | 22-Oct-2008

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Figure 26 : Curlers in the middle of a game at Dalkeith, Midlothian c. 1900

The gentlemen curlers shown in Figure 26 and Figure 27 would have viewed the social aspects of curling as important as the game itself. Curling dinners and courts were often the scene of reciting of poetry and singing of songs. This one celebrates the brotherhood of curling amongst those “keen, keen” curlers who have been “made”.

Extract from Song written by Dr. Sidey (published in an early Annual of the Royal Caledonian Curling Club, around 1850) and quoted in Kerr (1890, p350)

The Curler’s Grip (Air – Auld Lang Syne)

⁴ The curlers court is one of a number of traditional aspects to ancient curling which might be described as community rituals.

Losh Man ! I'm glad to see yousel',
I'm glad to meet a freen':
But, man,the pleasure's greater still
When he's a curler keen.
Sae gie's the curler's grip, my freen',
Sae gie's the curler's grip.
Losh man ! I'm glad to see yoursel',
Sae gie's the curler's grip.

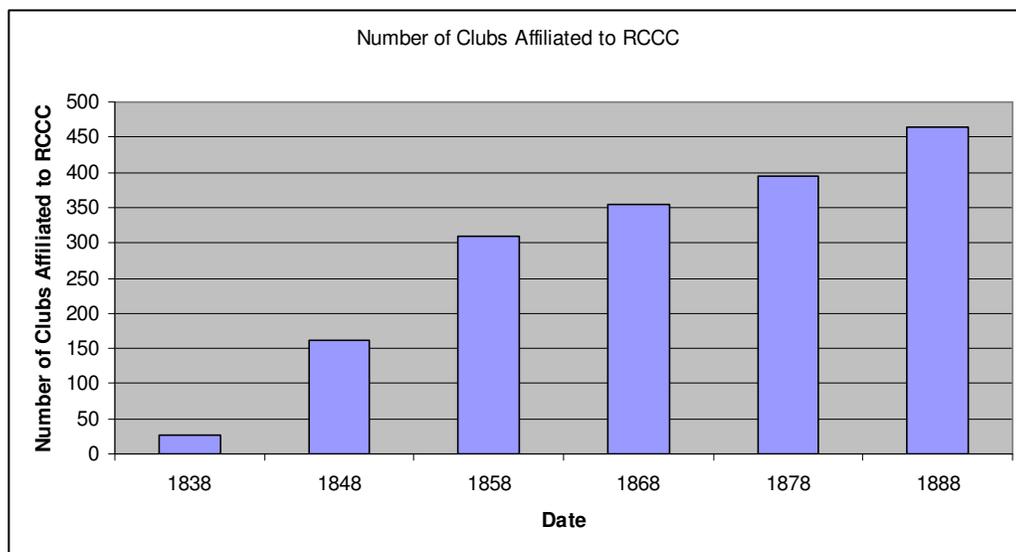


Source: David B. Smith Collection

Figure 27 : Turriff v Banff on River Deveron at Banff, 19 February, 1895

While those within curling clubs engaged in social and bonding activities, the actual number of clubs affiliated to RCCC increased dramatically. Figure 28 shows that increase from 28 clubs at the constitution of RCCC to 465 clubs in 1888 (Kerr, 1890) and Murray (1981) documents a further rise in clubs to 655 in 1900. The increase in membership was attributed to a number of factors. Firstly there was a need for club

formation where previously informally village-organised or landowner-organised activity might have sufficed. Secondly the improved and improving transport links through road and rail networks and postal services allowed clubs to communicate between themselves, to organise and travel to matches and bonspiels. Thirdly, distribution of the RCCC Annual from 1839 emphasised standardised rules, goodwill and brotherhood and benefits of membership of a national organisation of the highest standing in the country.



Source: Kerr (1890, p297)

Figure 28 : Clubs Affiliated to RCCC 1838-1888

However before the 20th century the Scottish curling landscape was almost exclusively male (Welsh, 1969). John Kerr (1890) said. "Ladies do not curl. The Rational Dress Association has not yet secured for women the freedom that is necessary to fling the channel stane [*sic*] ...and the majority find the stones too heavy for their delicate arms" (1890, p292). Despite this assertion, Kerr goes on to document several exceptions to this rule, for example a ladies bonspiel on Loch Ged in 1840, and Sanquhar Curling Club minute books recording matches between married and unmarried ladies, and between the married ladies of neighbouring

parishes. Records of the Grand Match in 1850 show numerous women curlers taking part (Murray, 1981). The first all-ladies curling club in Scotland had been formed in 1895 (Hercules Ladies Club), but Welsh (1985) suggested that little attention was paid to the lady curlers before the first world war and the upsurge in curling by women was a 20th century phenomenon. He believed that while before 1930, women had used much smaller, lighter curling stones, when the stones were standardised, that led to an expansion of, and an improvement in women's play. In addition the provision of indoor ice facilities provided more opportunities for women to take part in the sport as less physical strength was required to curl on the prepared ice (Smith, 2008b). While Welsh proposed the idea that women's participation increased from the 1930s, Cowan (2008a) points out that the Ladies Branch of the RCCC was not formally established until 1961. He recalls curling in the 1960s with very few clubs that included women and some clubs changing their rules to allow women to play at that time. Cowan suggests that women's increased involvement in curling mirrored their "emancipation" and inclusion in many other sports and activities and accelerated in the 1960s. The Ladies Branch remains in place today, despite the full integration of women into the RCCC. In fact the language used, including the very name of the Ladies Branch gives an insight into the culture of gender (in)equality in curling. However there is one aspect of place that is quite different at the end of the 20th century to the time described by Kerr. Rather than only a "brotherhood" of the rink, there is now also a "sisterhood". In terms of participation in curling, the SportsScotland (2002a) survey undertaken 1999-2001 found that one third of curlers in Scotland were female and three quarters of curling clubs included both men and women. A survey of curling clubs in season 2002/3 found 59% of members were male and 41% female (Mori, 2004). The involvement of women in international

competition lagged behind their male counterparts. Women from Canada and the USA visited Scotland in 1951 and are shown in Figure 29 at Haymarket Curling Rink in Edinburgh. The first overseas tour by Scottish women curlers was in 1958 but it was not until 1979 that the first ladies world championship was held. However, the most famous moment in Scottish curling history and in the memory of the people of Scotland is the victory of the Great Britain women's curling team in the 2002 Winter Olympics.



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Figure 29 : International Curling at Haymarket, Edinburgh on 21st January 1951

A distinctive feature of the landscape of curling in Scotland is the Grand Match, a great outdoor curling extravaganza played between curlers from the north and south of the country. This was first held in 1847 in Penicuik and has been held whenever

possible since then. The Grand Match, an "essentially Scottish experience" is described as a "National Institution" by Welsh (1969, p62). Traditionally the dividing line between north and south was either the Clyde or the Forth. By the start of the 20th century 22 Grand Matches had been held and just three of those had been won by the North. Kerr was moved to comment that the location of the pond constructed by RCCC at Carsebreck was a factor in this imbalance. The convenient situation of the curling pond near to two railway stations on the Stirling to Perth line meant large numbers of curlers could take part in the Grand Match easily. Kerr feels that the shorter journeys required from those living north of the Forth meant "all and sundry" rather than the best curlers tended to turn out (1890, p281), quite the reverse of home advantage! His suggestion that RCCC should develop a second venue, perhaps near Carstairs, to require those from the North to travel further to the Grand Match on alternate years was not adopted.

The RCCC first proposed the idea of an all-inclusive bonspiel in 1843 but a series of milder winters meant that it was not until 1847 that the first Grand Match took place. Table 8 and Figure 31 show the numbers of curlers and rinks taking part in the Grand Match increasing – but the numbers of spectators are not recorded. More recently a limit of 600 rinks has been placed on the event for logistical and safety reasons. There are fluctuations in numbers of curlers taking part in the Grand Match and historians have not recorded reasons for these. For example at Carsebreck in 1882, 418 rinks competed and just four years later in 1886 there were 268. Figure 30 shows a painting of the match at Carsebreck in 1898 which involved 494 rinks. In 1959, when a Grand match was held after a gap of 24 years, 240 rinks took part. Figure 32 shows the scene, including ladders and life belts in case of cracks in the ice. A female curler is also photographed taking part in the match (Figure 33).



Source: Painted by Charles Martin Hardie

Figure 30 : Grand Match at Carsebreck in 1897

Table 8 : Grand Matches Played

Date			Venue	Number of Rinks	Winner
15	Jan	1847	Penicuik	24	S
25	Jan	1848	Linlithgow	70	S
11	Jan	1850	Lochwinnoch	254	N
15	Feb	1853	Carsebreck	352	N
30	Jan	1855	Carsebreck	352	S
3	Feb	1860	Carsebreck	226	S
31	Dec	1861	Carsebreck	272	S
8	Jan	1864	Lochwinnoch	236	S
15	Jan	1867	Carsebreck	266	S
26	Jan	1871	Carsebreck	112	N
12	Feb	1873	Carsebreck	142	S
24	Dec	1874	Carsebreck	180	S
13	Dec	1878	Lochwinnoch	134	S
23	Jan	1880	Carsebreck	330	S
30	Dec	1880	Carsebreck	392	S
15	Dec	1882	Carsebreck	418	S
12	Jan	1886	Carsebreck	268	S
21	Dec	1886	Carsebreck	270	S
9	Dec	1892	Carsebreck	300	S
8	Jan	1895	Carsebreck	358	S
26	Jan	1897	Carsebreck	494	S
31	Jan	1899	Carsebreck	452	S
9	Feb	1900	Carsebreck	442	S
11	Feb	1902	Carsebreck	280	S
16	Jan	1903	Carsebreck	572	S
24	Nov	1909	Carsebreck	636	S
2	Feb	1912	Carsebreck	416	S
4	Dec	1925	Carsebreck	366	N
29	Jan	1929	Carsebreck	522	N
24	Dec	1935	Carsebreck	644	N
27	Jan	1959	Loch Leven	240	S
16	Jan	1963	Lake of Menteith	416	N
7	Feb	1979	Lake of Menteith	600	N

Source: Royal Caledonian Curling Club (2007)

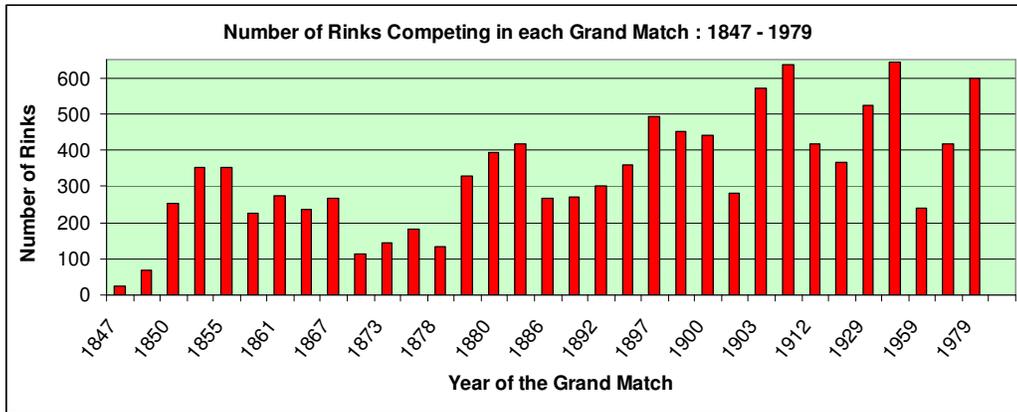


Figure 31 : Number of Rinks Competing in each Grand Match



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Figure 32 : Grand Match at Loch Leven on 28th January, 1959



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Source: Licensor www.scran.ac.uk, ©Hulton Getty.

Figure 33 : Curler in Grand Match on Loch Leven 28 January, 1959

The early changes in curling stones and in the first artificial ponds have been mentioned earlier in this chapter. The way that these technical developments were diffused around Scotland has not been documented. Occasionally there is mention of an innovation being adopted somewhere and eventually everywhere. However there is some evidence of diffusion of technical innovations, and the examples of transport, and artificial pond construction are considered in more detail.

Improved road transport 1780-1800 and then the advent of the railways meant that inter-club competition increased and the possibility of comparison of equipment and techniques from further afield was possible. For example the base of the curling

stone was a number of different surfaces, curlers tried convex and concave until about 1880s when concave was almost universally adopted (Murray, 1981). Around that time the idea of a reversible handle that allowed a curler to use either sole of the stone (different depending on ice conditions) was also popularised. However, the concept of the “curl” of a stone if the handle is twisted as it is released on the ice had been documented in 1784 but was rejected initially. It did not become accepted practice until the beginning of the 20th century – a very long period of transition. Other equipment also developed as communications improved. Murray (1981) suggests that changes to the brooms (corn brooms to hair brooms), shoes (felt shoes could slide on the ice) and crampits to the hack (instead of individual foot irons, one iron at the end of the ice) also became commonplace at the end of the 19th century. Over time the game developed and special stone was quarried and hewn to form the curling stones familiar today. In the 1850s the manufacture of curling stones was concentrated in Ayrshire using granite from Ailsa Craig, an island off the West Coast of Scotland (Smith, 1981). Kerr suggests that in 1890 more than half of all curling stones in use throughout the world were made of Ailsa Craig granite. Ailsa granite is still used in the making of curling stones today (although only as part of a composite stone) (Figure 34).



Source: Photograph from <http://www.kaysotscotland.co.uk/about.cfm>, Accessed 9/1/07

Figure 34 : Balancing Curling Stones at Kays of Scotland, Mauchline, Ayrshire (No date given)

In the 19th century the game continued to be played on natural lochs or ponds, and on constructed bodies of water such as mill ponds or dammed streams, but in some years curlers were frustrated by a lack of ice. Curling clubs had built rectangular shallow-water ponds in the 18th century, and those had allowed more curling to take place. The curlers at Duddingston are playing on such a surface (Figure 18). In the 1820s an artificial pond formed from a base of non-porous clay that allowed curling on just a sprinkling of frozen water was built at Curling Hall in Largs. Cairnie (1833) described the building of his artificial rink to assist other curlers wishing to extend the playing season by creating their own artificial ponds.

Vamplew (2004) suggested that over time sports change, and while usually this is evolutionary (and the changes then diffuse slowly) sometimes there are revolutions where change happens suddenly and the innovation is adopted very quickly. The spread of the sport of curling and various technical and traditional aspects of curling

have been outlined. It is clear that from around the time of the constitution of the RCCC, the flow of information about curling cultures and innovations was much improved. In the early days, before there are written records, evolution of the pastime of curling would have been a slow process. Today the diffusion of new techniques can be considered revolutionary as innovations such as new materials for equipment or footwear are adopted throughout the curling world in just a few years.

The landscape of the national sport of curling has changed over time. This section about diffusion has allowed a documentation of the spread of some physical and cultural innovations and traditions throughout the country, but it has also illustrated a contraction in the number of regular curling venues. Indoor and outdoor curling show different diffusion patterns. Burnett states "In the 19th century curling was by far the most widely played sport in Scotland" (1995, p5). This is no longer the case. The spread of curling to other countries is considered separately under internationalisation.

4.5 Spatial Organisation and Spatial Interaction

Rooney (1975) outlined the process of spatial organisation that a sport would undertake when it had been adopted by a number of teams through diffusion. According to his model, the factors influencing the organisation of the sport and the interaction that occurs following that organisation would depend on the level of interest in the sport, available modes of transport, existing facilities and the "geographical distribution of capital" (p57). He also suggested that there would be different organisation and interactions at different levels of sport from professional, spectator activities to junior recreational activities and at many stages between. The

spatial organisation of these activities is a complex interaction between the past and the present, where historical factors impact on the set-up today.

Initially much sport was determined by the physical landscapes (spaces) within which it took place. Curling made use of natural landscapes such as frozen lochs and rivers and human-constructed landscapes of mill ponds and canals. Bale (1982) has identified two key points that transform this relationship between sport and landscapes. First, the increasingly spatial confinement of the sites within which sport is practised and second the gradual artificialisation of the sports environment make great impacts on landscapes. With the advent of modern sport, the staging of events and the need to construct venues of standard measurements, landscapes began to be changed by sport. Curling had used the existing landscape, but modern rules demanded standardised playing surfaces. In addition climate changes and safety concerns (environment) led to construction of first artificial ponds and then artificial surfaces that water was sprayed onto. These developments led to permanent landscape changes. Modern curling is now played almost exclusively indoors in Scotland. These indoor rinks have an impact on the landscape. While the impacts of physical landscapes on sport may be decreasing, with standardisation of sport facilities, the impact of sport on physical landscapes may be increasing as artificial facilities are created.

The distribution of curling activities in space, or the location of curling rinks, has changed over time. The concept of a curling club or society must have been one that spread quickly throughout the country. Kerr (1890) listed clubs known to have been constituted before the formation of the RCCC and these are shown in Table 9. Kerr

notes that of the 42 societies listed, only 10 had written records of 18th century activity. He was therefore sceptical about some of the claims.

Curling was a very popular pastime and in 1850 more than half of all sports clubs in Scotland were curling clubs (Burnett, 2000). At the time of the 50th anniversary of the formation of the RCCC there were 465 affiliated curling clubs comprising 18,647 members competing within 15 provinces in Scotland (Kerr, 1890), showing that 0.5% of the population in 1888 was a member of an affiliated curling club. The majority of these clubs were in the southern and central parts of the country. In 1890 the most northerly curling clubs were in the counties of Caithness (one club) and Sutherland (two clubs). Kerr (1890) noted that many more curling clubs existed in Scotland but were not affiliated to the RCCC as part of his assertion that 10% of all possible curlers in Scotland curled (in 1888). He did not count women, children or the elderly as possible curlers! Ayr was one of the most important counties for curling around the time of the formation of the RCCC (37 clubs 1800-1838), although not all clubs in the county affiliated to the RCCC (see Table 9). At New Farm Loch in Kilmarnock (see Figure 35) a large shallow pond of several acres was created for use by all the curling clubs in Kilmarnock and also for skating. The pond was in use from about 1845 until 1945. This focus of all curling in an area on just one purpose-built venue is the earliest example of the shrinkage of curling space and change from the very local nature of a curling club to one with more of a county-wide activity. This process of shrinkage is much more pronounced when indoor curling becomes available and outdoor ice is rarer.

Table 9 : Curling Clubs or Societies in each County in Scotland before 1888

Counties	Recorded Clubs		Clubs Affiliated to RCCC					
	before 1800	1800-1838	1838	1848	1858	1868	1878	1888
Aberdeen					1	1	3	14
Argyll					2	4	6	8
Ayr	2	37	7	26	30	26	20	14
Banff								1
Berwick	1	1			4	7	7	13
Bute		1				1	1	1
Caithness								1
Clackmannan		2		5	7	5	5	5
Dumbarton	3	4		4	13	17	16	18
Dumfries	2	20			7	6	7	8
Edinburgh	3	18	4	15	23	25	24	27
Elgin					1	2	7	8
Fife	4	15	3	18	32	40	42	45
Forfar	2	1		4	10	10	20	27
Haddington		3	1	2	6	10	12	13
Inverness				1	1	3	7	10
Kincardine					1	1	2	3
Kinross	1	2	2	2	2	2	5	5
Kirkcubright		4		2	5	5	4	3
Lanark	6	16	3	10	34	25	23	36
Linlithgow	2	7	3	8	11	13	9	6
Nairn								1
Orkney								
Peebles		3		1	6	6	11	8
Perth	7	23	5	37	53	63	73	93
Renfrew	1	18		10	23	28	29	27
Ross and Cromarty					1	3	4	5
Roxburgh	2	1		1	6	10	9	11
Selkirk		3		1	3	2	3	4
Shetland								1
Stirling	6	12		15	27	37	39	43
Sutherland								2
Wigton		3			1	2	6	4
Total in Scotland	42	194	28	162	310	354	394	465

Source: Adapted from Kerr (1890, p115, p172-174, p297)



Source: David B. Smith Collection.

Figure 35 : New Farm Loch, Kilmarnock 1895

Bale (2003) showed the structural differences between folk games and sports that had been identified earlier by Dunning and Sheard (1979). Over time they suggest a process of modernisation has influenced the activities we now identify as sport. Processes of spatial confinements and artificialisation are particularly pertinent to the changes taking place in Scottish curling landscape over the 20th century.

At each indoor ice rink in Scotland, there are a large number of similarities, for example in the lay-out, the type of stones, the conditions of the ice, the ambient rink air temperature, and the chemical composition of the water sprayed onto the ice. As the WCF definitive manual for curling rinks explains there is a big difference between ice and curling ice:

“Ice is simply the result of water being frozen by lowering its temperature to below 0°C, whereas curling ice is a manufactured product of specific definition that has been made from ice, or by freezing water in a very specific way” (Ohman & Minnaar, 2005, p152).

It goes on to list the problems that can cause variations in the ice conditions and how each might be solved to allow the optimum conditions for curling (as they have defined them) to develop. This manual only deals with problems arising on indoor, artificial ice rinks. We can only speculate about what the authors would have made of thawing ice conditions, for example during the 1929 Grand Match (Welsh, 1969).

Adams (2004) describes how early ice sports “grew in the intersection of climate, landscape and technology” (p57). When curling outdoors, each loch or pond is situated within its own unique landscape, however the standardisation of an indoor ice rink could be said to engender a sense of “placelessness” (Relph, 1976). In this context, the requirement of all curling rinks to be a specified length and width and the ice to be marked according to a universal plan constitutes a homogenisation of the space and a removal of the peculiarity of spaces. But a “sense of place” is something unique to each individual at any point in time, and is based on the meaning that an individual gives to the physical and social space and the social interactions that create that place. On that basis curling places remain unique and innumerable.

Matched sets of curling stones provided by the ice rink remove some of the individual attachments to stones that curlers may have had in the past. The uniformity of curling stones produced especially since the 1950s and the similar ice conditions maintained by indoor curling rinks is characteristic of artificialisation of

the sports environment highlighted by Bale (2003). In addition the sights and sounds of curling, once commonplace in freezing winters around the country in the early 20th century are unrecognisable. Curlers today long for the opportunity to curl outside on lochs and in particular for the Grand Match with its links to history. Each year more than 1000 rinks apply to take part in the Grand Match hoping it is to be possible the following winter, and a maximum of just 600 can be accepted⁵.

Successive curling historians have noted that there is a special atmosphere and feeling about curling, no matter when they were writing (for example Cowan, 1985; Kerr, 1890; Murray, 1981; Smith, 1981; Welsh, 1969). Curling has always been associated with drinking and socialising and in curling club minute books, records have been kept of the amount spent by the club on refreshments. Menus for curling suppers held throughout the 20th century have centred on the traditional curler's fare – beef and greens (Welsh, 1985). The tradition of fellowship continues to the extent that many curling rinks have bars or hotels associated with them where participants can socialise or drink together following their game and clubs have annual dinners. Kerr details a number of poems and songs relating to curling and the friendships around the rink. He also catalogues (as far as he can for a secret society) the “mysteries” of the curlers court (1890, p351). These include an initiation involving a “word” and a “grip” which are not revealed either by Kerr or subsequent writers. Welsh does reveal that “I promise to be a keen, keen curler” is the vow taken by all curlers who are “made” at initiation ceremonies (1985, p231). The tradition of a curler's court was very much alive in many clubs during the 20th century, for example in Gourock there was a curler's court on alternate years (Gourock Curling

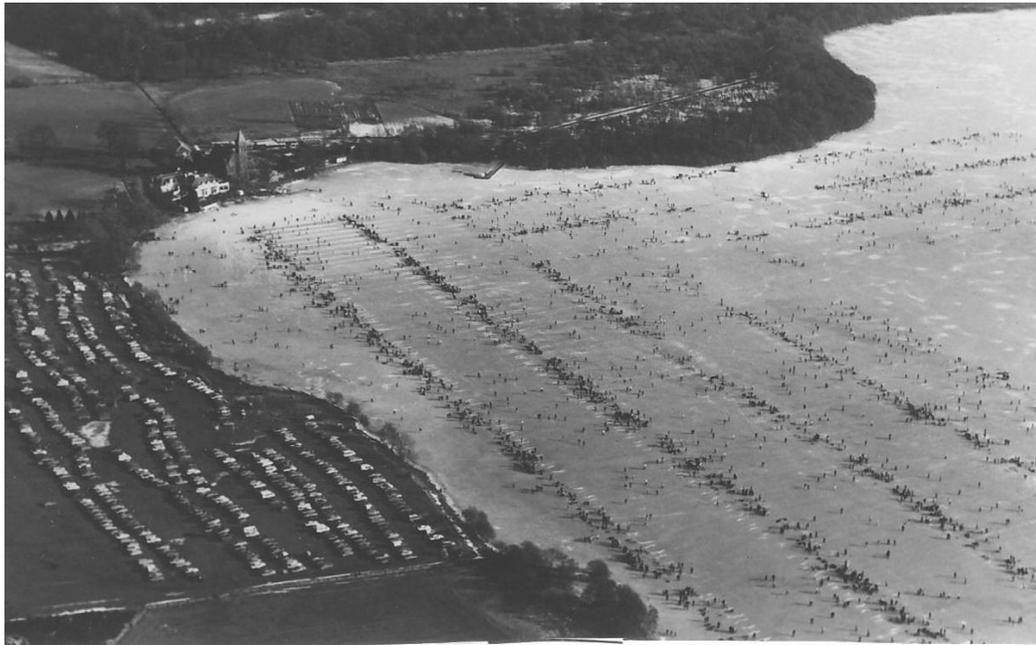
⁵ The Grand Match organising committee meets to ensure everything is in place should the conditions be right – including provisions for portable toilets, car parking and press coverage.

Club, 2008). Curlers came from all walks of life, and Welsh illustrated the democracy he believed to be inherent in the nature of curling in a song which in 1985 he described as famous among curlers:

“Ours is a game for duke or lord,
Lairds, tenants, hinds, an a’ that;
Our pastors too, wha preach the Word,
Whiles play the broom for a’ that.
For a’ that and a’ that,
Our different ranks an’ a’ that,
The chiel that soops and plays the best
Is the greatest man for a’ that.” (Welsh, 1985, p234)

Figure 36 shows the scene on Lake of Menteith in 1979 when the last Grand Match was held. The thousands of curlers are just specks on the vast expanse of ice and they form part of the “brotherhood of the rink that our forefathers sought to foster” described so eloquently by Smith (1985). He reminisces that “Scotland’s ain game was toasted in Scotland’s ain spirit by player and onlooker alike”. Smith notes that the result was a win for the North, but that did not appear overly important as “to have been there is what mattered”. Scenes from the Grand Match in 1979 are shown in Figure 36, Figure 37 and Figure 38. In reporting the (outdoor) Deeside Bonspiel in January 2008 (illustrated in Figure 45), in an article titled “REAL Curling!” the editor of Curling Today was moved to write “is that not magic” (Cowan, 2008c). Curlers want to play “the roaring game”. At the start of the 20th century when the first indoor rinks were opened some sort of Grand Match event was held each year between 1908 and 1914, either in Glasgow or Edinburgh, however it was felt to be “an unwelcome break with tradition” (Murray, 1981, p141) and was not continued when the first world war ended. Thus it was not until the 21st century that a similar

event was revived. In 2000 and again in 2005 a Grand Match Event was held using all the indoor ice facilities across Scotland for 300 rinks from the north to play 300 rinks from the south in three-hour matches through one day.



Source: David B. Smith Collection.

Figure 36 : Curlers on the Lake of Menteith at Grand Match 1979



Source: Photograph courtesy of Bob Cowan / Scottish Curler magazine

Figure 37 : Aerial Photograph of the Grand Match 1979



Source: Photograph courtesy of Bob Cowan / Scottish Curler magazine

Figure 38 : Curlers in the Grand Match 1979

The Grand Match, an important part of the Scottish curling landscape, provides a good illustration of the impacts of environment and climate change on the sport of curling in Scotland. The climate of Scotland has experienced great changes over geological time. Fluctuations between glacial and interglacial periods have meant periods of ice cover and periods of much warmer conditions. Since the end of the last ice age (approximately 10,000 years ago) there have been small fluctuations with a warmer period between 1100 and 1300 AD followed by a much colder climate between 1300 AD and the 1700s (Mackey, Shaw, Holbrook, Shewry, Saunders, Hall, & Ellis, 2001). At the time of the first curling club in 1668 Scotland was in the grip of the Little Ice Age. By the end of the 18th century the weather had improved a little, however Dawson (2008) continues to document winters of more than 100 days of frost and snow. The harsh winters of 1815-1820 around the Moray Firth were described by Miller (1835) and these coincided with the volcanic eruption of Mount Tambora in Indonesia and the spread dust throughout the atmosphere that made the global climate colder for several years. In England the winter of 1823 was the coldest of the 19th century (Burnett, 2000). Dawson (2008) continues to recount storms are severe winters and records snow on the ground from January to early May in 1838. The Scottish Natural Heritage Trends (2001) report also found that by the start of the 20th century the average annual temperature was 0.4° C warmer than any time since the 15th century. Since 1960 warming has been most pronounced during winter and spring (Mackey *et al.*, 2001). Dawson (2008) has documented in detail the history of the weather of Scotland. He described extremely cold winters in the 18th and 19th centuries and sea ice surrounding the coast of Scotland in the 1880s. Loch Leven for example was frozen for 14 weeks from January to March in 1895 (Welsh, 1985). Dawson outlines a change in the weather during the 20th century and

explains there were fewer extreme weather events as well as some warming. The nature of curling meant it was dependent on the natural environment in its early formation of the game and rules. Smith (2006) has documented more than 2500 sites where outdoor curling is known to have taken place in Scotland in the last 400 years, however nowadays most curling happens indoors in 24 indoor ice rinks around Scotland.

Curling historians have outlined the transformations that took place in curling as technological advances and climate changes gave rise to an increasing dependence on first artificially constructed ponds and then indoor facilities. Generally increasing winter temperatures since the 1800s have resulted in fewer curling events on natural lochs and the “Grand Match” has not taken place since 1979. Figure 40 shows how often the Grand Match has been held since 1847. A trend of fewer Grand Matches played in each decade can be seen and the changes in climate over time will be considered to explain some of this variation. In addition, to stage a Grand Match there must be at least 10 inches of black ice on Loch Leven, Lake of Menteith or Lindores Loch. This is quite a change from the advice from the military given to the RCCC around the time of first Grand Match that 4 inches of ice was enough for a bonspiel and 6 inches enough for a Grand Match (Murray, 1981). The checking of the ice was undertaken by a committee of volunteers who would do so with a hand held drill. Figure 39 shows local farmer James Paterson boring through the ice on Lake of Menteith as part of the set up of the Grand Match in 1979.



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Figure 39 : Boring into the ice, Lake of Mentelith 1979

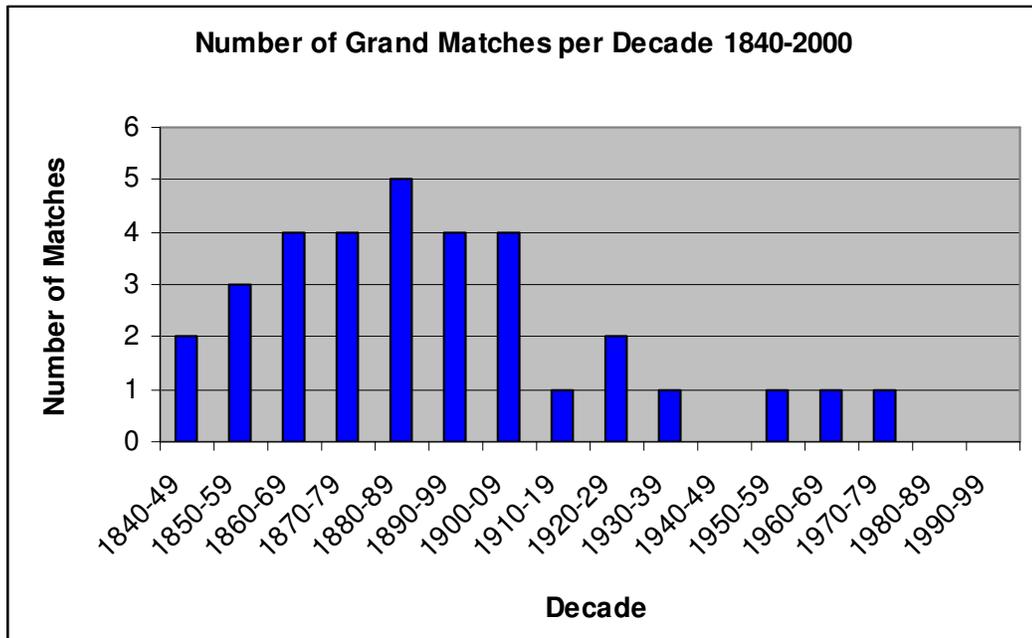
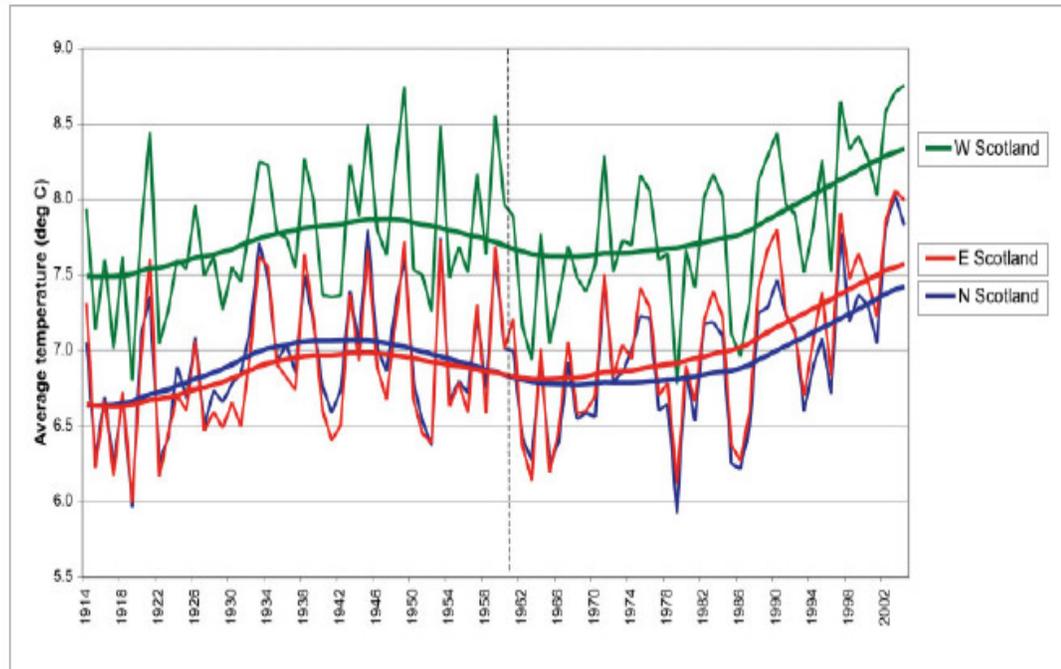


Figure 40 : Grand Matches Held

Detailed measurements of the temperatures in Scotland have been made since 1914 and the graph of the average annual temperature in Scotland for North, East and West is shown in Figure 41. For all three regions the tendency is for higher average temperatures through time.

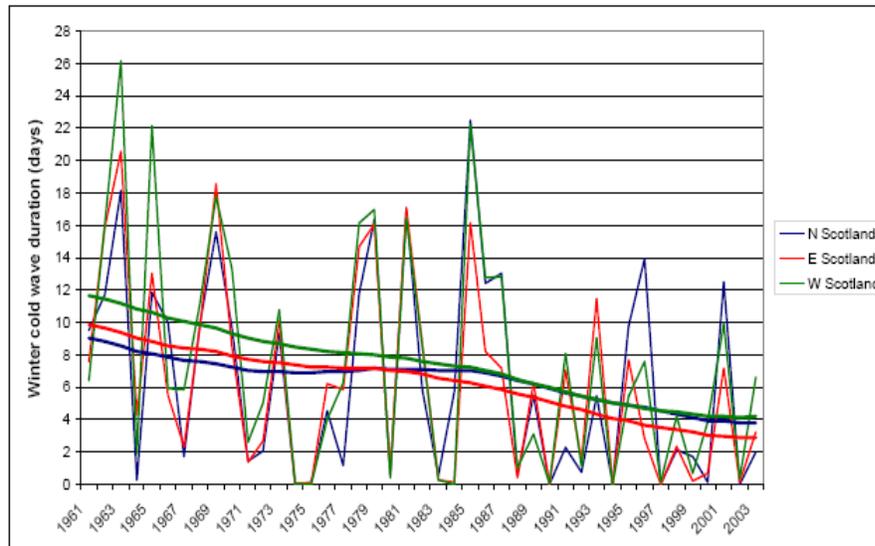


Source: SNIFFER (Jones & Lister, 2004)

Figure 41: Average Annual Temperature for Scottish Regions 1914-2004, with smoothed curves to show a running average. The vertical dashed line is 1961.

However for curling to take place it is not the average temperature that is the main determinant. Instead the time when the temperature is below freezing is critical. Figure 42 shows the length of cold waves since 1961 and it can be seen that cold snaps are becoming of shorter duration. The low temperatures and prolonged cold spell in 1963 that can be seen in Figure 41 and Figure 42 enabled the staging of the Grand Match (at Lake of Menteith) in January and facilitated outdoor bonspiels such as that shown in Figure 43 at Threeply Loch near Dundee in February. In addition there are ever-stricter controls to ensure the safety of participants - a minimum ice

thickness of 10 inches was not a factor in the 1900s when the artificial pond at Carsebreck was brought into use to safeguard players and the thousands of spectators. The staging of a Grand Match outdoors in the 21st Century looks increasingly unlikely.



Source: Barnett, Hossell, Perry, Procter, & Hughes (2006, p7)

Figure 42 : Length of Periods of Frost 1961-2004



Source: David B. Smith Collection

Figure 43 : Threeply Loch, near Dundee, February 1963

The physical environment and in particular the climate have had great impacts on the landscape of curling, but curling has also had a significant impact on the physical environment. In the 1850s manufacture of curling stones was concentrated in Ayrshire using granite from Ailsa Craig (Smith, 1981). During the 20th century the quarrying of the stone became increasingly difficult as the granite broke up on blasting and only 1% of the rock was suitable for turning into stones. An alternative source of granite was found in Wales and the Ailsa Craig quarry abandoned in the 1970s. However by the end of the 20th century modern curling stones once again incorporate granite from the ancient volcanic plug, but now as a part of a stone made of a combination of rock types. The stone craftsmen no longer quarry for the stone, but the Royal Society for the Protection of Birds (RSPB), who manage the nature reserve on the island, have allowed them to remove stone already blasted and not previously

used. In addition flooding of land to make curling ponds, building of artificial ponds and construction of large indoor ice arenas have altered the landscape of Scotland. For example the flooded land at Carsebreck was the venue for 25 Grand Matches up until 1935 when it was abandoned as the pond had become clogged with weeds and was no longer usable.

The environmental changes have had a great impact on the landscape of Scottish curling. In particular climate change in conjunction with technological and social changes has contributed to the focus of curling moving to indoor ice rinks. Today more than 120 Scottish curlers are supported through sportscotland and the lottery sports fund and two are full-time, professional curlers. These curlers prepare for an ever-growing calendar of international curling competitions including European and World Championships and the Winter Olympics. Increasingly the “performance” side of curling is gaining in importance and in some cases the recreational, club-based game is losing ground. At the same time the number of indoor ice rinks available for curling is decreasing and closures since 2000 have been of ice rinks which had curling as their sole use, for example Atholl (in Pitlochry) and Gogar (near Edinburgh).

Welsh declares “a true curler longs for frost, and, when a cold snap grips the country, a sense of urgency and suspense pervades the scene” (1969, p36). He continues

“The traditions of the game have been built on the rigours and uncertainties of out door play and it is obviously desirable to continue to nurture the old outdoor connection in Scotland, while the majority of the curling population plays indoors. There is a place for both forms in modern curling. Indeed, after regular play in the big indoor ice rinks, curlers

keenly anticipate a chance to participate in out door bonspiels. In addition to enjoying the thrill of a day out of door is, they can take a step into the game's history" (1969, p40-41).

The trend towards more and more indoor curling continues and most recently research undertaken by sportscotland (Mori, 2004; sportscotland, 2002a) has painted a very different picture of curling in Scotland to that of the historical scenarios of Kerr, Welsh or Smith. In 2002, a network of 30 indoor ice rinks suitable for curling supported 592 member curling clubs affiliated to the RCCC, making up just 5% of an estimated 13,000 sports clubs in Scotland (Allison, 2001b). In 1850 curling clubs were 50% of all sports clubs in Scotland. In 2002 there was an estimated playing population of 20,000 men and women curlers in Scotland, of which nearly 15,000 were affiliated RCCC club members (sportscotland, 2002a). This level of participation at 0.5% of the population surveyed put curling into a similar level of participation to that of hockey by adults and just slightly higher than cricket for 1999-2001 (sportscotland 2002). These figures are lower than for 1888, when 18,647 affiliated curling club members made up 0.5% of the Scottish population.

The Scottish curling landscape today is one of almost entirely indoor curling. There are 24 indoor ice rinks where regular curling takes place. In Scotland two thirds of indoor curling facilities are shared with skating and ice hockey (see Figure 22). The future of these rinks is by no means certain as in a recent sportscotland report (Kit Campbell Associates, 2006) the state of indoor ice rinks in Scotland is described as variable, with an estimated £44.6million required to upgrade the present facilities with a further £25.6 million needed for refurbishment and periodic maintenance over the next 25 years. The report concludes "Older ice rinks are typically under-

maintained and under-funded, using old and inefficient plants and at risk of closure from plant failure” p59.

Lack of indoor ice time and the lure of curling outdoors encouraged members of the Strathendrick Curling Club in Stirlingshire to renovate the old village curling pond in Drumore in 2001 and they were able to curl on it during January 2003 (Figure 44), but have not been able to do so since. Note the curling house in the background and the markings scraped in the surface of the ice.

Many individual curlers do not have their own curling stones. These are provided by the indoor ice rinks as standard. Players (both men and women) are members of curling clubs and this is the main way a curler can access ice-time which is increasingly in demand. These curling clubs book time on the indoor ice rinks and players travel to these rinks to train or play matches. If there is a hard frost, curlers will curl outdoors on frozen lochs or ponds and artificial rinks using old curling stones, tee-markers and brushes (Figure 44). In the north, outdoor curling is a more regular possibility, for example in 2008 the Deeside Bonspiel took place outdoors at Tarland near Ballater (see Figure 45). At Carrbridge, near Aviemore, curlers regularly make use of a purpose built tarmac floodlit rink through the winter. They are proud to record that they cast the final curling stone of the last millennium in a special bonspiel played outdoors on Hogmanay 1999. Other Scottish traditions of bagpipes and whisky accompanied the stone that transcended the centuries as the “bells” rang as it travelled to the “house”.



Figure 44 : Outdoor Curling at Drumore Pond, Strathendrick, Stirlingshire in January, 2003



Source: Photograph courtesy of Bob Cowan / Scottish curler magazine

Figure 45 : Deeside Bonspiel 2008

There have been changes in technology that interacted with the landscape since curling began. Kerr (1890) explains that the oldest type of grip on the ice used by a curler was the “crampit” – a piece of iron with metal spikes sticking downwards into the ice that was fixed to the bottom of the boot or shoe. Clubs later developed iron “trickers” which were fixed to the ice and gave each curler grip for front and back foot during the delivery. It is speculated that the most natural foothold was a notch carved in the ice (sometimes called a hack), and Kerr (1890) bemoans the fact that the cutting of the notch in the ice is apt to weaken it. The use of crampits was frowned upon from the start of the 19th century (as curlers wearing them damaged the ice all over the rink) and instead a foot-iron or hack similar to the one shown under the feet of the curler delivering the stone in Figure 45 was encouraged. This had the advantage of being suitable for artificial ponds and provided a stable (and consistent) base from which all deliveries were to be made within a game. Considering Figure

20 and Figure 26 show curlers from the beginning of the 20th century, the similarities to the “hack” in Figure 45 are striking. Today in indoor ice rinks a fixed “hack” or foot platform is in place at each end of a rink for each curler to begin their delivery from.

Technological advances in artificial rink building were made gradually and the first tarmac rink was installed in Edinburgh in 1902. Smith (2008a) describes events in the village of Kilmaurs, Ayrshire on 15th of April 1913, when a curling match was held on the ice of the artificial rink in the early morning and the village bowling green was opened in the afternoon. That scenario would have been unimaginable without the innovation of the artificial rink. Outdoor tarmac rinks are still in use, particularly in the north of Scotland. Figure 46 shows curling on a typical tarmac rink.



Source: David B. Smith Collection

Figure 46 : Tarmac Rink at Dun Alain Hotel, Aberfeldy, 1967

Curling has been part of the Scottish sport landscape for centuries, but the spatial organisation of that landscape has changed over time. The formation of curling clubs and societies enabled a system of competition to be set up. Environmental change and the gradual increase in temperature has changed the sport from one played outside at any number of locations, to one mostly confined to just a few indoor rinks at specific times. In creating these curling spaces, curlers have altered the environment considerably. Firstly by making ponds and lochs suitable for curling, then by constructing artificial ponds in various materials and finally by building large covered ice rinks curlers have changed the Scottish landscape. In addition, technological advances in curling have changed the nature of the game to one where professional (in terms of attitude) players and the needs of these players for competition and training have begun to dominate the Scottish curling landscape. These more recent changes can almost amount to a second transition period for curling in Scotland between the early 20th century and earlier times that were dominated by outdoor curling and the late 20th century and later times that are dominated by indoor curling.

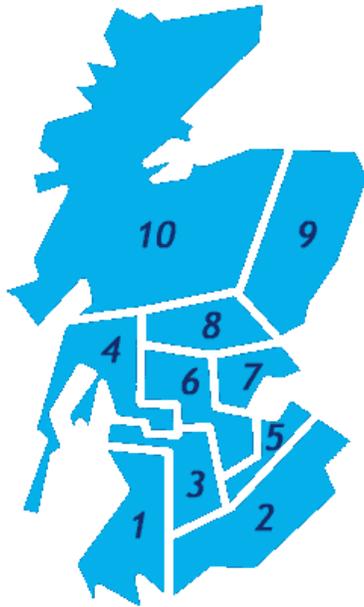
4.6 Regionalisation

Rooney (1975) proposed regionalisation as a process of organising competition between clubs and teams. He was in particular considering professional spectator sports when he suggested central place theory as a means of predicting in which towns or cities teams would be based. This theory, which assumed a rational, economic man making decisions based on locations upon an isotropic plain, is not applicable to a sport with few economic imperatives set within a real-world context. In this section the structure of the modern Scottish curling landscape will be outlined.

Historically curling competitions and bonspiels were organised locally. The parish and county bonspiels continued to be important after the formation of RCCC in 1838. When RCCC attempted to impose an network of 16 provinces on the clubs in 1848 this was unsuccessful, although the concept of geographical boundaries rather than county, political or administrative ones as being more appropriate ways of organising curling competitions was sound and later adopted (Murray, 1981). The RCCC Annual for 1865 noted that provincial matches were being organised, without a list of provinces, but asked for reports of these bonspiels to be kept short to reduce the number of pages in the Annual. In the first ever published list of provinces (RCCC Annual 1888) there were 14 provinces recorded. Today curling competitions are organised by RCCC through 10 areas and 37 provinces. These are illustrated in Figure 47 and Table 10. Each curling club is affiliated to a province, through their province to an area and thus to the Royal Caledonian Curling Club.

Curling clubs competed against each other in matches and at provincial spiels (where a large number of curling clubs would gather to play). The Grand Match, the largest bonspiel and important element of regionalisation of the Scottish curling landscape was conceived as a match between the north and the south of the country. The boundary between the north and south was the Forth for all matches played before 1886 (18) except those held at Lochwinnoch in 1850, 1864 and 1878 where the dividing line was the Clyde. These boundaries resulted in a great number of prospective participants not being included in the Grand Match. For example in the first Grand Match at Penicuik 68 rinks from the south and 12 rinks from the north attended. Just 24 took part in the Grand Match and the other 44 rinks played a side match Midlothian against the other provinces. This was not much improved on in 1848 where Linlithgow Loch hosted 170 rinks of curlers – 70 were involved in the

Grand Match and 100 rinks from the south played in a side match. To avoid these extra rinks, modern-day Grand Matches are based on an arbitrary line that enables 300 rinks to be classified as South and 300 rinks to be classified as North.



Source: Royal Caledonian Curling Club (2008a)

Figure 47 : Royal Caledonian Club Structure – The Areas

Table 10 : Royal Caledonian Curling Club–Areas and Provinces in 2008

Area 1
Ayrshire Galloway e Rhins o' Gallowa'
Area 2
Border Dumfriesshire Stewartry
Area 3
Biggar District & Upper Clydesdale Lanarkshire Renfrewshire (Twelfth)
Area 4
Argyll Dunbartonshire (Tenth) Glasgow
Area 5
East Lothian e Midlothian Peeblesshire
Area 6
Forth & Endrick Scottish Central Stirlingshire West Lothian
Area 7
Cupar East of Fife Loch Leven West of Fife
Area 8
Atholl Breadalbane Perth & District Strathmore Upper Strathearn
Area 9
Angus Dundee & District North Eastern North & South Esk
Area 10
Grampian Inverness Moray Ross & Cromarty Sutherland

Source: Royal Caledonian Curling Club (2008d)

The meaning and traditions of curling have not been constant across the whole country. The curlers at Kinross Club maintained the traditions of the curlers court while it was noted by Kerr (1890) that the practice of the “mysteries” and the curlers court was disappearing. Writing nearly a century later, Welsh (1969) did note that the curling clubs in the east of the country were more likely to maintain the traditions of the curlers court, but it was still widely conducted. As national records of those curlers who have been “made” are not kept it is not possible to make any definitive statement of the importance of any region in maintaining the curling tradition.

The first curling clubs formed in Scotland were concentrated in just a few counties (Table 9). Figure 48 shows that in 1800 most curling clubs were in the counties of Perth, Stirling and Lanark, but the numbers were small (42 clubs in total). However over the first 38 years of the 19th century, the number of curling clubs in Scotland increased to 194. This increase did not take place uniformly throughout the country. While Perth retained some of its importance, Ayr appears to have become the powerhouse of Scottish curling, with 37 clubs in 1838. There were still parts of Scotland where there was limited formal curling taking place as 11 counties showed no record of any curling clubs in 1838. The differential areas of growth in clubs in might have provided some of the impetus for the idea of a Grand Match where the North and South could compete for sporting honours alongside the struggle for power in the organisation of curling. Following the formation of the RCCC in 1838, the number of curling club members affiliated to the governing body was recorded. Figure 49 shows the rapid increase in the number of curling club members during the first 50 years of the RCCC (Kerr, 1890).

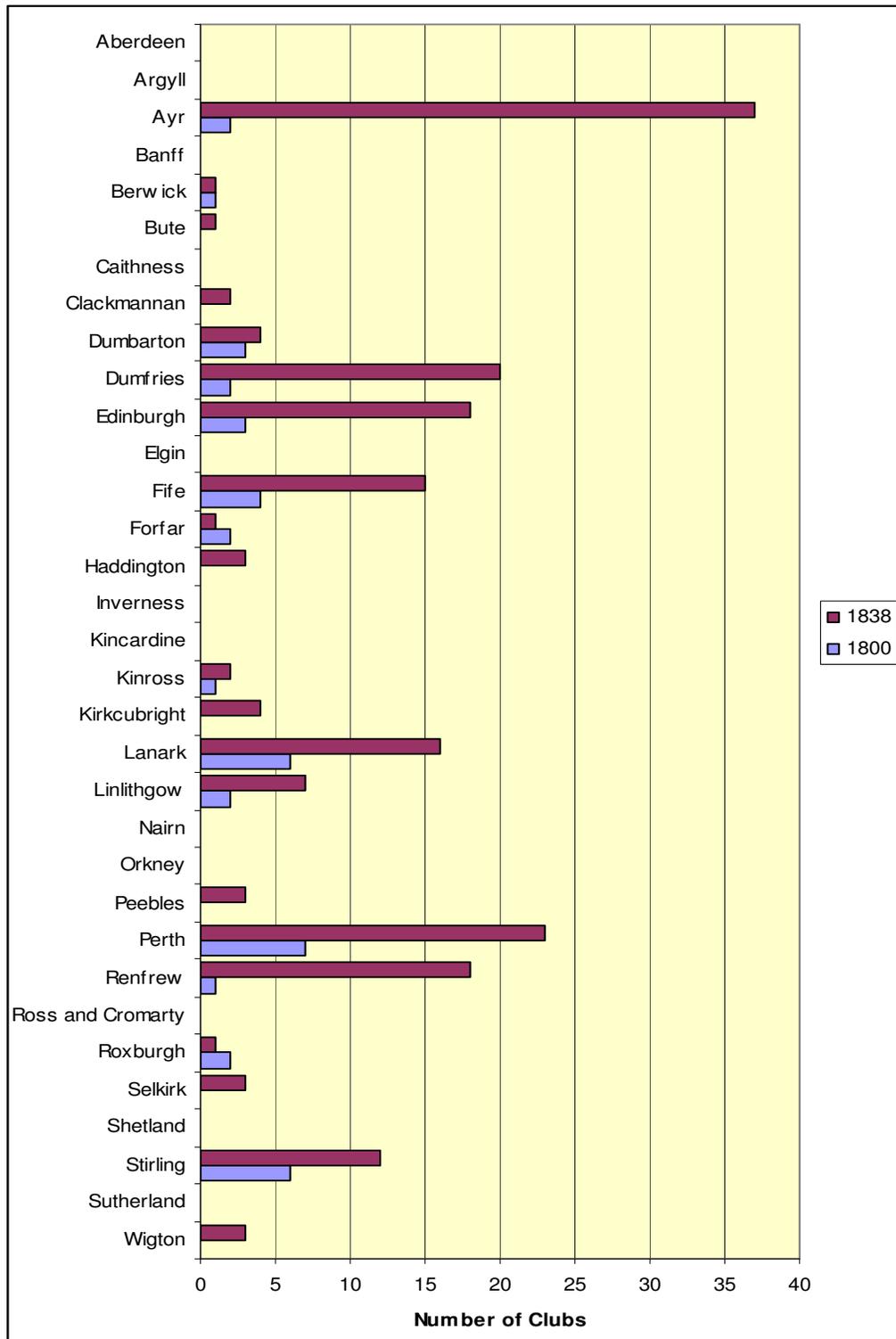
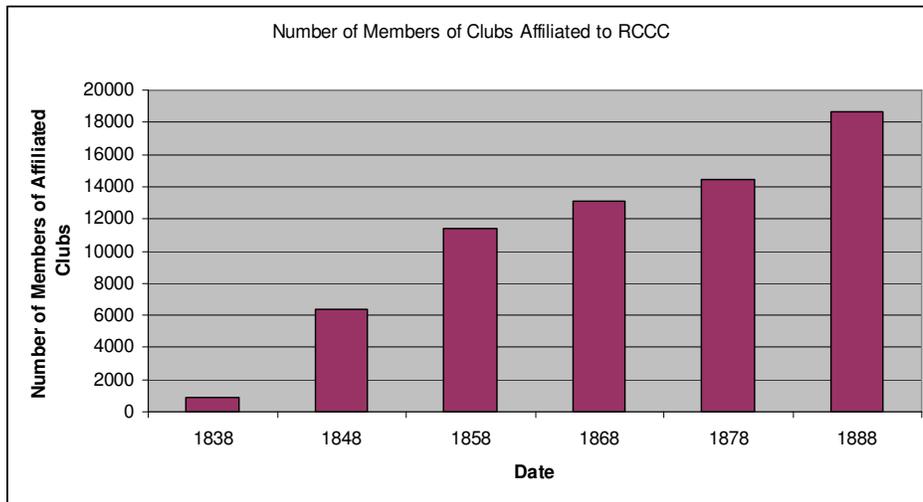


Figure 48 : Changes in Distribution of Curling Clubs in each County Between 1800 and 1838



Source: Kerr (1890, p297)

Figure 49 : Members of Curling Clubs Affiliated to RCCC 1838-1888

The changes that have been outlined so far have been a combination of technology moving forwards (for example design and manufacture of stones) or of indoor and artificial ice conditions facilitating technical and performance enhancements. But it is important to note that not all of these changes have taken place everywhere. The differences between the indoor and the outdoor game of curling have been growing and it has been argued that the two games are now two separate sports. Cowan (2008b) suggests that the landscapes of outdoor curling at the end of the 19th century and now are not materially different (see Figure 18, Figure 27, Figure 33, Figure 43, and Figure 46). Although the opportunity to curl outdoors occurs much less frequently now, curlers for example in Carrbridge do use their tarmac rink regularly during the winter months. The outdoor sport of curling remains almost unchanged but the pace of change of the indoor sport of curling is accelerating. Cowan (2008b) lists “ice, stones, brushes, equipment, coaching, training, tactics, rules, dress, customs, etiquette, age, competitions, funding, politics” as some of the factors where there is significant difference between the indoor and outdoor game. So a regionalisation has taken place with regard to the technology and instead of it being

strictly geographical (although being further north and further from an indoor rink are factors) it relates instead to an increasing split between the indoor and the outdoor game.

Before curling was organised into clubs, local competition took place between parishes. Curling clubs allowed organisation of matches between more curlers and also further afield. More structure, agreement of rules and improvements in transport led to competition with other clubs in the county. Bonspiels that included curlers and curling clubs from a particular geographical area (and then province) were a feature of curling in 18th and 19th centuries. Indoor ice rinks now provide the venue for most bonspiels and curling matches, except occasionally in the north. This is producing a split between the indoor and outdoor game on somewhat regional lines. Today the structure of curling depends on geographical regions. Bonspiels and matches are organised through 37 provinces and 10 areas and each of these provinces has a representative on the Council of the RCCC. The division of Scotland into provinces and areas is important in the competitive and performance development structure of RCCC as it aims to keep Scotland as one of the top curling nations in the world. Winners of province bonspiels have traditionally gone forward to area and then national bonspiels and those winning Scottish Championships have then represented Scotland at the European or World level. The involvement of the Scottish Institute of Sport did change this structure to some extent, although it works by selecting athletes on a (different) geographical basis itself. Overall the regionalisation identified in is an ever-present factor in the Scottish curling landscape.

4.7 Internationalisation

The Helsinki Report highlighted the increasing internationalisation in sport and recorded 102 European Championships and 77 World Championships in sport that had been held in Europe in 1999 (Commission to the European Council, 1999). According to Chandler, Cronin and Vamplew (2002) sport is one of the most visible forms of globalisation. Globalisation is a set of processes or “flows” (Maguire, Jarvie, Mansfield, & Bradley, 2002) that result in one ideology or culture becoming dominant throughout the world. It involves several dimensions: migration of people, transfer of technology, media and information flows, economic flows of resources, and ideological transmissions. However in relation to the sport of curling, globalisation does not seem to be the dominant process. Lanfranchi & Taylor (2001) are critical of the assumption that globalisation is the major process impacting on world sport (for example Bale & Maguire, 1994). Houlihan (2004) considered the differences between globalised and internationalised sport, with particular reference to the importance of the role of the state and a table summarising these is shown in Table 11. These characteristics are considered in relation to curling. Curling competitors remain defined by their country of origin of in the largest competitions. Within Scotland there is a national structure and unique traditions of the identity of Scottish curling. Performance curling is supported through the national lottery and substantial funds are concentrated on a few athletes. Curling clubs are affiliated to and regulated by the RCCC. The WCF is based in Perth, Scotland, where it is subject to domestic control. Curling is an internationalised sport. Other authors (for example Bourg & Gouget, 2006; Magnusson, 2001) have suggested that internationalisation is part of the globalisation process. This study takes

internationalisation as a process in its own right that may or may not be part of a bigger, more long-term globalisation and discusses internationalisation of curling within the ideas of space, place, environment, landscape change and sports technology change.

Table 11 : Characteristics of Internationalised Sport and Globalised Sport

Characteristic	Globalised sport	Internationalised sport
Nation as the defining unit of international sport, and nationality as the defining characteristic of sportsmen and sportswomen	Multinational/nationally ambiguous teams the norm, as in Formula One motor-racing or professional road cycling	Teams defined by their country of origin, as in the Olympic Games and international soccer club competitions
Extent of global diversity in sport	Diminishing diversity and/or the overlaying of regionally/nationally distinctive sporting traditions with an increasingly uniform pattern of Olympic and major international team/individual sports	Maintenance of a vigorous national/regional sporting culture, which exists alongside or takes precedence over Olympic and major international team/individual sports
Extent of state patronage of elite sport	Minimal – sports are either financially self-sufficient or attract commercial patronage	Substantial – most Olympic and major international sports depend on state subsidy
Extent to which sports businesses and organisations operate within a national framework of regulation	Self-regulation by the industry or no regulation	National framework of regulation, e.g. licensing of clubs, coaches, sports venues and television broadcasting, or supranational framework of regulation, by, for example, the EU
Extent to which international sports federations and the IOC are subject to domestic control	Immune from domestic regulatory and legal systems or in countries where the legal system is 'protective' of corporate/organisational interests	Subject to legal challenge or state/supranational oversight

Source: Houlihan (2004, p57)

Curlers emigrated from Scotland to other countries and took the sport of curling with them. For example, the sport was firmly established in Canada, USA and New Zealand by the beginning of the 20th century. From the earliest years of the RCCC, curling clubs in Canada had been affiliated to the “Mother Club” (RCCC). Table 12 shows the spread of curling to countries outside Scotland up until 1981. Thereafter information relating to membership of the World Curling Federation (International

Curling Federation) is available (see Table 13). The increase in the number of affiliated countries is shown in Figure 50.

Table 12 : Chronological Table of Dates of Adoption of Curling

Date Adopted	Country	If they stopped? (no dates given)
1760	Canada	
1775	England	
1832	USA	
1839	Ireland	Stopped
1846	Sweden	
1873	New Zealand	
1873	Russia	Stopped
1880	Switzerland	
1880	Norway	
1890	China	Stopped
1912	Italy	
1912	Austria	
1920	France	
1936	Australia	Stopped
1961	Germany	
1961	Holland	
1964	Belgium	Stopped
1964	Denmark	
1973	Ivory Coast	
1974	Wales	
1976	Luxembourg	
1978	Finland	
1979	Japan	
1980	South Africa	

Source: Murray (1981, p138).

The sport of curling is governed by the World Curling Federation (WCF). This was formed, as the International Curling Federation, in 1966. Initially the running of the Federation was done by the RCCC at their head office, although the administration of WCF was split from RCCC in 1994 and the headquarters moved to Perth, ties between RCCC and WCF remain close.

Table 13 : Dates of First Membership of (International) World Curling Federation

Country	Date Joined International Curling Federation (Now World Curling Federation)
Canada	1966
France	1966
Norway	1966
Scotland/Great Britain	1966
Sweden	1966
Switzerland	1966
USA	1966
Germany	1967
Denmark	1971
England	1971
Italy	1972
Netherlands	1975
Luxembourg	1976
Finland	1979
Austria	1982
Wales	1982
Japan	1985
Australia	1986
Hungary	1989
Bulgaria	1990
Czech Republic	1990
Andorra	1991
Iceland	1991
Liechtenstein	1991
New Zealand	1991
US Virgin Islands	1991
Russia	1992
Korea	1994
Belarus	1997
BRAZIL	1998
Chinese Taipei	1998
Israel	1999
Spain	1999
Latvia	2001
China	2002
Estonia	2003
Greece	2003
Hellenic	2003

Dates of First Membership of (International) World Curling Federation (continued)

Ireland	2003
Kazakhstan	2003
Lithuania	2003
Poland	2003
Slovakia	2003
Ukraine	2003
Croatia	2004
Belgium	2005
Serbia	2005

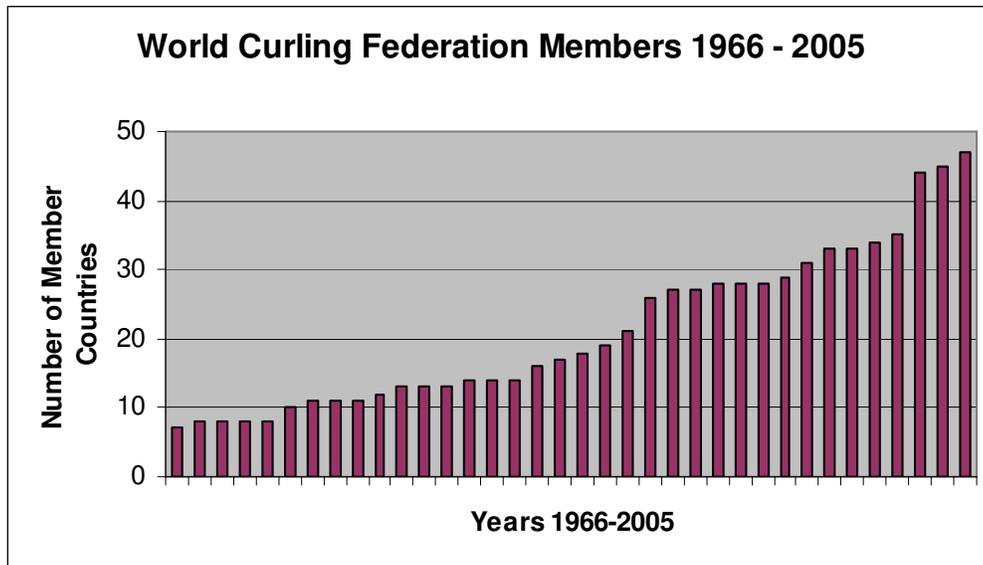


Figure 50 : Increases in Membership of the (International) World Curling Federation 1966-2005

The physical environment in other countries enabled curling to spread, especially to places with a cold winter climate. The World Curling Federation (WCF, 2007) notes that international curling events were held in the 19th century in Europe and North America but give no specific details. The RCCC received invitations to compete in Canada in 1858 and on a number of other occasions until 1900 but was not able to accept any of them (Welsh, 1985). The Gordon International Medal began in 1884 as a challenge between USA and Canada and continued throughout the 20th century

(Smith, 1981). In 1895 “The International Match” between Scotland v England was first contested and by the end of the 20th century that developed into a quadrilateral event including Wales and Ireland. The RCCC toured to Canada in 1902 beginning a tradition of tours and incoming tours. Three countries, Great Britain, Sweden and France competed in the Winter Olympics of 1924 and Great Britain won. Curling was a demonstration sport at the 1932 Winter Olympics (teams from Canada and USA played). An International match series between Canada and Scotland began in 1959 – the Scotch Cup – and the number of countries playing gradually increased until it became the World Championship in 1968. Curling was again a demonstration sport at the Winter Olympics in 1988 and 1992 before men’s and women’s curling were included as medal sports for the first time in 1998.

Internationalisation, in the form of more international events and involvement in global competitions such as the Olympic Games can be seen in the timeline in Table 14.

Table 14 : Timeline of Selected Developments in International Curling

1760	1st curling recorded in Canada
1884	1 st USA v Canada challenge (Gordon Medal)
1895	1st England v Scotland International
1902	1st overseas tour by RCCC to Canada
1909	1 st incoming international tour (from Canada)
1924	Men's curling is a sport at first Winter Olympics
1932	Curling is a demonstration sport at Winter Olympics
1952	1 st incoming tour from USA
1955	1 st RCCC tour to USA
1958	1 st overseas tour by women curlers (to Canada)
1959	Scotch Cup began as a challenge between Scotland and Canada (now World Championships) (men)
1966	International Curling Federation formed (now World Curling Federation)
1968	First Men's Curling World Championships (developed from Scotch Cup)
1975	First European Curling Championships held (men's and women's)
1979	First Ladies World Championships held (Crossmyloof, Glasgow,)
1988	Curling is a demonstration sport at the Winter Olympics
1992	Curling is a demonstration sport at the Winter Olympics
1994	World Curling Federation administration separated from RCCC and Headquarters set up in Scotland
1998	Curling is official sport for men and women at Winter Olympics for first time
2000	Men's World Championships in Braehead, Glasgow (Figure 52)
2002	Great Britain wins Gold at Winter Olympics



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Figure 51 : Action from First Women's World Championships 1979 at Crossmyloof, Glasgow



Source: Photograph courtesy of Bob Cowan, Scottish Curler magazine

Figure 52: Braehead Arena, Glasgow in Men's World Championships 2000

The contrast between the setting for the women's World Championships in 1979 (Figure 51) and the men's World Championships in 2000 (Figure 52) is striking. While both events were held in Glasgow, the number of and seating for spectators, and the symbolism in terms of national flags on display are in marked contrast. The actual curling ice and rinks remain a constant through the obvious changes in the profile of the event.

The number of nations that are affiliated to the World Curling Federation continues to grow, however the headquarters of World Curling remain firmly in the country of its birth, Scotland. International competitions such as the European and World Championships are held annually and curling is a sport in the Winter Olympics held every four years. In addition an international commercial curling circuit exists where curlers compete for prize money. For example the World Curling Tour Europe visited Braehead in Scotland in January 2008 and 20 elite women's teams competed for a total prize fund of £8,000.

The competitors in the World Curling Tour Europe visit a number of different countries and it is not relevant to them as competitors whether the competition is in Scotland, Switzerland or Norway, for example, as the sport of curling, the conditions of the ice, the regulations and the opposition are similar in each venue. The idea of placelessness was discussed earlier in this chapter. Indoor ice rinks wherever they are located have similar physical characteristics. That was linked to the modernisation of sport process but it could also be interpreted as part of the internationalisation process. However the sense of place that is so important to each individual in their interpretation of a space may not have been homogenised. There are some key Scottish curling traditions, held to be of great worth through the RCCC and the curler's court, such as values of friendship and fair play. If these were to be replicated in every curling place throughout the world this would represent processes of globalisation. Smith (2008a) stated that apart from Scotland, only in New Zealand are the traditions of the curlers court followed. Visitors to Scotland from other curling countries often enjoy being "made" and taking part in what is an essentially a Scottish curling ceremony. Other elements of Scottish identity are associated with

curling competitions wherever they are held. For example at the “Brier” – the largest bonspiel in Canada - bagpipes and tartan are ever-present.

So some of the traditions of curling have not been transported around the world as part of the internationalisation process, but perhaps they have also been eliminated from Scotland as part of the influence of performance imperatives and the rigid time-frames linked to indoor ice time? According to Cowan (2008b) there are fewer curling clubs in Scotland that maintain the tradition of the curlers courts and some of the new clubs have no knowledge of or interest in the history of the sport. Thus it could be said that processes of homogenisation are changing the landscape of one of Scotland’s national games.

During the Men’s World Championships in 2007, not only were there a record number of fans spectating in person at the Rexall Place Arena in Edmonton (Figure 53), but matches were watched in Canada through two television networks, and worldwide through two internet webstreaming portals and various television networks. WCF provided live updates and WCTV, the television arm of the WCF, provided daily game feeds and highlight packages to a variety of international networks including Eurosport International, Eurosport Asia and Eurosport France, ZDF (Germany), Sf-DRS, TSR and TSI (Switzerland), NHK (Japan), RFO (French overseas), CSTV (United States) and TransWorld Sport, plus agencies Reuters and SNTV and broadcast unions EBU and ABU (World Curling Federation, 2007a). This was a truly global event.

When the Great Britain women’s team won Olympic gold in 2002 (see Figure 54) fans watching at home could celebrate along with the curlers themselves (Figure 55).



Source: Photograph courtesy of Bob Cowan, Scottish Curler magazine

Figure 53 : Rexall Place Arena, Men's World Championships, Edmonton, Canada in 2007



Source: Photograph from BBC website (Accessed 23/10/08) : http://news.bbc.co.uk/winterolympics2002/hi/english/photo_galleries/newsid_1835000/1835148.stm

Figure 54 : The Winning Stone (Olympic Final 2002)



Source: Photograph from BBC website (Accessed 23/10/08) : http://news.bbc.co.uk/winterolympics2002/hi/english/photo_galleries/newsid_1835000/1835148.stm

Figure 55 : Reactions to the victory in Greenacres Curling Club, Scotland

Today, the countries affiliated to the WCF are not just those that have natural ice available in their winter landscape. In fact Brazil have recently challenged USA for one of the two places in the World Championships 2009 reserved for countries from Americas Zone (includes North and South America) (World Curling Federation, 2008a). Canada automatically takes the first qualification place as the holder. All

five members of the Brazilian team are studying in Quebec, Canada where they train at a local curling club. There is no curling rink (indoor or outdoor) in Brazil.

The external environment of international sport and in particular the Olympic Movement has been instrumental in bringing about changes to the global landscape of curling. Many more nations have begun to compete (as mentioned in the example above), even if they do not have any natural ice⁶. Others are viewing the outcome of winning Olympic medals as much more important than the sport itself. China affiliated to WCF in 2002 and since then has made great advances in its world ranking position. In April 2008, China's women were ranked 9 and men ranked 14 in the world (World Curling Federation, 2008b; World Curling Federation, 2008c) a jump of a combined 12 places since 2007. This has been a result of years of high performance training for the squads based in Canada, although there are recreational and developing curlers involved in the sport in China also.

There are 46 member countries in the WCF and the number of curlers in the World far outstrips the numbers in Scotland. In 2008 there are just 20,000 curlers and 24 indoor ice rinks in Scotland. In Canada alone there are estimated to be more than 2 million curlers using more than 1,100 dedicated covered curling rinks (Weiting & Lamoureux, 2001).

Innovations in the sport appear to have been driven from outside of Scotland. For example the first "carspiel" was held in Canada – the prize for the winning rink was a car - and signalled a start of a circuit of bonspiels where sponsorship and prize

⁶ For example, in countries such as Israel and the Ivory Coast, there is no ice, artificial or otherwise. Curlers resident in countries with ice provide representation at events such as the Olympics (if they can qualify).

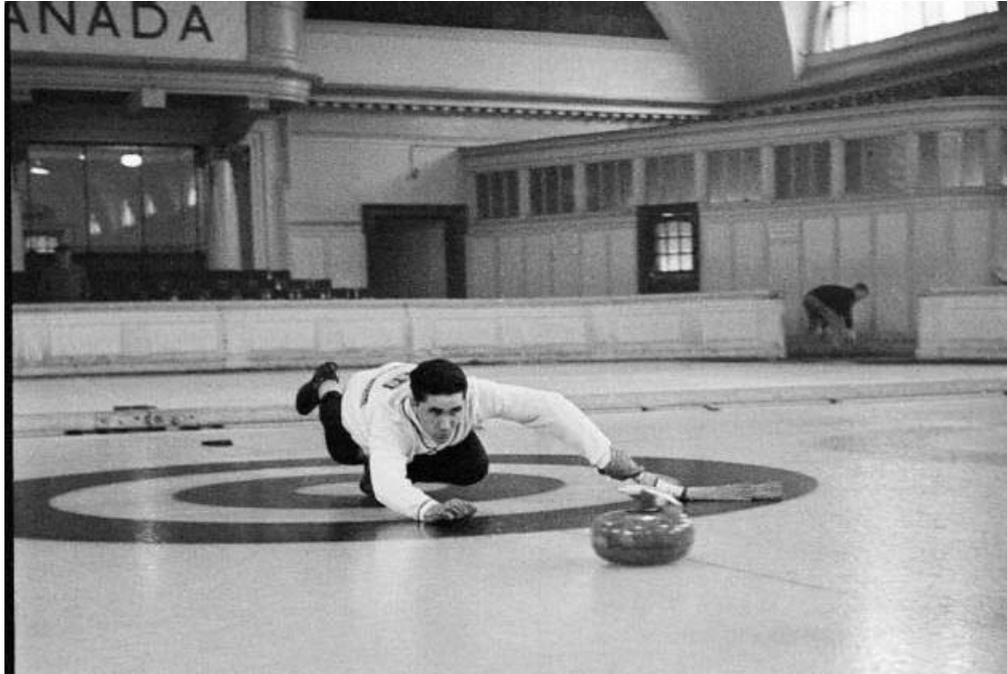
money as well as spectator interest were paramount. Another important influence on the global game is the International Olympic Committee as previously mentioned.

Technical developments in the sport of curling have frequently travelled from outside Scotland to transform the sport here. Smith (2008c) documents the first experience Scottish curlers had when curling on pebbled ice on tour in Canada in 1902-3. Only in Canada could hot or boiling water have been sprinkled onto ice to create a better playing surface – in Scotland where ice was a much less common commodity this would have been unimaginable. However when the Scots returned from Canada, they brought news of the innovation with them and following the development of indoor rinks and artificially refrigerated ice during the first few decades of the 20th century, pebbling began in Scotland. Pebbled ice is now a requirement for all (indoor) curling rinks.

This technical innovation of indoor artificial ice, pebbled and very “keen” is linked to another innovation that can be traced both in Scotland and Canada. The “curl” or bias of a curling stone that allows players to avoid stones on the ice and curl into the “house” behind them was first recorded as the “Fenwick Twist” or Kilmarnock Twist around the beginning of the 19th century (Cowan, 1985). But outdoor natural ice in Scotland did not provide a great advantage to those who could curl the stone – rough ice, with a curve on it was more suited to play based on strength and power rather than guile and accuracy. Kerr (1890) mentions that being able to twist the handle was an addition to a curler’s game rather than a critical skill. However it was on the first overseas tour to Canada in 1902 that Kerr’s party of Scottish curlers were first exposed to the benefits of artificially produced ice, indoors and the Canadian curlers abilities to curl the stones were reported to be excellent. When the conditions in

Scotland became favourable (as soon as indoor ice was available) the curl became as important in Scotland as it had become in Canada. This innovation, was first discovered in Scotland, developed in Canada, and returned to Scotland again.

Another technical change in the way curling is played has been the sliding delivery. Cowan (2008a) believes this is the “biggest change to the game in the 20th century”. Welsh (1985) documents how this technique was invented in Canada in 1930, was adopted in Canada during the 1940s, 1950s and 1960s and how it was introduced to Scotland by the Canadian team in 1956 (see Figure 56). Decisive victories for the Canadians over the Scots throughout the 50s and early 60s encouraged Scots to learn the new technique. The sliding delivery encouraged the “take out” game rather than the “draw” and the most effective way to counter the take out game was to be able to do it as well as the opposition! That has now become the dominant curling strategy in Scotland and in international competition. The sliding delivery is not normally possible on outdoor ice, mostly because there is rarely sufficient foothold to do so.



Source: Licensor www.scran.ac.uk, ©The Scotsman Publications Ltd.

Figure 56 : Garnet Richardson using the Sliding Delivery at Haymarket Rink, 1956

The sport has expanded since its beginnings on Scottish frozen lochs and is played in more than 46 countries around the world. However while the game has travelled, not all of the traditions associated with Scottish curling have done so. Curling places appear to have strong links to Scotland and a Scottish identity, for example curlers are led onto the ice by bagpipes for competitions (as in Figure 57 at the Olympics 2002). While bagpipes may still be a part of curling ceremonies, outside of Scotland the curlers court is found in only New Zealand (Smith, 2008a). Innovations that were developed in other countries have been documented and these have influenced the Scottish game as international competition required changes to the techniques or rules. The example of the sliding delivery shows where the Scots have learnt from other curling nations. Amongst the countries of the world that curl, Scottish curling remains unique. In some ways the processes of internationalisation have assisted the sport of curling to grow both in participation and in profile. In other ways the

processes of internationalisation have impacted on the traditional sport and changed it. At present only the influence of the Olympics and the elite World Curling circuit appear to resemble characteristics of globalisation. The characteristics of sport outlined in Table 11 (Houlihan, 2004) show that curling is an internationalised sport.



Source: Photograph from BBC website (Accessed 23/10/08) : http://news.bbc.co.uk/winterolympics2002/hi/english/photo_galleries/newsid_183500/1835148.stm

Figure 57 : Pipers in Highland Dress lead on the teams for the Olympic Final 2002

4.8 A National Sport? An investigation of the geography of a National Sport – based on a framework for geographical analysis of sport

This chapter has used the new conceptual framework for the geographical analysis of sport (Figure 14) in order to describe and explain the landscape of curling in Scotland. Geographical analysis of sport is not often undertaken and in relation to Scotland, is extremely rare. In this instance the analysis of space, place and environment through the new conceptual framework has revealed a new insight into the sport of curling. Instead of one national sport of curling, there are two different

but related entities, indoor curling and outdoor curling. While it has been shown that both sports share some common aspects and histories, today there are fundamental differences between the two.

The prototype of curling emerged in Scotland and during a transition period between 1668 and 1838 changed from a casual pastime to a modern sport. At this point the spaces for curling were wherever there was ice and a population – throughout Scotland. The first record of a formal curling club was in 1668 and in the 18th century the idea of a curling club diffused quickly to most parts of Scotland. This curling place had traditions, customs and rules and was at the heart of many communities. Curling clubs were the most numerous sports clubs in Scotland between 1780 and 1880. The outdoors, frozen lochs and the “roaring” were central to curling. Every curling space was different as it relied on the environment providing water to freeze.

The analysis has revealed some changes that began to separate indoor and outdoor curling as early as the start of the 20th century, although bigger differences are not apparent until later. First the milder winters necessitated artificial pond building to maximise curling days. New artificial rinks were developed in the 1820s (Cairnie, 1833) to allow curling on a few inches of water that could freeze overnight. Curlers were still dependant on the weather, but it did not need not be as cold for such a long period of time. The number of curling spaces that were artificial ponds was much smaller than the infinite number of patches of water that might freeze, so there began a shrinking of the number of curling spaces (although there were still very cold winters, where natural water could be used (Figure 40, Figure 41, Figure 42)).

The artificial ponds still relied on freezing conditions, and curlers were quick to seize the opportunity presented by indoor ice rinks that had been developed for figure skating (Adams, 2004) and later ice hockey. If ice could be created and maintained artificially, indoors, then curling could take place daily no matter how mild the winter. The early promise took time to fulfil, and Figure 22 and Figure 23 show that the spread of indoor rinks was not immediate, nor focussed on curling. However in the south of the country, the combination of lack of outdoor ice, and availability of indoor ice, transformed the curling landscape. The number of curling spaces decreased to just where indoor ice was available, the traditional curling places – curling house, local pub, local rink became disused and the individual nature of the curling space and place was drawn into question (placelessness).

The internationalisation of curling documented also played a significant role. Curlers that emigrated to USA and Canada were faced with the opposite problem to that of the “Mother Country”. There winters produced plentiful natural ice, but the cold temperatures and freezing winds meant that indoor curling rinks were constructed to enclose the natural ice and protect the curlers from the elements. Scottish curling was affected by innovations from abroad, and in particular Canada, that changed the dominant techniques and tactics to suit the artificial ice. Some of these innovations, for example the sliding delivery, were simply incompatible with play outdoors in Scotland.

Increasing international competition has highlighted the split between indoor and outdoor curling. In European and World Championships Scottish curlers are more successful than other curlers from other parts of the UK. In fact all of the members of the Great Britain curling team at the Winter Olympics have been Scots. As sport

is one of the ways that Scots develop a national identity different to the UK, positive distinction is gained through superiority in curling. Curling is a sport where Scotland sits centre stage and not only in the UK. In World Curling, Scotland is viewed as the home of curling and is the centre for administration. Historically the World Curling Championships evolved from an annual match between Scotland and Canada and Scotland have been successful in the European and World Championships and Olympic Games. Thus in the development of Scottish national identity, Scotland's place in the UK and world of curling is a marker in relation to the nature of Scotland and Scottishness as distinct from English or British national identity.

Success at World and Olympic level has led to depictions of national curling heroes. Rhona Martin who led the gold medal winning team in Salt Lake City in 2002 was hailed as "Queen of Scots" and 6 million Britons watched the final "stone of destiny" being played although it was in the very early hours of a weekday morning. Throughout the media depiction of the victorious curling team, essential elements of Scottish identity were emphasised, such as the natural aspect of the victory – an ordinary housewife, sweeping, children and husbands of team members portrayed. This equated very much to the idea of Scots being naturally gifted (amateurs) at this a national sport (Kotnik, 2007).

In contrast in the 21st century outdoor curling is rarely played in competition except locally (or in the special circumstances of a Grand Match it would be nationally). The sport of outdoor curling has remained one for local clubs mostly in the North of Scotland to play on a rink close to their homes when the weather is cold enough (that is irregularly). The curling dates and times cannot be fixed definitely in advance as they are weather-dependant. The developments in tactics and techniques

see in the indoor game cannot be readily applied outdoors, and the game resembles that of pre 20th century curling, for example with no sliding delivery.

The idea of curling as an indigenous sport, one that began in Scotland and has then been exported to the rest of the world is also important. The curling traditions described throughout the chapter including tartan and bagpipes, are strongest outside of Scotland. Those who are part of the wider diaspora of Scots appear to have a more obvious link to Scottish culture through curling. One of the “true” Scottish curling cultural elements, the curlers court is found almost no-where else but Scotland. That ceremony is associated with the original “values” of curling including fair play, and support of charities. This is again more associated with outdoor curling, on a local, community basis rather than performance of elite curling in major championships.

In fact the idea of a national sport as a “culturally intrinsic part of a particular country or national milieu” (Kotnik, 2007, p64) is linked to both indoor and outdoor curling. Indoor curling has elements of the outward Scottishness, while the outdoor more local, recreational and social game retains the original characteristics of brotherhood, and the “made” curler. Kotnik (2007) suggests some characteristics of a sport that would make it a national sport. In 1850 curling fulfilled many of these criteria – it was a simple game that was easy to understand, it was widely practised and Scots had a long tradition of playing the sport which had originated in Scotland. Other later developments cemented the idea of a national sport, such as the relative success of Scotland compared to other “nations” within the United Kingdom, winning in medals in international competitions, and the association of Scottish culture with curling in the minds of the wider Scottish diaspora.

Today it can be concluded that the national sport of curling has two differing entities, indoor and outdoor curling. This insight has been gained through utilising the new conceptual framework for the geographical analysis of sport (Figure 14) to analyse curling under categories ranging from prototype to internationalisation. The analysis has shown that in terms of space, place and environment curling has split into two distinct, but linked, parts⁷. The new conceptual framework for the geographical analysis of sport has been a useful tool for understanding the national sport of curling. By considering the seven aspects depicted in the framework a very different history of the sport of curling was analysed.

The case study of curling was undertaken at a national scale. There were many interesting questions thrown up by the research which can only be answered by investigating at a more regional or local scale. For example, maps and data outlined show a sport which diffused across the country, but was much more important in some parts of Scotland than in others. The regional structure, and the significance of curling in different parts of the country cannot be understood without research at a different scale, and asking different questions to those posed in the national part of the framework.

Between 2005 and 2007 71% of participants in curling did so as members of a curling club (sportscotland, 2008f). The majority of sports (including curling) are

⁷ The utility of a sport geographical approach cannot be more effectively demonstrated than in the recent announcement of the venue for the construction of the National Curling Academy. The key geographical themes of space, place and environment were in evidence in the press release. The building of the Academy in Kinross was justified on a number of grounds (Haggerty, 2008). Firstly the historic location – where the oldest curling club in the world was constituted - and the local curling traditions (for an example see Figure 32) are cited as important reasons for the decision by the RCCC. However RCCC is careful to note that the bid from the Kinross Curling Trust met all the criteria set out for hosting of the National Academy (Royal Caledonian Curling Club, 2008c) which will be the base for Scotland and Britain's elite and Olympic curlers. This and the case study, perfectly illustrate the dichotomy in the sport of curling that led WCF (2007b) to describe curling as an : "Ancient game – modern sport".

administered and sustained by a volunteer workforce deployed within a network of local voluntary sports clubs. The following case study utilises a rich data source to map and explain the pattern of sports club membership and volunteering in sport at a regional level.

Chapter 5 : CASE STUDY 2 : The Regional Scale

This chapter investigates regional variations in sporting attributes, one aspect identified within the new conceptual framework for a geography of sport (Figure 10). Cutter, Golledge & Graf (2002) identified 10 Big Questions in Geography. The first of these questions was “What makes places and landscapes different from one another and why is that important?” The basis of geography is this core variability in places and landscapes over a number of different scales. Scale has been defined as “one or more levels of representation, experience, and organisation of geographical events and processes” (Johnston *et al.*, 2000, p724). In this chapter the Local Authority boundaries provide the measure of the regional scale. This is important because looking at phenomena at a variety of scales can reveal different things. For example Pacione (1995) presented a descriptive analysis of the nature, intensity and distribution of deprivation in rural Scotland. The studies were based on census data from seven different scales and considered a number of different factors of deprivation and their variation in space across 56 districts. Pacione suggested that findings about the geographical extent of deprivation could inform allocation of resources and thus help to alleviate poverty.

In sport, Bale & Sang (1996) challenged the finding (on a world scale) that Kenya was a country that produced more successful long distance runners than others in Africa by studying the phenomena of athlete production at the regional scale. They identified the Rift Valley Province as the principal geographic unit of production of superior athletes in East Africa. In some cases patterns or differences emerge at one scale that are not apparent at another.

Local Authorities were created for the function of local government and do not necessarily follow cultural or topographical delimiters. They also have quite different populations, both in terms of absolute numbers and demographics. By explaining the variability in the sportscape at the regional scale the importance of geography and geographical analysis for understanding the Scottish sports landscape will be taken forward. For this case study, an attempt is made to consider those processes relevant to the regional scale only. Therefore the part of the framework relevant to the regional scale has been selected for attention (Figure 58).

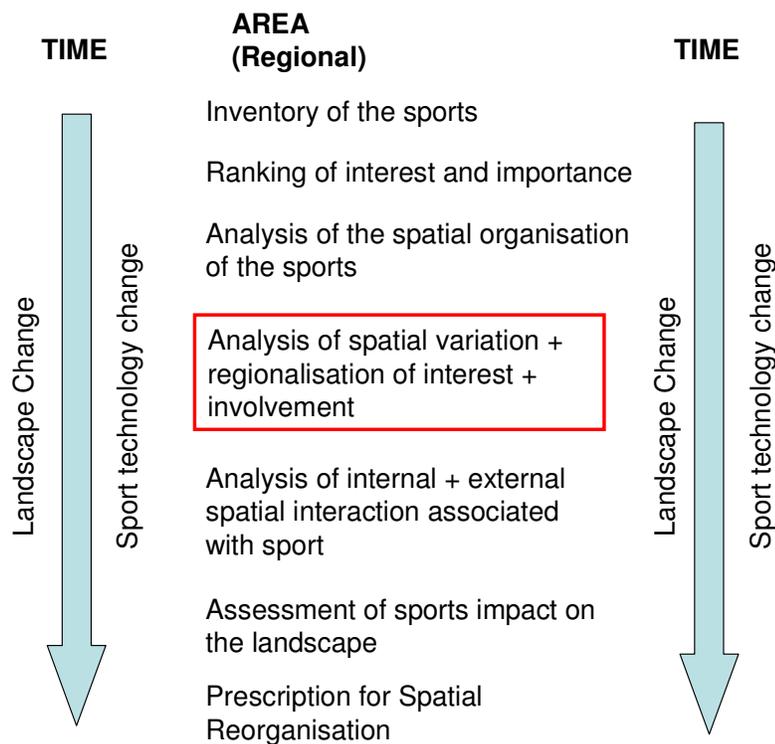


Figure 58 : Area (Regional) Part of the Conceptual Framework

This part of the framework was suggested by Rooney (1975) in relation to a key sport geographical question of regional variation in sporting attributes. It was reproduced by Bale (1982) and arguments put forward for not considering analysis on this scale. These arguments related mainly to the difficulty in obtaining data and

small sample sizes for participation in specific sports. These pitfalls have been avoided to some extent in this case study by the use of data wider than just for any one sport. However in this case study only the section outlined in red (Figure 58) relating to analysis of spatial variation and regionalisation of interest and involvement will be considered. Levels of involvement in sports club membership and sports volunteering in different local authority areas and regions of Scotland will be investigated. The issues of time, landscape change and sports technological change will not be addressed specifically within this case study.

The chapter presents the background information on sports clubs, sports volunteers and previous research on these and on regional variations. There is a short section on the methodology and methods used for this case study. Then results of secondary data analysis (not including analysis of Scottish Opinion Survey data provided by sportscotland in 2008) are presented. The analysis of the most recently available data is outlined and a conclusion in relation to the questions set is reached.

5.1 Regional Variations in Sporting Attributes

Bale (2003) puts forward regional differentiation as one of the three broad themes of sport geography. Earlier he had identified the dominant paradigm in sport geographical writing as geographical variation in sporting attributes (Bale, 2000). For example studies of a sport region, that is one area (could be part of a country, country or a number of countries) identifying with a particular sport (for example Bale & Sang, 1996) or national differences in sports performance, perhaps shown through the Olympic medal table (for example Tcha, 2004; Tcha & Pershin, 2003), have been made. Bale (1982) attempted to map out a number of regional variations

in a geography of UK sport. Sports were ranked using a number of different indices for example participation numbers, spectator numbers, number of clubs, and TV spectator hours. However, while football ranked at the top on many indices, other sports are less consistent and he was unable to come up with a definitive list. He did not differentiate between areas of the UK to give different rankings for different places and then explain them although he does do this for specific sports, e.g. cricket and racket sports.

Scale is a central organising principle of geography and where geographical differentiation takes place. It is now understood that scale is not natural or given, but constructed and changes over time. Scale is defined as “one or more levels of representation, experience and organisation of geographical events and processes” (Johnston *et al.*, 2000, p724). Often scales are shown as a hierarchy, for example the body being at one end and global at the other end of a continuum that contains community, regional, and national scales. This case study is looking at the regional scale, but it is more defined by being bigger than the local and smaller than the national scale.

Bale (1982) identifies a number of problems with looking at sport from a regional perspective. While the conceptual framework adapted from that developed by Rooney in 1975 includes an area or regional “silo” (shown in Figure 58), there are some difficulties with this scale of analysis. Firstly the regional approach has at present very little data attached to it, making it very difficult to research. Data that exists is often partial for example knowing how many people have played golf in the last year, but not how often or where. Selection of the regional area to study may be random and / or subjective yet extremely important. Different types of data lead to

different geographies of opportunity, emphasis, production and consumption. Opportunity looks at facilities available in a region and differences. Emphasis considers the number of participants, clubs or teams in a particular region, production refers particularly to commercial or performance sport and the number of elite or professional players produced by places. Geographies of consumption look at spectator patterns across regions and sports. Finally the very idea of mapping some of the data may be flawed as finding that participation in for example tennis per head of population is highest in the most affluent region does not mean that the most affluent individuals are participating in tennis as this would involve an inference from one level of geographical scale (regional) to another (individual).

Bale (1982) also identified a number of different types of sports region. These included the administrative region, which was set up simply for convenience of solving a particular problem – for example to have a league for a number of clubs that are relatively close to one another or perhaps to coincide with government regions, and the uniform region that early sports geographers spent a lot of research time working on. For example Rooney & Pillsbury in the *Atlas of American Sport* (1992) devised an index of football participation per capita of particular US States in order to plot those where the value for football was particularly high or particularly low. Other authors have followed this looking at other sports and Bale himself continued to use that methodology in the book *Kenyan Running* (Bale & Sang, 1996) searching for sites of production of elite Kenyan athletes.

In the context of sport⁸ policy in Scotland, SportsScotland Corporate Plan 2007-2011 set out “The Challenges for Scottish Sport” below:

“Currently only 46% of adults living in Scotland regularly take part in sport. Only 19% are members of sports clubs and only 14% are volunteering in sport” (2007a, p11).

SportsScotland have made attempts to measure the trends in all three of those measures, with participation being the most comprehensively covered. So far, it is only with participation rates that there has been an effort to consider the data at a level other than the national (Coalter & Dowers, 2006) although at the request of SportsScotland, Reid Howie Associates (2006) did consider a particular group of six Local Authorities identified as having especially low rates of participation in sport as a distinct group in relation to sports clubs and volunteering. It has been recognised that in order to both set realistic targets in increasing rates of involvement in all three measures, sports participation, sports volunteering and sports club membership, to plan for meeting these targets and to measure the outcome after any actions have been taken, data at a scale larger than the national must be collected and analysed. This case study is the first attempt at looking at the Scottish picture, but considering variations in emphasis between local authorities and regions in sport volunteering and sport club membership.

The Voluntary Sector in Sport

Deckers & Gratton (1995), in a comparison of sports clubs in The Netherlands and Britain, used an economic analysis first proposed by Weisbrod (1977; 1988) and

⁸ SportsScotland the Scottish Government have adopted a definition of sport that includes physical activity.

applied to sports clubs by Gratton and Taylor (1991). This placed the voluntary sector in sport as providing a collective good that cannot be supplied either by government (because the demand for each activity is too small) or by the commercial sector (as the needs of the sport make it not viable). The third sector – made up of voluntary, not-for-profit organisations fills that gap. However within the voluntary sector there are a wide variety of different types of organisation. Deckers & Gratton suggest that a traditional British sports club is actually at one end of that spectrum that stretches from those providing almost a private good such as sports clubs for members to more collective organisations for example those providing aid to the poor. In fact they discuss the similarities between the commercial sector that provides sport and a sports club pointing out that in both cases income to the organisation is mostly from members paying rather than public subsidy and that the club is exclusive – it benefits only those who are members. The situation in The Netherlands, Scandinavian countries and Germany is very different to that in Britain as sports clubs in those countries are heavily subsidised by the state and are therefore much closer to the collective end of the spectrum and much farther from the commercial model (Heinemann, 1999). This has not stopped the commercial sector gaining members and the voluntary sector in these countries losing members.

Andreff suggested that there is a “crisis of voluntary work in the face of increasing sport commercialisation” (2006, p219). On one hand competition from commercial sports clubs is forcing not-for-profit clubs to provide a better service to their members through the employment of professional staff, and on the other the responsibilities of volunteers in the club are increasing due to pressures from funding and governmental agencies and from managing the aforementioned employees. Andreff makes a link between the need for unpaid work from volunteers, and the

number of paid employees in a sports club, giving the example of sports clubs in France where a club with paid employees, has on average 26 volunteers working 126 hours per year, where one that has no paid employees has on average 17 volunteers working 115 hours per year. Allison (2001b) found that the sports clubs that owned facilities were more likely to have salaried staff alongside volunteers in various roles in the club (17% of all clubs surveyed) and noted that the large variations in number and type of salaried staff members made averaging and generalising difficult. It was found that the modal average number of volunteers in a club was two, and the modal average number of salaried staff in clubs that had them, was one (Allison, 2001b, p66). Andreff identifies the nexus between employee and volunteer as the critical factor in the success of sports clubs, and discusses the issue of remuneration for volunteers.

Allison (2001b) identified a problem in defining a sports club for her research. As all sports clubs are forced to become more “professional” and commercially viable the differences between commercial and voluntary sports club provision will become less. In addition Reid Howie Associates (2006) point out that sports clubs do not identify themselves with the wider community and voluntary sector. At the moment the distinction between sectors is made by calling the for-profit clubs commercial clubs, how much longer that may be made is unclear.

Volunteering

It is generally recognised that volunteers are the “lifeblood of Scottish sport” (sportscotland, 2005, p1). There is no one definition of volunteering used throughout the UK, although a number of different bodies and governments have set out their own definitions (Volunteering England Information Team, 2006a). The Scottish

Executive Volunteering strategy defines volunteering as “.... the giving of time and energy through a third party, which can bring measurable benefits to the volunteer, individual beneficiaries, groups and organisations, communities, environment and society at large. It is a choice undertaken of one’s own free will, and is not motivated primarily for financial gain or for a wage or salary.” (Scottish Executive, 2004b, p1)

Four key principles of volunteering were agreed between government and the voluntary sector agencies as part of The Compact which sets out how government and the voluntary sector can work together. These are “choice, diversity, mutual benefit and recognition” (Home Office, 2008, p7). There are two different types of volunteering, formal and informal. Formal volunteering is defined as that “undertaken through an organisation, group or club” (Volunteer Development Scotland Research Team, 2007b, p1). Scottish Executive stated that “ it is difficult to be precise about the supply of, and demand for, volunteers as there are many significant knowledge gaps about volunteering” (2004b, p11). Regional and local variations are an important part of that knowledge gap.

Formal volunteering contributed £1.8 billion to the Scottish economy in 2006 (£2.52 billion in 2005) and was the equivalent of over 79,000 full time jobs (Volunteer Development Scotland Research Team, 2007a). The 2005 Citizenship Survey in England, found 44% of those interviewed had volunteered formally in the preceding 12 months, contributing more than £22.5 billion to the economy (Volunteering England Information Team, 2006b). Sport 21, the national plan for sport 2003-2007 (sportscotland, 2001b), set a target relating to sustaining the volunteer workforce at 150,000 and put a strategy into place to deliver that target (sportscotland, 2003).

The Scottish Executive highlights a requirement for their volunteering strategy to be able to measure the impacts of inputs on volunteers and communities and includes the example of “specific issues such as the impact of rurality on patterns of volunteering” as something that should be investigated (2004b, p19). In fact Hurley, Wilson & Christie (2008a) considered that aspect as part of their remit, along with the Scottish Index of Multiple Deprivation and found that remote rural areas had higher levels of volunteering than the rest of Scotland. It was also suggested that the concepts of supply and demand could usefully be applied to the voluntary sector in order to identify places where there are more volunteers than required or places where more are needed and to identify factors that might be altered to change the balance (Scottish Executive, 2004b).

Sports Clubs

Sports clubs are a very important part of the sports landscape. A research study conducted by sportscotland on sports clubs in Scotland (Allison, 2001b) estimated that there were 13,000 sports clubs in Scotland. In 2004 1,066,273 Scots were members of a sports club (sportscotland, 2004), but more recent estimates put the membership at slightly less than one million (sportscotland, 2006). The latest research into sports clubs in Scotland published by the Scottish Executive concludes that “local sports clubs are a vital part of the fabric of community life in Scotland, and bring a range of social and economic benefits to the community” (Reid Howie Associates, 2006, p5) However Weed & Robinson (2005) who conducted an academic review of voluntary sports clubs concluded that there is a lack of high quality research on sports clubs and therefore policies to enhance or develop their contribution to sport and community development cannot be made based on evidence.

There appears to be no definition of a sports club and Allison (2001a) found that clubs seem to define themselves in cultural or ideological terms. Important to those in clubs were history, sense of place and club atmosphere. In addition, despite being placed in the voluntary sector by academics and policy makers in the sports field (Allison, 2001b), most sports clubs do not see themselves as part of that sector, and neither does the voluntary sector see sports clubs as part of their grouping. In fact Allison suggests that the title amateur sports organisation be a more appropriate term (2001b). The definitional problems plague all research as questions asked of individuals about sports club membership rely on a common understanding of what that is, and clearly that does not exist. For this research paper, secondary data derived from various sources is being used. Therefore there may be a number of different definitions of sports club within these.

Previous Research on Regional Variation in Sporting Attributes

Bale (1982) showed that there were regions of emphasis for particular sports, for example, in athletics he showed that the per capita index for all-weather running tracks was highest in Scotland, but the per capita index for production of top athletes was highest in London. He used data provided by National Governing Bodies of sports. Outside the realm of sport, Damiani, Propper & Dixon (2005) considered the provision of beds in the NHS in England and the waiting times for operations in order to investigate the impact of increased bed numbers in different areas. The research was able to show where extra provision was required.

Coalter & Dowers (2006) used enhanced Scottish Opinion Omnibus Survey data to investigate variations in physical activity participation rates by local authority. They

found a cluster of six local authorities around Glasgow and the West of Scotland where participation in sport was significantly lower than the average (40% of population or lower). They also made use of socio-economic and facility provision data to devise a model for predicting participation rates based on these factors. These were not enough to explain all the variations in participation rates that had been found – both the higher and lower rates. They concluded that considering smaller regions such as local authorities was vital to understand participation rates and consequently set targets for changing these, however much more research was required to explain the differences in rates and thus to suggest appropriate interventions. They did some grouping of sports, for example hall sports (see Appendix 20) and of local authorities, for example as rural and urban, but did not attempt a full classification. In fact they did group local authorities but rather than by geographical location, by levels of participation, and this is where the West of Scotland grouping stood out for being geographically contiguous as well as the lowest rates of participation. Reid Howie Associates used the same West of Scotland grouping within their research into the sustainability of sports clubs as well as the Scottish Index of Multiple Deprivation (SIMD) (2006). Recently, individual factsheets about each local authority have been produced from the Scottish Opinion Survey (SOS) data (for example sportscotland, 2008c; sportscotland, 2008d). Some of these include information about club membership and volunteering rates within the local authority concerned.

Sports Clubs

Coalter (1998) provides evidence that the percentage of sports participants who were members of clubs in Scotland did not increase in the period 1987 –1996. However the data collected relating to club membership was identified as being problematic.

Firstly the sample sizes were too small to consider club membership of participants in each sport separately, and only for the categories of “all sports” or “selected sports (excluding walking, dancing and snooker/billiards/pool)” was the analysis completed. This then showed that in 1996 approximately 41% of participants in “selected sports” were members of clubs. The most recent research by the Scottish Executive on the sustainability of local sports clubs (Reid Howie Associates, 2006) did not use a large enough sample size to allow data on membership to be analysed at the local authority level.

An academic review of the role of voluntary sports clubs in the UK was carried out by the Institute for Sport and Leisure Policy (Weed & Robinson, 2005). This review found that “there is a major void in genuinely evaluative research on the voluntary sports sector” (p9). They did review 65 documents relevant to the role of voluntary sports clubs, although a number of these were about voluntary organisations in general. In addition the authors found a lack of an evidence base for policy-making on voluntary sports clubs. The authors went further in cautioning against generalisation from the small number of research studies into different types of voluntary organisation and different contexts. They call for much more research into voluntary sports clubs. The review suggested 3 directions for future research : evaluation of the present situation, potential alternative delivery mechanisms (such as multi-sport clubs) , and action research alongside pilot programmes. The review did consider one piece of research from Scotland (Allison, 2001b) which began to address the first direction – evaluation of the current situation. Since then, the Scottish Executive have conducted research into sports clubs and published a report – The Sustainability of Local Sports Clubs (Reid Howie Associates, 2006) - and also an information booklet for clubs (Scottish Executive, 2006a). Both the work by

Allison (2001b) and the report by Reid Howie Associates (2006) will be utilised for presentation of previous findings and secondary data analysis.

The research study conducted by sportscotland on sports clubs in Scotland (Allison, 2001b) estimated that there are approximately 13,000 sports clubs in Scotland. The study found no other large scale survey research on sports clubs had been done at that time (2001). The survey was returned by 3,500 clubs from 67 sports. The top four sports were half of all clubs identified, with the numbers of football and bowls clubs particularly high (football 19.7%, bowls 18.9%, golf 6.4%, and badminton 4.9%). The data collected in the study could also allow some interpretation of club membership by local authority area. With some caveats with regard to the interpretation of the data, Allison (2001b) presents Table 15 as an appendix. This gives an opportunity for analysis of the secondary data to consider distribution spatially through mapping and spatial analysis. Allison (2001b) noted that the sampling bias of the survey meant that there are some inaccuracies, for example in Eilean Siar the Local Authority estimated there were more than 35 sports clubs whereas extrapolating from the data would indicate only 24 sports clubs in that local authority area. A similar check for Shetland found the data to be approximately accurate.

Table 15 : Distribution of Sports Club by Local Authority

Council Area	Responding Clubs(1)	Responding Clubs(1)	Clubs members (2)	/Scottish Population (3)
	Number	%	%	%
Aberdeen City	133	4.0	5.4	4.2
Aberdeenshire	235	7.1	6.4	4.4
Angus	85	2.6	2.5	2.1
Argyll & Bute	64	1.9	2.0	1.8
Clackmannanshire	32	1.0	1.2	0.9
Dumfries & Galloway	192	5.8	4.4	2.9
Dundee City	110	3.3	1.8	2.8
East Ayrshire	83	2.5	2.1	2.4
East Dunbartonshire	64	1.9	3.1	2.2
East Lothian	86	2.6	3.4	1.8
East Renfrewshire	33	1.0	1.7	1.7
Edinburgh City	299	9.0	9.6	8.8
Eilean Siar (W Isles)	6	0.2	0.1	0.5
Falkirk	59	1.8	2.7	2.8
Fife	231	7.0	6.7	6.8
Glasgow City	142	4.3	5.6	11.9
Highland	259	7.8	6.5	4.1
Inverclyde	45	1.4	1.3	1.7
Midlothian	62	1.9	1.9	1.6
Moray	101	3.1	2.4	1.7
North Ayrshire	96	2.9	2.9	2.7
North Lanarkshire	142	4.3	4.1	6.4
Orkney Islands	16	0.5	0.3	0.4
Perth & Kinross	145	4.4	3.3	2.6
Renfrewshire	72	2.2	2.3	3.5
Scottish Borders	104	3.1	3.7	2.1
Shetland Islands	42	1.3	0.6	0.4
South Ayrshire	72	2.2	3.4	2.2
South Lanarkshire	108	3.3	3.1	6.0
Stirling	85	2.6	2.0	1.7

West Dunbartonshire	31	0.9	1.0	1.9
West Lothian	75	2.3	2.8	3.0
Base numbers: 3,309 5.12m				
(1) These two columns list the number and percentage of responding clubs in each council area. This is based on the location of the address of the club contact				
(2) The distribution of responding clubs has been weighted in this column to take account of the average number of members of the clubs in each council area. It therefore shows the distribution of the membership numbers of the responding clubs.				
(3) Distribution of the estimated Scottish population for 1999. Source: Registrar General for Scotland,2000				

Source: Allison (2001b, p95)

The sportscotland club research (Allison, 2001b) found that club size could range anywhere from 4 to 1920 members, with an average of 133 members per club (for the 3,500 club respondents). The mode club size was 20-39 members (28% of responding clubs were in that size category) and it was the small number of very large clubs that skewed the data, while in fact two thirds of clubs had less than 100 members. Sportscotland participation research in 1998 found that there were some sport activities where a very high percentage of all participants were club members. For example 86% of bowls participants and 83% of curlers were members of clubs (MacGregor & Martin, 1999). The relatively small sample sizes meant that the data for the whole year was aggregated (rather than the most popular two months).

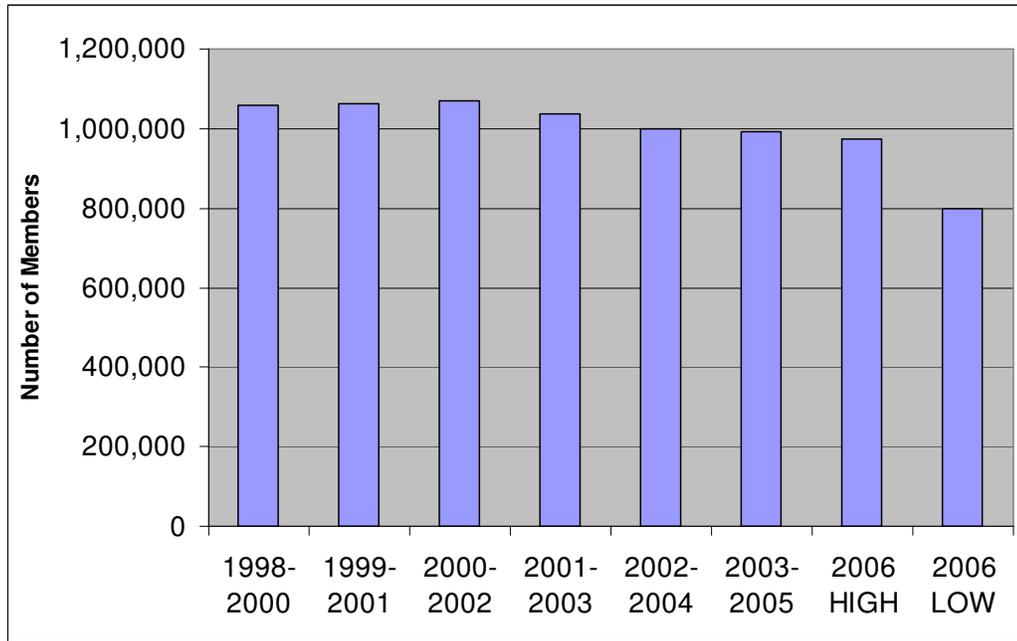
Macbeth (2003) asked national governing bodies of sport in Scotland to describe the state of their affiliated clubs and the most common descriptor was “fragile/threatened/struggling”. In addition a third of governing bodies stated their sport’s club infrastructure was below an acceptable level. Weed and Robinson also described the “precarious” state of UK sports clubs (2005). This contrasts to the UK situation described by Deckers and Gratton (1995) where UK sports clubs were considered healthy. It appears there has been significant change in the last decade.

Sports club membership was addressed in target 9 of Sport 21 (sportscotland, 2001b) and that target was to have “ by 2007,....over one million of the Scottish population playing sport in membership of clubs”. However over the lifetime of Sport 21, the number of club members fell as can be seen in Table 16. Taking the total population of Scotland as 5,116,900 (Registrar General, 2007), and the adult population of Scotland as 4,195,067 that latest estimate of 19% places the number of participants who are club members at either 972,211 or 797,062. It is not clear what the 19% mentioned in Sportscotland (2007a) was of, but even assuming it was of the whole population that results in a decreasing trend in membership as shown in Figure 59. Using the percentage of adults shows an even poorer picture.

Table 16 : Monitoring Progress of Target 9 of Sport 21

Years	1998-2000	1999-2001	2000-2002	2001-2003	2002-2004	2003-2005
Number of participants who are members of clubs	1,059,000	1,063,000	1,071,000	1,036,000	998,000	991,000

Source: Adapted from sportscotland (2006)



Source: Adapted from sportscotland (2006)

Figure 59 : Sports Participants who are Club Members (Scotland 1998-2006)

Reid Howie Associates (2006) considered the local nature of sports clubs in measuring the catchment area of clubs. Responding clubs gave an estimate of the distance from the club within which 80% of their members live in Table 17.

Table 17 : Catchment Area from which Sports Clubs Draw Members

Distance	Number of Clubs	% of Total
Less than 2 miles	52	3.9%
Between 2 and 5 miles	551	41.6%
Between 5 and 10 miles	357	26.9%
Over 10 miles	365	27.5%

Source: Reid Howie Associates (2006, p26)

Taking this further, they then found that almost entirely urban local authorities had the greatest proportion of clubs with catchments of 5 miles or less. In addition more deprived areas (as defined by lowest 15% SIMD) also tended to have more locally based clubs. Looking at different sports, the nature of each sport also determined

how locally based the club might be and the sports of bowls (at 85% of clubs) and tennis (at over 50% of clubs) are examples.

Data on sport participation, club membership and volunteering has been collected in Wales since 1987. Recently analysis of data from an enhanced sample from 2002-3 of 1000 interviews in each of the 22 Local Authorities in Wales has provided findings relevant to this study (Sports Council Wales, 2005). In fact the data obtained by Sports Council Wales may be even more detailed in terms of local figures than that to be analysed from the boosted Scottish Opinion Survey that was only a minimum of 600 interviews per LA. In Wales, 13% of population are sports club members (2% are members of 2 or more clubs). Approximately two thirds of these sport club members are members of pure sports clubs and one third are members of leisure or health clubs. Twice as many men as women are club members (9% of female and 18% of male population) and male (3.6%) are nearly twice as likely as female (2%) club members to be volunteers in the club. Social class data revealed that club membership and volunteering in particular are far more predominant among non-manual social groups. Among unskilled workers fewer than one person in twenty-five is a club member and about one in two hundred a volunteer. In fact 2.8% of all adults are volunteers in sports clubs, but more of those in occupations classed as professional and managerial (4%) were volunteers compared to 1.3% of semiskilled workers. There seemed to be a link between age and where they volunteered with younger volunteers involved in school clubs (more likely to be parents).

The Welsh research found differences between individual Local Authorities and also between groupings of LAs. Sports Council Wales divides Wales into 4 regions

(these are not geographically contiguous) depending on the nature of the local authority: Metropolitan Wales, Rural North, Rural Heartland and The Valleys. There was a significant correlation between level of participation in sport and the level of club membership in individual Local Authorities. There were also significant differences between places classified as rural and urban (in both participation and club membership).

Social Capital

Putnam (2000) suggested that social capital “derives from dense social networks and is characterised by generalised reciprocity (people contribute even when there may be no direct personal benefit)” (Blackshaw & Long, 2005, p241). He suggests there are a number of places social capital can be created, for example amongst family, neighbours, civic organisational and sports groups. It is from sports groups that his main ideas appear to stem. He sees two types of social capital – bonding – interactions within the groups, and bridging – interaction with other groups.

Researchers have taken up these ideas and recently published studies and reports on social capital and sports and leisure include (Blackshaw & Long, 2005; Delaney & Keaney, 2005; Glover & Hemingway, 2005; Office for National Statistics, 2001; Ruston, 2003; Sieppel, 2006; Warde, Tampubolon, & Savage, 2005). Writing specifically about social capital and sports clubs (Burnett, 2006; Coalter, 2007; Cook, 2004; Nichols, 2005) have shown there to be increased social capital around those who are members of a sports club. However Putnam (and various others) recognised that there may be a negative side to social capital. Putnam suggested that urban gang culture was a form of social capital and Blackshaw & Long (2005)

suggest that he became focussed on the positives of social capital to the detriment of objective research into the phenomenon.

Nichols, Taylor, James, King, Holmes, Gratton & Kokolakadikis (2004) looked at voluntary sports clubs in the UK and suggested that “the very nature of voluntary sector clubs might lead them to exclude dissimilar people because, although they represent a plurality of interest groups, each group itself is a cluster of similar people with similar values” (p50). This was shown by Hanlon & Coleman (2006) in an Australian context, where most sports clubs in the state of Victoria, were unable to provide opportunities for people from diverse cultural backgrounds.

The concept of social capital has been applied in relation to government policy on building communities and promoting inclusion. Membership of clubs and organisations is seen as a way of an individual achieving bonding and bridging capital to increase his or her social capital and involvement in and contribution to his or her neighbourhood, and to society. Voluntary organisations in general and voluntary activity in clubs and organisations are another important part of social capital and that is considered in the rest of the chapter.

Volunteering in Sport

Best (2004) provides an outline of the knowledge of sports volunteering in Scotland in 2004. He draws on unpublished data from the Scottish Opinion Survey 2003/4 to find similarities between Scotland where 16% of the population were involved in sports related volunteering and England where 15% of the population volunteered in sport (Leisure Industries Research Centre, 2003). In England there has only been one detailed population survey, although some work on major events volunteering

has been done (Leisure Industries Research Centre, 2003; Taylor, 2004; UK Sport, 2002).

Sports volunteering was addressed in target 10 of Sport 21 (sportscotland, 2001b) and that target was “by 2007,....to sustain 150,000 volunteers in their contribution to the development and delivery of Scottish sport.” Sportsotland (2006) found that 135,000 adults volunteered in sport at least once per week in 2002-4 and that had increased to 146,000 by 2003-5. As 14% of the population volunteering in sport was the latest estimate (Best, 2004), and as this would be approximately 588,000 people, there is a lot of evidence of irregular volunteering in sport, perhaps for one-off or annual events. Measurement of progress in relation to this target would therefore be very dependent on definitions.

Doherty (2006) commented that there is a “relative dearth of research with regard to volunteers” p105. Most of what is known about volunteers and volunteering has been researched through surveys. Despite apparent clarity of definition between research studies, the way a survey presents questions about volunteering has a major impact on the results (Reilly, 2007; Volunteer Development Scotland Research Team, 2003). In particular respondents idea of what is volunteering is influenced by the way the question is framed.

“...the omission of the “V” word from survey questions, and the use of a gentle prompt regarding the range of voluntary activities enables people to identify themselves as undertaking activities in an unpaid capacity to help others.” (Volunteer Development Scotland Research Team, 2003, p1).

Hurley, Wilson and Christie (2008b) note that the Scottish Household Survey (that they are analysing) reports much lower rates of volunteering than both the Citizenship Survey and Volunteer Development Scotland's Annual Digest (for example in Volunteer development Scotland Research Team (2006)). They suggest that the survey questions must be partly responsible for that difference. This issue does not appear to have been resolved and the recommendation that the "v" word not be used was partially accepted in the Scottish Opinion Survey 2003-4 (survey data to be used comes from this). This used the prompts "in the last year, have you done any of the activities listed on this card, without payment, to help others in relation to sport?" and then gave a list of options. A positive response to any of the activities was followed up with a question about how often the interviewee volunteered in sport etc.

Data on sports club membership and volunteering has been collected in Wales since 1987. Research using data from an enhanced sample of 1000 interviews in each of the 22 Local Authorities (LAs) in Wales has relevant findings for this study. (Sports Council Wales, 2005) In England a specific piece of research on sports volunteering was undertaken by Leisure Industries Research Centre (2003). They found that 15% of the adult population of England are sports volunteers and they contribute 1.2billion hours per year to sport (p3).

In Scotland, most research that has been done is relating to general volunteering not specifically looking at volunteering in sport. Some research looking at aspects of sport, for example sports clubs (Allison, 2001b), sports coaches (Lyle, Allison, & Taylor, 1997), women and leadership in sport (George Street Research, 2004), sports participation levels (sportscotland, 2001e) and National Governing Bodies of Sport

(MacBeth, 2003) in Scotland has asked some questions relating to volunteering in the sport context. National surveys of volunteering in Great Britain in 1991 and 1997 found 50% of Scots had volunteered in some capacity in the previous year and in the UK that 13% of adults volunteered in sport (Institute of Volunteering Research, 1998). Scottish Executive (2002) and Volunteer Development Scotland Research Team (2007b) reported that in the General Household Surveys of 2001 and 2006, 25% of people living in Scotland gave up time to volunteer formally in the community (Scottish Executive, 2002, p89). The most recent unpublished data from the Scottish Opinion Survey (2003-4) shows 16% of adults in Scotland were sports volunteers in the previous year and 4 % of these volunteered at least once per week (Best, 2004). These volunteers fulfil a variety of roles for example helping their own children, fundraising or coaching. Hurley *et al* (2008a) in an analysis of Scottish Household Survey data 1999-2006 reported a number of findings about factors such as socio-economic classifications, age, rural/urban location, type of volunteering activity undertaken, and education levels in relation to volunteering.

The 1997 Volunteering in UK survey (Institute of Volunteering Research, 1998) found that the main areas of volunteering were sports, education, religion and health and social welfare. Different types of volunteers were involved in different areas and activities. For example men were twice as likely to be involved in sports groups while women were three times more likely than men to volunteer in schools, and also more likely to be involved in social welfare groups,. The field of sport was particularly attractive to young volunteers. Scottish Executive (2002) and Volunteer Development Scotland Research Team (2007b) reported that women (62%) were more likely than men (38%) to engage in volunteering, however men were more likely than women to volunteer specifically in activities relating to the arts, culture

and sport. Leisure Industries Research Centre (2003) in a sports volunteering survey in England and Sports Council Wales (2005) in research in Wales found that twice as many men as women volunteer in sport. Best (2004) found that the groups most involved with volunteering in sport are middle-class, middle-aged males. The Scottish Executive Volunteering Strategy (Scottish Executive, 2004b) highlights issues around volunteering in Scotland including the barriers faced by non-volunteers. It draws on research to state that non-volunteers tend to be more socially excluded than volunteers and that more than twice as many people from higher socio-economic groups volunteer as those from lower socio-economic groups.

Taylor (2004) identified two different types of voluntary sports organisation in England – traditional, informal organisations and contemporary, formal organisations and suggested that each was quite different in its methods of operation, response to pressures and recruiting and “managing” its volunteers. It would be expected that this would be found in Scotland also, although the most recent research by Reid Howie Associates(2006) did not specifically differentiate in this way. It did identify that of the 1400 clubs responding to the survey while the majority had a written constitution (92%) fewer than 10% had either a business plan or a sports development plan.

Using results from a number of surveys undertaken in 2003, Volunteer Development Scotland found 26% of those volunteering did so in the field of sport or recreation, but this had dropped to 11% by 2004, and rose slightly again to 19% by 2005 (Volunteer Development Scotland Research Team, 2004; Volunteer Development Scotland Research Team, 2005; Volunteer Development Scotland Research Team, 2006)

Pfister & Radke (2006) investigated reasons for volunteer leader drop out in Germany and found that there were a variety of individual reasons for volunteers leaving an organisation. Schulz & Auld (2006) found that role ambiguity impacted negatively on the volunteers of sporting organisations in Queensland, Australia. Research by Costa, Chalip, Green & Simes (2006) found that for those volunteering at an event, training enhanced their commitment to the event organisation and thus their satisfaction with the volunteering experience through development of a sense of community.

Kay, Armour, Cushion, Thorpe & Pielichaty (2008, p3), in discussing sports coaching in the UK highlighted a problem with “over-reliance on volunteerism as the backbone of our coaching system” and the need for a “much larger core *professional* workforce” (emphasis added). Further they recommended that a professional value be put on coaches and coaching to enable the development of elite performance. This high profile report has led to media claims of a “culture of amateurism” (Broadbent, 2008, p81) and a so-called “threat” from a “culture of volunteerism”. In fact the report demands 233,500 new *paid* coaching positions to be created by 2016 and suggests that a new structure should label volunteers as helpers and not coaches. Meeting this ambitious target requires much more knowledge about the existing volunteers, for example whether they might transfer to become these paid staff, might they be willing to professionalise? Might they already be professional (as class A / B is most likely)? Where might the funding be found to pay these professionals an appropriate rate for their services?

Best (2004) states that fewer than half of sports volunteers volunteer within a club and identifies reasons why volunteers first get involved in a club and threats to the

club retaining these volunteers. Half of the 3,500 sports clubs in Scotland that responded to a major survey (Allison, 2001b) identified a shortage of volunteers as a problem for them, and one third struggled to find volunteers with management or technical skills. In England 26% of all volunteers are sports volunteers and more than half of these are volunteers in sports clubs (Leisure Industries Research Centre, 2003).

Reid Howie Associates (2006), in a study of more than 1400 sports clubs in Scotland, found that the numbers of volunteers involved varies greatly by club, but there was no particular pattern evident in terms of either sport or geographical area.

Weed & Robinson (2005) commented that within sports clubs there is a potential conflict where most of those wishing to volunteer prefer to do so informally, but volunteers within clubs are normally formal volunteers. This was one of the factors leading to the precarious state of the sports club described through their academic review of the role of the voluntary sports club. Other factors included professionalisation of some posts within voluntary sports clubs and a tendency towards more participation in individual sports. Earlier research by Deckers & Gratton (1995) contrasted the shrinking multi-sport clubs in some parts of Europe with the growing and vibrant sports clubs in the UK and one suggested explanation for this was the nature of the voluntary contribution made in the UK. Drew (2004) presented a variety of ideal models of multi sports clubs in an advisory paper for Sport England South West, presenting two examples of the potential advantages of clubs combining, as the employment of management staff, and more professional coaching. However it is possible that by looking to the European model of a multi-sport club more difficulties around volunteer recruitment, retention and management

might have been created. Research in Australia by Schulz & Auld (2006) found that changes in the way organisations are run, including the role ambiguity created by the employment of paid staff reduced the satisfaction for volunteers involved in sports bodies. Cuskelly, Taylor, Hoye & Darcy (2006) found that management practices in Australian rugby union clubs created problems with retention of volunteers. A survey of Scottish National governing bodies of sport (MacBeth, 2003) found that more than one third considered the number of volunteers in their sport to be below an acceptable level.

Leisure Industries Research Centre noted that the more senior volunteer positions were dominated by older volunteers (2003). George Street Research (2004) found that leadership positions in Scottish sport are dominated by men, in particular those positions of more seniority such as head coach. The research did not differentiate between voluntary or paid leadership positions. Sports club members were asked to rate their level of satisfaction with the gender balance in the leadership roles in their club and 87% were satisfied or very satisfied, despite over 90% of clubs reporting a male chair and 65% a male treasurer. The most common explanation given by respondents was that the leadership gender balance reflected their membership gender balance.

In the Best (2004) research update, no attempt was made to consider a spatial or regional dimension to volunteering. In fact UK and Scottish figures were at times used together to illustrate the points and no mention of relevant research from Wales (which did consider regional variations) was made (Sports Council Wales, 2002). The need for more location specific research has been recognised.

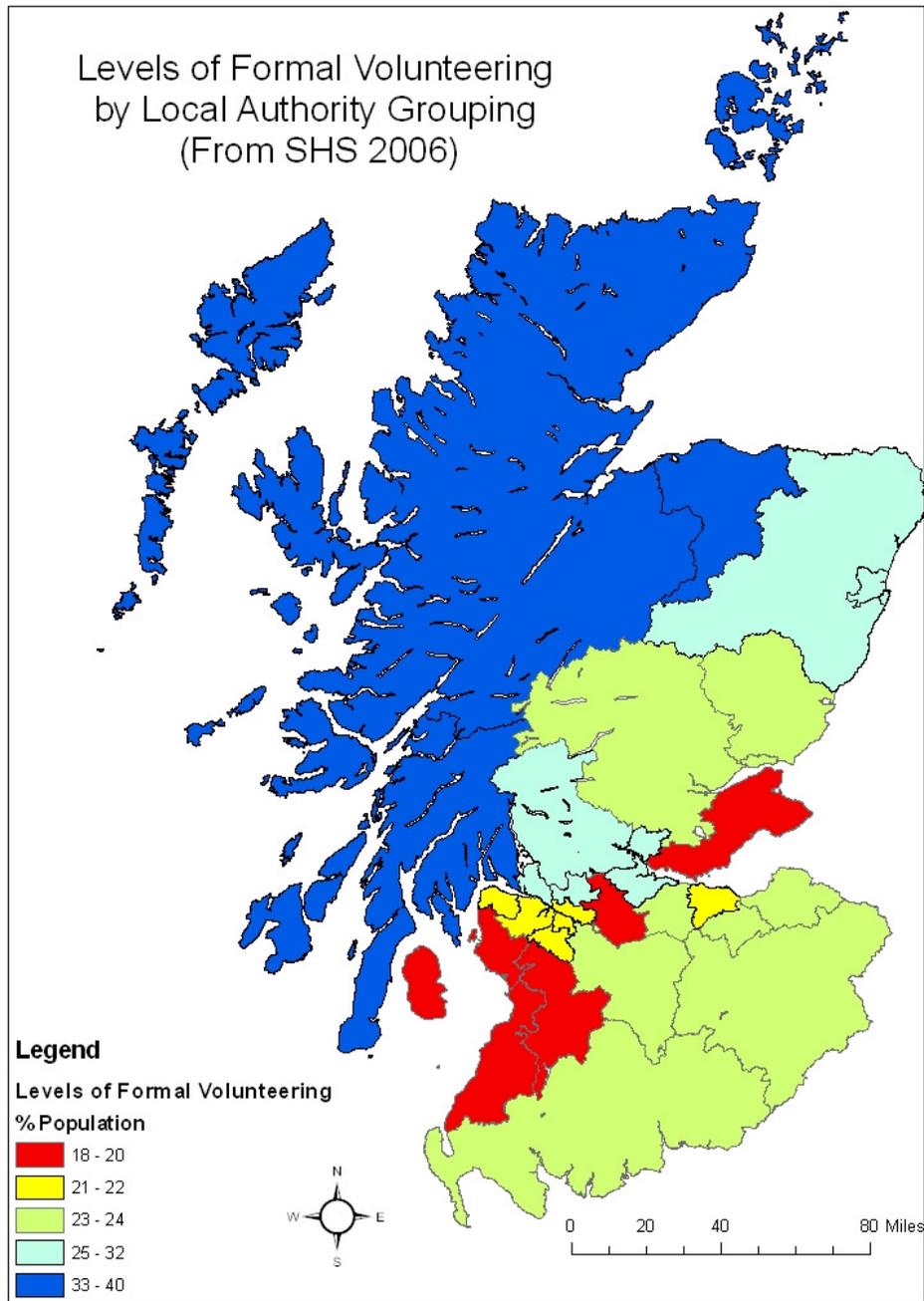
“Research is needed into the reasons for the varying levels of volunteering around Scotland” (Volunteer Development Scotland Research Team, 2003, p2).

Volunteer Development Scotland (Volunteer Development Scotland Research Team, 2007b) considered the information collected from 7,000 people about their formal volunteering behaviour in a survey using socio-demographic details as well as those relation to their location. For example, they report that while 25% of all adults across Scotland volunteer, 45% of adults in a household with an annual income of higher than £40,000 volunteer, and the most common activity undertaken is fundraising. An attempt was made to look at volunteering in different local authority areas, but the size of the sample meant that the smaller local authorities were grouped with those in the surrounding area to create 14 local authority groupings in Scotland. The levels of volunteering found are in Table 18. Figure 60 shows the results graphically on a map of Scotland. Note that some of the geographical similarities are created through the groupings.

Table 18 : Levels of Formal Volunteering by Local Authority Grouping (from Scottish Household Survey, 2006)

LOCAL AUTHORITY GROUPING	LOCAL AUTHORITIES INCLUDED	% OF POPULATION VOLUNTEERS	AREA USED FOR REGIONAL CLASSIFICATION LATER
Highlands and Islands	Eilean Siar, Highland, Orkney, Shetland, Argyll & Bute and Moray	40	NORTH
Grampian	City of Aberdeen and Aberdeenshire	32	NORTH
Central	Stirling, Clackmannanshire and Falkirk	29	NORTH
Dunbartonshire	East and West Dunbartonshire	27	WEST
Tayside	Angus, Dundee City and Perth & Kinross	24	NORTH
South Lanarkshire	South Lanarkshire	23	WEST
Lothians	West, East and Midlothian	23	EAST/SOUTH
Southern Scotland	Borders and Dumfries & Galloway	23	EAST/SOUTH
Edinburgh	Edinburgh City	22	EAST/SOUTH
Renfrewshire and Inverclyde	East Renfrewshire, and Inverclyde	22	WEST
Glasgow	Glasgow City	21	WEST
Fife	Fife	20	EAST/SOUTH
Ayrshire	South, East and North Ayrshire	19	WEST
North Lanarkshire	North Lanarkshire	18	WEST
Scotland		25	

Source: Volunteer Development Scotland Research Team (2007b, p2)

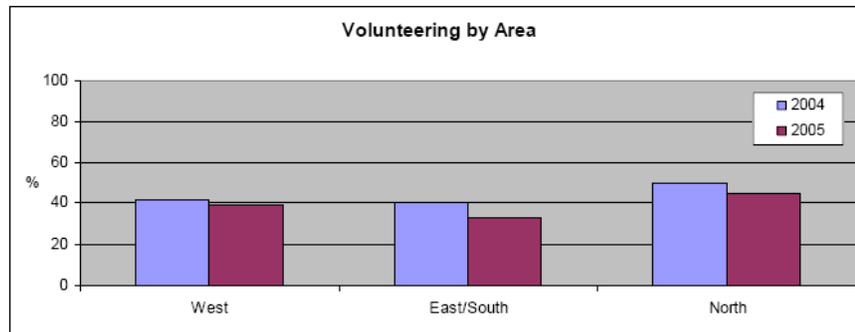


Source: Volunteer Development Scotland Research Team (2007b, p2)

Figure 60 : Formal Volunteering in Grouped Local Authorities (2006)

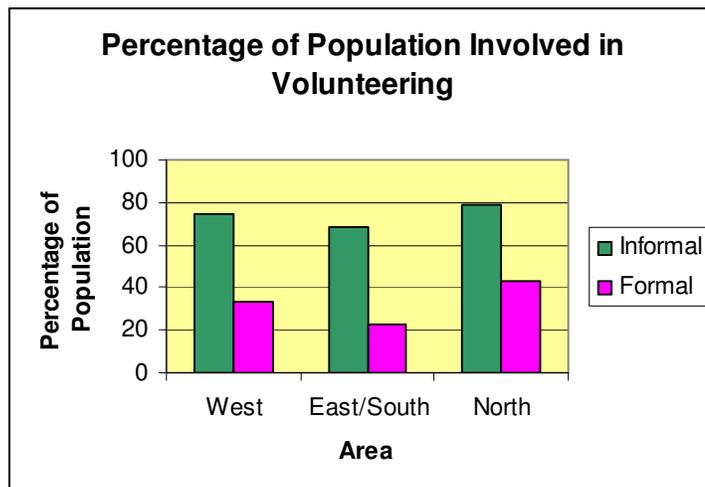
The Annual Digest of Statistics on Volunteering in Scotland 2006 (Volunteer Development Scotland Research Team, 2006) used these Local Authority Groupings,

and data collected from a number of surveys to create three regions of Scotland to illustrate where people are most likely to volunteer (formal volunteers only in Figure 61) and they also calculated what volunteering activity they are most likely to engage in (formal or informal volunteering) in each region (Figure 62).



Source: Adapted from Volunteer Development Scotland Research Team (2006, p18)

Figure 61 : Levels of Volunteering in Scotland in 2004 and 2005



Source: Adapted from Volunteer Development Scotland Research Team (2007a)

Figure 62 : Formal and Informal Volunteering by Area in 2006

Timbrell (2006) studied a cross section of volunteers from different communities involved in a range of activities. She contrasted volunteering behaviour in rural and urban settings and found that in rural areas people were more likely to be volunteers, however they were involved in a higher number of different groups and organisations for fewer hours than their urban counterparts. Timbrell characterised urban

volunteering as “deep” in contrast to rural volunteering “broad”. However the data used for this analysis was limited to a total of 509 volunteers in 4 different locations. Timbrell (2007b) continued the research by investigating the importance of space and place on the experience of volunteering. She found that motivations for volunteering could be spatially distinct (Timbrell, 2007a). Volunteer Development Scotland Research Team (2007b) also found significant differences between levels of rural and urban volunteering and found 41% of the population in remote rural areas volunteer compared to 22% in large urban areas. They used the Scottish Executive (2004a) classifications of location from large urban to remote rural locations defined below.

Scottish Executive 6-fold urban rural classification

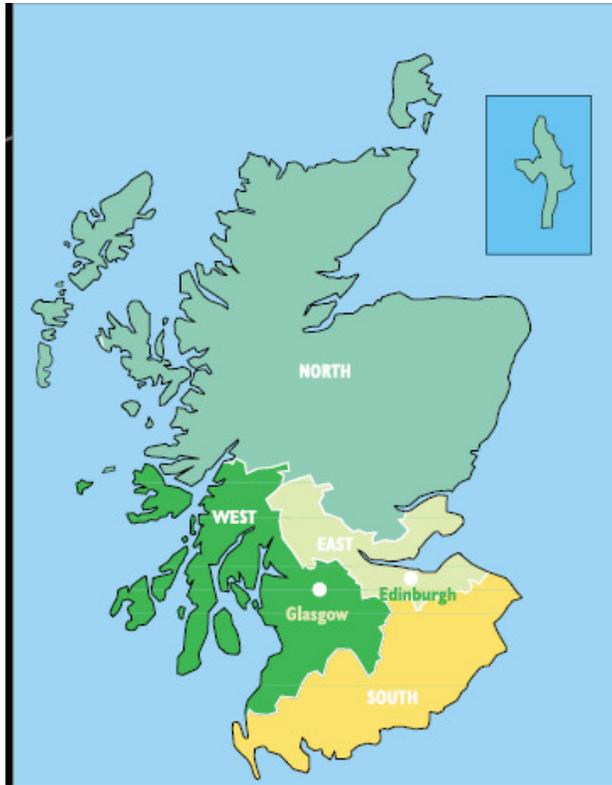
- Large urban areas (with a population over 125,000)
- Other urban areas (with a population of 10,000 to 125,000)
- Accessible small towns (with a population of 3,000 to 10,000)
- Remote small towns (with a population of 3,00 to 10,000)
- Accessible rural (within a 30 minute drive from a town with a population of 10,000 or more)
- Remote rural (Volunteer Development Scotland Research Team, 2007b, p5).

This approach of classification of areas by their rural or urban location was used by Hurley, Wilson & Christie (2008a) in their analytical report on Scottish Household Survey results (1999-2006) relating to volunteering. In fact they found that those living in remote rural areas were more likely to volunteer than those in any other of the groups noted above. Those in remote small towns were the most likely to volunteer in sport.

Volunteer Development Scotland Research Team (2003, p2) state “Research is needed into the reasons for the varying levels of volunteering around Scotland” They produce a map showing where the levels of volunteering among the population are highest in the North of Scotland and Edinburgh in the research they report (Scottish Opinion Survey 2002). This research interviewed just 990 adults in 2002, so not surprisingly the results were grouped into regions (see Figure 63). These regions are not the same as those used in the previous tables of groupings. However they do conclude:

“As with the other surveys there are geographical differences in the levels of volunteering..... More investigation is needed into why levels of volunteering face will much around the country.” (Volunteer Development Scotland Research Team, 2003, p2)

In fact detailed information about levels of volunteering in different local authority areas is not available and data has been grouped into districts and even 3 regions for analysis. Table 19 and Figure 63 show the data collected in 2002 and grouped into regions (and the two main cities). The North shows the highest levels of volunteering, but this is matched by Edinburgh. Later data does not pull out Edinburgh and Glasgow as distinct from their surrounding regions.



Source: Volunteer Development Scotland Research Team (2003, p2)

Figure 63 : Regions of Scotland and Levels of Volunteering from NFO System Three Scottish Opinion Survey 2002

Table 19 : Rates of Volunteering in the Population by Area from NFO System Three Scottish Opinion Survey 2002

Area	Glasgow	Edinburgh	West	East/South	North
% volunteering	38	48	32	31	48

Source : Volunteer Development Scotland Research Team (2003)

Nichols & Shepherd (2006) considered rates of sports volunteering amongst sports club members in Wales. They found a lower proportion of women volunteers in the club membership than would be expected, but that many more women were likely to volunteer from outside the club, perhaps as parents. They suggested more future studies of sports volunteering within sports clubs would be valuable in order to map trends and establish whether it is really becoming harder for sports clubs to find volunteers (Leisure Industries Research Centre, 2003).

5.2 Methodology and Methods

This research project proposes to consider volunteering in sport and sports club membership by local authority to identify any spatial patterns in participation. This has not been done before in Scotland.

Secondary Data

This case study is based on secondary data, that is information that has been gathered by other researchers or bodies for a purpose specific to them. Analysis of this type of data was done carefully, as Seale (2004) points out that the conditions of production of that data must always be taken into consideration. He has developed a set of questions that can be used to critically evaluate the secondary data, based on guidelines given by Dale, Arber & Proctor (1988) (see Source : Seale (2004, p361)

Figure 64).

What was the purpose of the original study and what conceptual framework informed it?
What information has been collected and is it on subjects relevant to the concerns of the secondary analysts and in the form needed?
How was the sample drawn up and what biases in responders and non-responders were evident?
What sort of agency collected the data and how adequate were their procedures for ensuring its quality?
Which population does the survey represent?
When was the data collected and is it still relevant to the circumstances the secondary analyst wishes to investigate?

Source : Seale (2004, p361)

Figure 64 : Six Questions to ask about a Data Set before doing Secondary Analysis

Data Set from sportscotland Research Report 75 (Allison, 2001b)

The original research was a postal survey of all sports clubs in Scotland and some case study interviews in order to produce a strong information base on which to build a national club development programme. The data is a sample of the population of all sports clubs in Scotland. The sample was drawn up through an attempt to identify all sports clubs in Scotland by contacting all agencies that might reasonably be

expected to hold club details. The response to the survey might have had some bias as it relied on the correct information for the club having been available to the researcher and the recipient being willing to complete the questionnaire.

The information was directly relevant to the study of sports clubs in Scotland. The survey and interviews asked about number, type and demographics of members in clubs (amongst other things) and also about volunteers in the club. It is available in table form (quantitative data) and only selected qualitative data is available from interviews.

The author was part of a team of academics from the Centre for Leisure Research at University of Edinburgh. The data was collected in 1999-2000. More recently a similar piece of research (from a smaller sample of clubs) was published in 2006 (Reid Howie Associates). The findings are broadly similar.

Data Set from Scottish Household Survey 2006

The Scottish Household Survey is a continuous cross-sectional survey that aims ‘to provide representative information about the composition, characteristics and behaviour of Scottish households, both nationally and at a more local level’ (Corbett, MacLeod, & Hope, 2007, p1). Information on demographics is collected annually and questions are asked alongside about the volunteering behaviour of the respondent. Since the first survey in 1999 the way the questions about volunteering are presented has changed. Also, in 2005 extra questions on attractions of and barriers to volunteering were added but the whole volunteering suite of questions was given to fewer people – all of those sampled in the first half of the year, but only half of those in the second six months. Structured random sampling is carried out to

ensure a representative sample of adults in private residences. Over a two-year period at least 550 adults in each local authority area were interviewed.

Researchers from TNS System Three and Ipson MORI carried out the research on behalf of the Scottish Executive. The results and their analysis have been publicly available for comment since August 2007. The sample was from the general population of Scotland (adults) in private residences. Data is collected about the highest income earner and one other random adult in the household. The data was collected in 2005/6 and is the most recent of its type available. The information collected in the SHS is directly relevant to study.

Data from 2001 Census (Scottish Government, 2007b) and Scottish Index of Multiple Deprivation (SIMD) (Scottish Executive, 2006c)

The SIMD defines small area concentrations of multiple deprivation. It is made up of 37 different indicators from the most recent population surveys available. A diagram showing the components of the methodology of compilation of the SIMD is shown in Figure 133 (Appendix 1) (Scottish Government, 2008). The SIMD is a relative measure that gives each datazone a rank from 1 (most deprived) to 6505 (least deprived). This means that the difference between areas cannot be measured. The usual way of using the data is to consider those in the 10%, 15% or 20% most deprived areas. Data is at datazone level, and cannot be easily combined into local authority ranking, although data regarding how much of a local authority is in for example the lowest quintile is available. The SIMD data is about a datazone, and if that area is in the 15% of most deprived datazones in Scotland it does not mean that any one resident in that datazone will be deprived. Similarly datazones with higher rankings are not necessarily more affluent, just less deprived.

Data Set from Scottish Opinion Survey (SOS)

The Scottish Sports Council and the sportscotland have been collecting sport and recreation participation data since 1987. The data is collected by TNS System Three in the Scottish Opinion Survey (Coalter, 1998). TNS System Three are a respected organisation and the data obtained in relation to the sports questions has been widely accepted and published. Monitoring of sampling and collection is ongoing. The survey is a so-called “omnibus” survey. An omnibus survey is a quantitative survey in which data on a range of different subjects is asked during the same interview. These questions are included in the survey on behalf of a number of organisations, together with a series of demographic questions, the results of which are shared between these clients. An omnibus survey represents a cost-effective approach as survey costs are shared. Approximately 1000 adults are interviewed in their own homes at the end of alternate months (six times per year) meaning that a total of 6,000 adults are sampled annually. The module of questions relating to sports and recreation is in Appendix 2. Participation in sport or recreation was specifically in Scotland (so did not include for example activities undertaken while on holiday abroad). Those interviewed were asked about their participation in sport and recreation in the last four weeks, “however informal” and shown a list of prompt sports or recreation activities to assist them (Appendix 3).

Interviewing for the Scottish Opinion Survey is undertaken in the homes of respondents using Computer Assisted Personal Interviewing (CAPI) hardware. The sports related questions are asked near the beginning of the interview in each month’s Scottish Opinion Survey. The total length of interview, including all sections asked is generally around 30 minutes. The advantages of personal, face to face interviewing over other approaches such as telephone, postal or web-based

surveying include obtaining high quality data from the interaction between the interviewer and the respondent and the use of show prompts such as long lists of potential responses or images. By using computers, interviewers collect data more accurately and can show the respondent a wider range of prompt materials.

Over the year, 25 interviews are undertaken at 504 different sampling points across Scotland. These points are selected to be representative of the geographical distribution of the Scottish population. To ensure adequate coverage, the numbers of interviews achieved in each local authority area is monitored to minimise the under or over representation of any particular areas. There are quotas applied to respondents on the basis of sex, age, socio-economic group and working status which must be adhered to. The target quotas within each ‘allocation’ of 25 interviews are illustrated in Table 20.

Table 20 : Scottish Opinion Survey Quotas

	Target number of interviews per allocation of 25
Sex and working status	
Male, working	7
Male, not working	5
Women, working	6 or 7
Women, not working	6 or 7
Age	
16 to 34	8 or 9
35 to 54	8 or 9
55 or over	8 or 9
Socio-economic grade	
AB	Minimum of 4
C1	Minimum of 6
C2DE	Minimum of 12

Source: Scottish Natural Heritage (2006, p5)

Only one interview may be undertaken per household and a random route procedure is adopted within each sampling point requiring a minimum of five households being

left between each successful interview. This procedure helps ensure that interviewing in each sample point is not restricted to a small geographic area only containing individuals with similar demographic and lifestyle characteristics thereby minimising the effects of clustering within the sample.

Fieldwork is generally conducted in the fourth week of each month, with the exception of December when it is undertaken in the first week in January to avoid the Christmas and New Year holiday periods. Interviewing runs for 6 days, Thursday to Tuesday. The spread of timing facilitates the completion of sample quotas with interviewers contacting respondents during both weekdays and weekends and at different times of day.

The SOS uses a non-probability, quota sample, where the selection of respondents is based on factors other than random chance. It aims to ensure those interviewed each month are representative of the adult population of Scotland. The major benefit of this approach is the consistency in the sampling and weighting procedures followed each month which permits the longitudinal tracking of trends. In addition the problem with non-response which would occur if probability sampling were used is avoided with quota sampling. However, as participation data are collected via a quota sampling approach, the extent of sampling error cannot be calculated precisely; sampling error can only be calculated for randomly selected samples. Confidence intervals can only be estimated and should therefore be treated as indicative.

The estimated level of accuracy of results is primarily dependent on the size of the sample. Whilst the total sample interviewed between July 2003 and June 2007 was 42,928, the questionnaire routing means that a number of the questions are only

asked if the respondent had taken part in sport or volunteered in the previous 4 weeks. Additionally if there is a geographical breakdown of the findings, for example into local authority areas, then the sample is much smaller than the whole. The margins of error associated with the findings vary depending on the numbers of respondents. However Best (2008a) gave the following guidance :

It has been estimated that, for the aggregate data, the sampling error is approximately ± 3 percentage points. For example, a measured aggregate participation rate of 60 per cent will probably lie within the range 57 per cent to 63 per cent in 95 per cent of cases (Best, 2008a).

Data collected in the Scottish Opinion Survey is weighted using sex, age, socio economic and working status profiles of the Scottish adult population. These profiles are taken from the latest National Readership Survey (NRS) outputs. NRS is a random probability survey with a large sample of interviews undertaken in Scotland and has been the source of profile information used in the weighting of the Scottish Opinion Survey for many years. This source is used rather than Census data as it is updated on an annual basis and includes information on the socio-economic profile of the Scottish adult population. Table 21 provides details of the unweighted sample profile and the NRS profile used to weight the July 2004 to June 2005 Scottish Opinion Survey results covering sex, working status, age and socio economic group. Rim weights were applied to each of the 12,278 respondents to bring the sample distribution of each of these demographic variables into line with the population distribution.

Table 21 : Weighting of Samples in Scottish Opinion Survey

	Unweighted sample profile July 04 – June 05	Weighting profile from NRS
Sex and working status		
Working men	25	28
Non-working men	21	20
Working women	25	24
Non-working women	28	28
Age		
16-24	11	13
25-34	16	15
35-44	20	18
45-54	16	18
55-64	14	15
65+	22	21
Socio-economic group		
AB	17	22
C1	30	29
C2	22	21
DE	31	29

Source : Scottish Natural Heritage (2006, p12)

Data Set from Scottish Omnibus Survey 2003-6 (Including Boosted sportscotland Sample)

The survey was undertaken through the inclusion of a series of questions in every monthly wave of the TNS System Three consumer omnibus survey the Scottish Opinion Survey (SOS). This has been done for 20 years, 1987 - 2007. In 2003/04, the sample for the sports questions was substantially boosted, and all questions were asked each month, to ensure an adequate sample over the year in each of the 32 local authorities (at least 740 respondents in each) (Best, 2008b). The total 2003/04 sample of 30,696 was designed to be representative of the geographical distribution of the population in each local authority (Best, 2008a). Data from 2003-2006 are used in this study. This allows a larger sample size and follows the sportscotland procedure of using a running average rather than an annual one for analysing sports participation data. A representative sample of the Scottish adult population, aged 16 years and over, was interviewed each month. A total of 42,928 interviews were undertaken during the 4 year period. The actual number of respondents in each local authority in 2003-6 is shown in Table 37 (Appendix 4) (Best, 2008a). The total

sample was then carefully weighted to ensure that the data reflected the demographic composition of each local authority area and of Scotland as a whole. The sample was also boosted with enough teenage girls, people from ethnic minorities, and those living in areas of multiple deprivation for analysis.

The questions and prompts relating to sports club membership and sports volunteering are listed in full in Appendix 2 and Appendix 3.

Research Question

Are there regions of emphasis in Scotland for sports club membership and sports volunteering?

In order to answer the research question, a descriptive analysis of the nature, intensity and distribution of sports club membership and sports volunteering in Scotland will be undertaken. The benefits of looking at sporting attributes from a regional perspective will be considered. The case study will look at sports club membership and volunteering in sport separately.

5.3 Regional Variation in Club Membership

Are there regions of emphasis for sports club membership (by local authority area)?

A number of different questions were asked to find out about the nature, intensity and distribution of sports club membership in Scotland.

Are there different numbers of sports club members within the population in each Local Authority Area?

Previous Research

Coalter & Dowers (2006) showed that there was regional variation in participation in sport and mapped this by local authority area. A group of five local authorities in the West of Scotland were shown to have the lowest participation in sport (excluding walking). There is evidence from sportscotland (2008e) that overall in Scotland 23% of adults were members of a sports club in 2006. There is no previous research about regional variation in club membership. Two sources of data are used to answer the question.

Data from Sports Club Research in 1999 (Allison, 2001b)

Data from Allison (2001b, p95) shows the number of sports clubs responding to the survey for each local authority, and a weighted percentage of the total number of club members in the survey for each local authority and the distribution of the Scottish population in 1999 by local authority (Table 38, Appendix 5). Table 38 has been adapted to include an index value calculated as shown below, and also results extrapolated as if the whole population of Scottish clubs, estimated as 13,000 (Allison, 2001b), followed a similar geographical pattern to those 3,909 clubs that did reply. So for example the number of clubs responding to the survey in Clackmannanshire was multiplied by $13000/3909$ to obtain a figure for the total number of clubs in that local authority. Some problems with this have been outlined below. A similar procedure was undertaken to work out the number of club

members in the population based on the percentage of the total number of club members in Scotland estimated to be in each local authority (Table 38).

Patmore (1983), Bale (1982; 1989), Rooney (1974; 1975) and others have developed a method of taking out the variable of population size and comparing areas on a per capita basis. Bale (1982) used the per capita index to consider sports clubs in England, Scotland and Wales. He cautioned against simply using number of clubs as a measure of emphasis, as the nature of each club varies tremendously. Allison in turn has been similarly cautious and weighted the data depending on the typical characteristics (size) of the clubs in that local authority (2001b).

The per capita index is calculated from the population within a local authority and the number of clubs (or club members) and gives a relative measure per head of population. The national index figure is always 1.00. Table 22 shows the figures for sports clubs in Scotland alongside the population as shown by General Registrar for Scotland in 1999 (full table is shown in Appendix 5). The total population of Scotland in 1999 was 5,120,000. The number of sports clubs in Scotland in 1999 was estimated to be 13000. So there was one sports club for every 394 people in Scotland. Using the weighting, the number of club members in each local authority was estimated and the index for the number of club members per capita was calculated as below. Scotland has a per capita index of 1.00.

$$\frac{\text{number of club members (in LA)}}{\text{population (in LA)}} \times \frac{\text{population (in Scotland)}}{\text{number of club members (in Scotland)}}$$

Clackmannanshire had a population of 46,080 people in 1999, while Scotland had 5,120,000. The extrapolated value for the number of club members in

Clackmannanshire based on the response to the survey was 23,831, and the total number of club members in Scotland was estimated at 1,991,905.

$$\text{Per capita index} = \frac{23831}{46080} \times \frac{5120000}{1991905} = 1.33$$

Therefore the per capita index for Clackmannanshire is 1.33. This calculation was carried out for each local authority to obtain a relative index showing the significance of club membership (see Table 22).

Table 22 : Per Capita Index for Club Membership in each Local Authority (1999)

Council Area	Per capita Index for club members in population	Responding Clubs	No. of responding clubs extrapolated to all clubs (x 13000/3309)	Actual no. of members in clubs that responded	No of club members extrapolated to estimate of all clubs (x13000/3309)	Scottish Population (1999)
Eilean Siar (W Isles)	0.20	6	24	506	1986	25600
Glasgow City	0.47	142	558	28308	111213	609280
South Lanarkshire	0.52	108	424	15671	61564	307200
West Dunbartonshire	0.52	31	122	5055	19859	97280
North Lanarkshire	0.64	142	558	20726	81424	327680
Dundee City	0.64	110	432	9099	35747	143360
Renfrewshire	0.66	72	283	11627	45677	179200
Orkney Islands	0.75	16	63	1517	5958	20480
Inverclyde	0.76	45	177	6572	25817	87040
East Ayrshire	0.87	83	326	10616	41705	122880
West Lothian	0.93	75	295	14154	55607	153600
Falkirk	0.96	59	232	13649	53621	143360
Fife	0.98	231	908	33869	133058	348160
East Renfrewshire	1.00	33	130	8594	33761	87040
North Ayrshire	1.07	96	377	14660	57592	138240
Edinburgh City	1.09	299	1175	48528	190651	450560
Argyll & Bute	1.11	64	251	10110	39719	92160
Stirling	1.17	85	334	10110	39719	87040
Midlothian	1.18	62	244	9605	37733	81920
Angus	1.19	85	334	12638	49649	107520
Perth &	1.27	145	570	16682	65536	133120

Kinross						
Aberdeen City	1.28	133	523	27297	107241	215040
Clackmannanshire	1.33	32	126	6066	23831	46080
East Dunbartonshire	1.40	64	251	15671	61564	112640
Moray	1.41	101	397	12132	47663	87040
Aberdeenshire	1.45	235	923	32352	127101	225280
Shetland Islands	1.50	42	165	3033	11916	20480
Dumfries & Galloway	1.51	192	754	22242	87382	148480
South Ayrshire	1.54	72	283	17187	67522	112640
Highland	1.58	259	1018	32858	129087	209920
Scottish Borders	1.76	104	409	18704	73480	107520
East Lothian	1.88	86	338	17187	67522	92160
Totals		3309	13000	507017	1991905	5120000

Source: Adapted from original data in Sports Clubs in Scotland Research Report 75, Appendix 1 (Allison, 2001b, p95).

Figure 65 is a map showing the index of per capita club membership in each local authority area (data adapted from Allison, 2001b). The areas shown in dark blue have the highest per capita club membership rate. Those shown in the red and orange colour are below average local authorities when ranked for per capita club membership. The Eilean Siar figures even if corrected from original data (Allison, 2001b), remain the very lowest when population is considered, however apart from that three of the local authorities in the very low category are the same as those identified by (Coalter & Dowers, 2006) as the poorest performing local authorities in terms of participation both in all sports and in all sports (excluding walking) (see Table 24).

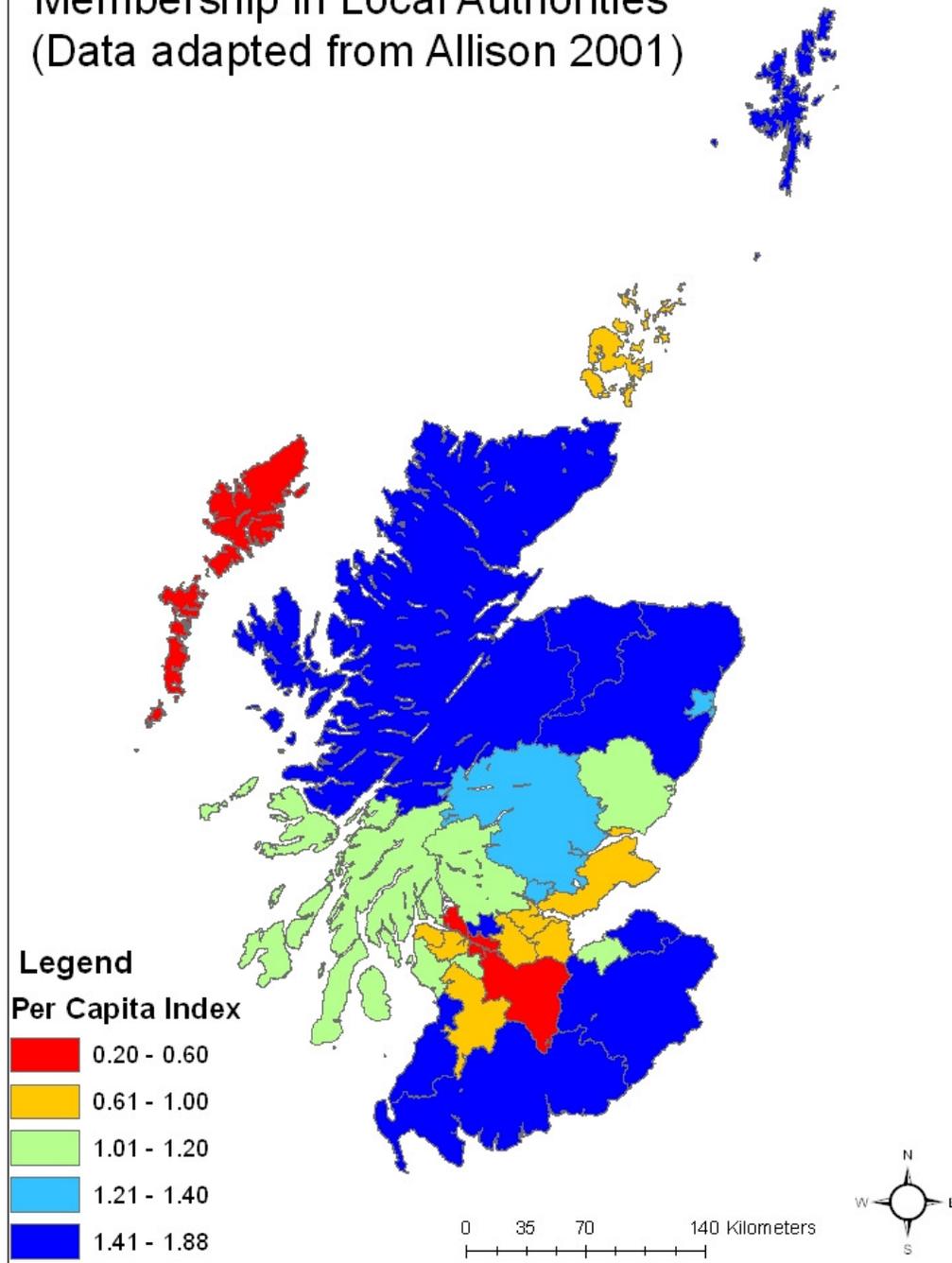
Allison (2001b) noted a number of problems with the accuracy of the data including a known check with the local authority in Eilean Siar to discover that extrapolating from the responses to the survey revealed an error. The number of responses in Eilean Siar to the survey was 6, extrapolation using the multiplication factor of 3.93 based on an estimated 13,000 clubs in Scotland would indicate 24 sports clubs in the local authority (a significantly different index value as can be seen in Table 22. In fact the local authority suggested that a more accurate figure would be higher than 35 and probably more than 40 clubs in the islands— an error in the data or sampling of almost 100%. However for another island area, Shetland, the extrapolation was shown to be almost accurate (the data suggest 165 clubs, local authority thought around 150 – less than 10% error). There appears to be no pattern to the errors in the data, so noting that there may be inaccuracies, the data have been used as a snapshot in 1999. More recent research by Reid Howie Associates (2006) is not useful to improve the accuracy as the sample size was much smaller.

While making use of the index gives some idea of the relative importance of club membership in each local authority, the raw data in Appendix 5 (numbers of people in local authority that are club members) shows the problems of extrapolating figures. The most recently published research on sports club membership in Wales (Sports Council Wales, 2008) shows that 12% of the population (of Wales) are members of sports clubs, and only 1% of the population are members of 2 or more clubs. Yet in Table 22, using the simple multiplication, club membership in Scotland is calculated at 1991905 people, or 39% of the population. Even if the Welsh figure of 1/12 of the total actually being members of more than 1 club, so subtracting these, 35% of the number of club members in the population still appears to be overestimated. Further the Sports Council Wales research estimates that of those

people in the population designated active, approximately one third take part as members of clubs (Sports Council Wales, 2008). Figures relating to the active population of Scotland show that 46% participated in physical activity once per week (Research Unit Sportscotland, 2006b), but one third of that would only be 15% (a much lower club membership rate than found using Allison (2001b) data. Looking at one local authority specifically, for example East Lothian, more than three quarters of the population appear to be members of sports clubs (if Table 22 were accurate) yet the research by Coalter & Dowers (2006) shows that participation in sport (excluding walking) in East Lothian is only 32% or 1 person in 3 is designated active (Table 24). Future studies need to consider active people and the number of sports clubs they might belong to in assessing the accuracy of the figures. The usefulness of the data in considering regional variation in club membership is therefore limited, but it does give a starting point perhaps for relative importance of club membership in different local authorities. Figure 65 certainly gives a graphic illustration of the lower rates of club membership within the central belt of Scotland (data adapted from Allison, 2001b)⁹.

⁹ The lower rate of club membership in urban areas is replicated in volunteering and sports participation figures.

Per Capita Index for Sports Club Membership in Local Authorities (Data adapted from Allison 2001)



Source: Data adapted from Allison (2001b)

Figure 65 : Per Capita Index for Sports Club Membership (1999)

Data from SOS Boosted Sample 2003-2006

In order to answer the research question (are there different numbers of sports club members within the population in each local authority area?), a statistical test, Chi-Square, was used to determine whether the number of sports club members in each local authority was the same, or whether there was variation between local authorities. Weighted count data from the SOS results were entered into SPSS. These were numbers participating in sport in a club, and all those in the population not members of a sports club. A crosstabs analysis using X^2 was done. Table 39 (Appendix 6) and Table 40 (Appendix 7) show the output from the analysis.

The observed test statistics were:

$$X^2=262.077, df=31, p<0.001$$

This indicates that there is a significant difference between the numbers of sports club members in different local authorities.

This difference was then charted and mapped. Using the more recent data obtained through the SOS boosted sample 2003-6 (weighted and as percentages of population), a more up-to-date per capita index was calculated for sports club members in the population 2003-2006. For example Clackmannanshire had a club membership in the population of 19.2% (SOS boosted sample data), while Scotland had approximately 17.4%. The club membership index for Clackmannanshire is therefore

$$\begin{aligned}
 & \text{\% of local authority population} && \text{\% of Scottish population that are club} \\
 & \text{that are club members} && \text{members} \\
 & && \frac{1}{17.4} \\
 & \times && \\
 & = 19.2 && \times \frac{1}{17.4} = \mathbf{1.10}
 \end{aligned}$$

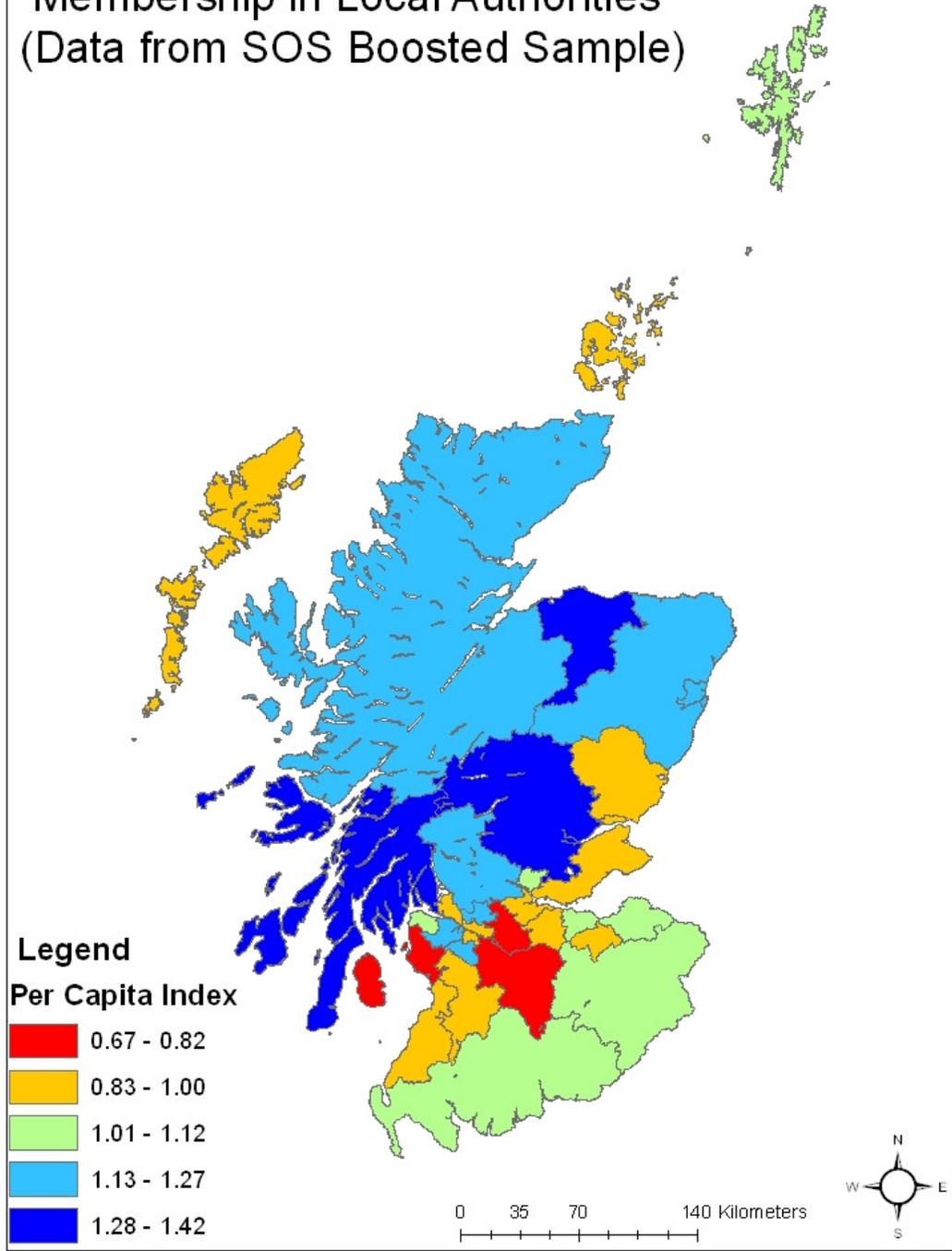
This calculation was carried out for each of the local authorities to obtain a relative index showing the significance of club membership in each (see Table 23). GIS mapping was then used to map the per capita index for club membership (Figure 66). The data from the SOS and boosted sample is more robust than that adapted from Allison (2001b). It was collected specifically for the purpose of making comparisons between local authority areas (that is why it was boosted in 2003-4 to ensure a minimum of 600 respondents in each local authority area). Figure 66 shows a swathe of the country from East to West through the central belt having a much lower rate of club membership than average (index is less than 1) – shown in red and orange. Areas in the north (not the islands) have much higher than average rates of club membership amongst the adult population.

Table 23 : Rate of Club Membership in the Population and Index of Per Capita Club Membership for each Local Authority (2003-6)

Local Authority	Percentage of Population are Members of a Sports Club (sports less walking, dancing and snooker)	Per Capita Index for club membership
Scotland	17.4	1.00
Aberdeen City	19.5	1.12
Aberdeenshire	19.5	1.12
Angus	16.9	0.97
Argyll & Bute	22.1	1.27
Clackmannanshire	19.2	1.10
Dumfries & Galloway	18.6	1.07
Dundee City	17.4	1.00
East Ayrshire	16.2	0.93
East Dunbartonshire	21.5	1.23
East Lothian	19.0	1.09
East Renfrewshire	21.0	1.21
Edinburgh, City of	19.0	1.09
Eilean Siar	15.1	0.87
Falkirk	15.7	0.90
Fife	17.4	1.00
Glasgow City	14.4	0.83
Highland	19.7	1.13
Inverclyde	17.9	1.03
Midlothian	15.5	0.89
Moray	22.7	1.30
North Ayrshire	13.9	0.80
North Lanarkshire	11.7	0.67
Orkney Islands	17.2	0.99
Perth & Kinross	24.7	1.42
Renfrewshire	20.1	1.15
Scottish Borders	17.8	1.02
Shetland Islands	17.8	1.02
South Ayrshire	17.1	0.99
South Lanarkshire	13.4	0.77
Stirling	21.0	1.21
West Dunbartonshire	17.4	1.00
West Lothian	15.7	0.90

Source: Data from SOS 2003-6

Per Capita Index for Sports Club Membership in Local Authorities (Data from SOS Boosted Sample)



Source: Data from SOS 2003-6

Figure 66 : Per Capita Index for Sports Club Membership (2003-6)

Findings

There is a significant difference between the rates of sports club membership in the population of different local authorities in Scotland. According to data collected by Allison (2001b) the adjacent local authorities of East Lothian and the Scottish Borders have the highest rate of sports club membership in the population. These rates were shown to be unrealistically high. Data from SOS boosted sample showed some similarities to the distribution pattern obtained from the earlier research but instead local authorities in the north have the highest percentages of the population as sports club members. In fact in Perth and Kinross nearly one quarter of the adult population is a member of a sports club. This contrasts to South Lanarkshire and North Ayrshire where just 13% of adults are members of sports clubs.

Analysis of Findings

There might be a number of inter-related factors that contribute to the variations in club membership levels in the population in different local authorities. It may be that areas of high participation in sport (excluding walking, snooker, dance) are also high in levels of club membership. This is investigated later in the chapter. The demographics of a particular local authority may be determining the likely physical activity habits of the population. For example in Perth and Kinross the percentage of the population aged over 55 (41%) is higher than the national average (35%) (sportsotland, 2008c) and the proportion of the population that is over 55 and active (36%) is also well above average (28%). Research has shown that clubs tend to have proportionately more older members than younger members (Sports Council Wales, 2005), thus the age profile of Perth and Kinross might be a factor in the high numbers of club members. Data from SOS 2003-6 shows that 36% of adult club

members are under 35 and 64% over 35 years of age, and those over 55 years make up 28% of all sports club members in Scotland (Figure 135, Appendix 17). Social class has also been highlighted as an important factor in participation in sport and the membership of sports clubs (Coalter, 1998). Data from SOS 2003-6 shows that 33% of sports club members are from class AB (compared to 19% in the general population) while only 16% of club members come from social class DE (compared to 40% in the general population)(Figure 136, Appendix 18). There is a tendency for sports club members to be from higher social classes but within North Lanarkshire there are fewer people in social class AB (14%) than average (19%) and more people from social class DE (46%) than the Scottish average (40%) (sportscotland, 2008a). A particular local authority may also have a tradition of a particular sport or type of sport participation that may be linked to participation through a club. For example for sports such as rugby, judo and curling the majority of participants do so through club membership (sportscotland, 2008e).

Is there any difference in the numbers of sports club members within the population of those who participate in sport at least once per month for each Local Authority in Scotland?

Previous Research

Coalter & Dowers (2006) showed that there was regional variation in participation in sport and mapped this by local authority area. There is evidence from sportscotland (2008e) that overall in Scotland 41% of adults who participated in sport (excluding physical recreations) at least once per month were members of a sports club in 2006. There is no previous research about regional variation in club membership within

those who participate. There is only one data set available for analysis – that of the Scottish Opinion Survey 2003-6.

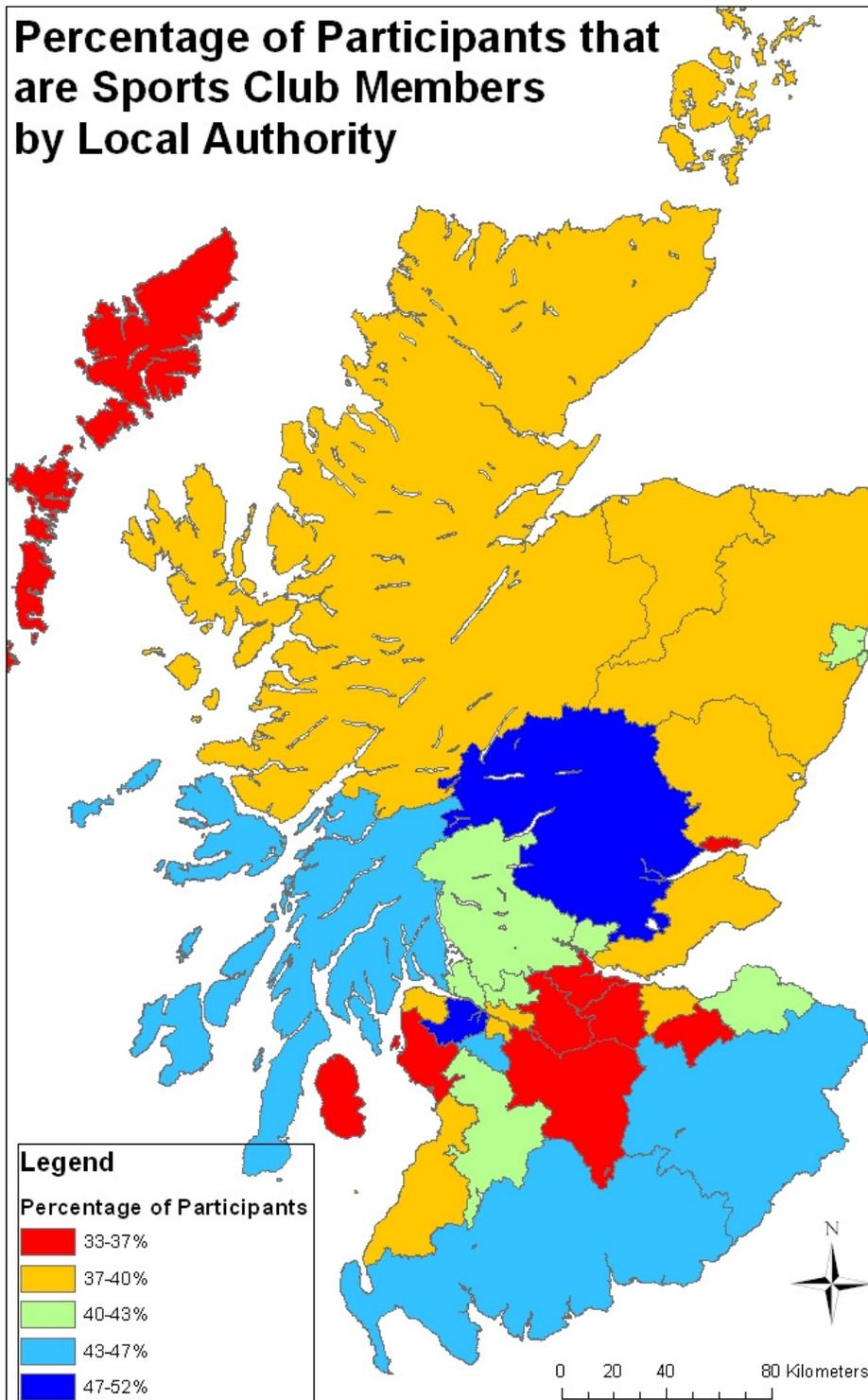
Data from SOS Boosted sample 2003-6

Again a Chi-Squared analysis was conducted to determine whether the number of sports club members amongst sports participants varied between local authorities. Weighted count data were entered into SPSS. These were numbers participating in sport in a club, participating in sport but not in a club and those not participating in sport (at least once per month, excluding dancing, walking and snooker). A crosstabs analysis using X^2 was done. Table 41 (Appendix 8) and Table 42 (Appendix 9) show the output from the analysis.

The observed test statistics were:

$$X^2=592.573, df=62, p<0.001$$

This indicates that there is a significant difference between the numbers of sports club members amongst sports participants in different local authorities. Figure 67 shows the differences in the percentages of participants who are club members across different local authorities. Detailed comparisons between for each Local Authority are shown in Figure 134 in Appendix 10.



Source: Data from SOS 2003-6

Figure 67 : Percentage of Sports Participants (excluding dancing, walking, snooker) that are Members of Sports Clubs

Findings

There is a significant difference between the percentage of participants in sport (excluding dancing, walking and snooker) who are sports club members in different local authorities (Figure 67). Perth and Kinross (52%) and Renfrewshire (49.4%) stand out as the local authorities with the largest proportion of sports participation occurring through sports club membership (see Figure 134 in Appendix 10 for figures and comparative bar chart). The lowest proportion of participants that are sports club members are found in West Lothian (33.8%), Falkirk (33.1%), and North Lanarkshire (33.0%).

Analysis of Findings

Each local authority has its own unique combination of factors that create the profile of club membership amongst participants. Those outlined in relation to club membership amongst the general population also apply here. The nature of the community, whether it is one based on commuting into nearby large cities (such as West Lothian) or one where residents are based in the community, for example Perth and Kinross might impact on the involvement in sports clubs. The nature of the sport might be important - golf is a sport where much participation may take place as part of a club, and in Perth and Kinross for instance the rates of participation (10%) were significantly above the national average (7%) (sportscotland, 2008c). Levels of deprivation are also a factor in club membership. Within North Lanarkshire, 20% of the population live within the most deprived 15% of areas under the Scottish Index of Multiple Deprivation (SIMD). Those living in those areas have a lower rate of sports participation (29%) (sportscotland, 2008a). The type of sports provision available in a local authority area may also be a factor. If there is a good level of

provision of “pay and play” facilities that may provide a higher level of competition to clubs.

Is there a Relationship between Sports Club Membership Rates and Sports Participation Rates in each Local Authority

Previous Research

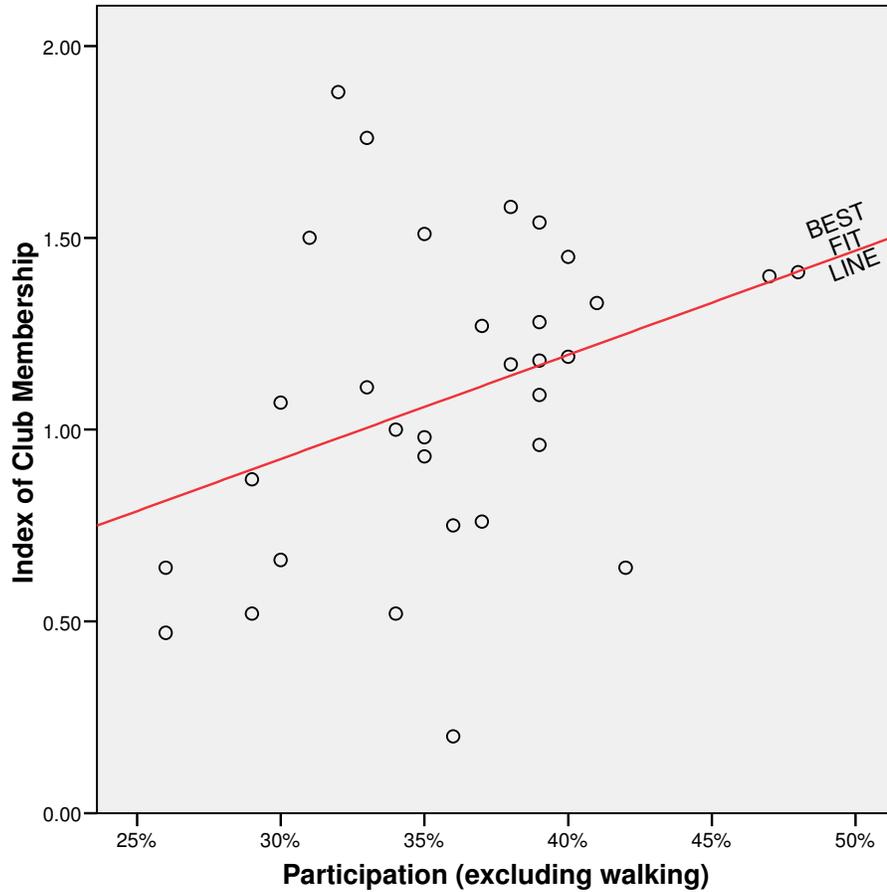
In 2006, 41 % of participants in (all) sports did so as members of clubs (sportscotland, 2008e). The specific sports or activities participated in were shown to make a difference to the rate of club membership amongst participants. For example men were most likely to participate in bowls (82%), rugby (79%), and judo (74%) through club membership, while for women the sports most participated in through club membership were martial arts (74%), multigym/weight training (70%) and curling (66%) (sportscotland, 2008e). Sports Council Wales found “club membership has no strong correlation with participation” (2002, p13), however this was contradicted by later research that found a strong correlation between club membership and participation in Welsh local authorities (Sports Council Wales, 2005). No previous research has considered this relationship in Scottish local authorities. Three data sets are used for this analysis.

Data from Allison (2001b) and Coalter & Dowers (2006) Combined

This was analysed using data adapted from Allison (2001b) and Coalter & Dowers (2006) as shown in Table 22 and Table 24. SPSS was utilised to carry out a test of the correlation between the index of rate of club membership (based on data from Allison (2001b) and the rate of participation in all sports (excluding walking) for each local authority (Table 43, Appendix 9). A correlation between the two variables

has a Pearson's Correlation Coefficient (r) of 0.352 which is significant ($P < 0.05$). Figure 68 illustrates that there is a moderate relationship between rates of participation and rates of club membership, and there is a less than 5% probability that the relationship occurred by chance.

This result would be expected given the Sports Council Wales (2005) research that showed a strong correlation (Pearson's Coefficient 0.79) between club membership and participation rates in each local authority in Wales. The previously documented problems with the Allison (2001b) data might explain the slightly lower correlation in Scotland.



Source: Data from Coalter & Dowers (2006) and Allison(2001b)

Figure 68 : Scatterplot Showing the Correlation between the Club Membership Rate Index and the Rate of Participation in All Sports (excluding walking) for each Local Authority in Scotland

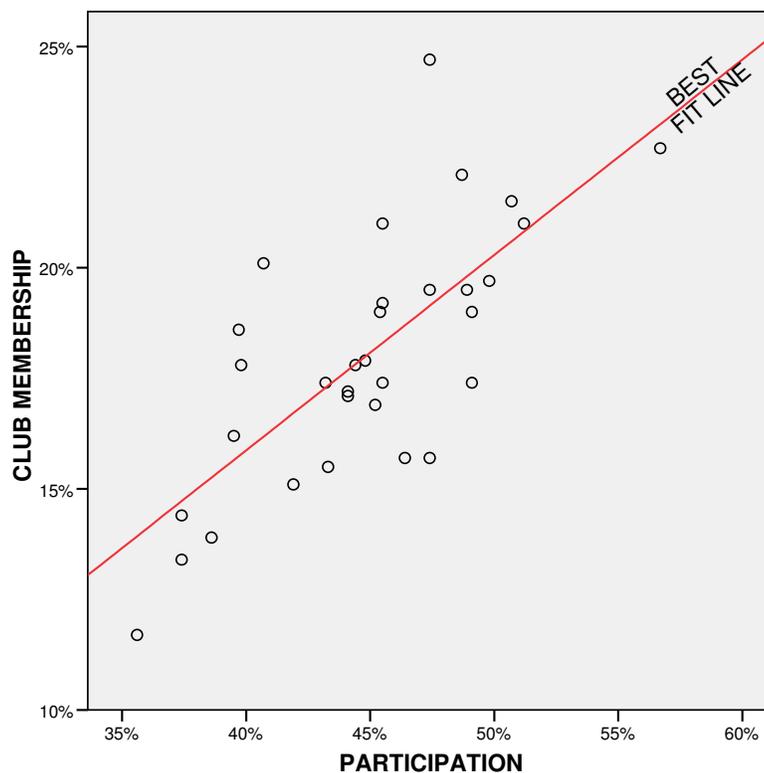
Table 24 : Percentage of the Population taking part in Sport at least once per week

Council Area	All Sports			All sports (excluding walking)		
	All	Male	Female	All	Male	Female
Glasgow City	34	41	29	26	34	19
North Lanarkshire	35	41	30	26	34	19
Renfrewshire	37	43	31	30	36	24
North Ayrshire	38	45	31	30	38	22
East Ayrshire	39	48	31	29	42	18
South Lanarkshire	40	45	35	29	36	23
Shetland Islands	45	47	44	31	33	28
East Renfrewshire	45	46	43	34	38	31
West Dunbartonshire	48	49	47	34	39	30
Argyll & Bute	49	53	46	33	40	27
South Ayrshire	50	55	45	39	45	33
Scottish Borders	52	53	51	33	37	29
Dumfries & Galloway	52	53	52	35	38	33
Inverclyde	52	60	45	37	46	27
East Lothian	53	57	49	32	40	26
Fife	53	56	51	35	43	27
Edinburgh City	53	54	52	39	43	35
Highland	54	55	53	38	42	36
Aberdeen City	54	58	51	39	45	34
Perth & Kinross	56	60	52	37	45	30
Falkirk	57	63	52	39	48	31
Angus	57	60	55	40	47	34
Eilean Siar (W Isles)	58	63	54	36	43	29
Midlothian	58	62	54	39	45	34
Dundee City	58	62	54	42	48	36
West Lothian	59	62	56	35	42	28
East Dunbartonshire	59	64	54	47	57	37
Orkney Islands	60	63	58	36	41	32
Clackmannanshire	60	60	60	41	46	36
Stirling	61	62	60	38	44	31
Aberdeenshire	61	60	62	40	44	36
Moray	65	69	61	48	57	38

Source: Adapted from Coalter & Dowers (2006)

Data from SOS Boosted sample 2003-2006

Data from SOS boosted sample was analysed. SPSS was utilised to carry out a test of the correlation between the index of rate of club membership and the rate of participation in sports (excluding walking, snooker and dance) for each local authority. The results are presented Table 44 (Appendix 12) and show that the correlation between the two variables has a Pearson's correlation coefficient (r) of 0.724 ($p < 0.01$). Figure 69 illustrates that there is a strong relationship between rates of participation and rates of club membership, and there is a less than 1% probability that the relationship occurred by chance. This is a similar finding to that of Sports Council Wales (2005).



Source: Data from SOS 2003-6

Figure 69 : Scatterplot showing Percentage of the Population that are Sports Club Members against Percentage of the Population that Participate in Sport at least once per month

Findings

A significant correlation between rates of participation in sport and rates of sports club membership was found. This was in evidence in both data sets analysed, although it was a stronger relationship in the SOS boosted sample (2003-6).

Analysis of Findings

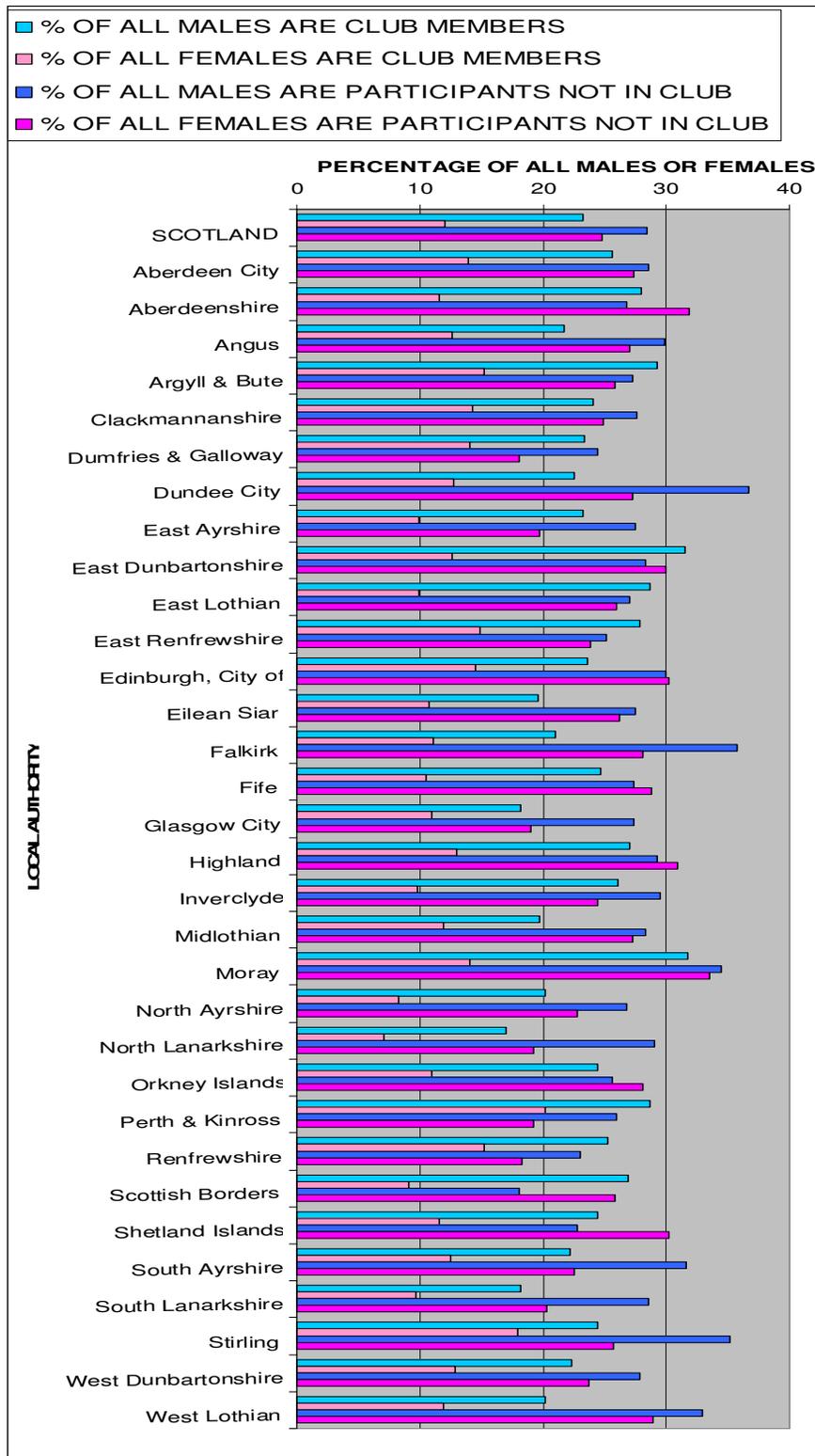
A correlation does not show causality and the data does not show if higher participation leads to higher club membership or whether higher club membership results in higher participation rates. In fact both of these variables have been shown as strongly linked to other factors that apply at a local, regional and national level such as social class and education levels (for example Cook, 2004; Research Unit SportsScotland, 2006a; Sports Council Wales, 2005), so neither variable may be the root cause. In some areas participation through sports clubs is more important than in other areas. 17% of the Scottish population participate in sport within a sports club and 26% of Scots participate in sport outwith the club setting.

Is there a Gender Difference between the people in the Population who are Members of Sports Clubs and those who are not for each Local Authority in Scotland

Research has consistently shown higher rates of participation in sport for men than for women and also higher rates of club membership for males than for females (for example Cox, Coleman, & Roker, 2006; Sports Council Wales, 2002; sportsScotland, 2008b; sportsScotland, 2008f). SportsScotland (2008e) also reported gender differences in the context in which participation takes place through club membership. For instance, 37% of male participants in pitch sports (defined in Appendix 20) do so

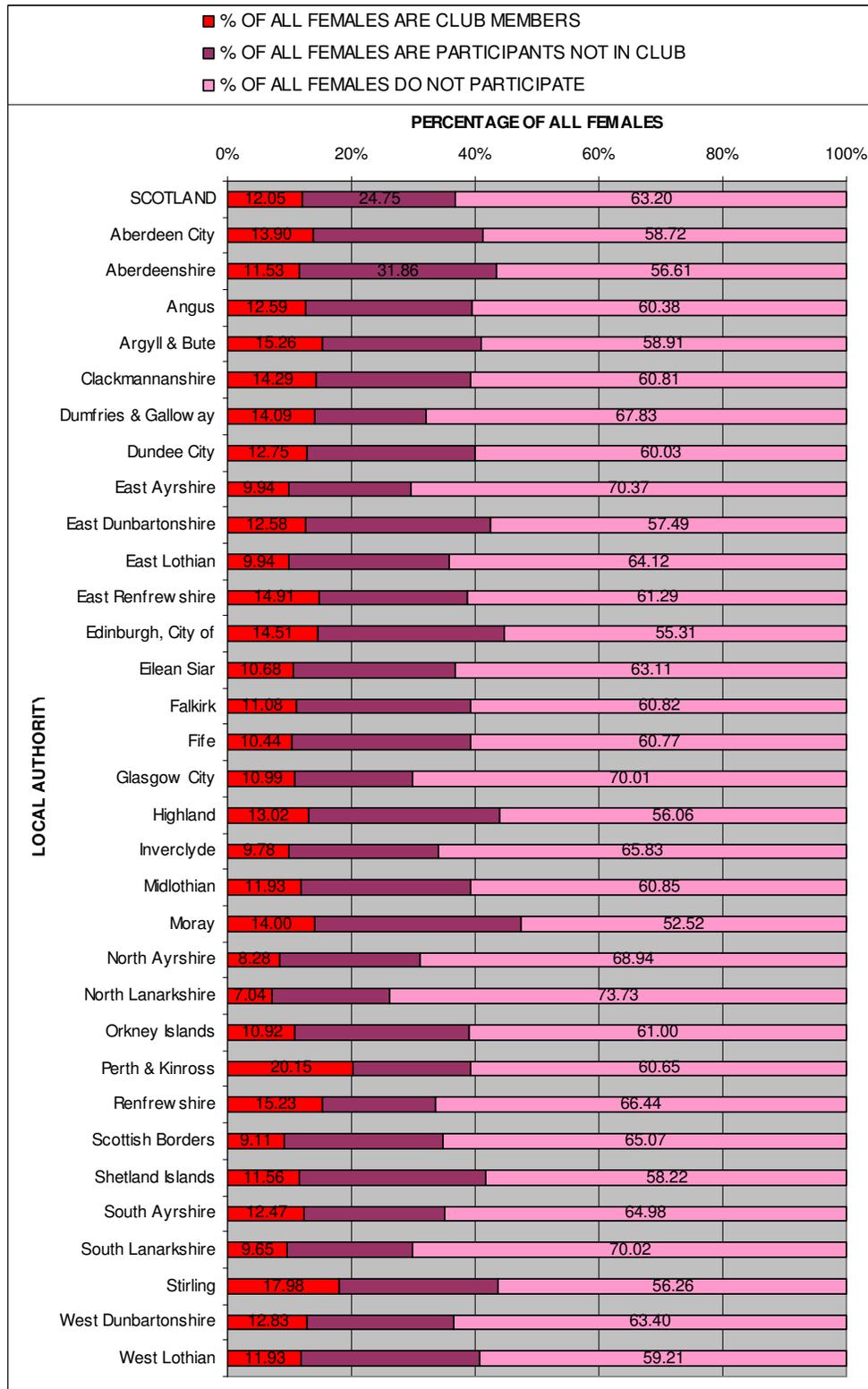
through club membership compared with only 22% of females. Regional variations in club membership and gender have not been researched. Only data from SOS 2003-6 has been used to answer this question.

The data from the SOS boosted sample 2003-6 has been used to display different aspects of gender and sports club membership. Figure 70 shows the gender of sports club members in different local authorities. Figure 71 and Figure 72 show the participation profiles of males and females in each local authority allowing a comparison to be made of those who participate as a club member, those who participate but not in a club and those who do not participate. Figure 73 shows the gender split of those are participants in sport but not in a club by local authority. There is no clear pattern of a higher proportion of males or females for all local authorities and there are variations to be explained. The gender split of those that are participants in sport by local authority can be seen in Figure 75. Participation in sport (excluding walking, dance, snooker) is higher for males in all local authority areas, although there are varying degrees. Club membership is higher for males than for females in all local authority areas, although there are varying degrees (Figure 74).



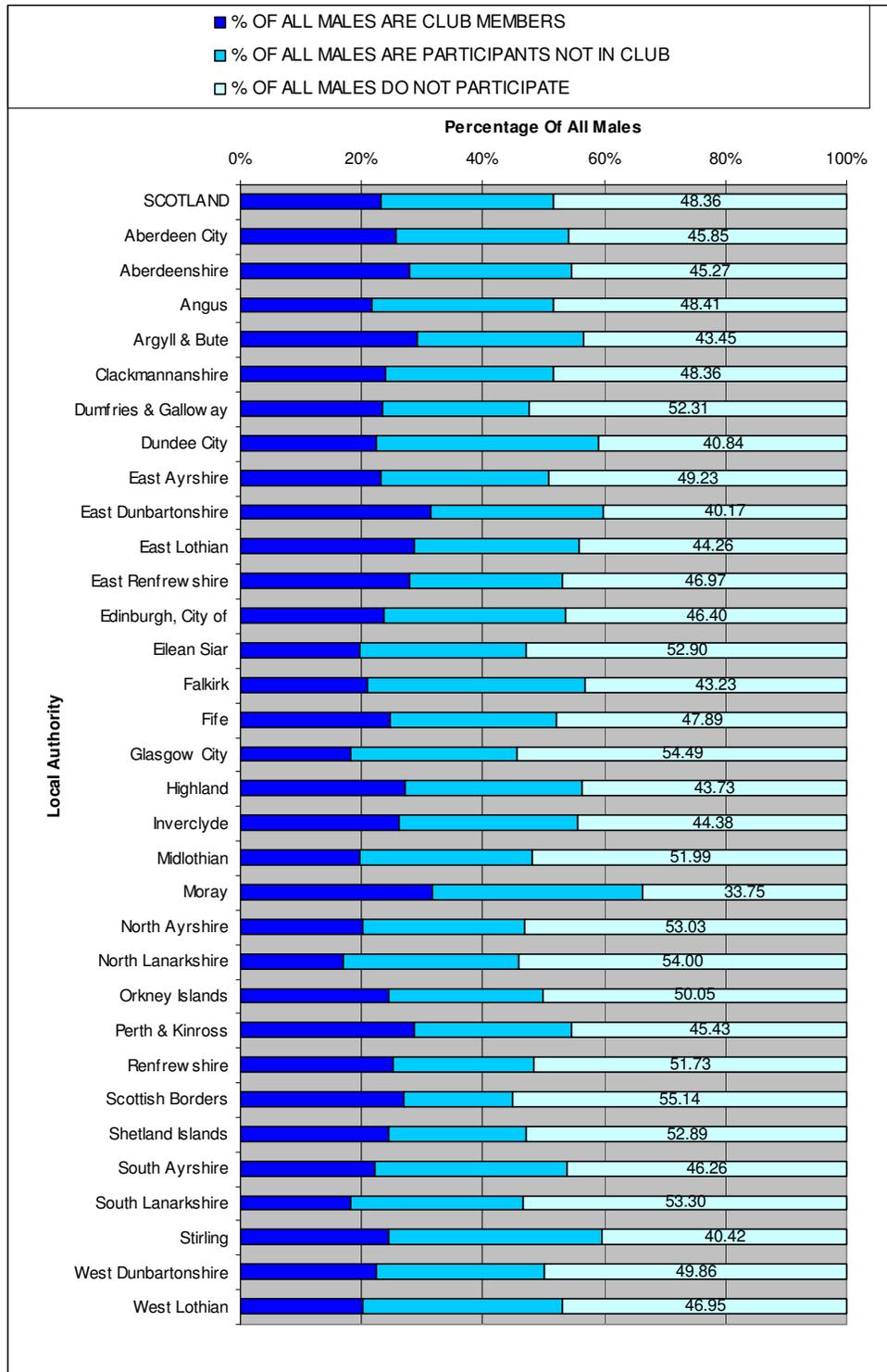
Source: Data from SOS 2003-6

Figure 70 : Sports Participation as a Sports Club Member by Sex and Local Authority



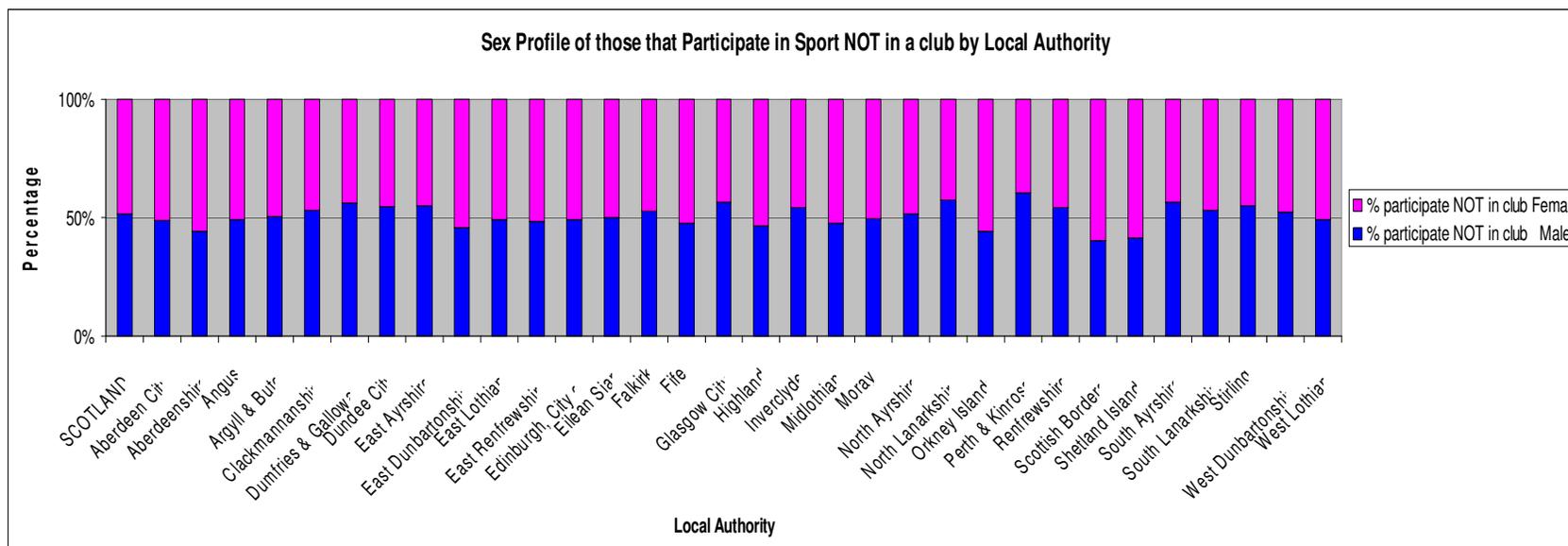
Source: Data from SOS 2003-6

Figure 71 : Participation Profile for All Females by Local Authority



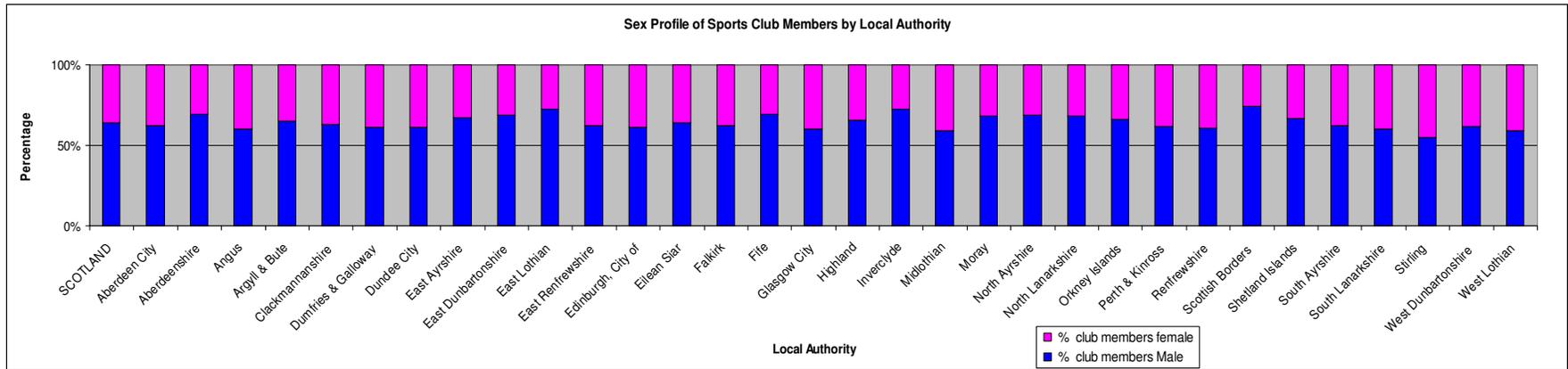
Source: Data from SOS 2003-6

Figure 72 : Participation Profile of All Males by Local Authority



Source: Data from SOS 2003-6

Figure 73 : Sex Profile of those that Participate in Sport NOT in a club by Local Authority



Source: Data from SOS 2003-6

Figure 74 : Sex Profile of Sports Club Members by Local Authority

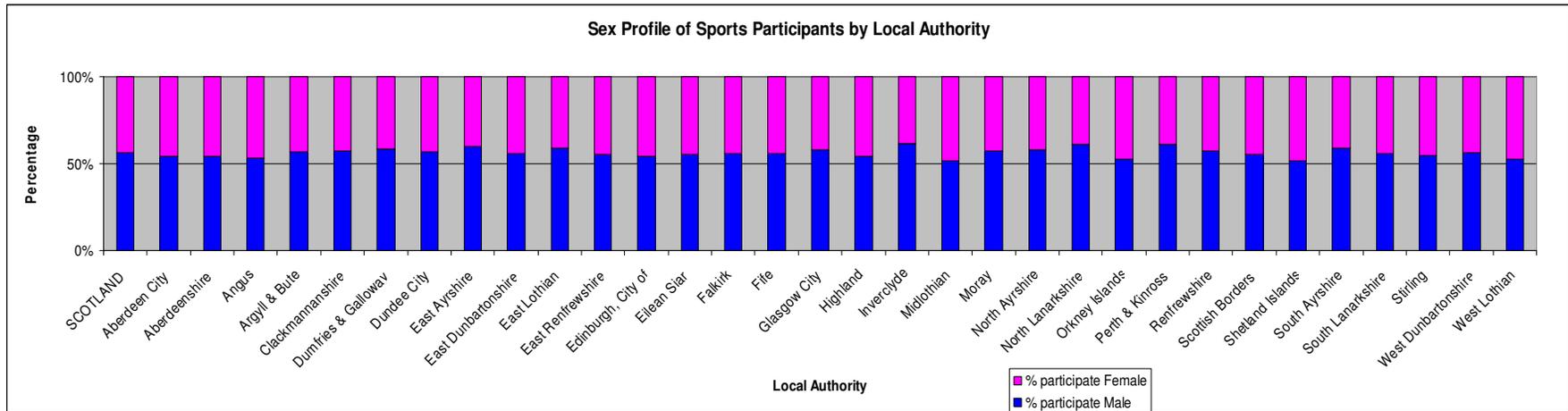


Figure 75 : Sex Profile of Sports Participants by Local Authority

Source: Data from SOS 2003-6

Findings

There are regional variations in the gender split in sports club membership in different local authorities. Participation in sport is higher in males than in females. 52% of all males and 37% of all females in Scotland participate in sport (excluding walking, dance and snooker) at least once a month. This average figure masks variation between local authorities. In the Scottish Borders just 44% of all men are sports participants and 35% of women are active. Moray (66%), East Dunbartonshire and Stirling (60%) have the highest levels of male participation, but female participation is also high at 48%, 43% and 44% respectively. Club membership also varies regionally and for example in the Scottish Borders 74% of sports club members are male and 54% of sports club members in Stirling are male.

Analysis of Findings

In Scotland, the percentage of all males in each local authority that participate in sport as members of a club is always higher (and often approximately twice as large as) than the equivalent percentage of all women. In terms of participation not in a sports club this trend is not so consistent. While the general pattern is for a higher percentage of all males to take part in sport not in a club than of all females, in some local authorities the reverse is true. In fact, there are some local authority areas where the participation of females not in a club as a percentage of all females in that area is higher than the participation outside a club is for the percentage of all males. Examples of this include Shetland Islands, Aberdeenshire, Highland, Fife, East Dunbartonshire and the Scottish Borders. In some ways this could be a reflection of the very high percentage of males taking part in sport as a member of a club in these local authorities. Men's participation within the Scottish Borders has a particular

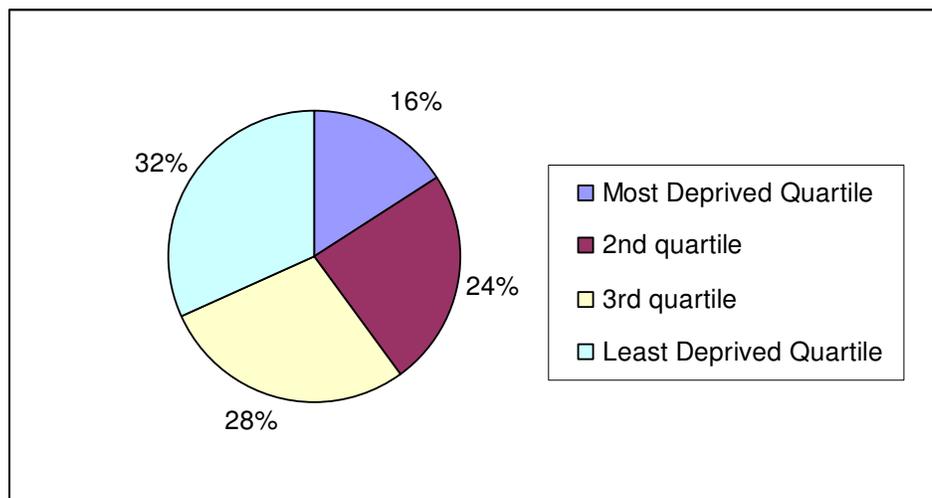
focus on the sports club. The tradition of rugby playing, as part of a club, is likely to be the reason for the higher participation in pitch sports than the national average (sportscotland, 2008d). The majority of those taking part in sport outside of a sports club in the Scottish Borders are women. This may not be the only explanation. Could it be that a sports club is more likely to be comfortable for men, or are the sports that are particularly played in these areas those that are played by men and in clubs, for example, golf, football, and rugby and is that what is making the difference?

Sports clubs appear to be much more important to males and male sports participation than to females. For example, we can see that only approximately one third of females participating in sport do so as a member of a club whereas for males, almost half of all those participating do so as members of a club in most local authority areas. In a few local authority areas male participation as a club member is higher than that outside clubs for example within Aberdeenshire, East Lothian, Perth & Kinross, Renfrewshire, Shetland Islands, Dunbartonshire and East Renfrewshire and particularly the Scottish Borders. In the Scottish Borders 18% of males and 26% of females participate in sport outside a club, however 27% of males and 9% of females participate as members of a club. Thus in the Scottish Borders 60% of male participation in sport is undertaken in a sports club, while only 25% of female participation is within a club and 40% of male participation is outside a sports club while 75% of female participation is not in a club. This is quite an exceptional picture when we consider the Scottish average of 23% of all males participate through a club and 28% participate outside a club and 12% of all females participate in a club and 25% of all women participate not in a club.

Are there Other Regional Variations in Sports Club Membership in Scotland?

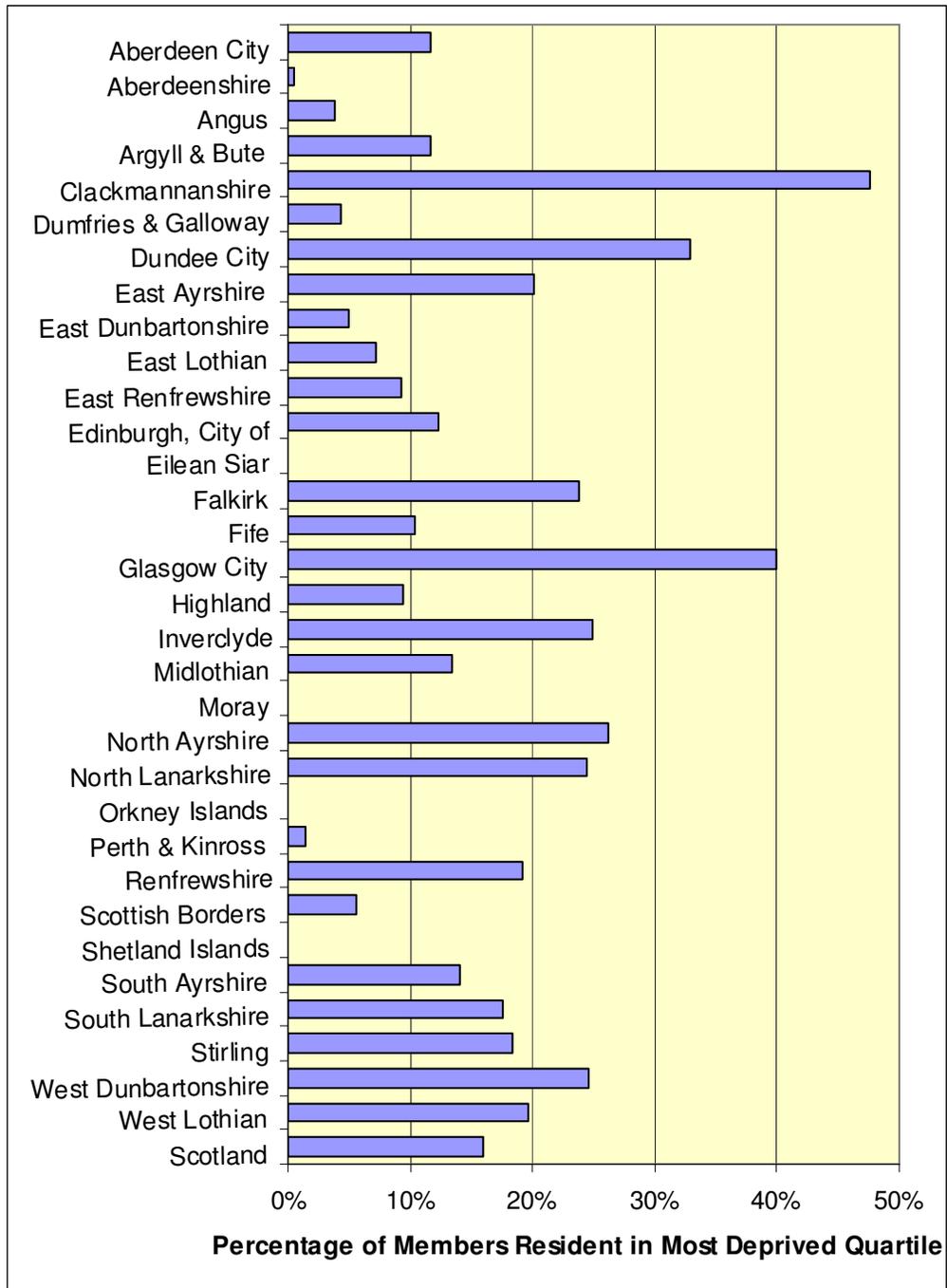
Sports Club Membership and SIMD

Those that are resident in the least deprived areas of Scotland are more likely to be involved in sports volunteering and in volunteering more generally than those in more deprived areas (bottom two SIMD quartiles). Figure 76 shows the percentage of all sports club members that were resident in each SIMD quartile. Overall just 16% of sports club members are resident in the 25% most deprived areas. Sports club members are most likely to have been resident in the two least deprived SIMD quartiles (despite their lower populations). Clackmannanshire and Glasgow City have the highest proportion of sports club members resident in the most deprived quartile (Figure 77).



Source: Data from SOS 2003-6

Figure 76 : Percentage of Sports Club Members Resident in Differently Deprived Areas

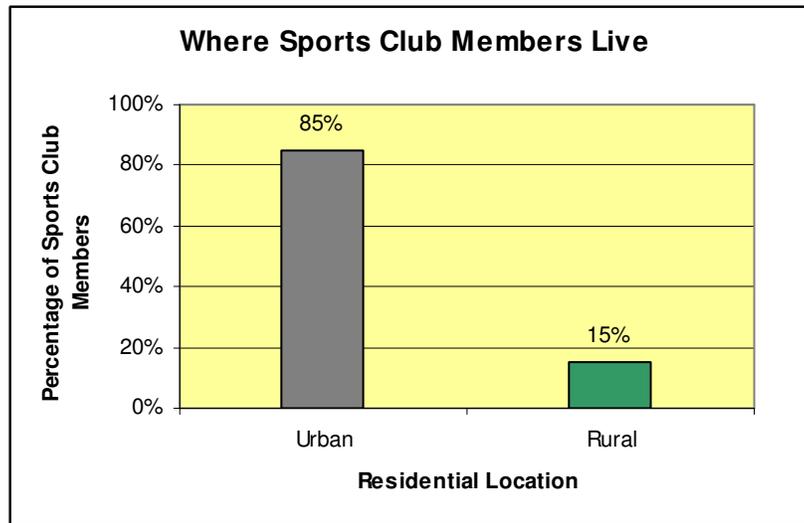


Source: Data from SOS 2003-6

Figure 77 : Percentage of Sports Club Members Resident in the Most Deprived Quartile for each Local Authority

Sports Club Members in Rural and Urban Areas

Those resident in urban areas are more likely to be sports club members. This is due to the much higher population and therefore the higher numbers of individuals in urban areas who participate in sport as members of a sports club (Figure 78).



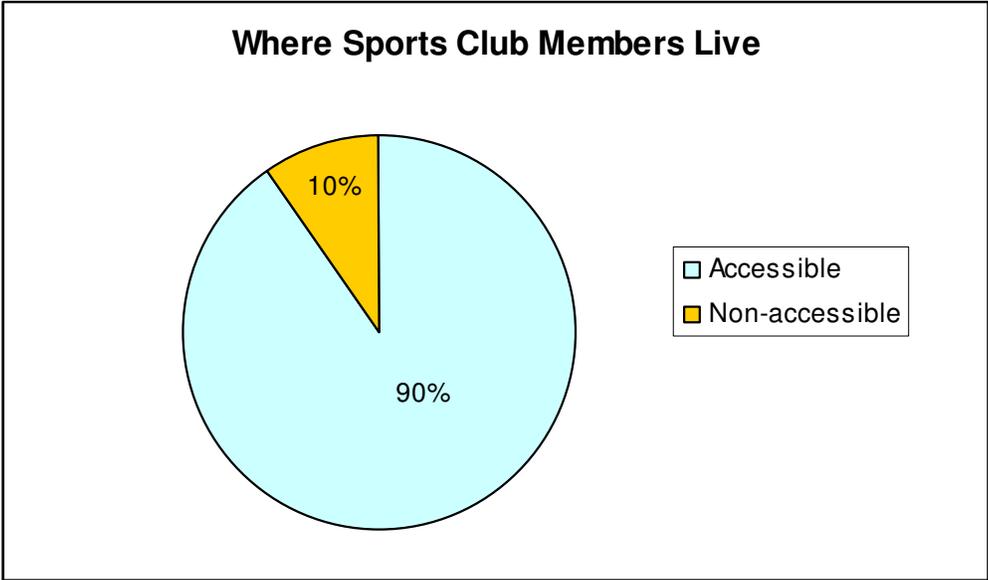
Source: Data from SOS 2003-6.

Figure 78 : Percentage of Sports Club Members Resident in Rural and Urban Areas

Sports Club Members Resident in Accessible or Remote Locations

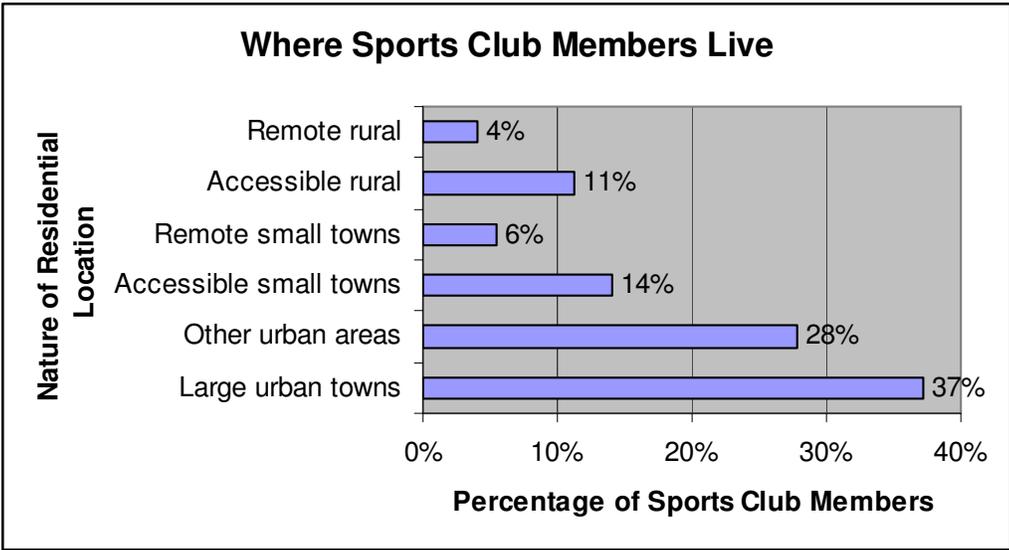
Sports club members are more likely to be resident in accessible than remote locations (Figure 79). When the rural urban classification is widened out into 6 categories, the majority of sports club members are resident in large urban towns and other urban areas (Figure 80). Again this is due to the concentration of the population in these types of areas. In fact some of the lowest rates of sports club membership as a percentage of the population were found in North and South Lanarkshire, which have a predominantly urban population. The highest rates of sports club membership for the population were found in Perth and Kinross, Moray, and Argyll and Bute where the population is mainly rural (Table 23 and Figure 66). Overall the significance of high per capita index for club membership in rural or less

accessible areas is less important than it would appear, as it makes up only a small proportion of total club membership.



Source: Data from SOS 2003-6.

Figure 79 : Percentage of Sports Club Members Resident in Remote and Accessible Locations



Source: Data from SOS 2003-6.

Figure 80 : Percentage of Sports Club Members Living in Different Residential Locations

Conclusion

There are regional variations in the sporting attribute of sports club membership in Scotland. The highest rates of sports club membership in the population are in Perth and Kinross, Moray, and Argyll and Bute. The lowest rates of sports club membership amongst the population are found mainly in West Central Scotland, in North and South Lanarkshire, North and East Ayrshire, and Glasgow City. Local authorities with around average index values are shown in green in Figure 81. Amongst sports participants the picture is a little more complex. Perth and Kinross and Renfrewshire have the highest rates of club membership in sports participants. Other areas present a contrast, for example Highland had a per capita index in the population of 1.13 (above average) but just 39.6% of participants are sports club members. This might be a reflection of quite high participation in sport, but low levels of club provision in a predominantly rural area.

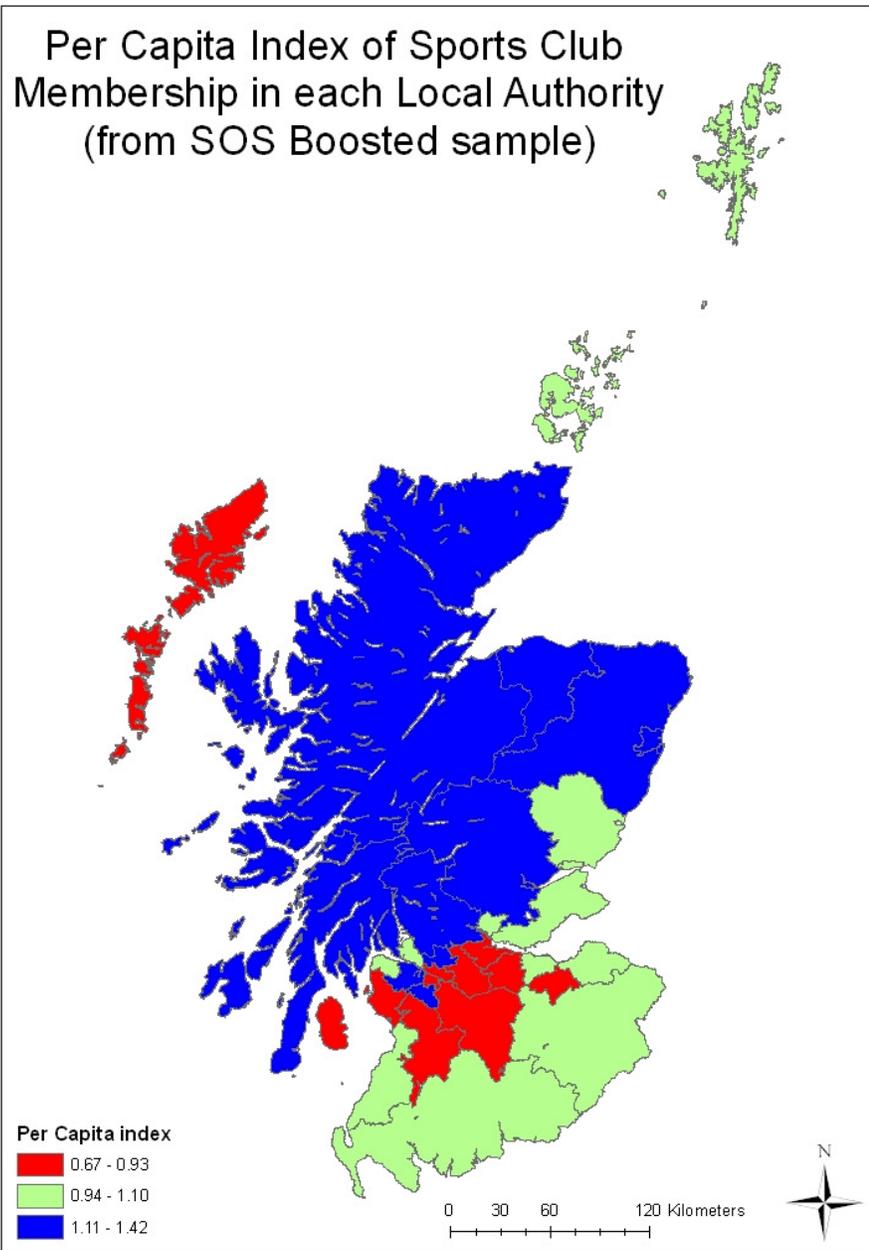
There are a number of factors that might influence the proportion of the population that are sports club members and some of these have been investigated. Those resident in the least deprived areas of Scotland are most likely to be sports club members. More men than women are sports club members, but this varies by local authority. In the Scottish Borders, 74% of sports club members are male. A higher proportion of sports club members live in the least deprived areas of Scotland than in those areas that are most multiply deprived. The majority of sports club members live in large urban towns and other urban areas. The explanations for the variations in sports club membership may lie in the demographics or tradition of each area, or in the facility provision of the area, or in a combination of a number of different factors acting both at scales smaller than measured (covering more than one local

authority) and at larger scales (at neighbourhood or datazone level). Qualitative research at a more local level may give insights into reasons for differences in the levels of club membership not evident when looking at the local authority scale. In addition research at the sports club level might identify qualities of sports clubs that might result in higher membership from different groups such as a club bar or crèche facility.

Knowledge about sports club membership has been increased by this study. In particular, highlighting areas where there are higher and lower levels of sports club membership is critical to national strategic planning for sport. The national plan for sport builds on Sport 21 Target 9 (sportscotland, 2003) and states

Clubs are central to our aspirations for sport. Building the capacity of sports clubs to recruit and develop their players is critical to sustaining participation, identifying talent and developing the player pathway (Scottish Government, 2007a).

Membership of sports clubs has been identified as one way of increasing the social capital of a community and individuals within it. Some of the very areas where there might be low levels of social capital have been shown to have the lowest rates of sports club membership. This may be no coincidence, but at present cause and effect cannot be separated. In the future if any local or national policies are to be put forward to support sports clubs, methods must be in place to identify areas of strength and weakness and to measure any improvements that might be achieved. This research is a first step.



Source: Data from SOS 2003-6

Figure 81 : Per Capita Index of Sports Club Membership: Highlighting Areas of very high sports club membership and those of very low sports club membership in the population

5.4 Regional Variation in Sports Volunteering

Are there regions of emphasis for volunteering and sports volunteering (by LA area)?

A number of different questions were asked to find out about the nature, intensity and distribution of sports volunteering in Scotland.

Is there a Difference between the Proportion of People Volunteering in Sport in the Population of each Local Authority in Scotland.

Previous Research

Previous research has not found specific regional information about sports volunteering, only volunteering as a whole.

Data from SOS boosted sample 2003-6

Weighted count data obtained from SOS survey were entered into SPSS. A crosstabs analysis using X^2 was conducted (see Table 45, Appendix 13).

The observed test statistics were: $X^2=432.167$, $df=31$, $p<0.001$

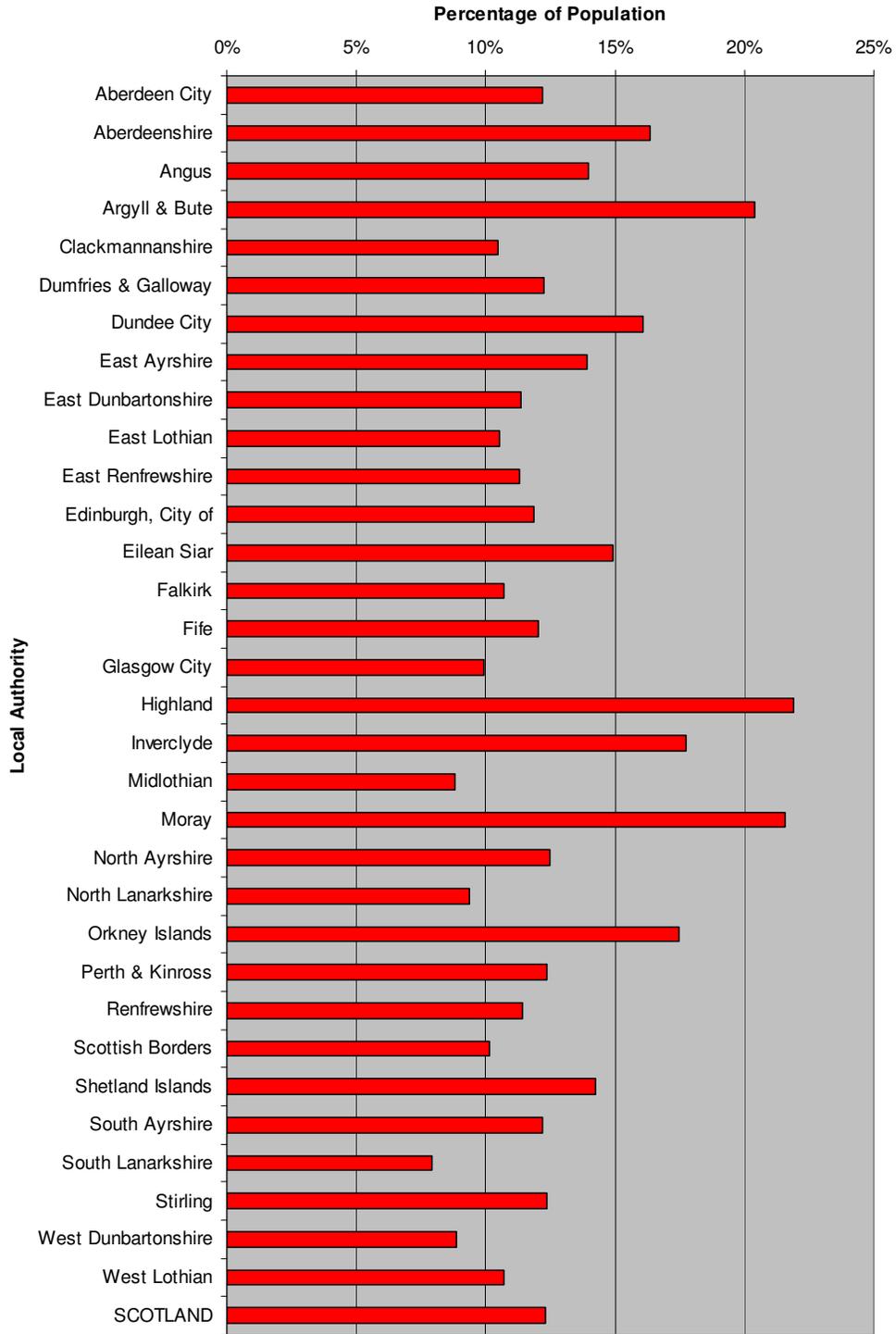
This indicates that there is a significant difference ($p<0.001$) between the numbers of sports volunteers in different Local Authorities.

Findings

There is a significant difference between percentages of the population that volunteer in sport in different local authorities (Figure 82). The highest rates of sports volunteering are in Orkney, Highland, Moray and Argyll and Bute. This is shown in Figure 84. The lowest rates of sports volunteering are shown in red.

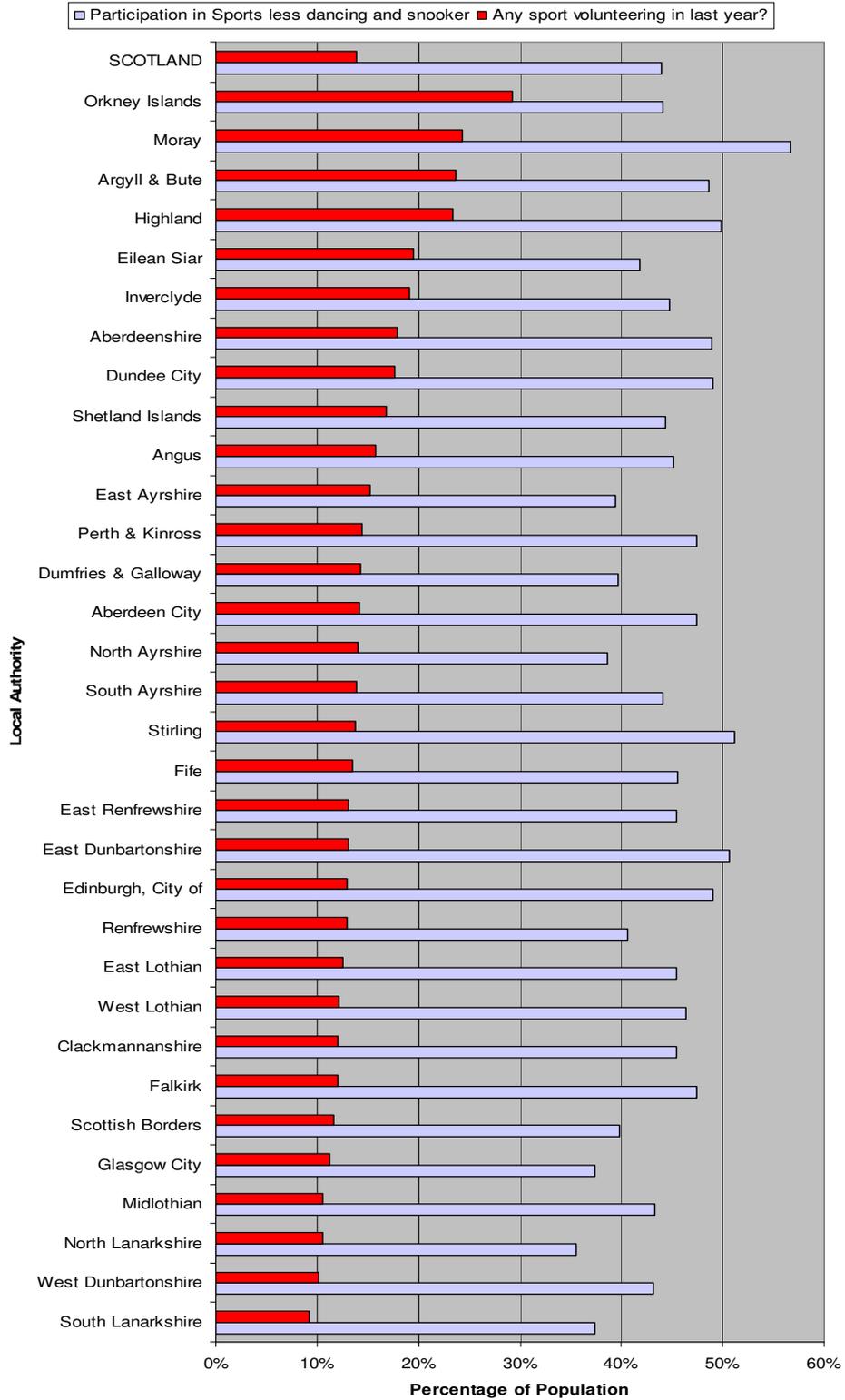
Analysis of Findings

The levels of sports volunteering are not dependant on levels of participation in sport (Figure 83). The local authorities with highest levels of sports volunteering were rural. This is investigated further later in the section. Many of those with lowest rates of sports volunteering had higher levels of deprivation – this is also considered later in the section.



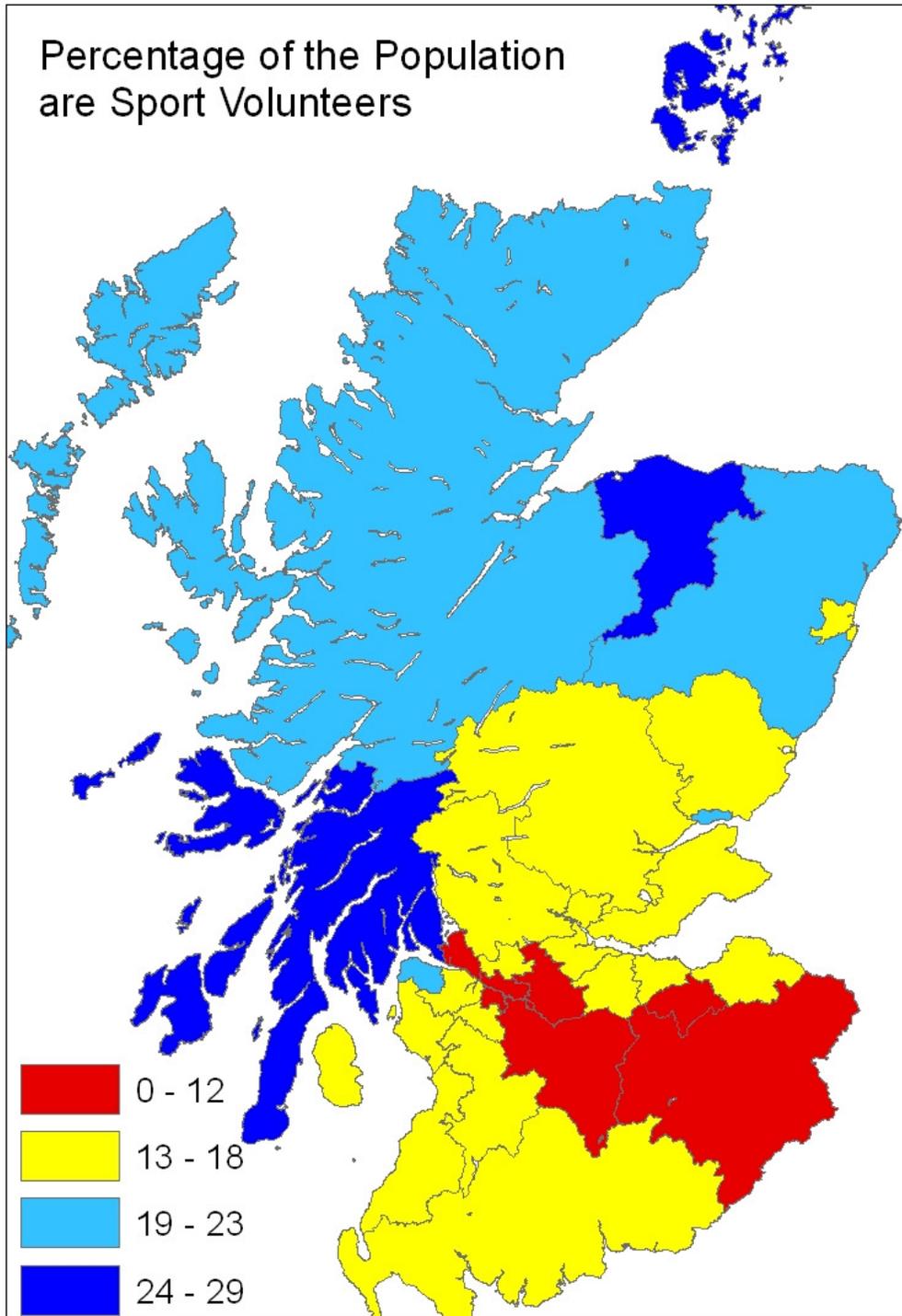
Source: Data from SOS 2003-6

Figure 82 : Percentage of Population that are Sports Volunteers by Local Authority



Source: Data from SOS 2003-6

Figure 83 : Percentage of Sports Volunteers in the Population alongside Rate of Participation in Sport by Local Authority



Source: Data from SOS 2003-6

Figure 84 : Percentage of the Population that are Sports Volunteers

Is there a difference between rates of (all) volunteering in different Local Authorities?

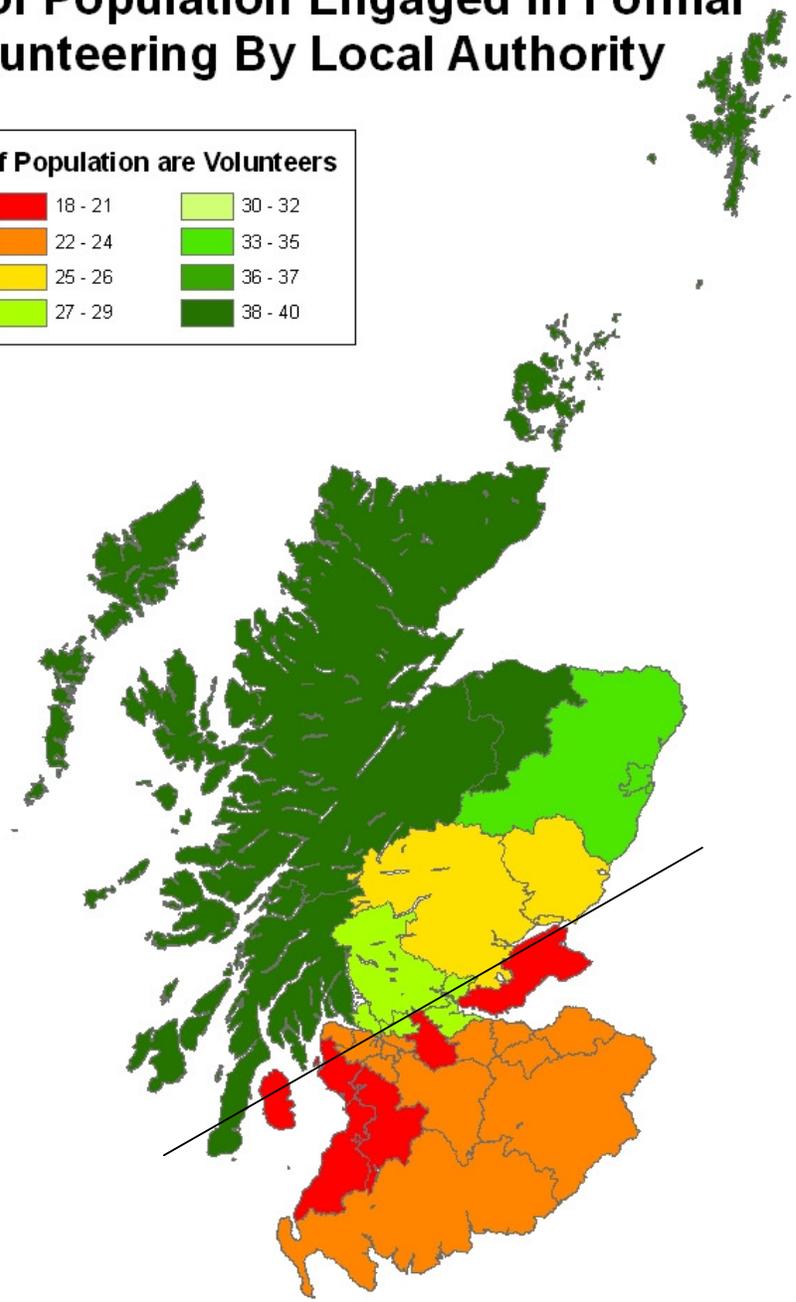
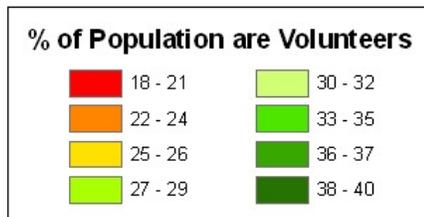
Previous Research

There has been an attempt to consider the regional variations in volunteering in Scotland, and in 2002 the highest rates of volunteering were found in the north of Scotland and Edinburgh (Volunteer Development Scotland Research Team, 2003). As outlined earlier, the highest rates of formal volunteering were found in the north, and the lowest in the south/east of Scotland (sport volunteering is more likely to be formal than informal). Numbers included in surveys have not been high enough to look at smaller regions. There is no information about levels of volunteering by local authority.

Data from Volunteer Development Scotland Research Team (2007b)

Data from Volunteer Development Scotland Research Team (2007b) was mapped using ARC GIS (Figure 85) and shows the level of formal volunteering in the population of grouped local authorities – there was not enough data for all local authorities to have an individual value. A line across Scotland running from East to West appears to split the country into two parts. When the data is shown with the North – South dividing line as a factor (Table 46, Appendix 14) SPSS analysis can then be applied to determine whether the divide is significant at the 95% confidence level. An Independent T-Test was carried out on the data and the results are shown in Table 47(Appendix 15). There is a difference between the volunteering rates in the north and the south of Scotland that is significant at the 95% confidence level.

% of Population Engaged in Formal Volunteering By Local Authority



Source: Scottish Household Survey 2006 (data from Volunteer Development Scotland Research Team, 2007b)

Figure 85 : Formal Volunteering by Local Authority Grouping

Data from SOS Boosted Sample (2003-6)

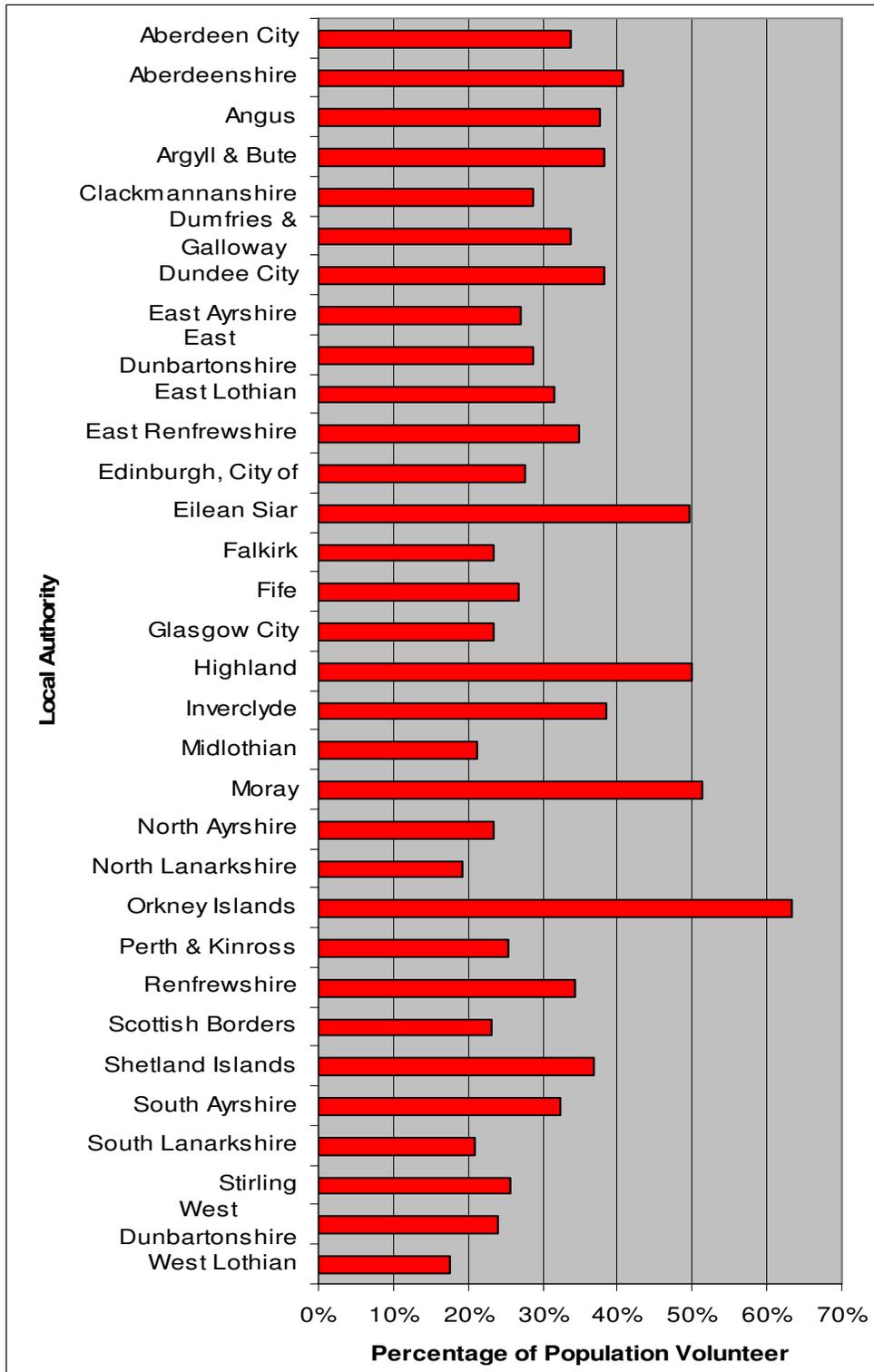
Weighted count data obtained from SOS survey were entered into SPSS. A crosstabs analysis using X^2 was conducted (see Table 48, 0).

The observed test statistics were:

$$X^2=998.825, df=31, p<0.001$$

This indicates that there is a significant difference between the numbers of (all) volunteers in different local authorities.

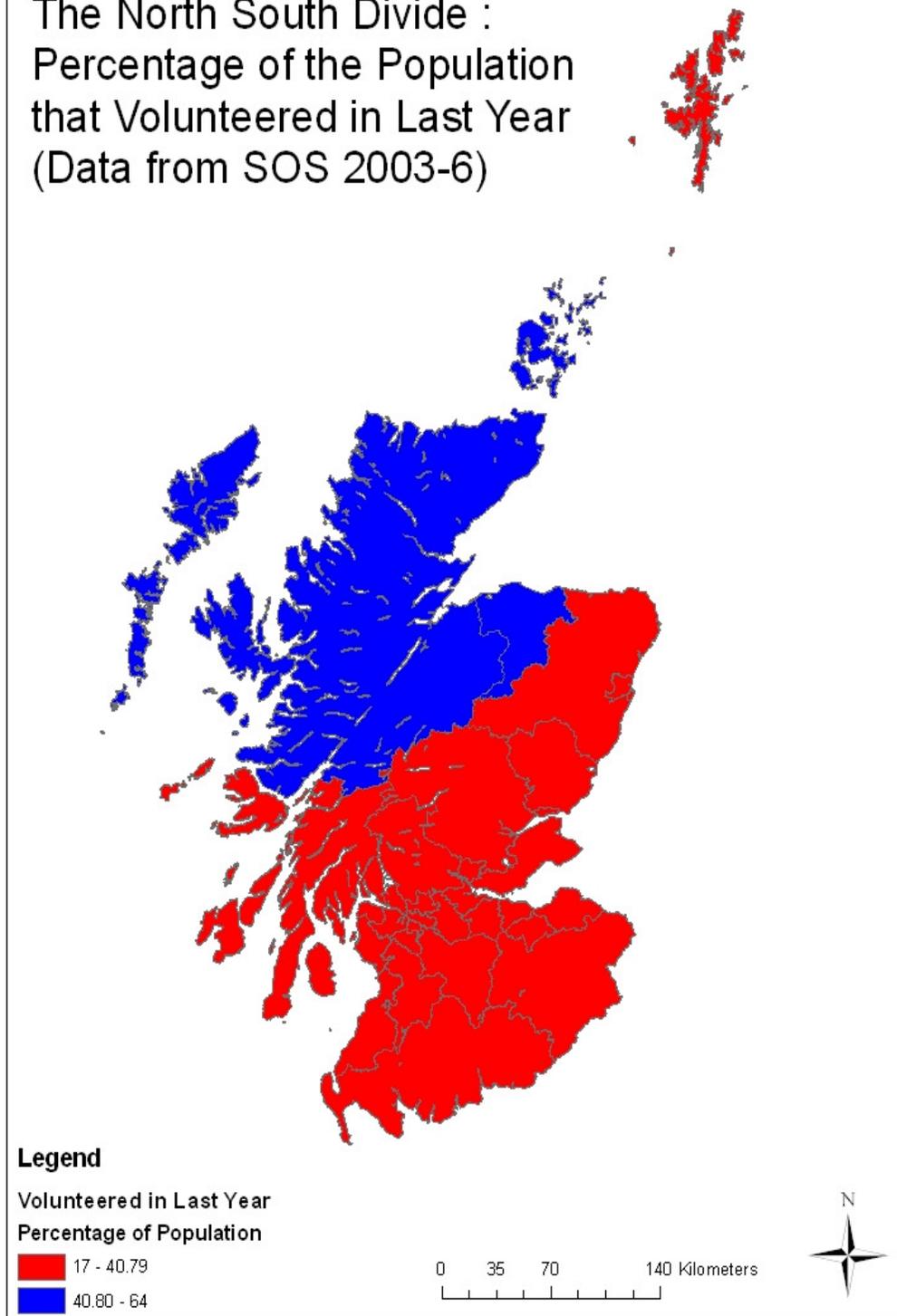
There is a strong geographical trend showing much higher levels of volunteering in rural and island communities. The highest rates of volunteering are found in Orkney, Eilean Siar, Highland, and Moray (Figure 86). The lowest rates of volunteering are found in West Lothian and North Lanarkshire. When the results are mapped in a clear dividing line can be seen between the north and south of the country which is similar to Figure 85 where a north south divide is evident in formal volunteering (with data already grouped).



Source: Data from SOS 2003-6.

Figure 86 : Percentage of Population that Volunteered in Last Year

The North South Divide :
Percentage of the Population
that Volunteered in Last Year
(Data from SOS 2003-6)



Source: Data from SOS 2003-6.

Figure 87 : Geographical Areas where Rates of Volunteering are High and Low

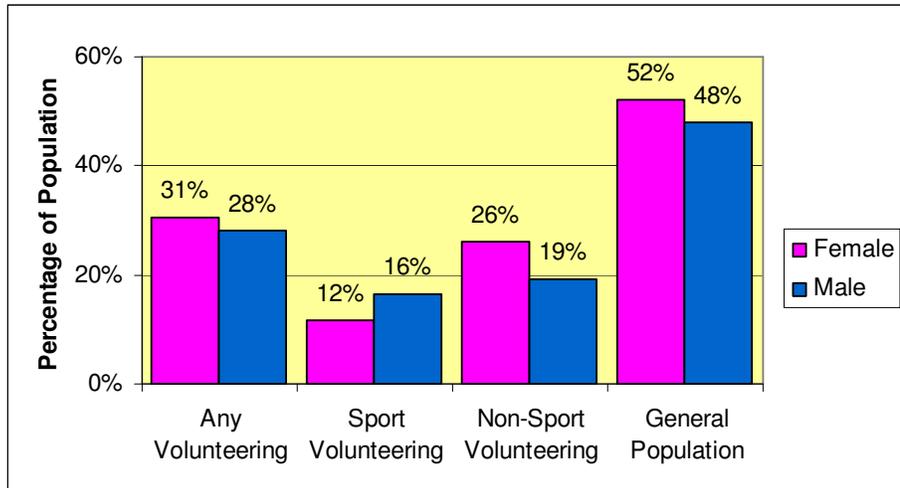
Findings

There was a significant difference between rates of volunteering in different local authorities (from SOS boosted sample data). Figure 85 and Figure 87 show a North – South divide in the volunteering rates where those LA groupings in the north have significantly higher rates of volunteering in the population compared to those in the south. Findings from grouped data (Volunteer Development Scotland Research Team, 2007b) and for each local authority (SOS 2003-6) showed the same north-south divide. Factors that might influence the percentage of the population that volunteer are investigated later, such as deprivation, accessibility and rural/urban location.

Is there a Gender Difference in the Population who volunteer (in sport and all volunteers)

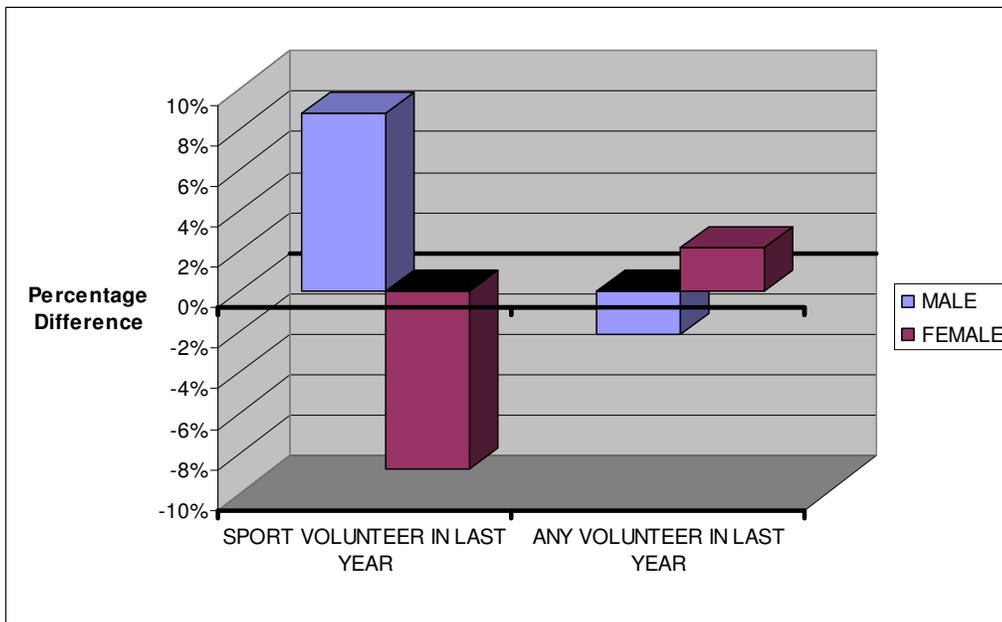
The similarities between the picture of all volunteering, sport volunteering and non-sport volunteering have up till now been very striking. Difference between males and females in relation to volunteering, sport volunteering and non-sport volunteering are evident. Figure 88 shows that the data collected on any volunteering is broadly similar to that in previous research and women are more likely to volunteer than men. However when it comes to volunteering in sport, the majority of volunteers are men. The difference between any volunteering and sport volunteering is 10%. The percentage of sports volunteers that are men (56.74%) is more than 10% higher than the percentage of all volunteers that are men (45.82%). Figure 89 shows this with the general population percentages being the base line of 0 and the differences between that base line and the volunteer populations shown. Figure 90 shows the percentage of the population that volunteered in sport in the last

year by sex and local authority. The proportion of male and female volunteers in sport is not the same in each local authority and there are quite large variations. In all but one local authority the percentage of the male population volunteering in sport is higher than the percentage of the female population. In Clackmannanshire, the level of sports volunteering amongst men is 10.08% and 10.85% of women volunteer in sport. This particularly illustrates a problem with the data set. As the error margins are +/- 3% it is not possible to be sure that there is a difference between the levels of male and female volunteering in Clackmannanshire. The difference between sport and non-sport volunteering rates in the population can be seen through the percentage of female volunteers. In Figure 91 the map illustrates the differences between the percentages of the female population that volunteer in sport and those that are non-sport volunteers. For example the local authorities coloured in dark blue, Moray, Orkney and Eilean Siar have the biggest difference between the percentage of females involved in non-sport and sport volunteering (25% - 30% difference). In contrast, local authorities shown in red, West Lothian, Scottish Borders, North Ayrshire and Perth & Kinross have very similar rates of volunteering in sport and non-sport activities (6-8% difference). This might be linked to low levels of overall volunteering (West Lothian, Scottish Borders) or more similar volunteer profiles for males and females (Perth and Kinross). Explanations for the variations in non-sport and sport volunteering amongst the female population might include factors such as levels of participation in sport and sports club membership, as well as demographics of the local authority and traditions of volunteering and sport.



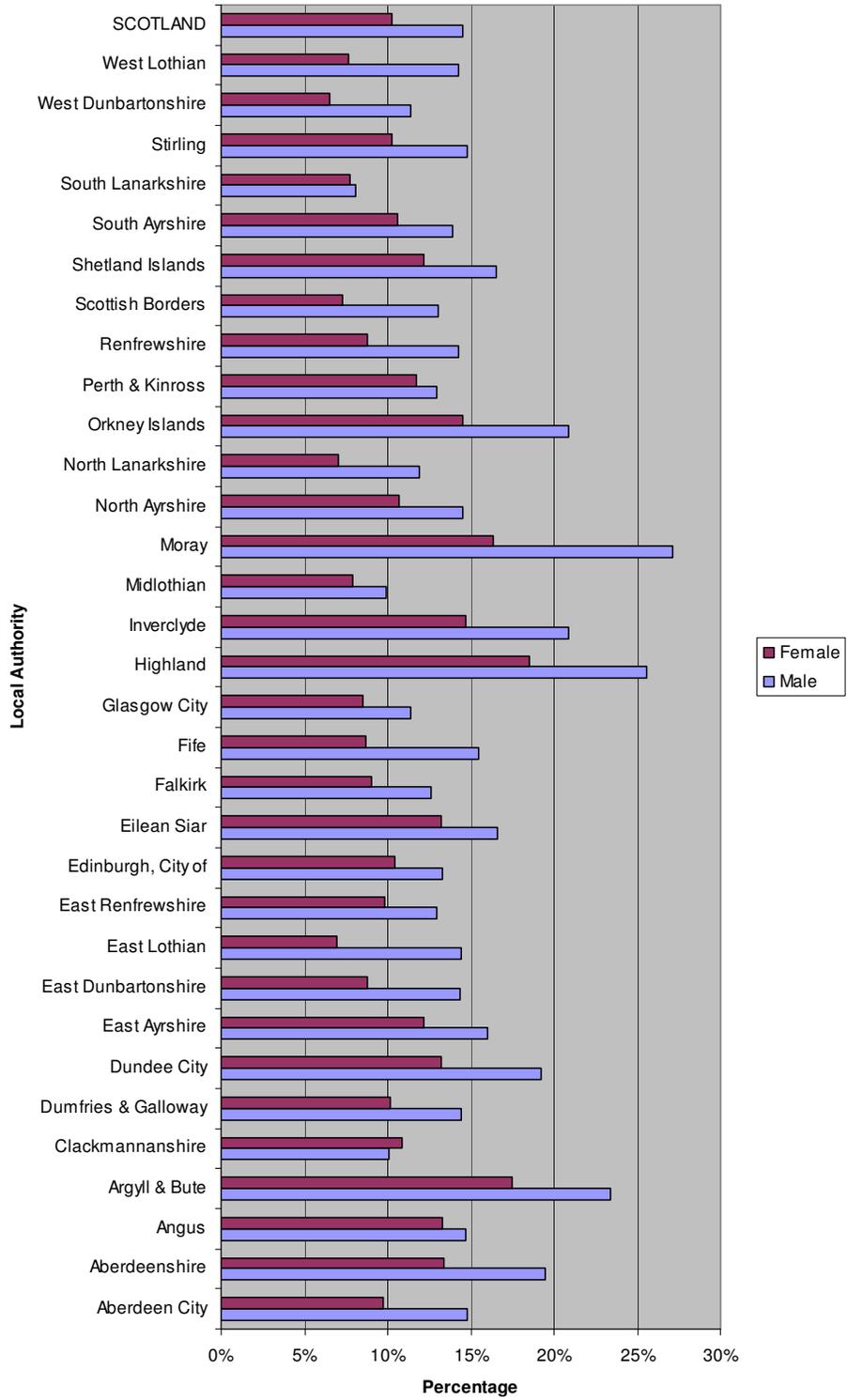
Source: Data from SOS 2003-6.

Figure 88 : Volunteer Workforce in Scotland: Male and Female Percentages Compared between Any Volunteering, Sport Volunteering, Non-Sport Volunteering, and the General Population



Source: Data from SOS 2003-6.

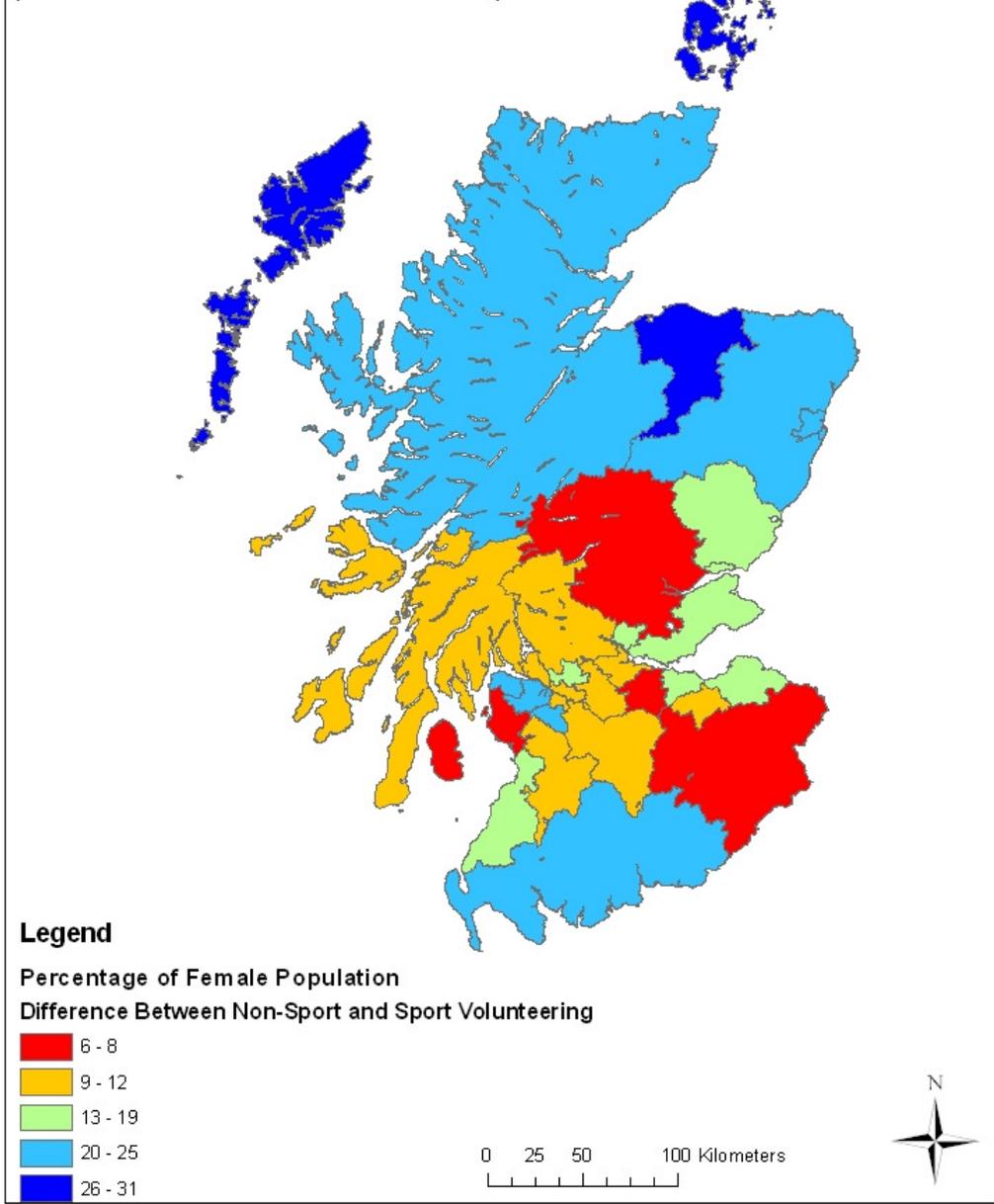
Figure 89 : Variations between Male and Female Percentage in the Sport Volunteer and Any Volunteer Workforce and the General Population



Source: Data from SOS 2003-6.

Figure 90 : Percentages of the Population of Males and Females that Volunteered in Sport in the last year in each Local Authority

Difference in Percentage of Female Population Involved in Sport Volunteering and Non-Sport Volunteering (Data from SOS 2003-6)



Source: Data from SOS 2003-6.

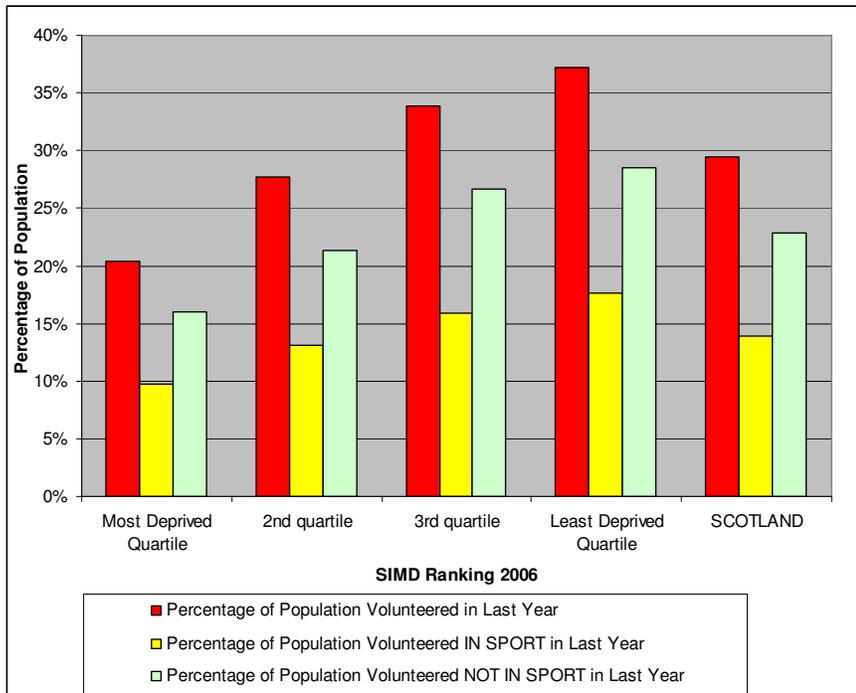
Figure 91 : The Difference in Percentage of Female Population that are Volunteers in Sport and Non-Sport Volunteers in each Local Authority

Are there other Regional Variations in Rates of Volunteering and Sports Volunteering in Scotland

Sports Volunteering and SIMD

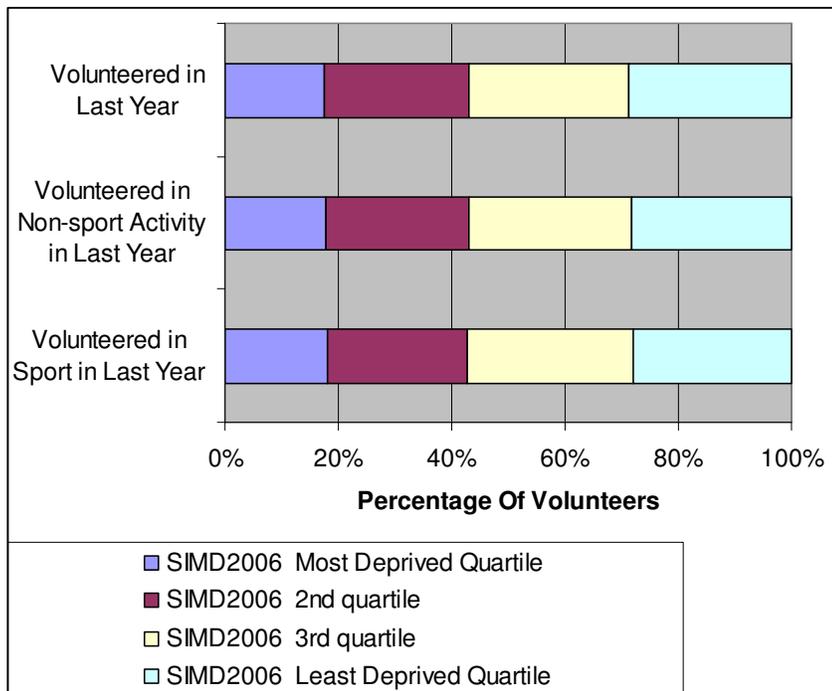
Those that are resident in the least deprived areas of Scotland are more likely to be involved in sports volunteering and in volunteering more generally than those in more deprived areas (bottom two SIMD quartiles). Figure 92 shows the percentage of the population resident in the particular SIMD quartile that were sports volunteers, non-sport volunteers and volunteers in either sport or non-sport activities in the past year.

Those involved in sport volunteering in the past year are most likely to have been resident in the two least deprived SIMD quartiles (despite their lower populations). And it can be seen in Figure 93 that the percentage of volunteers resident in particular SIMD quartiles is constant across all types of volunteering.



Source: Data from SOS 2003-6.

Figure 92 : Percentage of Population involved in Volunteering and Sport Volunteering and Measures of Deprivation in Scotland

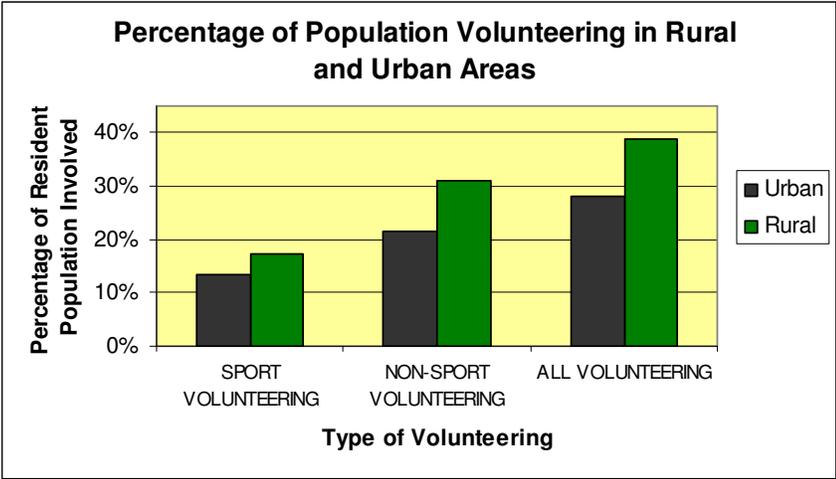


Source: Data from SOS 2003-6.

Figure 93 : Contribution to Volunteer Workforce from Different SIMD Quartiles

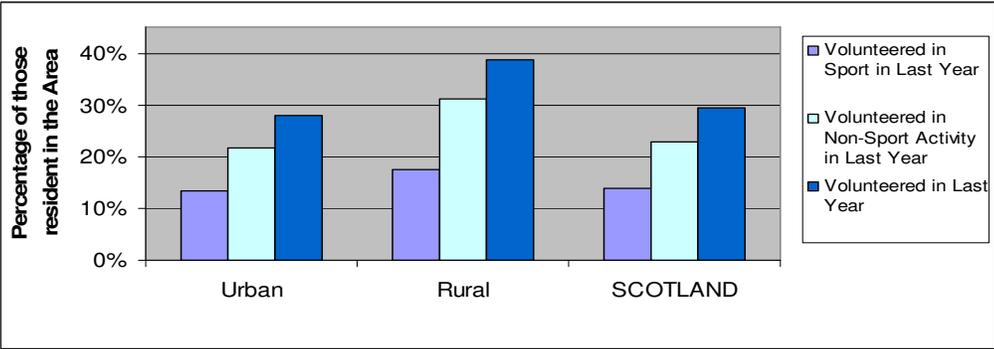
Volunteers in Rural and Urban Areas

Those resident in rural areas are more likely to be volunteers and sports volunteers than those resident in urban areas (Figure 94 and Figure 95). However the overall absolute contribution to all types of volunteering in Scotland made by those from rural areas is much smaller than that of those in urban areas where the population is much higher and the percentage of volunteers from rural and urban areas is approximately the same for sport and non-sport volunteering (Figure 96).



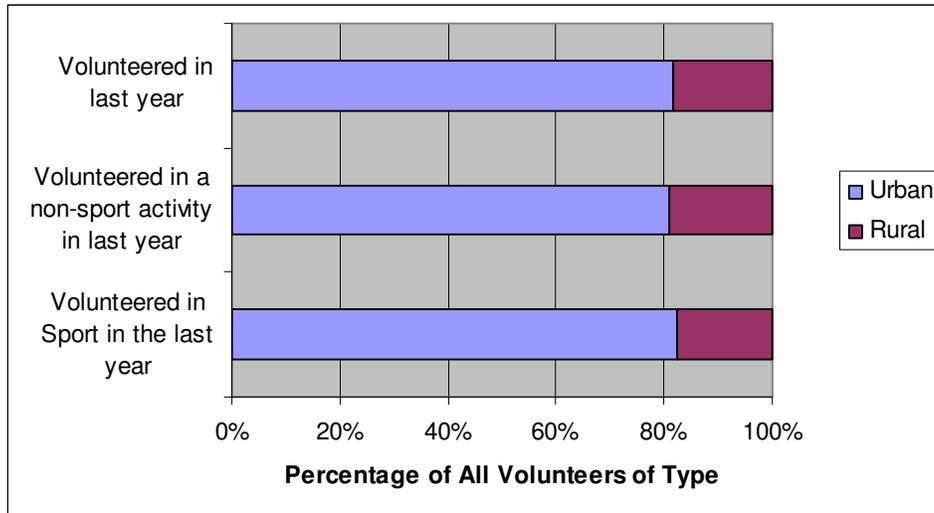
Source: Data from SOS 2003-6.

Figure 94 : Percentage of Population Volunteering in Rural and Urban Areas



Source: Data from SOS 2003-6.

Figure 95 : Percentage of those Resident in Rural or Urban Area Volunteered in Last Year

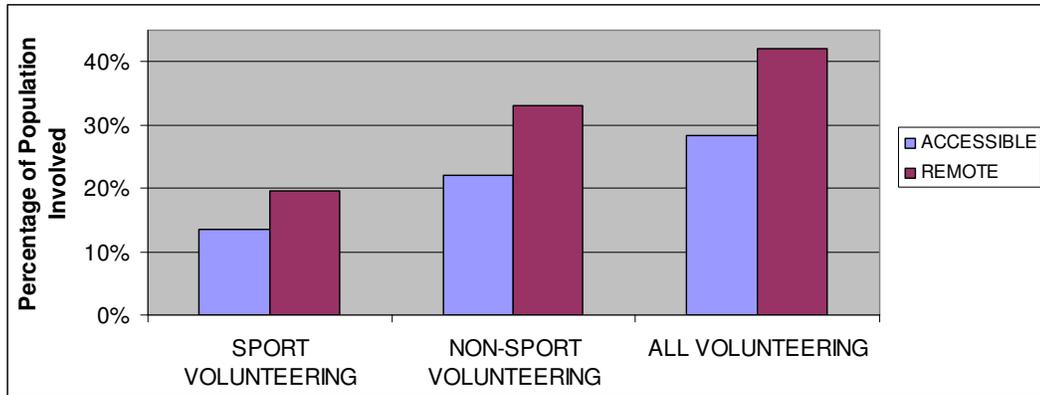


Source: Data from SOS 2003-6.

Figure 96 : Percentage of Volunteers from Rural and Urban Populations

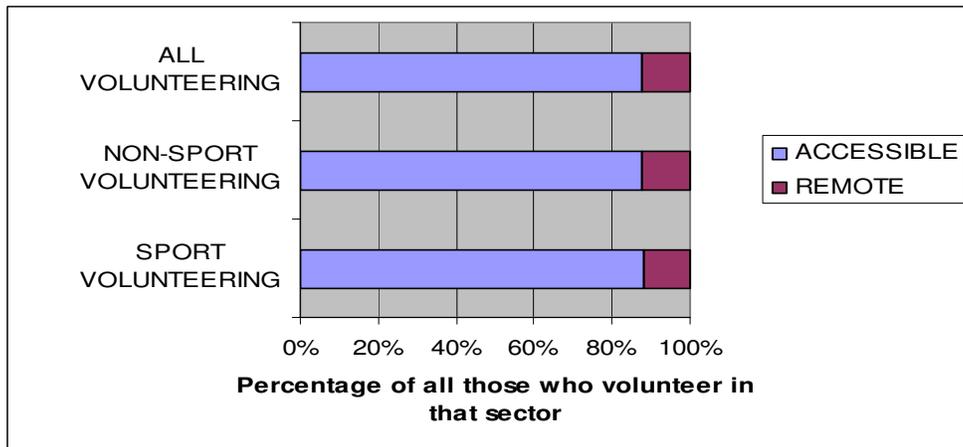
Volunteers from Accessible or Remote Locations

Those resident in remote locations are more likely to volunteer (both in sport and non-sport activities) than those resident in accessible locations (Figure 97). However the contribution of those in remote areas is similar through both sport and non-sport volunteering (Figure 98). When the rural urban classification is widened out into 6 categories, it is the remote rural areas that show the highest rates of volunteering amongst the resident population (both in sport volunteering and all volunteering) as can be seen in Figure 99 and Figure 100. But although the volunteering rate in the population in remote rural areas is the highest, when the contribution of volunteers from those remote rural areas is considered in relation to all of those who volunteer, those in remote rural areas make up only approximately 6% of the volunteer workforce (Figure 101). Volunteering may be more important amongst the people living in these remote rural areas, but changes in this section of the volunteer workforce would have minimal impact on volunteering in Scotland as a whole.



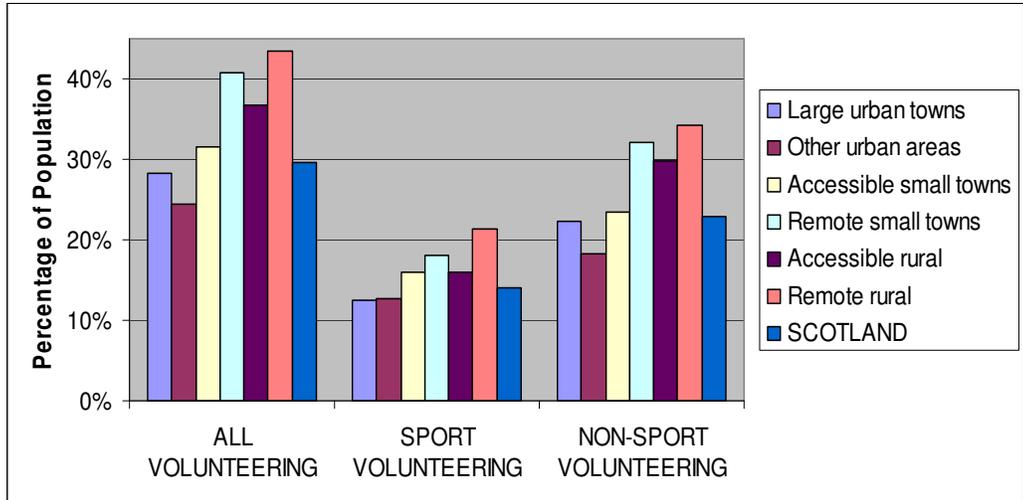
Source: Data from SOS 2003-6.

Figure 97 : Percentage of the Population involved in Volunteering in Remote and Accessible Locations



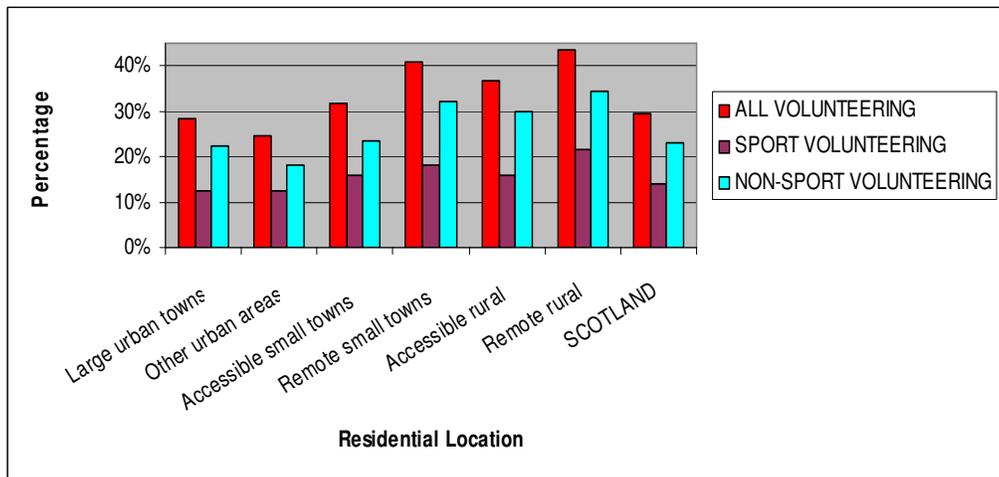
Source: Data from SOS 2003-6.

Figure 98 : Contribution of those Resident in Remote and Accessible Locations to Volunteering Workforce



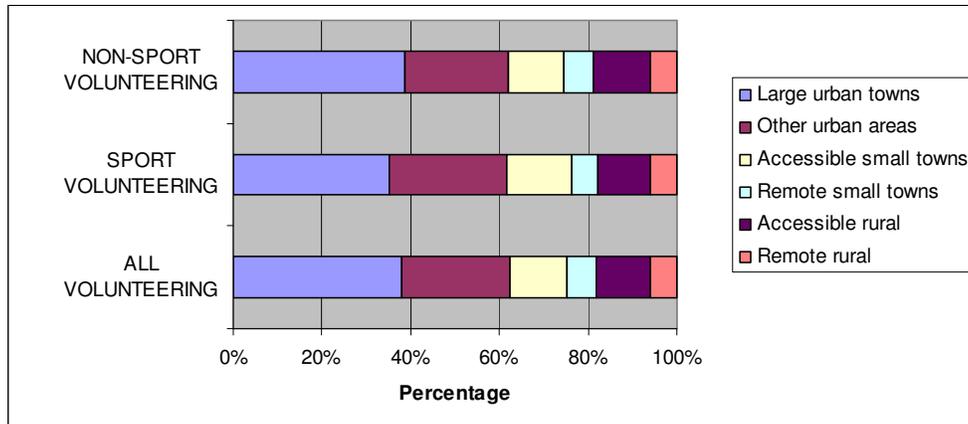
Source : Data from SOS 2003-6.

Figure 99 : Percentage of the Population Resident in Different Location Types involved in Volunteering



Source : Data from SOS 2003-6.

Figure 100 : Percentage of the Population involved in Volunteering for Different Residential Locations



Source : Data from SOS 2003-6

Figure 101 : Percentage of All Volunteers from Different Residential Locations

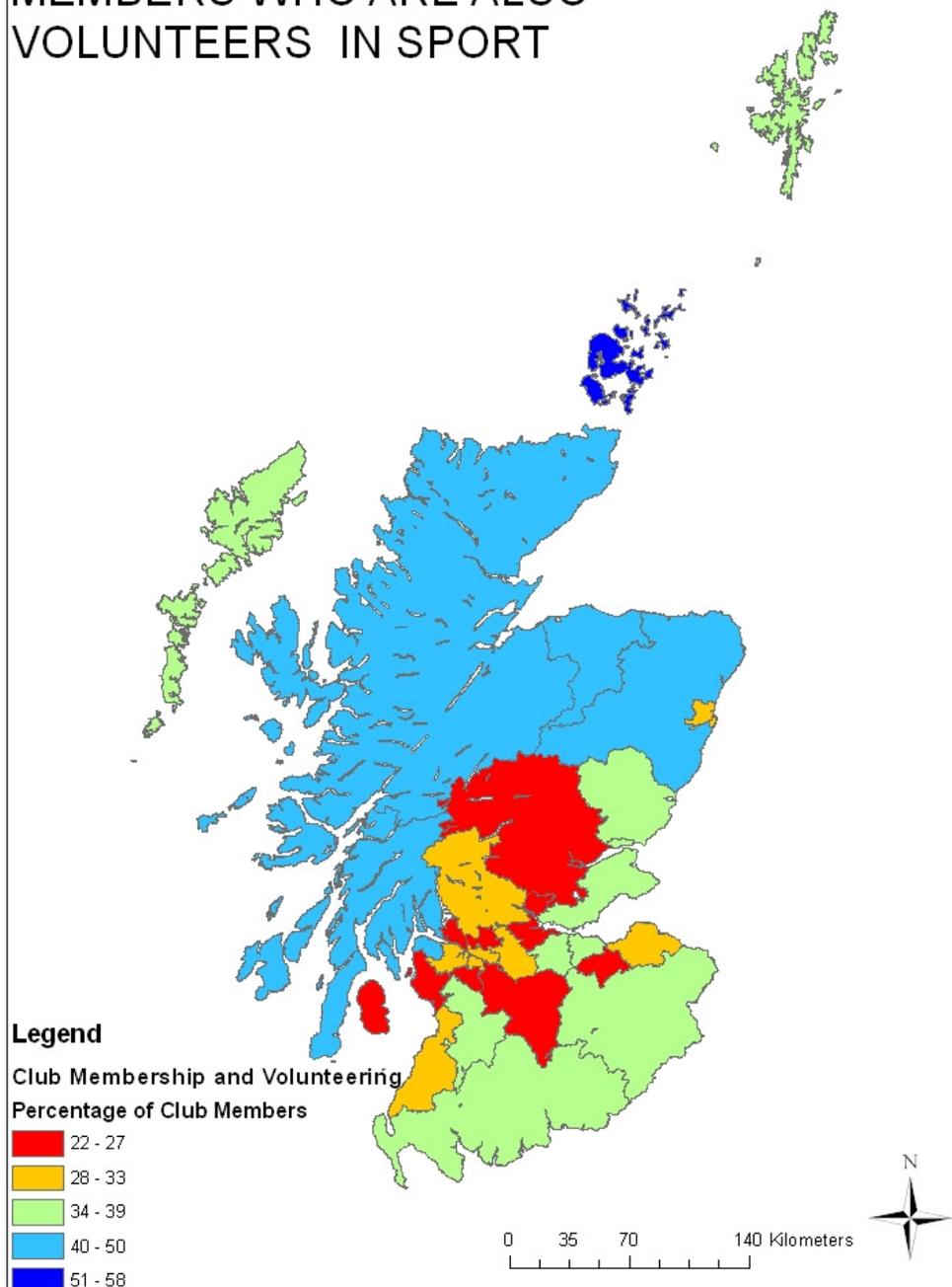
Sports Volunteering Amongst Sports Club Members

Nichols & Shepherd (2006) looked at the proportion of club members who volunteer, but considered this for the whole of Wales (by characteristics such as sex and age) and not by area. There has been no research on this in Scotland.

Findings

There is regional variation in the proportion of sports club members that are volunteers (Figure 137, Appendix 19). The pattern of geographical variation is shown in Figure 102. Some of that pattern is derived from interaction between the other factors mapped earlier such as the rates of participation in sport and rates of sports club membership in the population and demographic influences on both sports club membership and volunteering. There appear to be three approximately geographical groups, the north and Orkney, the central section and the south. Orkney has by far the greatest proportion of sports club members volunteering in sport. Perth and Kinross, the local authority with the highest rate of sports club membership amongst sports participants has one of the lowest rates of volunteering amongst sports club members.

PERCENTAGE OF SPORTS CLUB MEMBERS WHO ARE ALSO VOLUNTEERS IN SPORT



Source: SOS Data 2003-6

Figure 102 : Percentage of Sports Club Members that are Sports Volunteers by Local Authority

Conclusion

There are regional variations in the percentages of the population involved in volunteering and sports volunteering by local authority. The highest rates of sports volunteering are in Orkney, Highland, Moray, and Argyll and Bute. A broadly north – south divide was found where those living in the north were more likely to be volunteers (and sports volunteers) than those living in the south. There are a number of factors that might influence the proportion of the population volunteering and some of these have been investigated. Those resident in the least deprived areas of Scotland are most likely to volunteer and to volunteer in sport. More women than men volunteer, but more men than women volunteer in sport. People resident in remote rural communities are most likely to volunteer in sport, but the biggest absolute contribution to sports volunteering in Scotland comes from urban populations, specifically large urban towns. The characteristics of those members of sports clubs who volunteer in sport could be of interest. Nichols & Shepherd (2006) noted the potential for data collected in the SOS 2003-4 boosted sample to be used to understand more about this specific group of volunteers. In this study, the geographical spread of these has been illustrated, but much more work could be done on the data set to find out more about this crucial part of the sports workforce.

Knowledge about sports volunteering has been increased by this study. In particular, highlighting areas where there are higher and lower levels of sports volunteering is critical to national strategic planning for volunteers. The national plan for sport builds on Sport 21 Target 10 (sportscotland, 2003) and includes “promoting volunteering” as part of its vision (Scottish Government, 2007a, p12). In order to put any local or national policies forward to encourage volunteers, methods must be in

place to identify areas of strength and weakness and to measure any improvements that might be achieved. This research is the first step.

5.5 The Regional Scale

One of the barriers to increasing participation in sport in Scotland is identified as

“A lack of clubs and volunteers to generate sporting opportunities in communities” (Scottish Government, 2007a, p21)

Identifying and explaining regional variation in sporting attributes illustrates part of the conceptual framework for analysis (see Figure 58). A descriptive analysis of the nature, intensity and distribution of sports club membership and sports volunteering in Scotland has taken knowledge about sports club membership and sports volunteering past what was known before and will provide useful information for future policy making. The use of mapping of data in order to identify difference has been an effective analysis tool and could be applied to any sporting attribute.

Secondary analysis of the various data sources has shown that there are regional variations in sporting attributes in Scotland. These have been considered at the local authority and in some cases at a larger area level. Identifying these regional variations is important as national policy could be improved by tailoring it to the local situation. Understanding and explaining these regional variations is required to enable either good practices to be identified or underlying causes to be addressed. The sport 21 targets were mentioned in relation to sports volunteers and sports club members, but it is clear that local circumstances often impact on attributes of a region and need to be considered.

Devolution, or the concentration of decision-making in the local area to which the decision relates, is an accepted policy in government. In the UK, the Scottish Government has responsibility for certain aspects of policy such as education, culture and sport, while the Westminster Parliament legislates on matters relating to the whole UK like defence and immigration. Similarly within Scotland Local Authorities allocate spending and prioritise on aspects of their responsibilities such as housing and education, social services and waste management. The principle of local responsibility and local accountability has been accepted. However sport appears to have been slow to recognise the devolution of power. Organisations such as sportscotland have worked in partnership with local authorities to deliver national policies, but rarely have they identified a specific need linked to a specific geographical area. Setting of national targets and national priorities in sport is an example of this. Highlighting the differences between local authorities is the first step to addressing these differences through adapting policies and prioritising differently in different places. The sports geographical approach has begun this process and it is critical that this continues. As mentioned in the introduction, studying regional variation depends very much on the scale. On a UK scale, Scotland is a region and variation in the UK could have highlighted Scotland as a region different to for example Wales. On a Scottish scale, local authorities are a convenient way to classify and measure phenomena and it is at this scale that reactions to the findings can be policies put in place locally. However phenomena being measured may not follow the same boundaries as local authorities, or even countries. There may be regional variation within areas that have not been studied, perhaps taking the north east coast or the Clyde Valley as boundaries.

There are regional variations in the two sporting attributes of sports club membership and sports volunteering. Some of the differences have been mapped and presented in this case study. Pacione (1995) presented a case for analysing the nature, intensity and distribution of an attribute, but did so at a number of different scales. He did this through mapping rural deprivation in Scotland at a regional level, but also considering a local example. This was an effective method. While explanations for the variations in sports club membership and sports volunteering can be sought in other survey data, or example in relation to demographics of the population, further in-depth study is required to fully understand the local situation in each local authority. In fact at each scale of research there might be different factors of importance discovered. The following chapter considers one local sportscape in greater depth.

Chapter 6 : CASE STUDY 3 : THE LOCAL SCALE

In order to illustrate the geographical analysis of sport at a local scale, one place, Linlithgow Tennis Club has been selected for study. Tennis participation and tennis club membership were too low to be considered at the local authority level as for all sports club members in case study 2. However Tennis Scotland (2006) presented information about membership of every affiliated tennis club in each District in 2005 as part of their annual subscription collection process.

The landscape of Scottish tennis is being used as an example to illustrate the wider landscape of Scottish sport. The very small scale of one individual tennis club is the main focus of this chapter. However, the context within which this tennis club is set, both geographically and in terms of the Scottish tennis landscape, is very important.

The framework for geographical analysis of sport (Figure 10) allows the understanding of place at a local level to be seen as as important as the understanding of sport on a national level. In this section, sport at a local level, or sportscape, will be used to illustrate the application of the framework for increasing knowledge of sport, place and society. Figure 103 shows the local part of the framework, with the focus highlighted in red.

One of the key themes of sports geography is that of “geographical variation in sporting attributes” (Bale, 2000, p171). A hotspot is defined as a place of significant activity or danger (Soanes & Stevenson, 2005). This chapter identifies Linlithgow Tennis Club as a place of significant activity and a local tennis hotspot in Scotland. Some characteristics of the club members, of the tennis club and of the Linlithgow

area are analysed to justify why Linlithgow can be regarded as a tennis hotspot in Scotland.

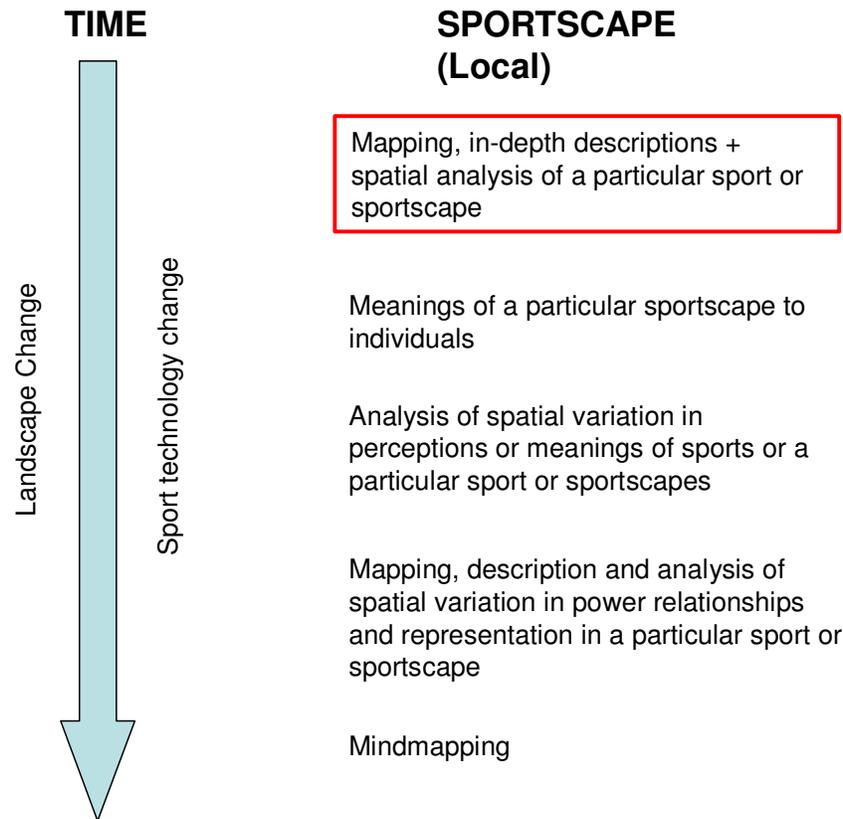


Figure 103 : Local Sportscape from the New Conceptual Framework for the Geographical Analysis of Sport

6.1 Methodology and Methods Specific to the Case Study

Secondary Data Sources

Secondary data were utilised from a number of sources, for example neighbourhood statistics (Flowerdew, Graham, & Feng, 2004), UK census 2001 (Scottish Government, 2007b), Tennis Scotland club membership data, EDINA postcode and OS mapping data. Internet searches were carried out for relevant documents such as

Local Authority planning documents. Permission was obtained from Linlithgow Tennis Club Committee to make use of the club membership database (with names of members removed). This was then analysed. From the data, per capita indices of, for example club membership and population were calculated. In addition the census and neighbourhood statistics data were combined with the members' postcode data to produce a map of Scottish Index of Multiple Deprivation (SIMD) and club membership. Methods of assessing and evaluating secondary sources were outlined in case study 2.

Observation and Photographs

Fieldwork was carried out visiting all tennis clubs in central district to check facilities and location and to photograph. Other possible tennis sites in the vicinity of Linlithgow were also visited and information gathered about these alternative tennis venues using maps and also observation. Key informants were asked to confirm that all alternatives had been visited. Observations were made and recorded in a fieldwork notebook either at the time or immediately afterwards.

Data Handling

All data were held securely. Postcodes of members were entered into a database and plotted using ARCGIS. Distances from each postcode to Linlithgow Tennis Club were obtained from AA route planner and entered into a database and plotted on a graph. AA route planner was used to represent realistic travel options. Membership information about age and address was used to plot the make-up of each household. In addition the quality of data was evaluated and triangulation carried out where possible.

Semi-structured Interviews

The interview is a research method involving face-to-face contact between the researcher and the participant. The conversation between the researcher and participant forms the basis of the interview and the form of that conversation is determined by the researcher depending on their research design. There is a continuum from structured interviews where the interviewer follows a (their own) pre-set questioning pattern and does not deviate from it, to an unstructured interview where the participant determines the direction of the conversation and the interviewer simply goes with the flow. Somewhere along that continuum sits the semi-structured interview where the interviewer has “some degree of predetermined order but still ensures flexibility in the way issues are addressed by the informant” (Longhurst, 2003, p118). The semi-structured interview invites a response to open questions in the informants own words as well as some direction from the participant. The semi-structured interview can either stand alone as a method of research in its own right, or as a supplement to other methods used, or as part of the triangulation process in multi-methods research.

Longhurst suggests a 5-step process that should be in place around semi-structured interviews:

formulate schedule of questions ; consider ethical issues / power relations ; select and recruit participants ; choose location” ; (carry out interview) ; transcribe data (Longhurst, 2003, p119)

In formulating the question schedule, the order of the questions was flexible to allow the conversation to flow. Longhurst suggests it may be possible to run the semi-

structured interview with only themes rather than exact questions, however this study had a schedule of questions to ensure that the interviewer covered the same topics and was able to ask questions even when tired or in a difficult environment (Longhurst, 2003). It was necessary to consider issues of power and the ability of the subjects to feel able to be open about the issues discussed. Safeguards such as offering anonymity and confidentiality may assuage some fears, and were followed through with data stored securely either on paper or on computer. Participants were informed that they had a right to withdraw from the study at any time. There are a number of possible ways to recruit participants, for example by cold-calling, recruiting at a place of interest, asking if a participant would be willing to be interviewed at the end of a short questionnaire and snowball sampling. In this study, snowballing was used. Snowballing involves asking each person you interview for other contacts or people they know who might be able to be interviewed and then asking them. Unlike when undertaking quantitative research it is not necessary to find some way of randomly selecting participants and Valentine (1997, p111) notes :

“The aim of an interview is not to be representative (a common but mistaken criticism of this technique) but to understand how individual people experience and make sense of their own lives.”

The author was mindful of her own biases when selecting participants and conducting interviews and used critical self-reflection to consider her actions. In addition the interview took place somewhere safe for the interviewer, but comfortable for the participant (Longhurst, 2003). As it is recommended that interviews are recorded where possible to allow the interviewer to concentrate on the interaction rather than note-taking (Longhurst, 2003) a quiet location where possible

was also helpful. Notes were made directly after the interview. Interviews were transcribed.

Finally, Longhurst concludes

“Semi-structured interviews are useful for investigating complex behaviours, opinions and emotions and for collecting a diversity of experiences. They do not offer a route to ‘the truth’ but they do offer a route to partial insights into what people do and think” (2003, p128).

For the semi-structured interviews, a pilot study was carried out in another sports club setting in Scotland. Slight changes were made to the question structure. Then a research project was conducted out in Canterbury, New Zealand in a tennis club setting similar to that found in Linlithgow. During that project extra questions were added to the outline of the interview, including the one relating to having met your partner through tennis and also about tennis as a holiday activity (these were revealed through the open nature of the interview at first, but it became apparent that these were features of the tennis club experience in New Zealand) (Reid, 2006). The fieldwork in New Zealand enabled the researcher to become more experienced at the semi-structured interview process and at transcribing and analysing the interviews.

Linlithgow Tennis Club (LTC) was contacted and permission obtained for the study from the club president and committee. Members of LTC were interviewed (structure of interview is shown in Appendix 24). All those interviewed were given an information sheet (Appendix 22), and completed an informed consent form and questionnaire (Appendix 23, Appendix 26). They were assured of confidentiality and anonymity and their names have been changed on the list of those interviewed

(Appendix 25) and in the findings section. The interviews were recorded onto micro-cassette and transcribed. The transcriptions are held by the author and not included in the appendices as the interviewees revealed sensitive and private information during the interviews and the researcher assured them these would be kept confidential. The names of the participants have been changed in the findings and lists, however each could be identified through their own words if the interviews were published in detail. Instead, relevant sections of the transcripts that preserve the anonymity of interviewees are available for other researchers through contacting the author. Common themes were identified from the interviews and quotes selected to illustrate the themes. Tapes and computer files were held securely in a locked filing cabinet and password-secured computer. The interview was conducted in a place chosen by the interviewee.

Adult members who were willing to be interviewed were found in a number of different ways. Key office-bearers and officials were identified and interviewed, for example the club president and secretary as well as the club coach. Those people were asked for suggestions as to who might be willing to be interviewed. Participants were also found at club nights. Those waiting their turn to play were asked if they were willing to be interviewed at another time convenient to them. Some were also interviewed at club nights on the grassy bank alongside the courts. Each person that was interviewed was asked to suggest others. It was therefore reasonably easy to interview an appropriate number of members (14).

Research Questions

- 1) What is the pattern of tennis participation and tennis club membership in Linlithgow and how does that fit into the Scottish picture?

- 2) What local factors contribute to the level of committed participation in tennis in Linlithgow?
- 3) What factors about place are identified by Tennis Club members as influencing their participation?
- 4) What does the use of the new framework for geographical analysis of sport add to knowledge?

6.2 Tennis in and around Linlithgow

Tennis Facility Provision in and around Linlithgow

Linlithgow Tennis Club

Linlithgow is a small town situated approximately midway between Glasgow and Edinburgh in Scotland. Linlithgow Tennis Club is a local sportspace where committed participation in tennis among the local population is much higher than in the rest of Scotland, or the local region. Linlithgow Tennis Club is part of Linlithgow Sports Club, a small voluntary sports clubs run by the members. It is located at Boghall Road which is adjacent to the railway station and the shopping complex at one end of the main street. It is 400 yards from one of the five Linlithgow primary schools (Low Port). West Lothian Cricket Club adjoins the sports club and shares the entrance road (Figure 107). The Sports Club caters for three sports: tennis, bowls and squash and has a bar, lounge and viewing area for bowls, and changing rooms and toilets shared by all sports. It has four floodlit all-weather tennis courts (Figure 104) and 300 tennis members. There is no waiting list or joining fee and annual membership fees range from £32 for children aged under 10 years, to £128 for adults. The clubhouse contains the squash courts and is nearest the car park. The bowling green is located between the clubhouse and the tennis

courts (Figure 105). A street adjacent to the tennis courts provides on-street parking with a shorter walk to the tennis courts avoiding the clubhouse and bowling green.



Figure 104 : Linlithgow Tennis Club – The Tennis Courts



Figure 105 : Linlithgow Tennis Club – View to the Clubhouse across the Bowling Green



Linlithgow Leisure Centre



Linlithgow Academy



Linlithgow Tennis Club

Source: OS Map, 1:50,000, crown copyright.

Figure 106 : Linlithgow, showing Linlithgow Tennis Club, Linlithgow Academy and Linlithgow Leisure Centre

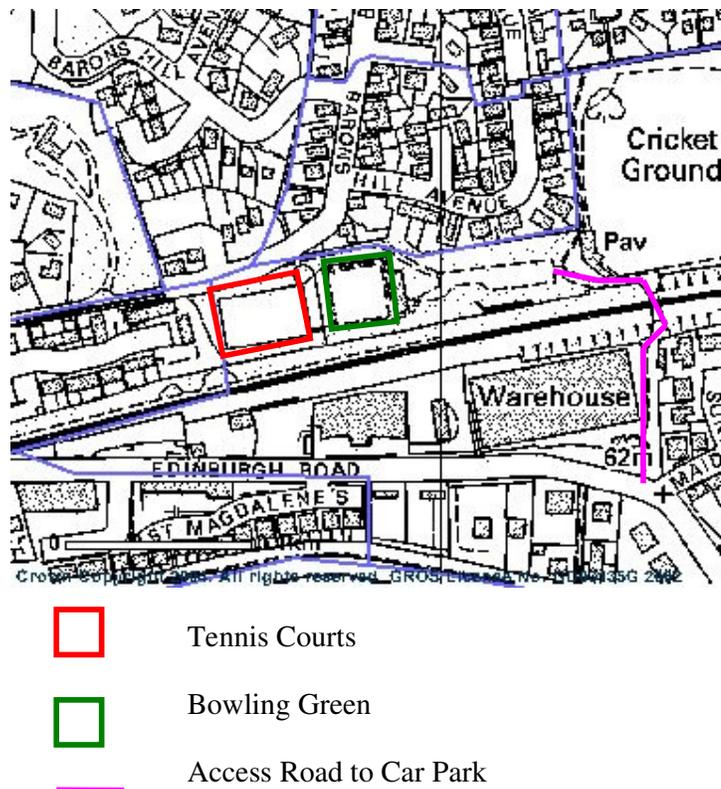


Figure 107 : Linlithgow Tennis Club in Detail

Linlithgow Academy

The School is located two miles from Linlithgow Tennis Club (see Figure 106). The school has recently built a new astroturf playing field, incorporating tennis courts. Almost half of the funding for the £740,000 project was supplied by sportscotland lottery fund (£407,000) (West Lothian Council, 2004). The facility was not open to the public during the school holidays. The astroturf is available for the public to book at weekends or in the evenings during the school term. Tennis is advertised as one of the activities that can be played, and staff at the school said that they did have tennis nets. However, hockey and football have primary access to the astroturf for out-of-school lets and there is no pricing structure available for tennis court hire. A conversation with a member of the physical education staff revealed that although they had once tried tennis, as the astroturf was very large and there were no barriers

between courts there was too far for the children to walk to retrieve tennis balls. Before the astroturf facility was built, tennis was played on a tarmac area at the far side of the car park. This area had held one tennis court and there were very faint lines on the ground and holes for netposts. It also had markings for netball, basketball and volleyball, however it did not look as if anything had been played on it for quite some time and the area must be out of use for formal sport (Figure 108). In 2003 it was mentioned as a tennis court possible for redevelopment in the minutes of Linlithgow Academy School Board (Linlithgow Academy School Board, 2003). It is unclear whether this might be undertaken as part of the new building planned.



Figure 108 : Linlithgow Academy Old Multi-sport Area (2006)

Linlithgow Leisure Centre

Linlithgow Leisure Centre is located 2.5 miles from Linlithgow Tennis Club on the outskirts of the town (see Figure 109).

The leisure Centre has a number of sports facilities including a swimming pool, a gym and a sports hall, as well as a number of outdoor grass pitches. There are three

artificial grass tennis courts, floodlit, between the indoor leisure centre and the grass pitches. This area is commonly used for five-a-side football or football training on weekday evenings, and is booked out on long term lets for that use. It is available for tennis at some other times, as it was during the day in the summer holidays in August 2006 (Figure 109).



Figure 109 : Linlithgow Sports Centre, August 2006

St Michaels Church

The Church has considerable grounds in an area not far from Linlithgow Tennis Club. It was here that Linlithgow Tennis Club started, on a piece of ground that has space for four tennis courts overlooking the loch, and there are two tarmac courts still visible. These courts were abandoned in 1983 when Linlithgow tennis club moved to its present location. While there is no surrounding fencing, and there are no nets, the tarmac is in reasonable condition and the lines can still be seen (Figure 110). The space available suggests that there may well have been four grass courts at one time. There is also an international hostel and a significant car park at the venue.



Figure 110 : Former Courts at St Michael's Church, Linlithgow, August 2006

Sun Systems

This very large factory is located on the outskirts Linlithgow, near to the junction with the M9. There are two tennis courts here, available for employees. In the past, the club was able to negotiate their use, for example for a junior open tournament, however while they are in good condition there is very little run-back and they would not be suitable for adult matchplay.

Bo'ness

There are no dedicated tennis courts in Bo'ness, which is just three miles from Linlithgow Tennis Club. At Bo'ness Recreation Centre there are three floodlit five-a-side football pitches. An enquiry at the Recreation Centre, where normally tennis is available on one of the five-a-side areas which has tennis lines marked on it

(Figure 112), received the reply “...not this year. The net is broken, maybe next summer...”.

There are two disused tennis courts in Bo’ness adjacent to a bowling club that was formerly a bowling and tennis club. These tennis courts were all-weather and had floodlights. They are now overgrown, the fencing around the courts has disappeared and the surface of the courts is breaking up (Figure 111). The bowling club appears to be well maintained.



Figure 111 : Formerly Bo’ness Tennis Club, August 2006



Figure 112 : Bo'ness Recreation Centre, August 2008

Other Courts

West Lothian Leisure operates sports facilities on behalf of West Lothian Council.

They operate the Linlithgow Leisure Centre and also:

- East Calder Leisure Centre (includes two outdoor floodlit tennis courts)
- Bathgate Leisure Centre : no tennis courts
- Broxburn Leisure Centre (includes three outdoor floodlit tennis courts, used by Xcite Tennis Club)
- Craigswood Sports Centre : no tennis courts

Other public tennis courts are operated by West Lothian Council Parks Department at Harrysmuir Recreation Area, Livingston, and King George V Park, Whitburn and there are also tennis courts at James Young Community High School, Livingston. A list of tennis facilities (excluding clubs in central district) within 25 miles of Linlithgow is in Appendix 27. (Also see Figure 126 showing facilities within 30 minutes drive of Linlithgow Tennis Club). There are other public facilities in the vicinity of Linlithgow but in other local authority areas. Bo'ness has been described. Another nearby public facility is Zetland Park in Grangemouth, just seven miles from

Linlithgow. It has six tarmac courts. As can be seen in Figure 113 not all of these courts are available for play. Here a children's go-kart track has been set up across two courts, and another two are out of action with portacabins on them.



Figure 113 : Zetland Park, Grangemouth, August 2006

Tennis and the West Lothian Sport Strategy

In the West Lothian Facilities Strategy it was noted that general comments from the public survey included “more tennis courts” as some of the facilities required in the area (Torkildsen Barclay, 2004, p29). The follow-up West Lothian Outdoor Facilities Strategy (Torkildsen Barclay, 2005) investigated tennis as one of the eight different outdoor sports considered. The research was not particularly thorough with regard to tennis. While the report is 125 pages long, one paragraph of five lines is all that is devoted to tennis provision. A table showing outdoor sport provision in each settlement in West Lothian does not include the figures for tennis, bowls or wheeled sports despite recognising them as important outdoor activities. The results of the tennis part of the Facilities Planning Model (FPM) (Campbell, 2004) are not shown in detail, however conclusions are drawn as follows :

“The FPM suggests that only 39% of potential demand is being met for tennis. The difficulty here is that outdoor courts generally receive low usage outside of the summer period, unless floodlit and well programmed. Nonetheless a deficit in provision is being identified” (Torkildsen Barclay, 2005, p89).

The analysis in the strategy is non-existent, and there has been little attempt to understand the nature of the provision (mixture of clubs, West Lothian Leisure and West Lothian Council Parks Department). In fact the tennis courts in West Lothian are not all listed.

Tennis as a Local Activity

The Clawson (1960) typology of recreational resources (Table 25) classes tennis as a user-oriented recreation area that by definition should be located close to those who play tennis. As the area required for a tennis court is typically small (in comparison to a golf course for example), a tennis court should be something that is found even when space is in high demand such as in inner city locations. Law (1967) used this typology to consider “zones of influence” that a recreation resource might have. Thus he was able to determine whether a resource had a national, regional, sub-regional, intermediate or local zone of influence and consider actual distances users travelled to them.

Table 25 : A General classification of outdoor recreational uses and resources

Item	Type of recreation area		
	User-oriented	Resource-based	Intermediate
General location	Close to users ; on whatever resources are available	Where outstanding resources can be found; may be distant from most users	Must not be too remote from users ; on best resources available within distance limitation
Major types of activity	Games, such as golf and tennis ; swimming, picnicking, walks, horse riding; zoos, etc ; play by children	Major sightseeing, scientific, historical interest ; hiking, mountain climbing, camping, fishing, hunting	Camping picnicking, hiking, swimming, hunting, fishing
When major use occurs	After hours (school or work)	Vacations	Day outings and weekends
Typical sizes of areas	1-100 or at most a few 100 acres	Usually 1000s of acres, perhaps 10,000s	100-10,000 acres
Common types of agency responsibility	City, county or other local government; private	National parks and national forests primarily; state parks in some cases; private especially for seashore and major lakes	Federal reservoirs; state parks; private

Source: Clawson, Held & Stoddard (1960, p136; cited in Hall & Page, 2006, p103)

Table 26 : Basic Typology of Outdoor Recreation Facilities in Urban Areas

	Pubic Facilities		Private /voluntary facilities		By Particular Groups
	Formal	Informal	Formal	Informal	
Large scale City-wide catchment	Major parks Major sport fields/stadiums Municipal golf courses	Major commons Major urban woodland Major water space Urban country parks	Private golf courses		Major shopping centres Major transport centres eg airports, stations
Medium scale District catchment	Recreation grounds Small parks	Urban greenways Minor urban woodland Minor water space Cycleways	Sports clubs, e.g. bowls or cricket		
Small scale Local catchment	Children's play areas			Domestic gardens	Local streets/ pavements Waste ground Grass verges

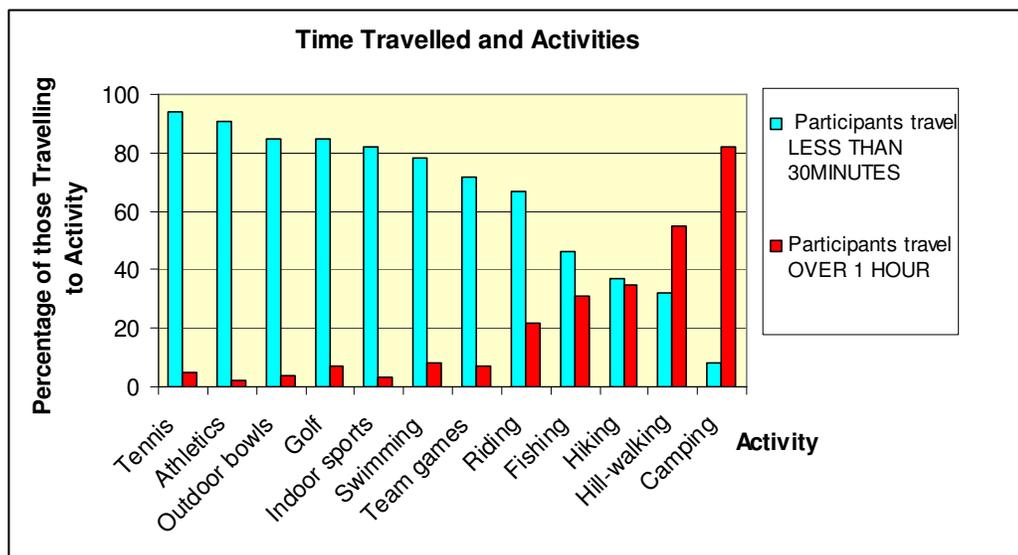
Source: Hall & Page (2006, p188)

Patmore has used the idea of a catchment area for a resource or facility to classify a “hierarchy of facilities” using a measure of the users willingness, ability and knowledge of the facility or resource (1983, p67). His classification had 3 levels. At the local level, children’s play areas and outdoor spaces for sitting were to be located within 0.25miles of place of residence (or work) and these spaces could be as small as 0.5 acres. At the intermediate level at a distance of not more than 0.75miles from home or a reasonable walking distance were slightly bigger recreational areas such as grass areas for a “kick-about” or tennis or bowls facilities. Patmore felt these would be used frequently but only for a short time and so should be relatively local. At the top of the hierarchy, Patmore envisaged more specialised recreation areas or facilities to which travel was by car or public transport. He mentions team games such as football or cricket where the time spent doing the activity is longer proportionally that the time taken to travel. Hall and Page (2006) developed this idea (Table 26), placing tennis into a medium scale or District catchment category.

Patmore illustrated his typology with a chart showing the time taken to reach the facility for a number of different activities. Unfortunately it is not clear whether this was national data or for a specific town example. Figure 114 shows tennis as an activity where most participants travel for less than 30 minutes to take part. The information used by Patmore is over 20 years old and thus comparison to the situation today must be undertaken with caution. The increase in car ownership means that the conventional “within walking distance” is possibly not so relevant today.

Torkildsen Barclay (2004, p29) formulated the West Lothian Outdoor Facilities Strategy and considered length of journey and mode of travel to participate in a sport

or recreational activity. Household survey responses were analysed. Those respondents who had participated in a sport or recreational activity in the past six months were asked how long it took them to travel to their main activity. 66.6% took 10 minutes or under, and 84% took 15 minutes or less. This shows the importance of accessible local provision as only 16% travelled for longer than 15 minutes to reach the facility. It is important to note that 78% of sports participants travelled by car to take part in their main activity, so for most the facility was not necessarily within walking distance of their home, although 15% of respondents did walk.



Source: Patmore (1983, p69)

Figure 114 : Activity and Time Travelled to reach the Facility

Tennis Clubs within Central District

Linlithgow Tennis Club is affiliated to the Central District of Tennis Scotland. Central District provides an organisational grouping for the tennis clubs in the Central area of Scotland. Its functions include setting up and administering inter club competition for adults, juniors and veterans, representing the interests of the District on North County and Tennis Scotland Management Boards, employing a

District Coach, developing performance of junior players that are club members in the District and selecting teams for inter-district competition. So, one of the main reasons that Linlithgow Tennis Club is affiliated to Central District is for leagues and other interclub competition.

Central District incorporates a number of different Local Authority areas, including all or parts of West Lothian, Falkirk, Stirling, North Lanarkshire, Clackmannanshire and West Dunbartonshire. The boundaries of the Tennis Scotland Districts can be seen in Figure 120. The location of all affiliated tennis clubs in Central is shown in Figure 115. Central District stretches from Dollar in the north, to Linlithgow in the East, Dullatur in the South and Strathendrick in the West. From Linlithgow, AA Route Planner estimates almost one hour travel time to reach the most distant tennis club. Depending on the time of day and traffic, the actual time taken to reach Drymen, may be much longer. The location of Linlithgow in Central puts it at the edge of the District. In fact Tennis Scotland boundaries indicate it should be just inside East District, but a decision was made to affiliate to Central before any of the current members were involved in the club. Those older members who were interviewed repeated reasons they must have been given relating to the difficulties of travel to distant parts of East of Scotland District:

“we did not want to go all the way to Berwick”

“it was before the (Edinburgh) bypass and it would have taken too long to get to matches”

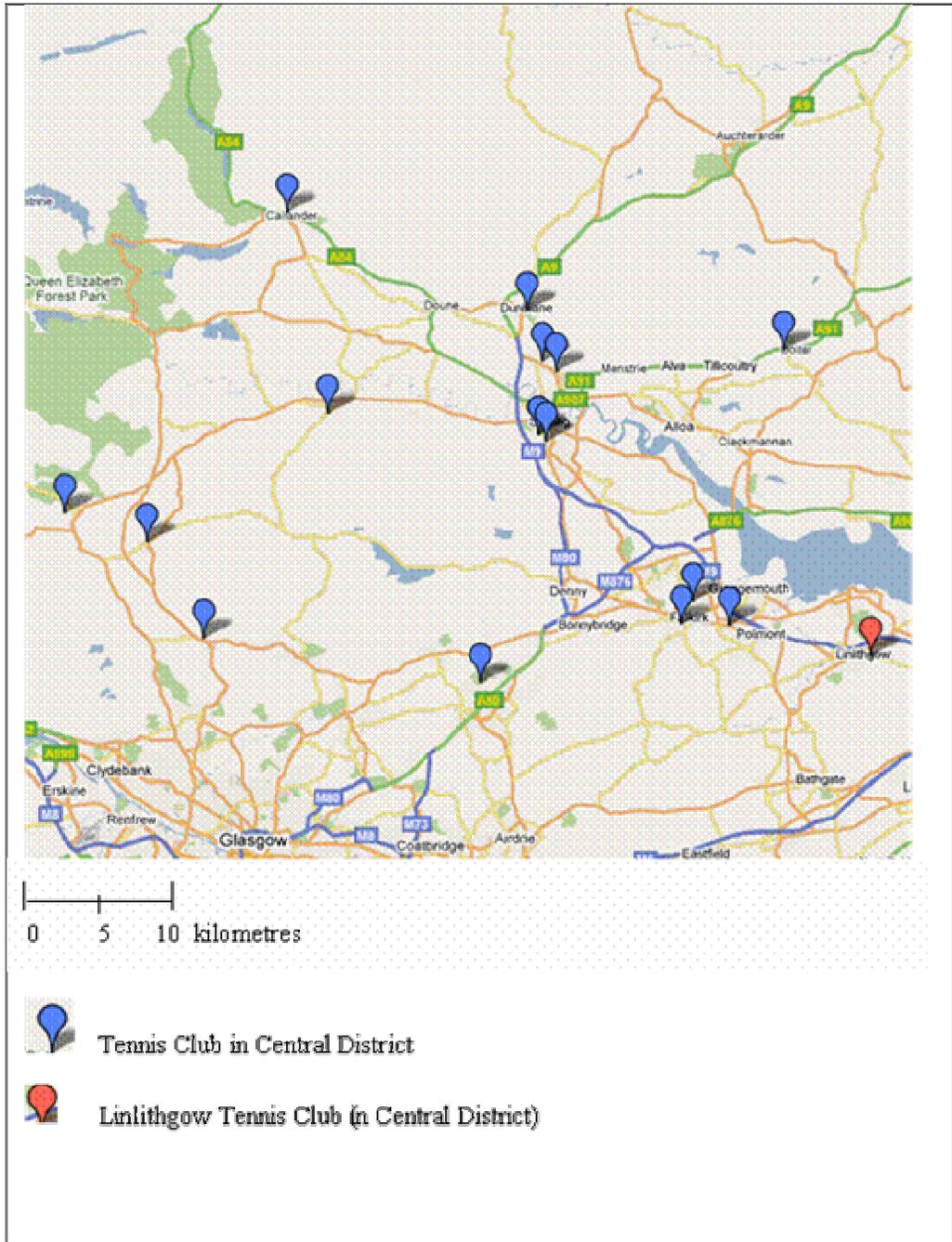


Figure 115 : Map showing all Affiliated Tennis Clubs in Central District and Road Transport Links

With Linlithgow in Central District, the distances to other clubs and estimated times of travel are in Table 27. Figure 117 shows the times and distances and it can be seen that there a number of clubs more than 30 miles from Linlithgow Tennis Club and also many that would take more than 30 minutes to travel to by car. For many of these journeys public transport would be almost impossible.

Table 27 : Central District Tennis Clubs and their Distance and Travelling Time from Linlithgow Tennis Club

CLUB	Town	Postcode	Distance from Linlithgow TC	Time as AA route planner
Bridge of Allan	Bridge of Allan	FK9 4DT	24.39miles	31mins
Callander	Callander	FK17 8AR	34.0miles	44mins
Castings	Falkirk	FK2 9EG	7.6miles	15mins
Dollar	Dollar	FK14 7JB	21.9miles	35mins
Dullatur	Cumbernauld	G68 0DW	21.4miles	31mins
Dunblane	Dunblane	FK15 ODU	24 miles	30mins
Falkirk	Falkirk	FK1 5AF	7.9miles	16mins
Killlearn	Killlearn	G63 9NA	39.1miles	58mins
Kippen	Kippen	FK8 3DP	27.8miles	42mins
Laurieston	Falkirk	FK2 9QT	5.9miles	11mins
Linlithgow	Linlithgow	EH49 6AB		
Livilands	Stirling	FK8 2AJ	17.7miles	26mins
Stirling	Stirling	FK7 9JW	18.5miles	28mins
Strathblane	Strathblane	G63 9BL	32.9miles	55mins
Strathendrick	Drymen	G63 OHU	39.9miles	57mins
University of Stirling	Bridge of Allan	FK9 4LA	23.6miles	32mins



Figure 116 : Laurieston Tennis Club, Falkirk

Central District is very large. It is also a very varied region with rural and urban parts. The large towns of Stirling and Falkirk have the bulk of the population, and some parts of rural Stirlingshire, have a very small population. The distances that league teams are required to travel in order to play matches can be significant, however the leagues continue. Linlithgow is on the very edge of Central district and travel times can be long. Members interviewed mentioned the long journeys and consequently late nights however felt that those would have been matched by equivalent journeys had Linlithgow been in the East of Scotland league. One interviewee, explained that when Oban had asked to join the Central District League they had been refused due to the length of time it would have taken opponents to reach the matches. It is unclear whether if Linlithgow were to apply to join the Central District leagues today some objections would be raised by clubs at the western end of the District due to the length of time they would be required to travel for matches. As can be seen in Table 27 and Figure 117 there are only two clubs within 15 minutes drive of Linlithgow (the nearest is shown in Figure 116) and there are nine more than 30 minutes drive away. The tennis clubs in Stirling, the

geographical heartland of Central District, are 26 and 28 minutes drive from Linlithgow. A comparison of journey times from Stirling Tennis Club to those required from Linlithgow Tennis Club for league matches (Figure 118) shows that only two clubs are more than 30mins drive or more than 20miles away from that tennis club. In fact on average other clubs in Central District are 21 minutes away from Stirling Tennis Club and 34 minutes away from Linlithgow Tennis Club.

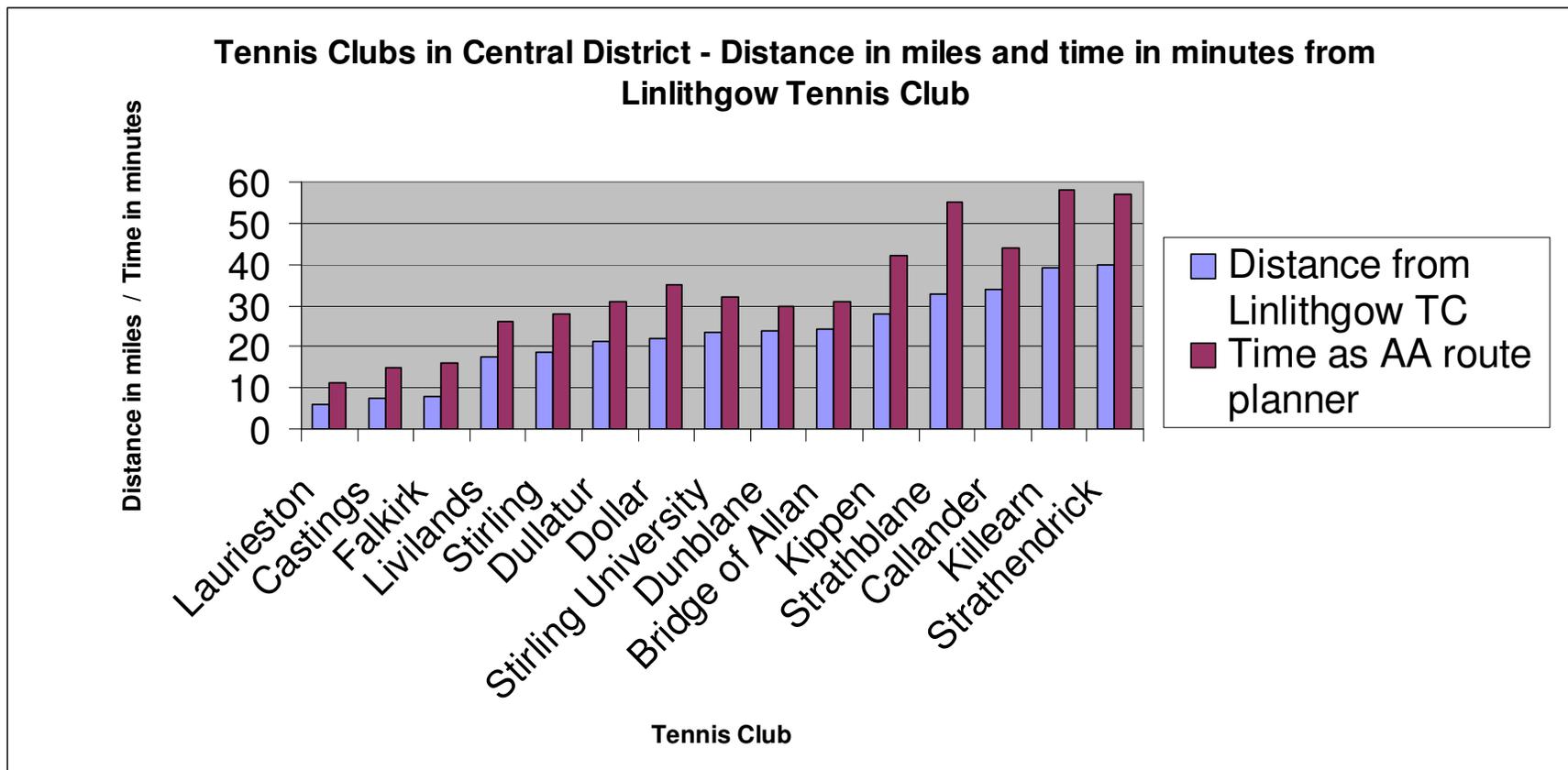


Figure 117 : Tennis Clubs in Central District – Distance in Miles and Time in Minutes from Linlithgow Tennis Club

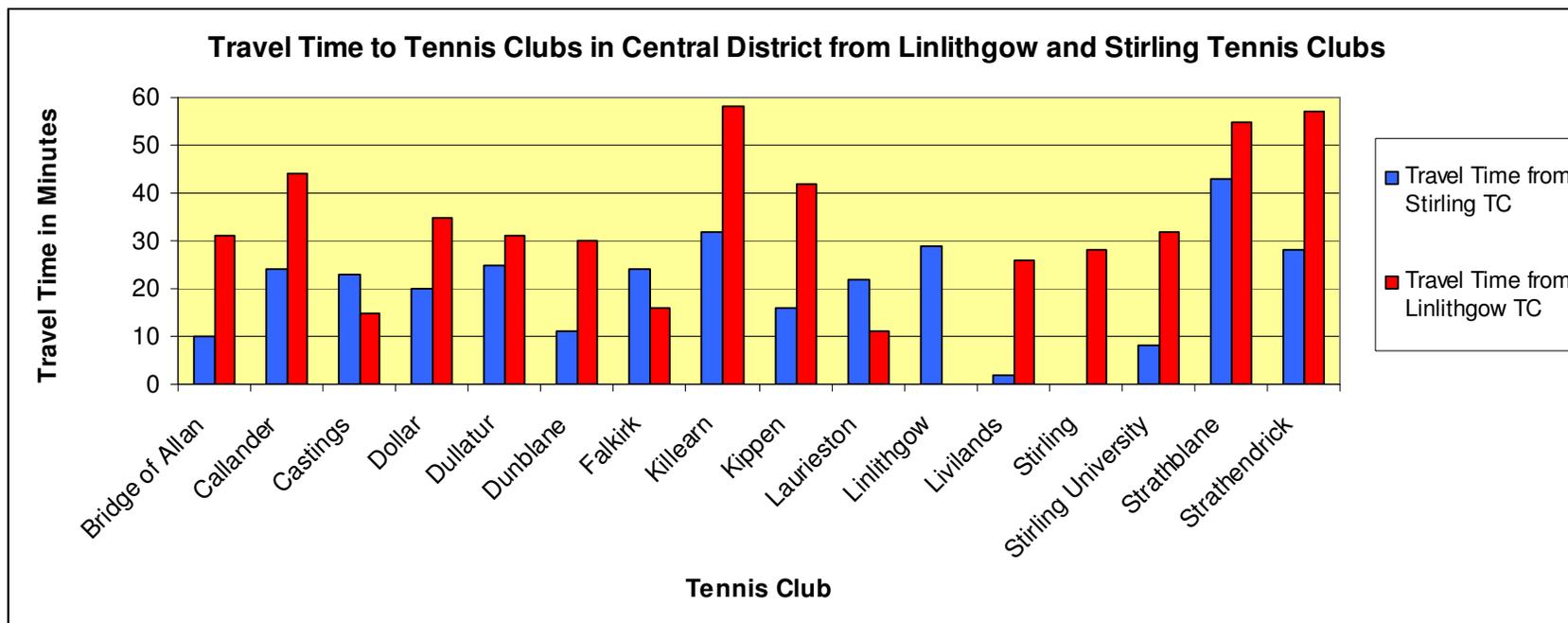


Figure 118 : A Comparison of Journey Times to Clubs in Central District League from Linlithgow Tennis Club and Stirling Tennis Club

6.3 Tennis in Scotland

This section considers tennis in Scotland as a whole to identify differences and similarities between the situation in Linlithgow and the national picture. Tennis courts are the second most numerous outdoor sports pitch/court provision in Scotland (Professional Sportsturf Design, 2006). Tennis is one of the most popular sports in Scotland. When questioned, around 2% of the population admit to having played tennis recently (sportscotland, 2001e). Tennis Scotland, the governing body for tennis in Scotland has more than 27,000 registered tennis players, playing tennis at 202 affiliated clubs (Tennis Scotland, 2006). These tennis players, who could be described as the committed players in Scotland, make up 0.5% of the total Scottish population.

Facility Provision

Patmore (1983) highlighted the National Playing Fields Association (NPPFA) “six acre standard” of recreational space for every 1000 population, first suggested in 1925. It was suggested that the six acres could include a “senior football pitch, junior football or hockey pitch, cricket square, three-rink bowling green, two tennis courts, children’s playground and pavilion” (p66), but should not include school playing fields which are not generally available for public use. This “six acre standard” was not explicit in the location of the recreational space within the community and ignored location and distribution of the facilities (see Figure 119). Nonetheless this six acre standard survives today and can be found in the NPPG 11 (Scottish Executive, 1996) (extracts in Appendix 21).

The NPFA recommends a minimum standard for outdoor play space of 2.4 hectares (6 acres) for 1,000 people.

Outdoor playing space is not the same as public open space. It is space that is safely accessible and available to the general public, and of a suitable size and nature, for sport, active recreation or children’s play. It is a significant component, but not the only form of open space. The standard should be broken down into 1.6 hectares (4 acres) of outdoor sport space and 0.8 hectares (2 acres) of Children’s playing space.

Summary

- Primarily a quantitative standard, with qualitative recommendations for play facilities
- Applies to outdoor sport and children’s play space
- Details a hierarchy of children’s play facilities LEAPs (Local Equipped Areas for Play), NEAPs (Neighbourhood Equipped Areas for Play) and LAPs (Local area for Play)

Source: Ironside Farrar Ltd. (2005, p62)

Figure 119 : National Playing Fields Association – The Six Acre Standard

The most recent Scottish research into the standards for open space was completed in 2005 (Ironside Farrar Ltd) and is critical of the arbitrary standards adopted by different local authorities. It too bases some of its research on the NPFA standard, but only a few of Local Authorities surveyed included their current Open Space guidelines as requested, and West Lothian was not one of those. In general some were found to use the NPFA standard, but others have set other standards with no reasons given. The variation is from 1.6 – 2.8 hectares per 1000 population. The report highlights the need for further research in this area. Recent documents do not include the guidance note that suggested two tennis courts form part of the “six acre standard”, but as shown in Table 28 and Figure 119 outdoor recreation space is a general category.

Table 28 : National Minimum Open Space Standards for New Development

Class 9 (Residential)	Housing sites and mixed use developments incorporating 10 plus units or greater than 0.5ha	60m ² total open space per household comprising: 40m ² of open space per household, divided between parks, sports areas, green corridors, semi-natural space and civic space 20m ² per household of informal play / recreation space and equipped play areas
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Source: Ironside Farrar Ltd. (2005, p100)

Professional Sportsturf Design (2006) found that tennis courts were the second most common facility after winter sports pitches. This would imply that tennis courts would remain an important part of the outdoor recreation space. The National Audit of Outdoor Sports Facilities addressed the absence of quality standards as well as quantity standards except in play areas. The audit attempted to classify all outdoor sports areas depending on the quality of the surface, facilities, changing areas etc. This was critical to their remit which was to estimate the cost of bringing the existing stock of outdoor sports facilities up to acceptable standard and maintaining it. Tennis was one of the sports specifically considered and tennis courts were rated : (Professional Sportsturf Design, 2006, p107).

“Grade 1 - Requires Replacement or Refurbishment;
 Grade 2 - Requires Patching or Rejuvenation;
 Grade 3 - Satisfactory Standard.”

The methodology used to select the sample for the audit is unclear, however the Audit surveyed 457 tennis courts that were constructed as follows:

Table 29 : Audit Results: Tennis Courts Surface Types

Surface Type	Grade 1	Grade 2	Grade 3	Unspecified	Total	%
Sand Filled AG	7	21	127	5	160	35%
Bitmac	68	46	25	8	147	32%
Mineral	36	43	54	1	134	29%
Concrete	2				2	1%
Polymeric		3	3		6	1%
Acrylic					0	0%
Unknown		1	6	1	8	2%
Total	113	114	215	15	457	100%
%	25%	23%	52%		100%	

Note: All returns where the surface type was identified as ‘unknown’ have been assumed to be Bitmac.

Source: Professional Sportsturf Design (2006, p109)

The information found related to approximately 20% of all tennis facilities in Scotland. The percentages calculated in the table are inaccurate, however assuming that the courts of unspecified standard are below grade 3, then of those audited, 53% fell below the recommended Grade 3 Satisfactory Standard. Even if those of an unspecified standard are ignored completely, 52% remain unsatisfactory. In total, sportscotland's data base identifies that there are 2,249 tennis courts in Scotland distributed as follows:

Table 30 : Tennis Courts in Scotland by Provision Type

Public recreation and sports grounds	873
Schools	354
Clubs	822
Other	190
Total	2249

Source: Professional Sportsturf Design (2006, p109)

Professional Sportsturf Design then extrapolated from the researched sample to estimate the state of all tennis courts in Scotland:

Table 31 : Audit Results Interpolated to the National Stock of Tennis Courts

Surface Type	Grade 1	Grade 2	Grade 3	Total	%
Sand Filled AG	38	104	645	787	35%
Bitmac	352	244	169	765	32%
Mineral	176	209	267	652	29%
Concrete	23			23	1%
Polymeric		11	11	22	1%
Acrylic				0	0%
Total	589	568	1092	2249	100%
%	26%	25%	49%	100%	

Note: All returns where the surface type was identified as 'unknown' have been assumed to be Bitmac.

Source: Professional Sportsturf Design (2006, p109)

Again there are some issues with the figures in the Professional Sportsturf Design report as the percentages of court type do not reflect the unknown content and it is

not explained how the unknown standard courts are then divided between grade 1 and grade 2. But the main thrust of the report remains clear. Almost half of all tennis courts in Scotland require to be upgraded.

The audit estimates that the total capital cost of bringing the current stock of tennis courts in Scotland up to the identified Grade 3 Satisfactory Standard are £31.4m. On top of this there needs to be added 25 year periodic maintenance costs of some £55.8m (average of £2.2m per year) and annual maintenance costs of £10.7m in order to ensure that facilities are kept in good condition and that longevity is maintained.

Tennis Clubs in Scotland

A recent audit of outdoor sports facilities undertaken on behalf of sportscotland (Professional Sportsturf Design, 2006) researched into provision of tennis courts in Scotland. The main purpose of the audit was to estimate the financial requirements to maintain and upgrade the existing stock of facilities, rather than to assess the level of provision nationally or in a particular area. It established that approximately one third of tennis court provision was through clubs. More detailed information on the National picture regarding clubs was obtained from Tennis Scotland (2006). This has enabled some analysis of the Regional variation in provision to be carried out.

Linlithgow Tennis Club is affiliated to Tennis Scotland through Central District. Tennis Scotland has divided Scotland administratively into nine Districts and information about tennis club membership was available for these regions. Districts are Highlands, North-East, Midlands (Tayside), Central, East, Borders, West, South-

West and Ayrshire (see Figure 120 and Figure 121). Each District (Association) is responsible for tennis within a geographical region. The origin of these Districts is historical, and based on a number of factors including old local authority boundaries, and tradition within an area. The nature of the boundaries of the Districts means that the Districts are not homogeneous and there are some issues of comparability between Districts.

More than half of the population of Scotland lives in the East and West Districts (Table 32). Central is distinct from the other central belt Districts, East and West and has a much lower total population. Bale (1982) used the per capita index to consider tennis clubs in England, Scotland and Wales. He found that Midlands, Central, Dumfries and Galloway and Borders had indexes above the National (UK) index of 1.00. In fact Borders had the 6th highest index of any “county” in the UK. This index might give a better indication of the emphasis of tennis in any region. Bale cautioned against simply using number of clubs as a measure of emphasis, as the nature of each club varies tremendously.

In Scotland today, although East and West have the highest number of tennis clubs, taking into account their population, tennis is of much lesser significance (index value 0.81 for West). Central has an index value of 1.33, meaning that it has higher than the national average number of clubs for the population and tennis is of more significance to the population than in the East and West Districts.

More than half of all tennis clubs in Scotland are in the central belt, including East, West and Central Districts, although the number of clubs in Central is much smaller than its two neighbours. Central District contains 15 clubs, the median number for a

District. In Table 32 it can be seen that East and West Districts have the highest numbers of club members, and also the largest tennis clubs with an average club in East having 191 members. This is still an average and within each District there is considerable variation in membership numbers for individual clubs.

Table 32 : Population, Number of Clubs, Per Capita Index for Tennis Clubs, Club Membership, and Per Capita Index for Club Members in Population, by District

District	Population	Number of Clubs	Per Capita Index for Tennis Clubs	Number of Tennis Club Members	Average Number of Members per Club	Per Capita Index for Tennis Club Members
Linlithgow	13500	1	1.83	300	300	4.07
Borders	106764	13	3.01	1049	80	1.80
East	953081	35	0.91	6687	191	1.28
West	1840460	60	0.81	11369	190	1.13
Central	279480	15	1.33	1500	100	0.98
Tayside	563726	26	1.14	2692	103	0.87
North-East	438996	22	1.24	1647	75	0.69
Highlands	295894	15	1.25	959	64	0.59
Ayrshire	368149	8	0.54	1033	130	0.51
Dumfries & Galloway	147765	8	1.34	321	41	0.40
SCOTLAND	4994315	202	1.00	27257	135	1.00

This variability in the club membership numbers was mentioned by Bale (1982) as a limitation for his research into tennis clubs. Table 32 shows the average numbers of members per club for each District. Whilst Central District has an average of 100 members per tennis club, Linlithgow Tennis Club has 300 members, illustrating the variability amongst clubs within a District. The per capita index for club membership was calculated for all districts and the results shown in Table 32, and Figure 121 shows the per capita index graphically. However this average for Central District masks some large individual club variations. When the town of Linlithgow

is considered, the per capita index for club members in the population is 4.07 (Table 32).

Chapter 5 highlighted the fact that there were considerable variations between local authority areas in the rate of sports club membership in the population. Two of the local authorities included in Central District had contrasting levels of sports club membership; West Lothian had a lower than average rate of sports club membership (index 0.9), and Perth and Kinross had the highest rate of club membership in Scotland (index 1.42). Making links between rates of sports club membership from case study 2 (within local authority boundaries), and rates of tennis club membership (within Tennis Scotland District boundaries) is very difficult as the areas included in each study are quite different.

Linlithgow Tennis Club is in Central District. Central has a slightly higher number of tennis clubs than would be expected (above national average) given the population size, but the number of affiliated club members per head of population is close to the average for Scotland. Central is located between East and West, both districts that have a large number of clubs and a higher per capita index for club membership. In particular the value for the East District is pertinent to Linlithgow as geographically Linlithgow Tennis Club could have been affiliated to East rather than Central. The level of club membership per head of population for Linlithgow is significantly higher than that of either the District to which it belongs (Central) or the adjacent District (East) and is four times the level that would be expected.

Per Capita Index for Number of Tennis Clubs in each District

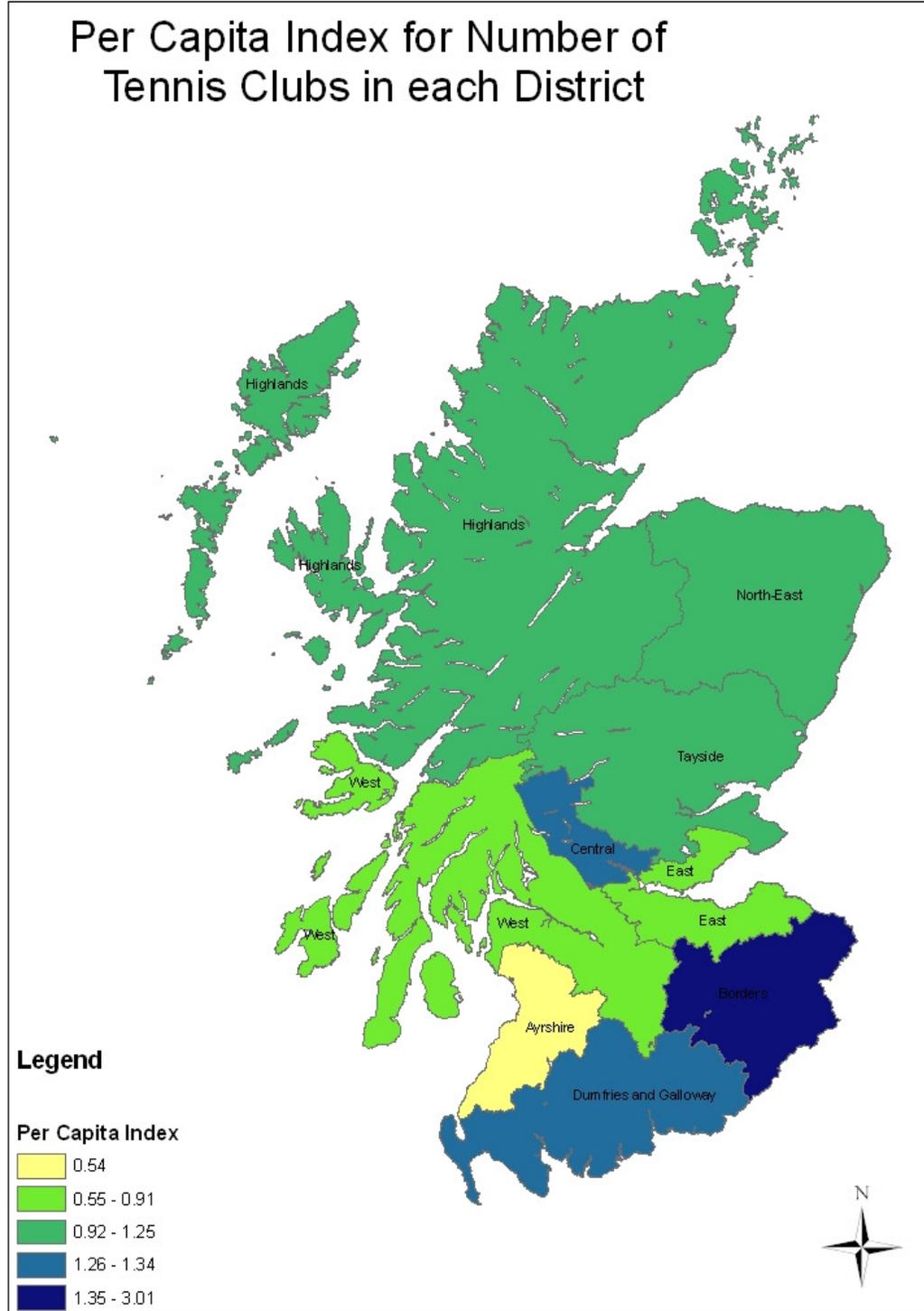


Figure 120 : Index for Number of Tennis Clubs in the Population by District

TENNIS CLUB MEMBERSHIP IN SCOTLAND BY DISTRICT

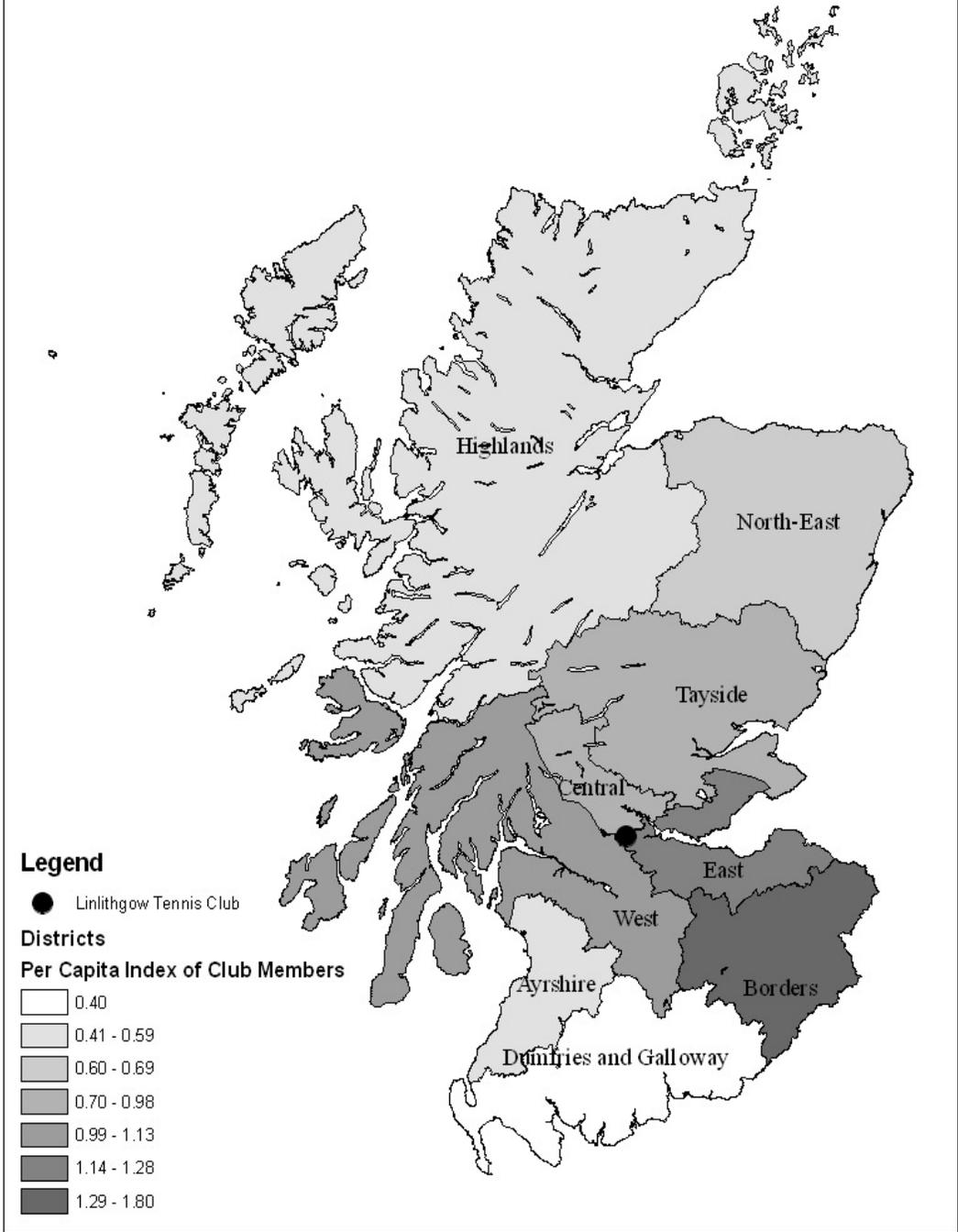


Figure 121 : Tennis Scotland Districts and the Per Capita Index of Tennis Club Membership

Summary

Bale (2000) indicates that one of the five key themes of a geography of sport is that of “geographical variations in sporting attributes” and suggests this has been the “dominant paradigm in sports geographic writing” (p171). In this section, tennis in Linlithgow has been considered in relation to the national picture in terms of the facilities for tennis and the participation level in the tennis club.

In Scotland, tennis courts are the second most numerous outdoor sports pitch/court provision after winter sports pitches. Public recreation/access facilities and voluntary sports club provisions each represent approximately one third of the national provision. There is an underprovision of tennis courts in Linlithgow according to the NPFA “six acre standard” and the study shows a number of courts disused, in poor repair or unavailable for play. The public provision for tennis in the area is poor, with only occasional, expensive access. The school facilities stand out in particular as way below the national level estimated by Professional Sportsturf Design (2006) as 11% of national provision. In practice there is no facility provision for tennis within the school sector in Linlithgow.

In Central District there are almost the national average number of tennis club members for the population (per capita index = 0.98). When the town of Linlithgow is considered, the per capita index for club members in the population is 4.07. This is very high and suggests a special set of circumstances. The rest of this chapter will endeavour to explain the presence of this tennis hotspot (Reid, 2008).

6.4 Quantitative Research : Mapping, In-depth Description and Spatial Analysis of Sportscape of Linlithgow Tennis Club

Leisure behaviour has been explained in a variety of ways by a number of authors, for example Hall and Page (2006), Patmore (1970), Pigram (1983), Pigram and Jenkins (2006), Recours and Souville (2004), Raymore (2002), Samdahl and Jekubovich (1997), Kiovula (2007), and Mullineaux, Barnes and Barnes (2001). Many of these authors have recognised that there is a complex array of interlinked factors involved in decision-making about participation in physical activity. Fewer authors have considered spatial aspects of sports participation, for example plotting distance travelled to a sports facility (for example Veal, 1987) or classifying recreational sites depending on their catchment areas (for example Clawson, Held & Stoddard (1960), Patmore (1983)). In this study an adaptation of a model of decision-making proposed by Pigram (1983) has been used to investigate some of the factors that make Linlithgow a tennis hotspot (**Figure 122**).

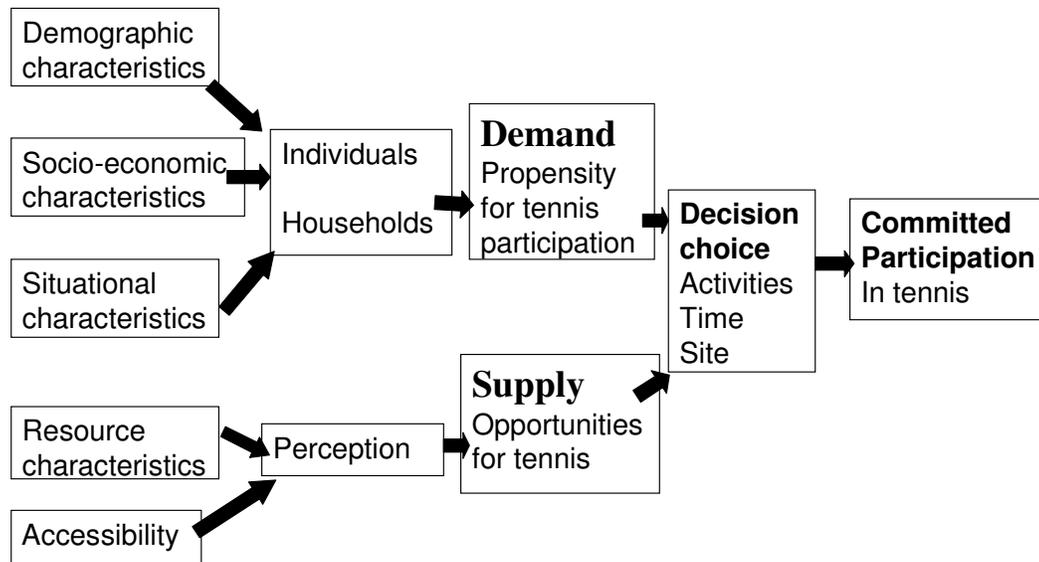


Figure 122 : The Decision-Making Process in Tennis (adapted from the decision-making process in outdoor recreation (Pigram, 1983, p20))

The demand identified in the model is made up of two constituents (Pigram & Jenkins, 2006). Latent demand is the propensity of the population to participate, and the effective demand is those that actually participate. This chapter makes use of information gathered about Linlithgow and the committed tennis participants there, the tennis club members, and looks at their characteristics to understand why Linlithgow Tennis Club is a “hotspot”. The tennis club members have made the decision to become members and to participate in tennis at Linlithgow Tennis Club. That decision would have been influenced by a number of complex inter-related factors. One group of these factors relates to the individual and their family, for example their own demographic profile (male, female, junior, adult), their socio-economic status and their family circumstances and can be considered as contributing to “demand” or the propensity for participation in tennis. A second group of factors relate to the space that is Linlithgow and Linlithgow Tennis Club, for example the available local tennis facilities and their accessibility and the

activities offered at these venues (could be classified as “supply”). All of these factors could be influenced by the context of tennis in Scotland.

Linlithgow

Linlithgow is in the Local Authority area of West Lothian. West Lothian is bordered by six other local authority areas – Edinburgh City, Midlothian, South Lanarkshire, North Lanarkshire, Borders and Falkirk. The two main cities of Scotland, Glasgow and Edinburgh lie to East and West within commuting distance. The 2001 Census (Scottish Government, 2007b) showed that the population of West Lothian had grown by more than 10% since the previous census (1991) and this was the greatest growth shown by any local authority. The majority of the population of West Lothian lives in the main towns, Linlithgow is one of these. The population of Linlithgow grew by 13% between 1991 and 2001, second only to Livingston in West Lothian, and now stands at 13,500 (Torkildsen Barclay, 2004, p6). Linlithgow has five Primary Schools and one secondary school, Linlithgow Academy.

Socio-economic Characteristics

Research has shown that rates of participation in sport in Scotland do vary depending on social class (Scottish Government, 2007b; sportscotland, 2001e). Sportscotland (2001e) uses four levels of social class to characterise the population. While 19% of the Scottish population fall into the highest, social class, AB, of those who participated in tennis in the previous two months, 35% were classified as AB compared to 25% of participants in all sports (excluding walking, snooker and dance). Similarly 26% of the population is classified as C1, but 32% of those

participating in sport (33% of those that participated in tennis) in the last two months were in that category. Therefore generally sport participation is higher in those classified AB and C1 than in lower social classes and in particular tennis participation is much higher in those in AB (see Table 33).

Table 33 : Selected Socio-Economic Statistics

% of Adult Population	social class AB	social class C1	social class C2	social class DE	Base Number
Scotland	19	26	22	33	
Participants in All Sports	23	31	21	25	18,614
Participants in Tennis	35	33	15	17	192

% of Adult Population	Scotland	Linlithgow
Have achieved degree or professional qualifications	19	37
Employed as managers or in professional occupations	24	40

Source: Scottish Government (2007b), sportscotland (sportscotland, 2001e).

Using the Scottish Index of Multiple Deprivation (SIMD) (Scottish Executive, 2006c) it can be seen that 13 of the 18 data zones in Linlithgow are among the 20% least deprived in the country. Findings from Chapter 5 indicate that those resident in the least deprived areas of Scotland are most likely to be sports club members. In addition, adults in Linlithgow are twice as likely to have achieved a degree or professional qualifications as those in the rest of Scotland – 37% of Linlithgow adult population compared to 19% nationally. This is linked to employment, as more than 40% of those employed are classed as managers or in professional occupations compared to 24% in Scotland (Scottish Government, 2007b).

These specific characteristics of the population of Linlithgow indicate that there is likely to be a higher rate of sports participation here than the national average. In addition the high numbers of people identified as managers or in professional

occupations at least indicates the possibility of a higher level of tennis participation than average.

As noted by Bale (1982), just because a tennis club is in an affluent area does not mean that those taking part in tennis are the affluent. Figure 123 illustrates the club membership distribution in relation to the SIMD. The pale green shaded area represents datazones ranked in the SIMD top quintile or within the 20% of least deprived areas in Scotland, the darker green shaded areas are the remaining datazones. The hashed lines indicated where one or more members of Linlithgow Tennis Club are resident (yellow where 1-3 members live and red where 4-10 members live). In fact most of the club members are resident in the pale green shaded, least deprived areas of the town. Only 47 members are not resident in datazones ranked as the least deprived 20% in Scotland. While all 84% of the tennis club members who live in datazones in the top quintile for SIMD are not necessarily rich, there is a strong likelihood that Linlithgow Tennis Club members are from more affluent households than the average in Scotland.

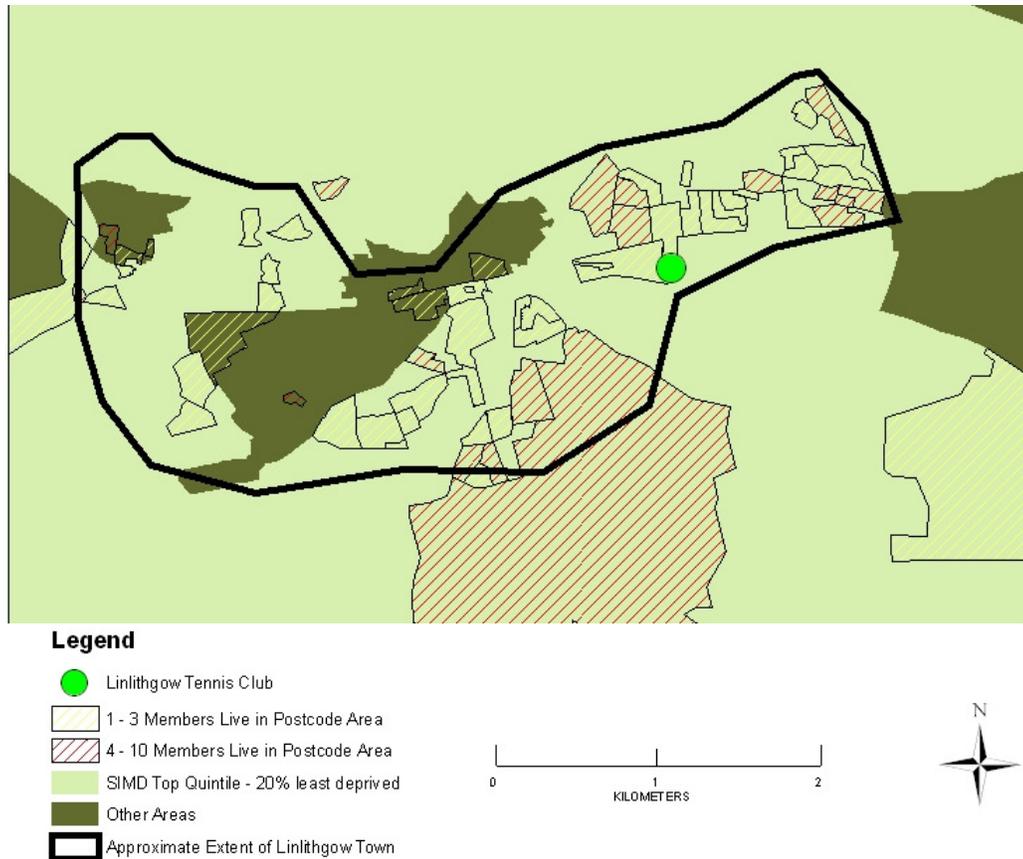


Figure 123 : The Approximate Extent of Linlithgow Showing the SIMD (2001) Rank and Tennis Club Members’ Postcodes

Demographic Characteristics

Membership of Linlithgow Tennis Club is within the Linlithgow Sports Club. There are 300 members in a number of membership categories (see Table 34). Figure 124 illustrates the breakdown of membership and it can be seen that approximately half of the members are adult, and half under 18 years old. The adult membership is split roughly 50:50 between males and females, in contrast to findings from chapter 5 where in general more men than women were found to be sports club members. This is not the case in the adult membership of Linlithgow Tennis Club. However in the under 18 category almost three quarters of club members are male. Figure 124

shows graphically the decrease in proportion of female membership as junior players move from minis (aged 9 and under) (40%) to junior (aged 10–13) (24%) and then to teen (aged 13-18) (17%). This proportional change in the girls membership with age fits with national figures for participation of young people in physical activity which show decreases in the overall physical activity of girls after the age of approximately 10 years (Bromley *et al.*, 2005). The dramatic decrease in girls participation alongside an increase in boys participation shown in Linlithgow Tennis Club is however not so typical and would merit further investigation as Bromley *et al* (2005) found boys' participation unchanged with age.

The generally low level of participation in tennis by girls (just one third of the junior members are female) might be linked to the socio-economic situation of Linlithgow described above. Bromley *et al* (2005) showed that girls' participation in physical activity increased as household income decreased and as area deprivation increased. No explanation for this surprising result was given in the research. Although the increase found was less marked when only sport and exercise was considered, girls in Linlithgow could be exhibiting similar behaviour and affluence could be a factor in keeping their tennis participation rates low.

The characteristics of the population of Linlithgow do differ from those of Scotland (Scottish Government, 2007b). There are proportionately more children (approximately equal numbers of boys and girls), fewer pensioners and a higher percentage of adults in the 30-44 age-group in Linlithgow. This means that the expected physical activity levels of the Linlithgow population would be higher than average as levels of physical activity decrease with age (Scottish Executive, 2003). In fact West Lothian (figures are only available at regional level) is one of only ten

Local Authorities to have already achieved the Scottish Government target of 60% of adults physically active once a week (Coalter & Dowers, 2006). Thus the demographics of the population in Linlithgow also suggest a higher number of people would be involved in sport than in other parts of Scotland.

Table 34 : Structure of the Membership of Linlithgow Tennis Club

Membership Category	Female	Male	Number of Members	Female %	Male %
mini	19	29	48	40	60
junior	12	37	49	24	76
teen	9	45	54	17	83
student	1	7	8	13	88
senior	67	63	130	52	48
life	1	8	9	11	89
associate	1	0	1	100	0
complimentary	1	0	1	100	0
TOTAL	111	189	300	37	63

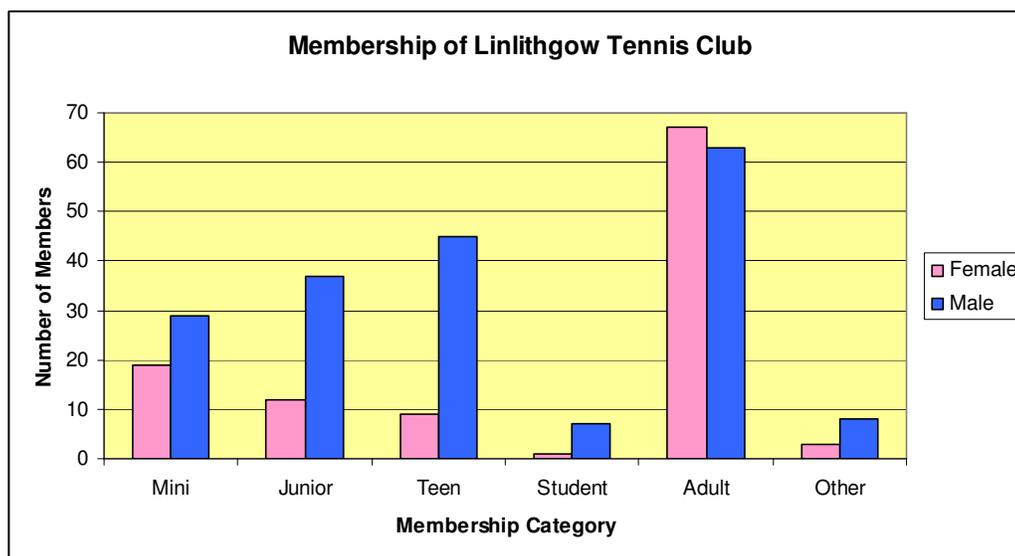


Figure 124 : Membership of Linlithgow Tennis Club by Category

Situational Characteristics

Linlithgow Tennis Club members tend to live in households with other tennis club members. Just 85 members live in a household where no other club members live,

and the majority, 215 members share their interest in tennis with another family member. While nearly one quarter of the members live in households where only themselves or other adults are resident, over half of the members live in households where there is at least one adult and one under 18 living (Table 35 and Figure 125). This places Linlithgow Tennis Club firmly into the category of a family club where tennis is a shared interest crossing generations. In a survey of Scottish tennis clubs, 32% of the 93 responding clubs identified “promoting opportunities for family recreation” as one of the three core values of the tennis club (sportscotland, 2001c).

While this emphasis in Linlithgow on family participation might be a reason for the high participation rates it could also be excluding for those without family members interested in tennis. Further investigation might reveal some links between adult participation, the family and young people especially girls being involved in tennis. In addition these figures indicate that the tennis club might have a smaller influence on the community than that implied by 2% participation in the population, as only 164 households in a total of 5,243 (1.2% of households) are involved.

The 2001 census has given detailed information about Linlithgow and Scotland. From this it is clear that Linlithgow is not a typical area of Scotland. For example in Scotland almost 17% of the population are living in a household of a married couple with dependent children, whereas in Linlithgow that figure is more than 29% (Scottish Government, 2007b). This is another factor that might increase the recreational demand, and particular the demand for tennis given its nature as a family orientated activity.

Table 35 : Members of Linlithgow Tennis Club and their Households

	HOUSEHOLDS CONTAIN						MEMBERS LIVE IN HOUSEHOLDS OF				
	Num ber	%	Adults only	U18s only	Adults + U18s		Num ber	%	Adults only	U18s only	Adults + U18s
Household contains 1 member	85	51.8	46	39	0	85	28.3	46	39	0	
Household contains 2 members	41	25	9	12	20	82	27.3	18	24	40	
Household contains 3 members	20	12.2	3	1	16	60	20	9	3	48	
Household contains 4 members	17	10.4	0	0	17	68	22.7	0	0	68	
Household contains 5 members	1	0.61	0	0	1	5	1.67	0	0	5	
Total	164	100	58	52	54	300	100	73	66	161	
%			35	32	33			24	22	56	

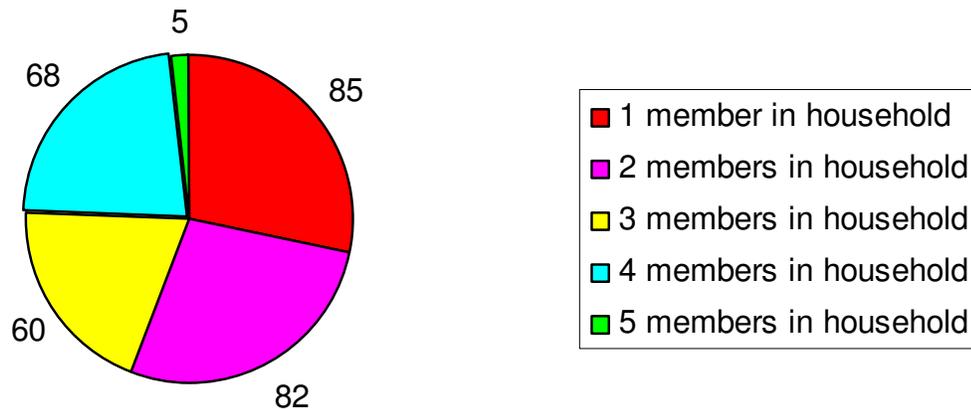


Figure 125 : Number of Linlithgow Tennis Club Members per Household

Resource characteristics

One of the key factors in leisure choices identified by Pigram (1983) and by other authors since (for example Hall & Page, 2006; Pigram & Jenkins, 2006; Torkildsen, 2005) is the quality and availability of facilities for participation. In the West Lothian Facilities Strategy (Torkildsen Barclay, 2004) it was noted that general

comments from the public survey included “more tennis courts” (p29) as some of the facilities required in the area. The follow-up West Lothian Outdoor Facilities Strategy (Torkildsen Barclay, 2005) investigated tennis as one of the eight different outdoor sports considered. The results of the tennis part of the Facilities Planning Model (FPM) (Campbell, 2004) are not shown in detail, however conclusions are drawn as follows :

The FPM suggests that only 39% of potential demand is being met for tennis. The difficulty here is that outdoor courts generally receive low usage outside of the summer period, unless floodlit and well programmed. Nonetheless a deficit in provision is being identified. (Torkildsen Barclay, 2004: p. 89).

In the West Lothian survey, 67% of participants in a physical activity took 10 minutes or less to travel to their main venue, and 84% took 15 minutes or less (Torkildsen Barclay, 2004). This highlights the importance of accessible local provision. There are a number of tennis clubs, and sports facilities, schools, and parks with tennis courts within 30 minutes drive of Linlithgow, however only Bo’ness Recreation Centre, Linlithgow Sports centre and Linlithgow Academy are within that 10 minute limit (shown as a dotted line in Figure 126).

The database of residence of members of Linlithgow Tennis Club shows that of the 300 members, only 33 are resident outside the Linlithgow postcode area of EH49. This fits with the typology of recreational space and fits tennis as a District level activity. Using the original NPFA standard of two tennis courts as part of the six acre provision per 1000 population, the population of Linlithgow would indicate a provision of 26 tennis courts. This is not the case here. The West Lothian Outdoor

Facilities Strategy (Torkildsen Barclay, 2005) indicated that the sportscotland Facilities Planning Model (FPM) showed only 39% of the demand for tennis was being met in West Lothian. How much of that is met in Linlithgow is to be established.

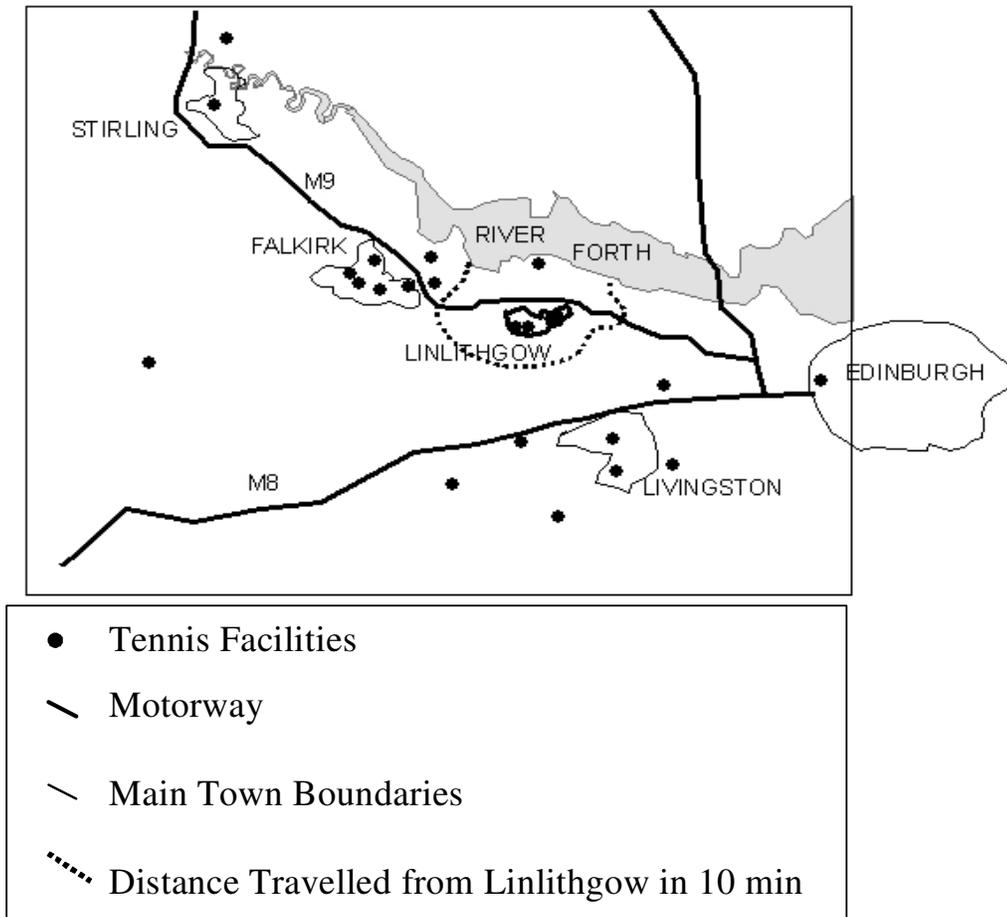


Figure 126 : Linlithgow and Tennis Facilities within 30 minutes Drive

Tennis Activities in Linlithgow Area

As well as the factors of quality and of accessibility, the activities offered at a facility were identified as important in the decision-making process (Pigram 1983). No

Local Authority tennis courts offer any activities other than casual pay and play. Linlithgow Tennis Club offers a number of different activities for members. These include

- 1) Social tennis evenings (twice a week in summer)
- 2) Central District League Matches (for three men's, two women's and four junior teams)
- 3) Coaching (for adults and juniors)
- 4) Casual play with other members
- 5) Organised play for groups e.g. team practice, ladies morning
- 6) Club tournament (adults and juniors)
- 7) Occasional social evenings such as a Quiz night or barbeque

A member may book a court to play on in advance through the noticeboard (providing other organised activities are not taking place).

Other tennis clubs offer similar activities for members, for example social tennis, coaching and matchplay. As Torkildsen Barclay (2004) found, 67% of people in West Lothian travel 10 minutes or less to take part in sport, this would be much less attractive than a more local option for people in Linlithgow. Thus contributing to the hotspot are the lack of tennis activities at alternative sites and the wide range of activities offered at Linlithgow Tennis Club.

Accessibility

The distance a person has to travel to use a facility has a bearing on their decision to participate. Clawson *et al* (1960) classified tennis courts as a “user-oriented” facility, and Hall & Page (2006) considered tennis courts to have a “medium district scale catchment”. **Figure 127** and Table 36 show that 86% of Linlithgow Tennis Club members live within five minutes drive of the tennis club. The close proximity of members’ homes to the tennis club emphasises the local nature of the tennis facility.

Research into the distance decay curve of sports facilities in a town has shown that where cars are the most common form of transport there is less evidence of distance being an important factor in use of the facilities (Veal, 1987). This is particularly strong for those living less than two miles from the sports centre. Implication of this is that all of those living within two miles of a facility find it equally accessible. It is not clear whether this is the case in Linlithgow, although most of those members interviewed said they travelled to the club by car. Figure 128 shows there are fewer members that live within half a mile of the club, than live more than half a mile, but less than two miles away, suggesting that indeed very local distance may not be a critical factor. In case study 2, Reid Howie Associates (2006) showed that 41.6% of sports clubs in Scotland have a catchment area of between two and five miles and that just 3.9% have a catchment area of less than two miles. They did find that tennis clubs were more likely to be locally based clubs and that over 50% of tennis clubs had small catchment areas. Figure 129 shows the catchment area for Linlithgow Tennis Club at those distances. 72% of members live within two miles, and only 9% of members live further than five miles from the club. This appears to fit the profile

that would be expected of a tennis club. A survey carried out in West Lothian (Torkildsen Barclay, 2004) has shown that the time spent travelling to an activity is less than 15 minutes for 85% of people and this is certainly the case for Linlithgow Tennis Club.

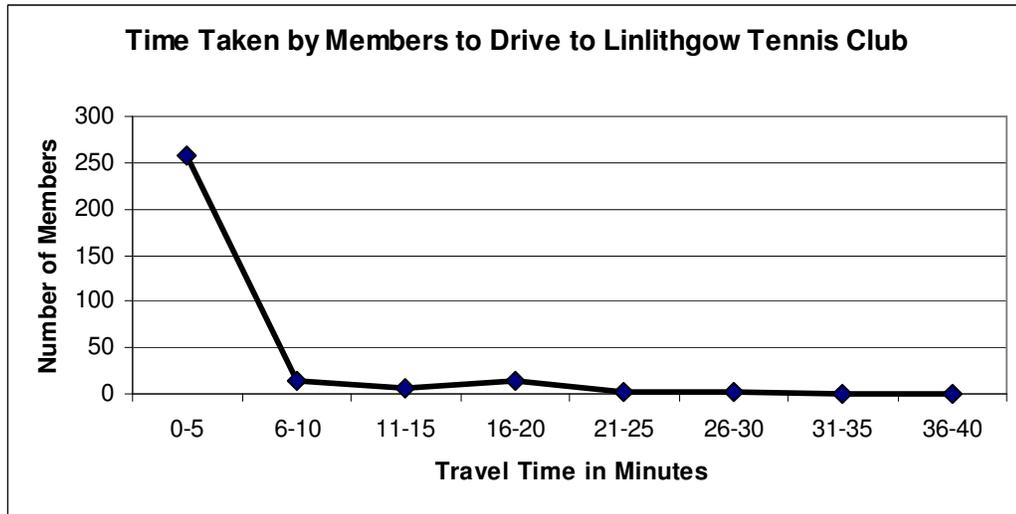


Figure 127 : Travel Time from Members' Homes to Linlithgow Tennis Club

Table 36 : Travel Time from Members' Homes to Linlithgow Tennis Club

TRAVEL TIME	Number of Members	Cumulative % of Members
0-5 minutes	258	86%
6-10 minutes	14	91%
11-15 minutes	7	93%
16-20 minutes	14	98%
21-25 minutes	2	98%
26-30 minutes	3	98%
31-35 minutes	1	99%
36-40 minutes	1	100%

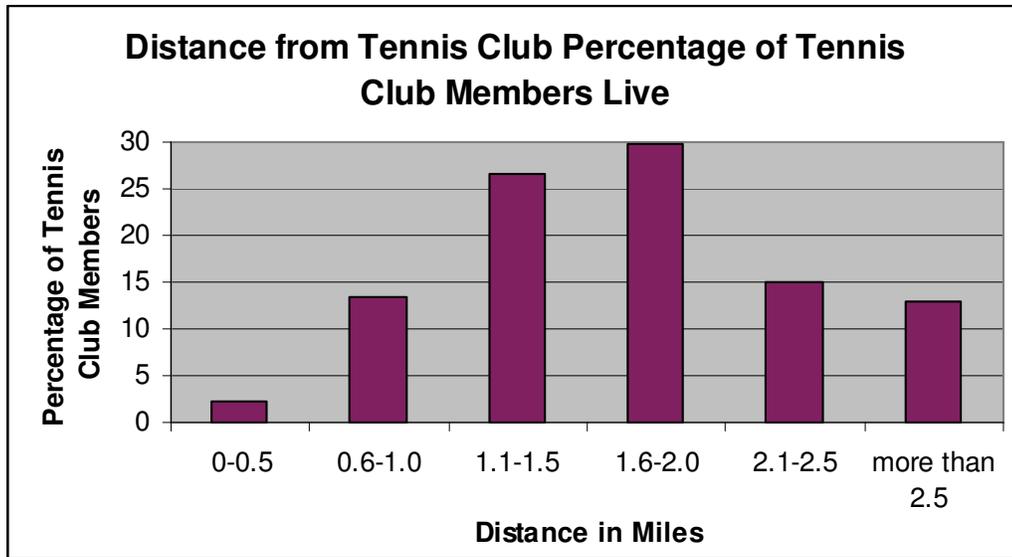


Figure 128 : Distance from Members' Homes to Linlithgow Tennis Club

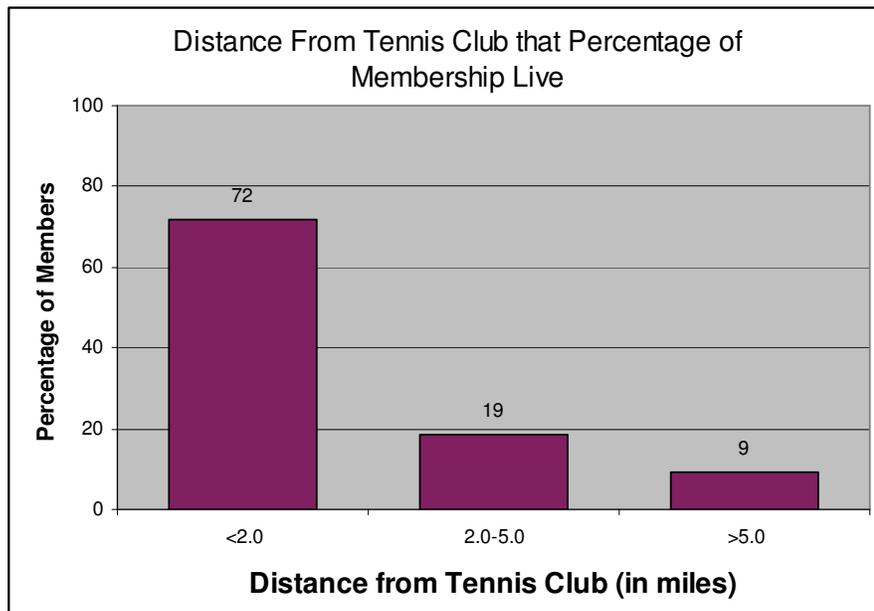


Figure 129 : Catchment Area of Linlithgow Tennis Club

National Context

Players from Linlithgow and Central District have achieved high levels of performance in tennis. Colin Fleming played in Wimbledon in 2006, partnering Jamie Murray in the men's doubles. Other players from Linlithgow have been

prominent on the national stage, for example Frances Hendry (senior women) and Scott Lister (boys under 12) represented Scotland in the annual Tri-Nations Tournament in 2006 (Tennis Scotland, 2006). The local weekly newspaper, the Linlithgow Gazette regularly features the achievements of local tennis players, while the exploits of tennis star Andy Murray from nearby Dunblane are recorded in the national media. People in Linlithgow could therefore be particularly affected by the success of Scottish tennis players, however this “local hero” effect could equally be felt throughout Central District, and earlier evidence has not shown particularly high participation in Central as a whole.

Provision of tennis facilities is critical to participation in tennis and is considered in Linlithgow. However in order to determine the impact of facility provision on the “hotspot” there needs to be some comparability with the national picture. A recent audit of outdoor sports facilities undertaken on behalf of sportscotland (Professional Sportsturf Design, 2006) researched into provision of tennis courts in Scotland. Tennis courts are the second most numerous outdoor sports pitch/court provision after winter sports pitches. There are an estimated 2,249 tennis courts in Scotland. Public recreation/access facilities and voluntary sports club provisions each represent approximately one third of the national provision. The Audit surveyed 457 tennis courts, approximately 20% of all tennis facilities in Scotland, and for these courts 48% fell below the recommended Grade 3 Satisfactory Standard. Scotland has approximately one tennis court for every 2,220 people. Linlithgow has four tennis courts, or one for every 3,340 people. The tennis courts in Linlithgow are in the voluntary sports club sector, and there are no dedicated tennis courts in the public recreation sector. This relative lack of facilities in Linlithgow could be driving club membership higher as it is the only way of playing tennis in the local area. The

situation is similar throughout West Lothian where Torkildsen Barclay (2004) found that 39% of the demand for tennis could not be met due to a lack of tennis courts. There is also a possibility that the strength of the tennis club in Linlithgow contributes to the lack of alternative facilities. Participants in tennis could be drawn to the club and therefore not utilise other local courts that might fall into disrepair (such as Bo'ness) or that might be more available for tennis if there was demand (such as the all-weather surface at Linlithgow Leisure Centre).

Explaining the Local Sportscape

Linlithgow Tennis Club is a tennis hotspot, and as such illustrates the “geographical variation in sporting attributes” mentioned by Bale (2000, p171). While Central District has an approximately average level of committed participation in tennis, Linlithgow shows four times that level of emphasis. An analysis of some of the geographical factors impacting on the sportscape has revealed some important facts about the space.

- 1) The lack of quality alternative tennis facilities in the Linlithgow mean that those with a propensity for tennis are most likely to join the tennis club than use local authority facilities (further distant or not available) or those at the school (poor quality and not available).
- 2) Only Linlithgow Tennis Club offers a variety of tennis activities other than casual “pay and play” opportunities in the local area.
- 3) The population of Linlithgow has characteristics that would indicate a high “propensity” for participation in sport and in particular tennis.

- 4) It must be a combination of the factors considered in relation to demand - households and individuals, and in relation to supply - the opportunities for tennis, that make Linlithgow Tennis Club a hotspot.

6.5 Qualitative Research : Mapping, In-depth Description and Spatial Analysis of Sportscape of Linlithgow Tennis Club

Place

Qualitative research through semi-structured interviews with committed adult tennis participants in Linlithgow (tennis club members) was carried out. The semi-structured interviews were based on questions around the forms, features and functions of a club, and allowed participants to elaborate on their own personal experience of tennis and playing tennis at Linlithgow Tennis Club. The details of those interviewed are in Appendix 25. Relevant sections of transcripts of the interviews are available to other researchers through the author, but are not published in the thesis due to confidentiality issues. The author considered these interviews and picked out some common themes relating to the demand, supply and decision choice (activity, time and site) for the tennis club members. These might give further explanation of the reasons for positive participation decisions made by individuals in relation to tennis in Linlithgow. There was much more information within the interviews than was abstracted, and the author has selected some examples only to assist in answering the research questions. The aim was to build up a model showing the themes contributing to the individual's decision to be a tennis club member from

the semi-structured interviews. This complements the work done in 6.4 around **Figure 122** to illustrate the characteristics of the local population and understand the tennis hotspot.

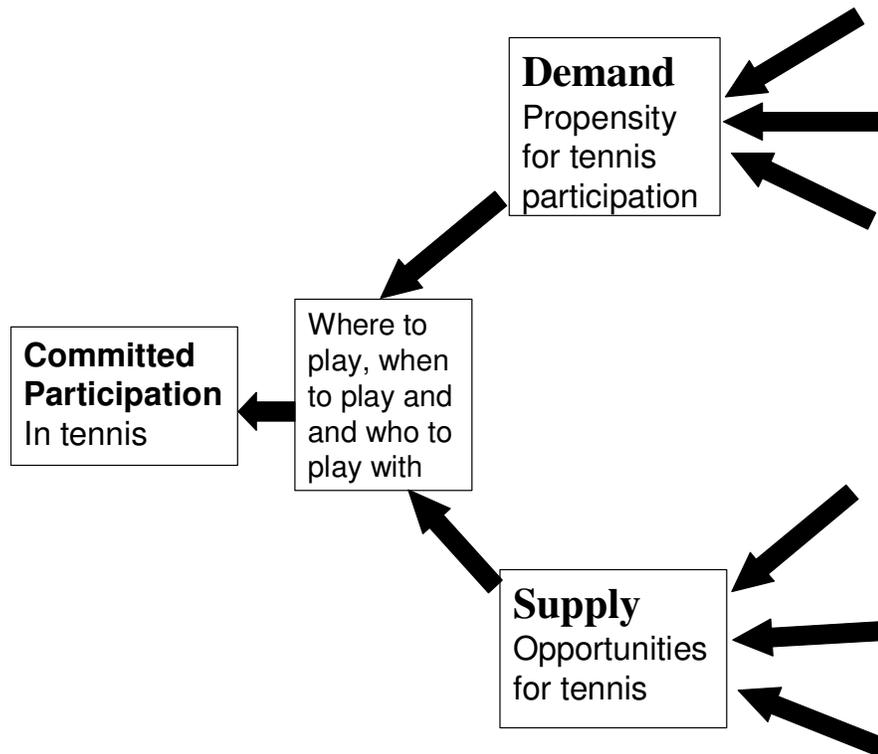


Figure 130 : Committed Participants (Club Members) and their Perceptions and Experiences as they Contribute to their Decisions about Playing tennis

Supply: Perception of the Opportunities for Tennis

The supply of facilities in the Linlithgow area has been described and mapped. The opportunities for tennis in Linlithgow Tennis Club were listed. However it is the perception of these opportunities that determines the decision choice as to when to play and who with. Three factors were identified from the interviews and considered: the method of introduction to the club, the networks and social

connections formed within the club, and any exclusionary or elitist practices within the club.

Introduction to club

All those interviewed were asked how, when, and why they had joined the club and as might be expected there were a wide variety of answers. One simply said they were a tennis player and when they moved here this was the local club. That seemed a common reason for joining Linlithgow rather than a different tennis club. One explained that she knew someone who was a member and when she and her husband moved into the area, her friend suggested the tennis club. Another had come along to an open day. That member explained that he was no longer able to continue road running, so tennis was something he could do a less intense level. One of the younger members had been taken to short tennis indoors as a very young child and brought to club coaching by her parents who were active members. Another remembers going to the club with his Dad and brother when just starting out. One or both parents of the two younger members had been involved in helping out with the junior programme (coaching or teams) in some way.

Most of those interviewed had been exposed to tennis in some way before joining the club. Apart from those who joined as children (two of the group interviewed), several had played at other clubs before moving to Linlithgow. One had played on “municipal” courts, another at school, so most had had some previous experience (however little).

“Susan” explained that when she and her husband first joined she only knew the friend that had introduced her to the club

But I got to know them pretty quickly, they are a nice lot, some of whom I am still playing with. “Susan” (female, aged 57)

“Josh” was introduced to the club at the age of 10 years:

I think we just went down with my Dad who used to play a little bit. We moved here and the tennis club is like a minute down the road so he just took me down one day and that was it ...I just played from then on and he took my brother down as well. Basically just cos we lived close to the club I think.
“Josh” (male, aged 25)

“Alison” outlined her reasons for joining Linlithgow Tennis Club, despite living 9 miles away in South Queensferry.

I didn't know there were any tennis clubs locally at all until somebody said there's Linlithgow join that, and one of the mothers who had come to the coaching said I live up there I'll take you up and that was how it started. She'd only just joined because she lived nearby and she knew some people who were already members. “Alison” (female, aged 39).

“Grant” had just retired from marathon running and was looking for a new sport

I came to the open day... they gave me a racket and let me hit the ball and I was glad to see I could actually see the ball and still hit it. I came to the club nights after that and ... the members are very good, one thing about the club is they do suffer fools gladly at the beginning and we just played Monday and Wednesday all the time. “Grant” (male, aged 64)

A common theme was that members actually came to the tennis club and either joined in a session or found out more about it and met some existing members. As those interviewed are still club members, their first impressions and introductions would be expected to be positive. All seemed to value the welcome given to them by other members.

Networks and Social Connections

The tennis club members commented on how they had got to know other people at the tennis club.

There are a lot of people at the tennis club that are really nice and it is nice sometimes when you are in Linlithgow to see (someone) when you are walking down the street and to say “Hi How are you”. It’s nice you know because you feel part of Linlithgow community and all that. “Karen” (female, aged 25)

(Linlithgow Tennis Club) has been a big part of our life. I mean my husband and I both have just enjoyed it for a lot of years and made a lot of good friends. When my husband died there were loads of them came to his funeral which was nice. “Susan” (female, aged 57)

I know of one lady who’s quite recently divorced and she’s being going down to the club nights, she’s a beginner, intermediate player and to her it’s made a huge difference, she’s made lots of friends. “Alison” (female, aged 39)

“Richard” mentioned that he and his wife had got to know three other couples and that they frequently met up for an

impromptu come round for a meal then have a game of tennis
or go for a game of tennis then have a meal “Richard”
(male, aged 50)

This had not been possible recently since the other couples now had children.

These connections appear to have made tennis and the tennis club an important place for the individual members and that has contributed to their continued membership of the club. This aspect was not considered within the quantitative part of the study.

Exclusionary or Elitist Practices

Those who are members of Linlithgow Tennis Club are part of an exclusive group (others in the community are not members), however within the club there appear to be some definite places that are only for certain people. This is either by specific organisation (such as men’s team practice on a Thursday night in winter) or by custom (such as women playing weekday mornings). Part of the decision choice is that what the individual perceives is what matters. For example

All the ladies have their club mornings, but I don’t feel
welcome to do that because I am not a mother, not a lady, and
the age difference... .. “Karen” (female, aged 25)

It is apparent that there are certain times and places that only those who are invited or who are of a certain (unspecified) minimum standard can attend.

I have chosen not to (attend team practices) at the moment
because I’ve played with the girls that are in the team and I’m
not of a standard yet to give them a good enough hit. I am
trying very hard to get into the team. I try to play against

people who are of a higher standard to get my game up a bit.
“Alison” (female, aged 39)

You have to be invited (to Thursday and Sunday nights).....
Basically if you're good enough... I was eventually invited to
join that group and never looked back since then. The
Thursday nights are supposed to be team training but
invariably, this is one of the faults about tennis in general, the
people that think they are good enough don't come down so
its all the fringe players that are down on Thursdays and
Sundays. Periodically you get the odd first team player
coming down to play with you, but this year we started to
insist that if they wanted to play in the first and second team
this year they had to appear for at least 3 weeks before the
season started and that made a big differencebecause
when these guys come down to play they found a few of us
who were giving them a hard time and they realised they had
better pick their game up and I think they enjoyed that and
then we had a better year this year in the first and second
team.. “Grant” (male, aged 64)

But within the club it is a wee bit cliquy ... the Sunday night
I used to go to was probably 8 or 10 guys ...it established
itself late in the autumn I think several years ago and there
were no other invites went out ... some of the better players
were asked to come along and do a wee bit of coaching and
they enjoyed it so they stayed and then ..one or two of the not
so good players, myself included went along thinking if the
better players are going to be there your game is going to
improve and it became a wee bit of a clique... “Richard”
(male, aged 50)

No-one interviewed suggested that there were any inequalities in the club structure due to gender. There are women on the committee in important roles, although recent Presidents have been male.

Overall “Susan” summed up the view of the members of themselves :

It’s not a snobby club, at least I don’t think it is. I don’t think it’s the moneyed people who belong to this tennis club. The original people who started it were just ordinary teachers, engineers, people who worked in the bank, people who worked for the council, just anyone who fancied playing tennis really. “Susan” (female, aged 57)

Demand: Propensity for Tennis Participation

Those who are members of Linlithgow Tennis Club must have had a propensity for tennis participation. While in 6.4 the characteristics of the population that indicate a propensity for tennis were considered, here the individuals interviewed reveal aspects of their background that have influenced their decision to participate. Common themes relating to family involvement, holidays and tennis and their first introduction to the sport have been picked out as particularly relevant.

Family Involved in Tennis

A family involvement appeared to be important to a lot of those interviewed. This was either how they were introduced to the game, or perhaps they had introduced their children to the sport. There was evidence in Figure 125 of several members of a household belonging to the club. Some qualitative mention was made of the family in quotes in previous sections.

One interviewee, “Karen” explained that all her family were involved in sport and explained her father had been vice-president of the sports club, her Mum had been one of the coaches for the juniors and she and her sister had played in the junior teams.

It’s in my genes. “Karen” (female, aged 25)

“Alison” mentioned playing tennis as a family and being a role model for her children

Because I’d always wanted to play (tennis) I thought if I get the kids to play it, Malcolm can already play it so if I get the kids to play it then when they’re all older, they can play as a family when we are on holiday and things and I think that that’s really important and I also think its important to set a good example for your children. “Alison” (female, aged 39)

“Richard” explained that he only took up tennis again because his wife was keen

I joined because Pauline played quite regularly. “Richard” (male, aged 50).

Holidays and Tennis

Another aspect which was highlighted by those interviewed was the role of tennis in holidays. None had tennis as the sole purpose of their holiday, but for many it was part of their leisure when away.

We always played tennis on holiday. “Susan” (female, aged 57)

We do go some place that has tennis courts, so we play tennis when we're on holiday ... but not dedicated. "Richard" (male, aged 50)

A couple of years ago in France we played tennis and this year we are going to Spain and deliberately chose a villa where there's tennis courts nearby. "Alison" (female, aged 39)

"Karen" remembered summers in her childhood

Often when we've gone to stay in Austria at my Auntie's they have a tennis court so we'd be playing every day twice a day when we went out there ... "Karen" (female, aged 25)

The placing of tennis as a big part of leisure time is consistent with their committed participation through club membership, although it is not the case that all those people who play tennis while on holiday are tennis club members.

First Introduction to Tennis

A lot of those interviewed mentioned Wimbledon and summer-time as important in their first experiences of tennis.

When we were young although we had no television, we knew about Wimbledon. So you played for that two weeks in the year with a wooden bat or whatever ... in the local public park in Renfrew on the west coast of Scotland. "Grant" (male, aged 64)

"Richard" (male, aged 50) explained he started at around the age of 15

It was in Airdrie at the public courts and it was to do with Wimbledon .. Wimbledon was on... and we used to play in the park..... it was a park near our house and all the kids used to go and play... and it was football for most of the year and when the cricket was on. It was cricket, when cricket was in the headlines and when Wimbledon was on, it was tennis. So everybody had a tennis racket, or some of us had tennis rackets and some of us didn't and I progressed from there to go into the public Park and the public tennis courts and played there. “Richard” (male, aged 50)

For others opportunity and encouragement made a difference.

I always wanted to play tennis. Tennis just looked such good fun when I was young, watching Wimbledon. There were no facilities whatsoever in the area (South Queensferry) and then a coach started up children’s coaching in a local leisure centre and my 4 year old went along to them and because all the mums were so keen she said would you be interested in coming along and I’ll teach you how to do it too. So we all went along on Monday mornings and learnt the very basics and from there I joined a club. “Alison” (female, aged 39)

As a youngster...tennis was just something to do to stay out of trouble as opposed to scratching cars and whatever bad kids were doing. And because it didn’t cost muchyou could play all day on the municipal courts. “John” (male, aged 52)

The influence of the family has already been mentioned. And certainly for “Josh” and “Karen” the involvement their parents had with the tennis club (through coaching and administrating) might have been important in their continued membership.

Wimbledon and either the watching of Wimbledon on television, or the knowledge that tennis was the sport of the moment has been highlighted. For many of these committed tennis players, Wimbledon was an inspiration. However there are many millions of people who have watched Wimbledon on television and even played in the park or on the street when Wimbledon was on, who do not go on to become committed participants. In addition the two younger interviewees introduced directly to Linlithgow Tennis Club by their parents do not mention Wimbledon as a factor in their first tennis experiences, family is more important.

Decision choice to participate – and what activity, who with, and when

Some of the regular tennis activities at the club have already been mentioned, and individuals have outlined why they might (or might not) attend.

Here their descriptions of the activities they attend and why (not) are enlightening.

“Karen” explained that at the regular club nights:

One thing is there is not very many people my age... if you notice there is a huge age gap which is ...the only people really are Caroline and Michael and a few other guys that play...but most of them wouldn't come down to club nights. Michael wouldn't come down to club nights because he is past that level, that standard of play, so he wouldn't get a good game. “Karen” (female, aged 25)

“Josh” agreed

I wouldn't go down there (club night) for a serious hit, just probably cos I'm better than most of the people down there to be honest. No, if I did go down it would just be a social thing, it would just be kind of like to get a bit of banter with members and stuff. "Josh" (male, aged 25)

"Alison", as a new member and relatively inexperienced player did not immediately attend club nights when she joined.

I started going to club nights probably the beginning of this year and that was because I got to know lots of people in the club who kept saying come on come along and I'm going no I'm not really good enough, no I wont bother, but then I did because I thought if they're going I'll be alright and so that's when I started going along in the evening. "Alison" (female, aged 39)

The weekday mornings that "Karen" did not feel comfortable attending are those that "Alison" would not miss!

All the girls play in the morning – Mondays, Wednesdays and Friday mornings between 9.30-11.00am. If any of us are free Monday, Wednesday, Friday mornings, weather permitting (weather permitting being that it wasn't bucketing with rain or snowing) we would go and play tennis. If it was really cold we'd wear gloves. There's a bag of salt in the clubhouse to put on the courts if its icy and we just go and keep playing throughout the winter because what else is there to do really. "Alison" (female, aged 39)

Another group that play on weekday mornings (this time men) is mentioned by "Grant"

We are the retired, the self-employed and the unemployable and we come down here for a game on a Tuesday morning.
("Grant", male 64)

Quite a few of those interviewed played in teams in league matches in the summer.
"Grant" explained how he had initiated a third men's team to allow more members to participate:

there were so many members queuing up to play in the 2nd team we entered a 3rd team and I had something like 23 people who wanted to play ..so we had 9 games so I thought I'd adopt a principle of playing everyone who wants to play. As it turned out only about 12 or 13 of the people who had put their names down wanted to play and I rotated them as best I could. "Grant" (male, aged 64)

In contrast "Susan" explained:

I don't play in the teams anymore. I gave that up a couple of years ago because I got fed up playing 6 sets and not getting home till after midnight so I decided I would just play on the club nights. "Susan" (female, aged 57)

Winter weather is not seen as a deterrent, as "Alison" mentioned earlier, and "Richard" and "Grant" outline:

We always played on a Sunday night right through December and January even to the point of coming down and checking whether the frost was acceptable and maybe we would play for half an hour and if anyone slipped then we would pack it in. "Richard" (male, aged 50)

during the winter ... we play every week (Thursday and Sunday) no matter what the weather rain hail or snow and I have been known to clear a patch on the court and practice my serve and that's good because you can see the tracer marks in the snow where the ball hits (laughs)....but we normally play all the time and we hardly ever miss a night. "Grant" (male, aged 64)

Something mentioned by many of those interviewed was the lack of interest in socialising in the club bar.

I don't think any of the tennis players go into the bar afterwards. "John" (male, aged 52)

The clubhouse is too far away...if the clubhouse was here people like me who were sitting off might say oh lets have a drink and watch the tennis but because its up there and you can't see it you don't bother...and also the courts were open a year before the clubhouse was open so people got into the habit of just playing their tennis and going away so the only time you really socialise is after matches. "Susan" (female, aged 57)

I think it would be nice if after playing you could go and have a drink in the bar and be a bit more sociable but because we play tennis quite late on its usually late and people have got to get home for work the next day or you know whatever. One of the things that's made a difference is they've just made the clubhouse no smoking and it has, its so much cleaner in there to sit its much more pleasant. "Alison" (female, aged 39)

These tennis club members illustrate the variety of tennis activities on offer. It is the tennis opportunities, rather than the purely social ones that seem particularly of interest. However the nature of tennis means that interaction with other players is essential. There are many different ways that tennis club members have found that suit them to schedule their participation.

Explaining the Local Sportscape

The themes identified from the interviews contribute to our understanding of supply and demand as it relates to those who have made the decision to be members of Linlithgow Tennis Club (see Figure 131). These themes are specific to the individuals interviewed and are not a generalisation, simply a picture of a few individuals. The themes are inter-related and sometimes an individual mentions more than one within the same sentence. Individuals' experiences of tennis and Linlithgow Tennis club revealed

- Introduction through family or inspiration by Wimbledon
- Tennis as part of their holiday time as well as everyday lives
- Importance of welcome from existing club members when they first joined the club and possibly introduction through friendship with existing member
- Development of social and community networks amongst other club members
- There are times and places where certain members either specifically wanted to be playing or felt unwelcome or excluded. Determinants were about common purpose, standard of play, and age, for example.

The majority of club members interviewed seemed to agree with "Richard" when he summed up the tennis club as the

best kept secret in Linlithgow (“Richard”, male, aged 50).

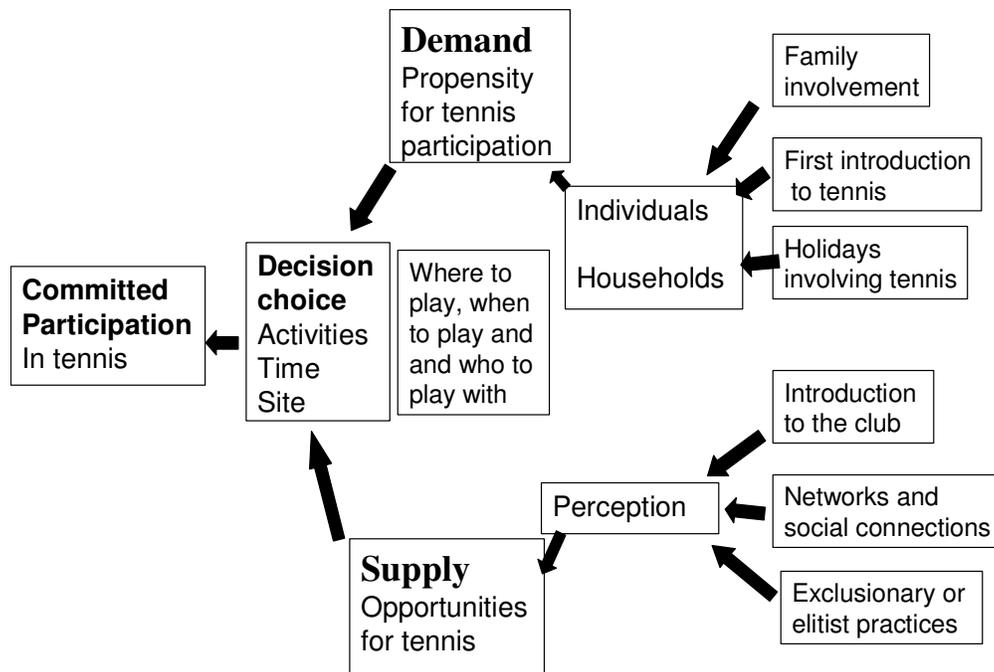


Figure 131 : Model of Individual Factors Impacting on Decision-Making from Interviews

6.6 Model for Understanding Tennis in Linlithgow

It was noted in Chapter 5 that there is a lack of quality academic research into sports clubs. This case study provides a detailed analysis of tennis in Linlithgow. While the general low level of tennis facility provision in the area is similar to the national picture, the level of club membership, or committed participation, is much higher than in Scotland as a whole. Linlithgow is a tennis “hotspot” and tennis participation is more than four times the national average. An explanation using the model of supply and demand for tennis in Linlithgow was suggested. A combination of explanatory factors relating to the nature of the supply of tennis (opportunities) and

demand for tennis (household make-up and individuals) was outlined. A complimentary qualitative investigation of individual member's perceptions and experiences of the club revealed some common themes relating to the sportscape. Themes such as family involvement, the development of social networks through the club and community, limited times when members felt they were invited to play, and the importance of the welcome received by new members when they first attended the club emerged.

There are several limitations to the research into and development of the model for tennis participation in Linlithgow. Firstly, the model does not capture the complex and dynamic nature of the interactions between factors listed within it. For example the relationship between the socio-economic characteristics of the population and the perceptions of the supply of opportunities is not shown or explored. The qualitative investigation highlighted the contradictions present – for example the exclusionary practices actually appeared to facilitate the creation of stronger networks. The model does not show how changes in one factor might impact on all of the other factors. For example a refurbishment of one multi sport court at Linlithgow Academy (Figure 108) could not only change the resource characteristics, but also the introduction to tennis and perceptions of opportunities for tennis.

The focus of the case study was on those who were committed tennis participants (club members). It did not explore the decision-making process of those who did not choose to participate at all, or of those who participated but not in a club. The case study considered the views, opinions and experiences of a minority of people (a sample from 4%) in Linlithgow. Future studies could investigate the wider

population to try to understand why they are not involved in the club and why they have left the club (if they were previous members).

The importance of Linlithgow and Linlithgow Tennis Club as a specific location for tennis participation was not underlined through the model. The qualitative research found three themes linked to an individual's propensity for tennis participation. The majority of those interviewed had not had their first introduction to tennis in Linlithgow, so the factor relating to introduction to tennis is not linked to a specific location (Linlithgow). Similarly for some the family involvement had also been outside Linlithgow (although for others it was taking place within two miles of the club as reported). The third factor, holidays involving tennis were also taken in a location away from Linlithgow. A number of interviewees also mentioned Wimbledon, and watching Wimbledon as an influencing factor for their tennis participation, and again this was not specific to Linlithgow, but available on national television. Yet all these factors were common to those people creating the tennis hotspot in Linlithgow.

Even given the limitations of the model, a greater insight into the local sportscape has been gained through using the two approaches, one considering the population and the other considering individual members. In the future it might be possible to combine these two models (as in Figure 132), and consider general characteristics of the local population on the left hand side and individual members and their actual experiences and perceptions on the right hand side.

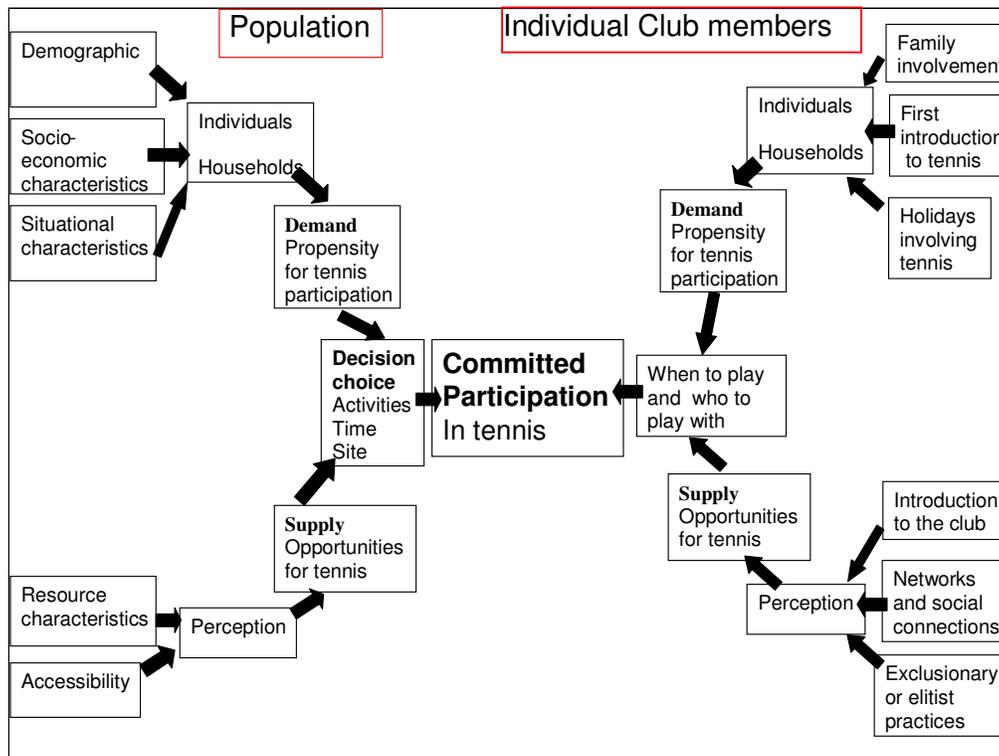


Figure 132 : Proposed Model for Understanding Tennis in Linlithgow

The case study of a local sportscape provides detailed information about a specific place at a particular point in time. The findings can be used to inform those within the club and those making decisions about the sport in the local area, as well as presenting one example of good practice. As the health of two thirds of Scottish adults is at risk due to inactivity (Scottish Executive, 2003), identifying and explaining places where there is a high level of commitment to sport through membership of a club could be critical to increasing levels of physical activity and improving the life expectancy of Scots. The research approach used in this study could be applied to any number of different contexts in order to describe and explain local committed participation in activity for each one. From a large number of case studies it may be possible to identify patterns on a regional or national scale or to highlight trends relating to one sport or type of situation.

The geographical interpretation of tennis in Linlithgow gives valuable insights. Tennis in Linlithgow was shown to be different to what might have been expected from looking at a regional and national scale. The value of studying just one sports landscape in detail in order to find in-depth, local explanations lies not only in the increased knowledge about that local space, but in the ability of geographers (and other researchers) to build up a portfolio of information about a number of different sports spaces and thus present possible options, explanations and case studies of good practice to be applied (with care) around the country.

Chapter 7 : Conclusion

Sport is inherently geographical. The nature of modern sport requires a specific location for activity and boundaries between participants and spectators. Sport is an important part of culture and society, but is a neglected avenue of geographical study. Scottish sport is important to the people of Scotland, both as a definition of the nation and an expression of national pride. As the home of shinty, curling, and golf (regularly holding the Open), and host of two Commonwealth Games, Scotland is rightly proud of its sporting heritage. There are many implicit geographies of sport in Scotland. Any sports landscape is unique in a space or at a time and also to each individual (in their interpretation of the place). These characteristics of the sports landscape were recognised as requiring a particular approach from sport and spatial science, described as interdisciplinary (Puig & Ingham, 1993). In the special issue of *International Review for the Sociology of Sport*, articles about different aspects of sport and place recognised that sport was not outside of the human/environmental system, but part of it and perhaps many different aspects of the landscape impacted on sport and sport impacted on many aspects of the landscape. It was also acknowledged that the theories and methods of various disciplines were required to analyse and explain sports space. Geography has been shown to have been neglected by those studying sport, and geographers have neglected sport in their study of social and spatial phenomena.

There are limited research studies in geographies of sport, and in particular into geographies of sport in Scotland (Price, 2002 is a notable exception). One of the first academic and geographical studies of sport in Scotland has been developed through this thesis. The key themes of geography have been applied to the study of sport by

some authors and these were outlined in chapter 3. A study of the sports landscape encompasses these four themes, of space, place, environment and time.

This thesis has developed a framework for the geographical analysis of sport. An original matrix for the study of geography was proposed by Berry in 1964. Rooney later published a framework for the analysis of the geography of sport (in 1975). Neither of these frameworks included concepts of place that are now central to geographical thinking. Addition of a further scale, the local, has also transformed the opportunities for research found in the new framework. Figure 10 shows the new framework for geographical analysis of sport. The aim of the thesis was to develop a framework for study, illustrate its use and importance and evaluate its future potential. Using this conceptual framework presents a researcher with a myriad of possibilities for study, considering the concepts of space, place, environment and time can be applied at any number of scales and in any number of locations. The interpretation of the research undertaken at the particular scale, in the specific place and at the exact time is what is important. Case studies were undertaken to illustrate how the approach taken from the conceptual framework provides new insights and understanding of the sports landscape. Each of the case studies is summarised below.

A first geography of sport in Scotland was developed through the thesis. A new conceptual framework for the geographical analysis of sport was presented and the three sub-questions were answered through case studies as part of the thesis;

- Case Study 1
 - How did a national sport develop – from prototype to internationalisation?;

- Where did curling develop in Scotland? (national scale);
- Case Study 2
 - Is there a regional variation in sporting attributes?;
 - Descriptive analysis of the nature, intensity and distribution of sports club membership and sports volunteering at a regional scale. (regional scale) ;
- Case Study 3
 - Describe and explain a local sportscape.
 - Why is Linlithgow a tennis hotspot? (local scale).

At a national scale, the first case study charted the changes in a Scottish national sport over time. Themes from the new framework relating to relevant geographical processes; prototypes, point of origin, diffusion, spatial organisation and interaction, regionalisation, and internationalisation were investigated through the concepts of space, place, environment, and time, alongside sports technological change and sports landscape change. This use of the new conceptual framework for the geographical analysis of sport (Figure 10) was a different approach to that taken in previous studies of curling where historical developments were described, or facts listed with very little analysis. The influences of modernisation of the sport (for example through standardisation of the playing space and professionalisation of competition and training methods) and changes in the climate over time (resulting in less frequent outdoor curling even on artificial surfaces) had not been outlined before. The case study, as well as providing a more complete historical picture of the national sport of curling, also advanced understanding of the dichotomy in curling between the outdoor and the indoor game. This split in the sport began to become clear as the application of some of the themes and concepts encountered differences between the more traditional outdoor game and the modern Olympic sport of indoor

curling. While there are variations between different places, in all of them the distinctively Scottish nature of the game of curling remains, despite the influences of modernisation and internationalisation. The framework presented a clear structure for the study and enabled a logical analysis to be undertaken.

Looking regionally, geographical variation in sporting attributes was a key theme identified by Bale (1982; 2000; 2003). Measurement of the variations in certain sporting characteristics of the population such as rates of participation has been slow to recognise that regional variations are an important part of the national picture. While age, sex, social class or levels of deprivation have been linked to higher or lower levels of sports participation, reports have tended to consider Scotland as a whole. The first research to consider regional variations in Scottish sports participation was by Coalter and Dowers (2006) and they utilised the boosted Scottish Opinion Survey data from 2003-4 to illustrate that a group of local authorities in the west of Scotland had markedly lower participation rates than other local authorities. Regional variations in two other important sporting attributes, sports club membership and sports volunteering were considered in this thesis using the Scottish Opinion Survey boosted data, as well as normal samples from 2004-6. New knowledge about the patterns of sports club membership and sports volunteering was uncovered. While there is a strong correlation between sports club membership and sports participation this is only part of the story. In different local authorities, there are different proportions of participants as club members and the male/female split also varies across local authorities. Gender is also shown to be important in the variations in sports volunteering. Rather than there being more female volunteers (as there have been found in studies of volunteering in general), the thesis found that more males than females volunteer in sport in Scotland. The

highest rate of sports volunteering in the population is to be found in the north; however the biggest contribution to the sport volunteer workforce comes from large urban towns. Residents of the least deprived areas of Scotland are most likely to be sports club members and to volunteer in sport. Armed with this new information, policy makers, sports development officers, social workers and other researchers can now implement locally relevant policies, focus on appropriate target groups, improve people's lives and undertake further research. Further research is required because these findings, based on large-scale survey data aggregated at the regional level, are not able to explain why there is regional variation. To understand the variations more fully, a different approach is required. The new conceptual framework proposes working at a local scale and utilising both quantitative and qualitative methods to attempt to explain variability in a sporting attribute.

The case study of a local sportscape illustrated the importance of the whole framework. While the study looked at Linlithgow in particular, findings from sports geographical studies at the regional and national scale were utilised in order to consider whether the findings about Linlithgow were to be expected. These revealed Linlithgow to be a tennis hotspot where four times as many committed tennis players lived as would be anticipated from the national average. A model of participation decision-making was adapted and used to examine local factors that might be influencing the participation level in Linlithgow Tennis Club. The lack of alternative quality tennis facilities was highlighted as a factor, although evidence that this was also a problem throughout Scotland was presented to show it may not be the most important one. The demographics of Linlithgow and the characteristics of the population were proposed as a factor in the higher level of tennis membership. This fitted with some of the regional findings about sports club membership, where those

of a higher social class, and living in least deprived areas were most likely to be sports club members. However it was also found that sports club members are also most likely to be resident in urban areas rather than accessible small towns. The qualitative research found that those who were committed tennis players in Linlithgow (tennis club members) shared some common experiences and some differences. Many had been introduced to the club through family or had been inspired by Wimbledon. The welcome they received from existing club members when they first joined the club was very important, and some had already had friends who were members. Tennis was an important part of their everyday lives and also their holiday time. There appeared to be a development of social and community networks amongst other club members, however everyone was not agreed on when to play. There were times and places where certain members either specifically wanted to be playing or felt unwelcome or excluded. Some of the determinants mentioned were gender, common purpose, standard of play, and age.

The findings from the case study have been used to propose a model for understanding tennis participation in Linlithgow (Figure 132). This model allows consideration of the factors acting at the level of the general population and also those relating to individual club members. This could be further developed and applied to other settings or sports clubs in the future.

The in-depth analysis carried out could be of value to local policy and decision-makers when thinking about a number of local issues such as sports provision, increasing social capital, and improving health and well-being in deprived areas. It could be of value to the tennis club when considering either how to provide appropriate services for its members, or how to attract new ones. It could be useful

to the Scottish and UK governments when they are considering examples of good practice or where there are role models. A single case study at the local scale does not in itself show findings that can be applied to other parts of the country. It is a specific example. However further detailed studies, of a number of local case studies might begin to indicate patterns that could merit further investigation at a different scale. This one case study does not inform the reader about anything other than the very specific example of Linlithgow, Linlithgow Tennis Club, and tennis. It could be relevant to identify other tennis hotspots and investigate the local sportscape of these, and places where participation in tennis is very low could be similarly researched. By using a number of case studies in this way, patterns might be found.

Each case study was a valid piece of research in the geography of sport. New insights about the specific elements were brought to light. However their value to this thesis was not only as case studies, but as part of a bigger project. The geography of sport can be studied using the elements identified in the new conceptual framework (Figure 10) and this thesis has shown that this is important research to be done.

Scotland is a country of a great variety of landscapes. The sports landscapes of Scotland merit more investigation. This thesis has illustrated just three examples of the new knowledge and insights that could be gained from researching the sports landscape through a sports geography framework. There are hundreds more. In addition there is an ever-increasing portfolio that comprises sport, as new lifestyle sports, physical activities, and adventure sports become part of the sports landscape. This thesis has focussed on Scotland as the extent of the sports landscape. However it is clear that there are as many national sports landscapes as there are nations, and

the global sports landscape exists at a scale higher than these. Studies where landscapes are compared across nations, or across regions or continents, could be of interest. There has been limited research by geographers about sport so there is a great deal of work to be done. Sports research has all but discounted geography and there are many gaps in knowledge. Sports geography should be a key feature of both sport studies and geography and the conceptual framework developed is a key way for researchers and teachers in both disciplines to make up lost ground. Bale (2006) commented that an Atlas of Sport in the UK (or Scotland) would be both desirable and feasible. This was perhaps surprising given previous comments about a “cartographic fetish” (Bale, 2000, p173) and it is not clear how such an Atlas would be reconciled with the various approaches to knowledge (in particular those more prevalent now). However the idea of maps and mapping illustrating social phenomena has been recently popularised through many publications (both books and on the internet) by Professor Dorling and the Social and Spatial Inequalities Research Group at Sheffield University (Barford & Dorling, 2007; Dorling & Thomas, 2004; Shelton *et al.*, 2006). In an applied sense, some sports governing bodies and Sport England currently offer opportunities to find sporting facilities through their websites (for example Lawn Tennis Association, 2008; Sport England, 2008) and it may be that an Atlas of sport in Scotland for the 21st century is an interactive one available through the internet. Any Atlas would need to provide more than just mapping of locations as the key thing about any location remains “what does this place stand for” (Massey, 2006).

While there were important findings in each case study within the thesis, these cannot be generalised into other spaces, places or attributes. A case study is about a specific space, place and time and the findings apply to just these. However it may

be possible to employ models developed (such as in case study 3) to conduct further case studies, or to build up a pattern based on a number of similar case studies. But the rationale for carrying out both local and regional studies was the varying nature of sport and sporting attributes across space. Generalising too much would defeat the purpose of the regional and local approaches and return research to the time when the average for Scotland was “good enough” for policy makers.

The new conceptual framework encompasses a wide number of approaches to knowledge. Each approach could employ different research methods – from qualitative to quantitative, historical to spatial analysis and so on. This thesis has shown successfully that using the framework to analyse geographies of sport has added to the body of knowledge both about sport and about geography. In each case study, there was new knowledge gained about the sports landscape through researching following an approach outlined in the framework. However the framework does not give a researcher the answers. The researcher must choose what approach to follow and which aspect of a very complex landscape to study and guidance on this is not given in the framework. It should now no longer be acceptable to study sport in isolation without considering a dynamic interaction between the phenomena and place, space, environment and time. Geographers have also been given a clear framework within which to study the important social phenomenon that is sport.

Bale (2003, p5) explains

“sport geography is concerned with exploration of sports activity on the earth’s surface and how the spatial distribution of sport has changed over time, the changing character of

sports landscape and the symbiosis between the sport environment and those who participate in it, the making of prescriptions for spatial and environmental change in the sport environment at a variety of geographic scales”.

The new framework for analysis of geography of sport has enabled the thesis to do exactly that.

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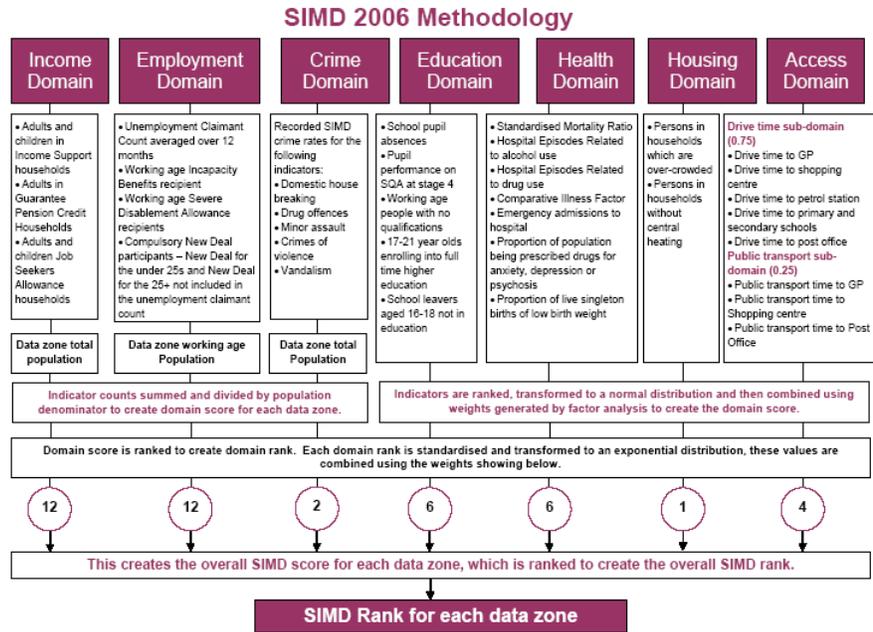
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Appendices

Appendix 1 : SIMD Methodology



Source: Scottish Government (2008)

Figure 133 : Visual Guide to the Methodology used to Create SIMD

Appendix 2 : Scottish Opinion Survey Sport Questions for Adults

The following are the current questions for adults (16+).

[All respondents] In the last 4 weeks, have you taken part, however informally, in any of these sports or physical recreations in Scotland?

[Asked Jan/Mar/May/July/Sept/Nov. See below for checklist of 58 sports shown to the respondent.]

[If YES] Which sports or physical recreations have you taken part in during the last 4 weeks in Scotland?

PROBE: Any others? PROBE: Any others not on this list? [Asked Jan/Mar/May/July/Sept/Nov]

[For each sport mentioned up to five] How many times have you taken part in <APPROPRIATE SPORT> in last 4 weeks? [Asked Mar/July/Nov]

[For each sport with frequency given] Of the <NUMBER> time(s) you took part in <APPROPRIATE SPORT> in last 4 weeks, how many were:

- for organised training, coaching or lessons?
- for organised competition (eg, games, tournaments, etc)?
- casual occasions (eg, with friends, family, etc)?
- other occasions?

[Asked Mar/July/Nov]

[For each sport mentioned up to five] Are you a member of a club for <APPROPRIATE SPORT>?

- Yes – club member
- No – not a member [Asked Jan/Mar/May/July/Sept/Nov]

[If cycling mentioned] On the last occasion you went cycling, was that mainly in the countryside or in a built-up area?

- Countryside
- Built-up area (including an urban park)
- Other

[If walking (2+ miles) mentioned] On the last occasion you went for a walk of 2 miles or more, was that mainly in the countryside or in a built-up area?

- Countryside
- Built-up area (including an urban park)
- Other

[All respondents] In the last year, have you done any of the activities listed on this screen, without payment, to help others in relation to sport?

- Helped to raise money
- Served on a committee
- Organised or helped to run an event
- Helped with activities/coaching
- Campaigned for a cause or interest
- Helped with administration or office activities
- Other

[Asked Jan/Mar/May/July/Sept/Nov]

[Volunteers in sport] On average, how often do you volunteer work in relation to sport? READ OUT

- Once a week or more
- Two or three times a month
- Less often [Asked Mar/July/Nov]

[Volunteers in sport] Do you volunteer work to... READ OUT

- A school?
- A sports club or governing body?
- A youth organisation?
- Help at a sporting event?
- Other? [Asked Mar/July/Nov]

[All respondents] Have you EVER done any of the activities listed on this screen in relation to sport?

- Yes
- No [Asked Mar/July/Nov]

Socio-demographic Questions

The following are the socio-demographic questions against which the sports questions can be crosstabulated. The first five (ethnicity, disability and age finished formal education) are commissioned by sportscotland. The others are the standard

questions for the Scottish Opinion Survey, not all of which are used in the sports analyses.

Ethnic Grouping

Which of the ethnic groups listed on this card do you consider that you belong to?

[SHOW CARD]

- White - Scottish
- White - Other British
- White - Irish
- White - Other
- Asian, Asian Scottish or Asian British - Indian
- Asian, Asian Scottish or Asian British - Pakistani
- Asian, Asian Scottish or Asian British - Bangladeshi
- Asian, Asian Scottish or Asian British - Chinese
- Asian, Asian Scottish or Asian British - Other
- Black, Black Scottish or Black British - Caribbean
- Black, Black Scottish or Black British - African
- Black, Black Scottish or Black British - Other
- Mixed - any mixed background
- Other ethnic background

Long-term Illness or Disability

Do you have any long-term illness, health problem or disability that limits your daily activities or the work you can do?

- Yes
- No

Stopped from Taking Part in Sport by Illness/Disability

[If Yes] Does this disability, illness or health problem stop you from taking part in sport?

- Yes
- No

All or Some Sports Affected by Illness/Disability

[Respondents with disability stopping them from sports participation] Is it all sports or only some sports that you cannot take part in?

- All sports
- Some sports

Age Finished Formal Education¹⁰

At what age did you finish formal education?

- Still continuing
- 14 years old and under
- 15 years old
- 16 years old
- 17 years old
- 18 years old
- 19 years old and over

Age

[Exact, not grouped years]

Sex Male Female

Shopping/Cooking

Are you mainly responsible for the household shopping/ cooking?

- Yes
- No
- Jointly responsible/shared

Household Size

Including yourself, how many people are in your household?

- 1 person
- 2 people
- 3 people
- 4 people
- 5+ people

Children in Household

Do you have any children in your household of the following ages? READ OUT

- Any under 5 years old
- Any 5 - 11 years old
- Any 12 - 15 years old
- Any 16 - 17 years old
- No - no children

Occupation of Chief Income Earner

[Used to identify social grade]

Social Grade

- AB
- C1
- C2
- DE

ITV Station

Which ITV stations do you receive?

- STV
- Grampian
- Channel 4
- Border
- Ulster
- Channel 5
- No ITV

Marital Status

What is your marital status?

- Married/ living as married
- Single
- Widowed/Separated/Divorced

Working Status

What is your working status?

- Full time (30+ hours per week)
- Part time (8 - 29 hours per week)
- Not working

Tenure of Home

Tenure of home:

- Owner occupied
- Rented from local authority/ other council/ housing association
- Rented privately
- Other

Number of Cars in Household

How many cars do you have in your household?

- None
- One
- Two+

Postcode

[Full postcode]

Appendix 3 : Sports Shown as Prompt in SOS (2003-2007)

The following is the list of 58 sports (including Darts) on the showcard given to the respondent¹¹. Use of a showcard is important as respondents may not regard some physical recreations as being sports. Using no showcard, or only a short one, has been shown to result in under-reporting of participation.

- Athletics [1]
- Badminton [2]
- Basketball [41]9
- Bowls - outdoor [45]
- Bowls - indoor [44]
- Canoeing/ Kayaking [46]
- Climbing - outdoor [48]
- Climbing - indoor [47]
- Cricket [5]
- Curling [6]
- Cycling - on the road [49]
- Cycling - on a cycle path (eg, canal towpath, National Cycle Network) [50]
- Cycling - mountain biking/ off-road on a purpose-built track or facility
[INTERVIEWER IF NEEDED: 'such as Glentress'] [51]
- Cycling - mountain biking/ off-road elsewhere [63]
- Cycling - BMX at a purpose built facility [64]
- Cycling - BMX elsewhere [65]
- Cycling - velodrome [66]
- Dancing [8]
- Darts [from May 2005]
- Fishing/ angling [9]
- Football (11-a-side) [10]

- Football (5-a-side) - outdoor [12]
- Football (5-a-side) - indoor [11]
- Football - in street/ garden/ wasteland [13]
- Golf [14]
- Gymnastics [15]
- Hillwalking [52]
- Hockey [17]
- Horse riding [18]
- Ice skating [19]
- Judo [20]
- Keep fit/ aerobics [21]
- Martial arts [22]
- Netball [43]
- Powerboating/ jet skiing [53]
- Rowing [54]
- Rugby [23]
- Running/ jogging [24]
- Sailing/ windsurfing [55]
- Shinty [56]
- Skateboarding/ Inline skating [57]
- Skiing/ Snowboarding [26]
- Snooker/ Billiards/ Pool [27]
- Squash [28]
- Subaqua [58]
- Surfing/ Body boarding [59]
- Swimming (outdoor) [29]
- Swimming (leisure pool) [30]
- Swimming (traditional pool) [31]
- Table tennis [32]
- Tenpin bowling [33]
- Tennis - outdoor [60]
- Tennis - indoor [61]

- Use of multigym/ Weight training [35]
- Volleyball [42]
- Walking (2+ miles) [36]
- Waterskiing [62]
- Yoga [37]
- Other1 (SPECIFY) [38] Other2 (SPECIFY) [39] Other3 (SPECIFY) [40]

Source : Best (2008a)

Appendix 4 : Scottish Opinion Survey Sample Sizes

Table 37 : Adult Sample Sizes for Scottish Opinion Survey 2003-2006

Local Authority Area	Adult Sample 2003-06
Aberdeen City	1,460
Aberdeenshire	1,577
Angus	1,131
Argyll & Bute	1,208
Clackmannanshire	1,021
Dumfries & Galloway	1,501
Dundee City	1,284
East Ayrshire	1,138
East Dunbartonshire	1,237
East Lothian	1,333
East Renfrewshire	822
Edinburgh, City of	2,446
Eilean Siar (Western Isles)	697
Falkirk	1,221
Fife	1,759
Glasgow City	4,376
Highland	1,155
Inverclyde	800
Midlothian	1,060
Moray	935
North Ayrshire	1,211
North Lanarkshire	1,827
Orkney Islands	865
Perth & Kinross	1,181
Renfrewshire	1,439
Scottish Borders	1,173
Shetland Islands	671
South Ayrshire	1,337
South Lanarkshire	1,646
Stirling	864
West Dunbartonshire	1,259
West Lothian	1,235
Scotland	42,928

Source: Best (2008a)

Appendix 5 : Per Capita Index

Table 38 : Per Capita Index for Club Membership in each Local Authority

Council Area	Responding Clubs	Number of responding clubs extrapolated to all clubs (x 13000/3309)	Responding Clubs %	Clubs / members %	Actual number of members in clubs that responded	No of club members extrapolated to estimate of all clubs (x13000/3309)	Scottish Population (1999) %	Scottish Population (1999) number	Per capita Index value for club members in population	Percentage of Population are club members ?
Eilean Siar (W Isles)	6	24	0.2	0.1	506	1986	0.5	25600	0.20	8
Glasgow City	142	558	4.3	5.6	28308	111213	11.9	609280	0.47	18
South Lanarkshire	108	424	3.3	3.1	15671	61564	6.0	307200	0.52	20
West Dunbartonshire	31	122	0.9	1.0	5055	19859	1.9	97280	0.52	20
North Lanarkshire	142	558	4.3	4.1	20726	81424	6.4	327680	0.64	25
Dundee City	110	432	3.3	1.8	9099	35747	2.8	143360	0.64	25
Renfrewshire	72	283	2.2	2.3	11627	45677	3.5	179200	0.66	25
Orkney Islands	16	63	0.5	0.3	1517	5958	0.4	20480	0.75	29
Inverclyde	45	177	1.4	1.3	6572	25817	1.7	87040	0.76	30
East Ayrshire	83	326	2.5	2.1	10616	41705	2.4	122880	0.87	34
West Lothian	75	295	2.3	2.8	14154	55607	3.0	153600	0.93	36
Falkirk	59	232	1.8	2.7	13649	53621	2.8	143360	0.96	37
Fife	231	908	7.0	6.7	33869	133058	6.8	348160	0.98	38
East Renfrewshire	33	130	1.0	1.7	8594	33761	1.7	87040	1.00	39
North Ayrshire	96	377	2.9	2.9	14660	57592	2.7	138240	1.07	42
Edinburgh City	299	1175	9.0	9.6	48528	190651	8.8	450560	1.09	42
Argyll & Bute	64	251	1.9	2.0	10110	39719	1.8	92160	1.11	43

Council Area	Responding Clubs	Number of responding clubs extrapolated to all clubs (x 13000/3309)	Responding Clubs	Clubs / members	Actual number of members in clubs that responded	No of club members extrapolated to estimate of all clubs (x13000/3309)	Scottish Population (1999)	Scottish Population (1999)	Per capita Index value for club members in population	Percentage of Population are club members
	number		%	%	number		%	number		%
Stirling	85	334	2.6	2.0	10110	39719	1.7	87040	1.17	46
Midlothian	62	244	1.9	1.9	9605	37733	1.6	81920	1.18	46
Angus	85	334	2.6	2.5	12638	49649	2.1	107520	1.19	46
Perth & Kinross	145	570	4.4	3.3	16682	65536	2.6	133120	1.27	49
Aberdeen City	133	523	4.0	5.4	27297	107241	4.2	215040	1.28	50
Clackmannanshire	32	126	1.0	1.2	6066	23831	0.9	46080	1.33	52
East Dunbartonshire	64	251	1.9	3.1	15671	61564	2.2	112640	1.40	55
Moray	101	397	3.1	2.4	12132	47663	1.7	87040	1.41	55
Aberdeenshire	235	923	7.1	6.4	32352	127101	4.4	225280	1.45	56
Shetland Islands	42	165	1.3	0.6	3033	11916	0.4	20480	1.50	58
Dumfries & Galloway	192	754	5.8	4.4	22242	87382	2.9	148480	1.51	59
South Ayrshire	72	283	2.2	3.4	17187	67522	2.2	112640	1.54	60
Highland	259	1018	7.8	6.5	32858	129087	4.1	209920	1.58	61
Scottish Borders	104	409	3.1	3.7	18704	73480	2.1	107520	1.76	68
East Lothian	86	338	2.6	3.4	17187	67522	1.8	92160	1.88	73
Totals	3309	13000	100.2	100.3	507017	1991905	100.0	5120000		

Source : Adapted from original data from Sports Clubs in Scotland Research Report 75, Appendix 1, (Allison, 2001b, p95)

Appendix 6 : Club Membership in Population

Table 39 : Crosstabs Analysis of Sports Club Members in the Population of each Local Authority

LA		Participate IN CLUB	NOT CLUB	IN	Total
	Aberdeen City	359	1485		1844
	Aberdeenshire	366	1509		1875
	Angus	176	867		1043
	Argyll & Bute	220	774		994
	Clackmannanshire	136	572		708
	Dumfries & Galloway	268	1174		1442
	Dundee City	201	956		1157
	East Ayrshire	195	1009		1204
	East Dunbartonshire	225	821		1046
	East Lothian	170	727		897
	East Renfrewshire	133	498		631
	Edinburgh, City of	682	2903		3585
	Eilean Siar	27	150		177
	Falkirk	211	1130		1341
	Fife	456	2164		2620
	Glasgow City	702	4177		4879
	Highland	300	1222		1522
	Inverclyde	106	488		594
	Midlothian	109	592		701
	Moray	143	488		631
	North Ayrshire	157	970		1127
	North Lanarkshire	292	2200		2492
	Orkney Islands	54	263		317
	Perth & Kinross	302	923		1225
	Renfrewshire	286	1136		1422
	Scottish Borders	167	771		938
	Shetland Islands	24	112		136
	South Ayrshire	182	879		1061
	South Lanarkshire	319	2052		2371
	Stirling	124	466		590
	West Dunbartonshire	177	838		1015
	West Lothian	202	1083		1285
Total		7471	35399		42870

Source: Data from SOS 2003-6

Appendix 7 : Chi-Squared Output Club for Membership in Population

Table 40 : Chi-Square Analysis of the Rate of Sports Club membership in the Population of each Local Authority

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	262.077(a)	31	.000
Likelihood Ratio	264.172	31	.000
Linear-by-Linear Association	26.845	1	.000
N of Valid Cases	42870		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 23.70.

Source : Data from SOS 2003-6

Appendix 8 : Club Membership and Participation Statistics

Table 41 : Crosstabs for Club Membership, Participation in Sport, and Non-Participation in Sport in Local Authorities

		Participate IN CLUB	Participate NOT IN CLUB	NOT Participate	Total
Aberdeen City	Count	359	515	969	1843
	Expected Count	321.2	488.2	1033.6	1843.0
Aberdeenshire	Count	366	551	958	1875
	Expected Count	326.8	496.7	1051.5	1875.0
Angus	Count	176	296	571	1043
	Expected Count	181.8	276.3	584.9	1043.0
Argyll & Bute	Count	220	264	510	994
	Expected Count	173.2	263.3	557.4	994.0
Clackmannanshire	Count	136	186	386	708
	Expected Count	123.4	187.6	397.0	708.0
Dumfries & Galloway	Count	268	305	869	1442
	Expected Count	251.3	382.0	808.7	1442.0
Dundee City	Count	201	366	589	1156
	Expected Count	201.5	306.2	648.3	1156.0
East Ayrshire	Count	195	281	729	1205
	Expected Count	210.0	319.2	675.8	1205.0
East Dunbartonshire	Count	225	305	516	1046
	Expected Count	182.3	277.1	586.6	1046.0
East Lothian	Count	170	237	489	896
	Expected Count	156.2	237.4	502.5	896.0
East Renfrewshire	Count	133	154	344	631
	Expected Count	110.0	167.2	353.9	631.0
Edinburgh, City of	Count	682	1078	1825	3585
	Expected Count	624.8	949.7	2010.5	3585.0
Eilean Siar	Count	27	47	103	177
	Expected Count	30.8	46.9	99.3	177.0
Falkirk	Count	211	425	705	1341
	Expected Count	233.7	355.2	752.0	1341.0
Fife	Count	456	737	1427	2620
	Expected Count	456.6	694.1	1469.3	2620.0
Glasgow City	Count	702	1122	3054	4878
	Expected Count	850.2	1292.2	2735.6	4878.0
Highland	Count	300	458	764	1522
	Expected Count	265.3	403.2	853.5	1522.0
Inverclyde	Count	106	160	328	594
	Expected Count	103.5	157.4	333.1	594.0
Midlothian	Count	109	195	398	702
	Expected Count	122.3	186.0	393.7	702.0
Moray	Count	143	215	274	632

	Expected Count	110.1	167.4	354.4	632.0
North Ayrshire	Count	157	278	692	1127
	Expected Count	196.4	298.6	632.0	1127.0
North Lanarkshire	Count	292	594	1606	2492
	Expected Count	434.3	660.2	1397.5	2492.0
Orkney Islands	Count	54	85	177	316
	Expected Count	55.1	83.7	177.2	316.0
Perth & Kinross	Count	302	279	644	1225
	Expected Count	213.5	324.5	687.0	1225.0
Renfrewshire	Count	286	293	843	1422
	Expected Count	247.8	376.7	797.5	1422.0
Scottish Borders	Count	167	206	564	937
	Expected Count	163.3	248.2	525.5	937.0
Shetland Islands	Count	24	36	76	136
	Expected Count	23.7	36.0	76.3	136.0
South Ayrshire	Count	182	286	593	1061
	Expected Count	184.9	281.1	595.0	1061.0
South Lanarkshire	Count	319	568	1483	2370
	Expected Count	413.1	627.8	1329.1	2370.0
Stirling	Count	124	178	288	590
	Expected Count	102.8	156.3	330.9	590.0
West Dunbartonshire	Count	177	261	577	1015
	Expected Count	176.9	268.9	569.2	1015.0
West Lothian	Count	202	395	689	1286
	Expected Count	224.1	340.7	721.2	1286.0
Total	Count	7471	11356	24040	42867
	Expected Count	7471.0	11356.0	24040.0	42867

Source: Data from SOS boosted sample 2003-6

Appendix 9 : Club Membership and Participation Statistics

Table 42 : Output for Club Membership, Participation in Sport (not in a club) and Non-Participation in Sport Crosstabs

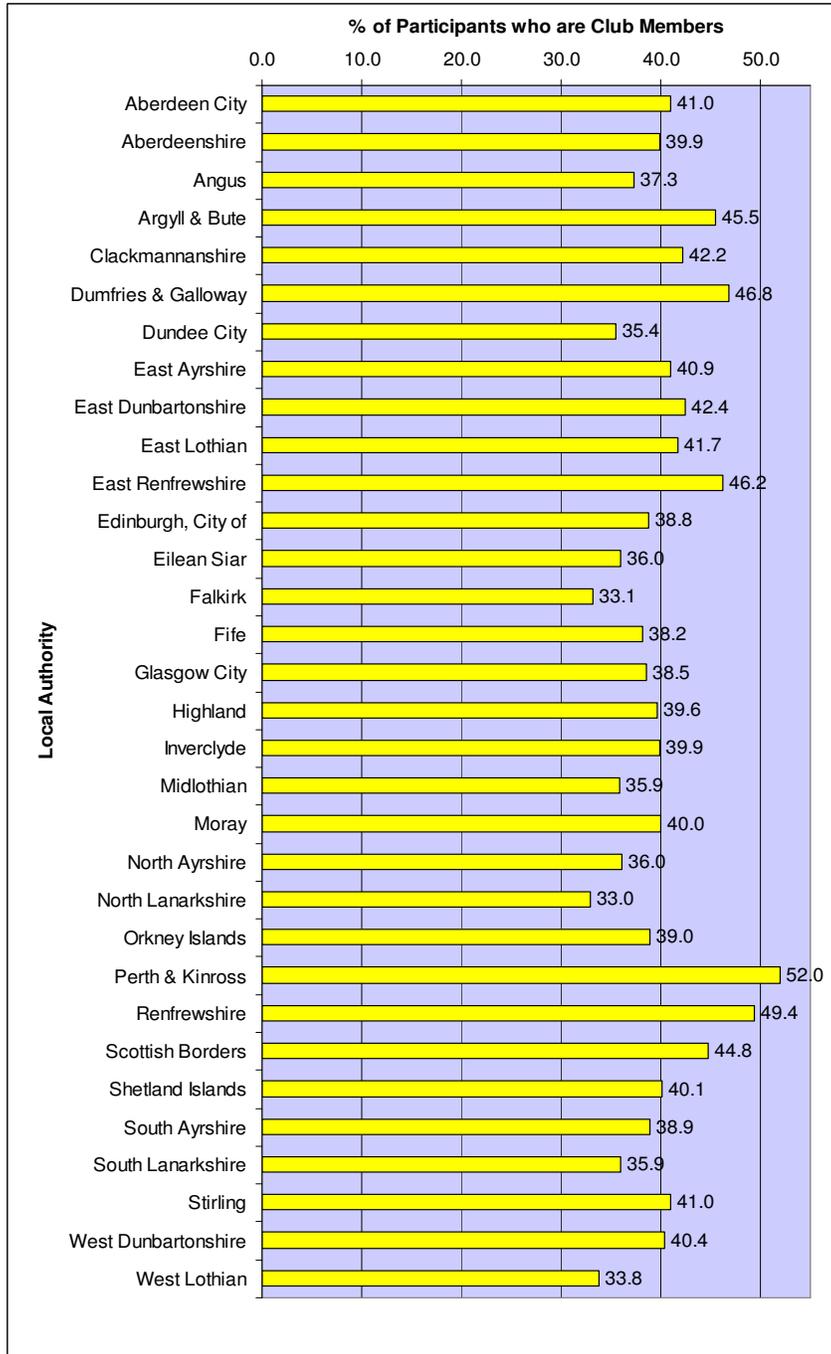
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	592.573(a)	62	.000
Likelihood Ratio	595.126	62	.000
Linear-by-Linear Association	54.184	1	.000
N of Valid Cases	42867		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 23.70.

Source: Data from SOS boosted sample 2003-6.

Appendix 10 : Percentage of Sports Participants who are Club Members in each Local Authority



Source: Data from SOS 2003-6

Figure 134 : Percentage of those who Participate in Sport (excluding walking, snooker, dancing) that do so as Sports Club Members in each Local Authority

Appendix 11 : Statistical Output for Correlation between Club Membership and Participation in Sport

Table 43 : Data Output of Correlation between Index of Club Membership rate and Rate of Participation in all sports (excluding walking) for each Local Authority in Scotland

		Participexclwk	IndexClubMem
Participexclwk	Pearson Correlation	1	.352(*)
	Sig. (2-tailed)		.048
	N	32	32
IndexClubMem	Pearson Correlation	.352(*)	1
	Sig. (2-tailed)	.048	
	N	32	32

Correlation is significant at the 0.05 level (2-tailed).

Source: Data from Allison (2001b) and Coalter & Dowers (2006).

Appendix 12 : Statistical Output for Correlation between Club Membership and participation in Sport

Table 44 : SPSS Data Output of Correlation between Index of Club Membership Rate and Rate of Participation in All Sports (excluding walking, dance, snooker)

		VAR00002	VAR00003
VAR00002	Pearson Correlation	1	.724(**)
	Sig. (2-tailed)		.000
	N	32	32
VAR00003	Pearson Correlation	.724(**)	1
	Sig. (2-tailed)	.000	
	N	32	32

** Correlation is significant at the 0.01 level (2-tailed).

Source: Data from SOS 2003-6

Appendix 13 : Statistical Output Chi Squared Sports Volunteers

Table 45 : Chi Squared Test on Sports Volunteers Data

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	432.167(a)	31	.000
Likelihood Ratio	398.563	31	.000
Linear-by-Linear Association	56.569	1	.000
N of Valid Cases	37823		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.88.

Source: Data from SOS 2003-6

Appendix 14 : Formal Volunteering by Local Authority

Grouping (North-South Divide)

Table 46 : Data Table for Analysis of Levels of Formal Volunteering by Local Authority Grouping (from Scottish Household Survey, 2006)

Council Area	% OF POPULATION VOLUNTEERS	Area from Map – North (2) + South(1) divide
Aberdeen City	32	2
Aberdeenshire	32	2
Angus	24	2
Argyll & Bute	40	2
Clackmannanshire	29	2
Dumfries & Galloway	23	1
Dundee City	24	2
East Ayrshire	19	1
East Dunbartonshire	27	1
East Lothian	23	1
East Renfrewshire	22	1
Edinburgh, City of	22	1
Eilean Siar	40	2
Falkirk	29	1
Fife	20	1
Glasgow City	21	1
Highland	40	2
Inverclyde	22	1
Midlothian	23	1
Moray	40	2
North Ayrshire	19	1
North Lanarkshire	18	1
Orkney Islands	40	2
Perth & Kinross	24	2
Renfrewshire	22	1
Scottish Borders	23	1
Shetland Islands	40	2
South Ayrshire	19	1
South Lanarkshire	23	1
Stirling	29	2
West Dunbartonshire	27	1
West Lothian	23	1

Source: Scottish Household Survey 2006 (data from Volunteer Development Scotland Research Team, 2007b)

Appendix 15 : Statistical Output of Volunteering North

South Divide

Table 47 : SPSS Output of Independent T Test showing significance of the North-South divide in rates of volunteering

Group Statistics

	NorS	N	Mean	Std. Deviation	Std. Error Mean
Vol	1.00	19	22.3684	2.89080	.66320
	2.00	13	33.3846	6.88644	1.90996

Independent Samples Test

Levene's Test for Equality of Variances		t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
Vol	Equal variances assumed	24.609	.000	-6.250	30	.000	-11.01619	1.76271	-14.61613	-7.41626
	Equal variances not assumed			-5.449	14.923	.000	-11.01619	2.02182	-15.32753	-6.70486

Source: Volunteer Development Scotland Research Team (2007b, p2)

Appendix 16 : Chi Squared Output Volunteers

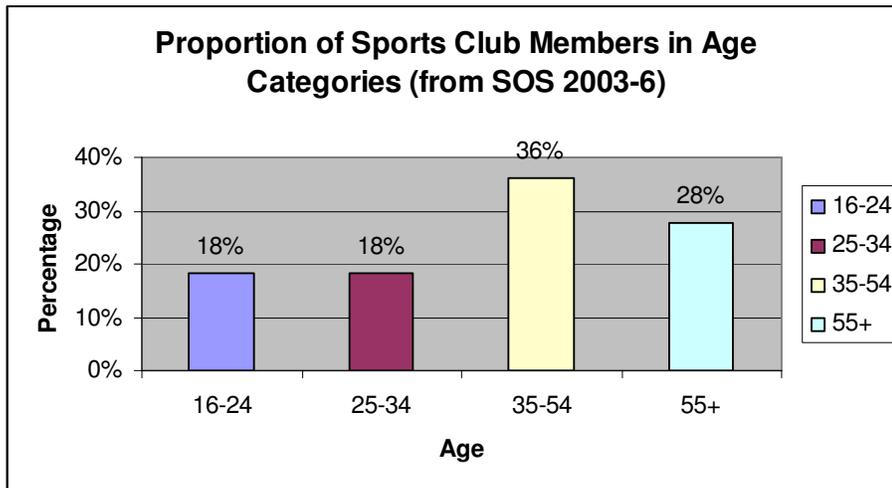
Table 48 : Chi Squared Output: Test on ALL Volunteers data

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	998.825(a)	31	.000
Likelihood Ratio	970.201	31	.000
Linear-by-Linear Association	188.716	1	.000
N of Valid Cases	28741		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 33.50.

Source: Data from SOS 2003-6

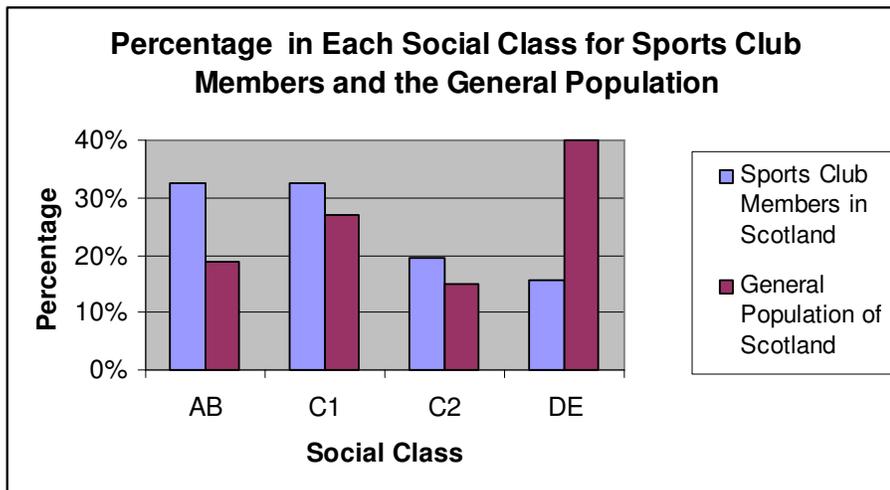
Appendix 17 : Club Membership and Age



Source : Data from SOS 2003-6

Figure 135 : Age Structure of Sports Club Membership in Scotland

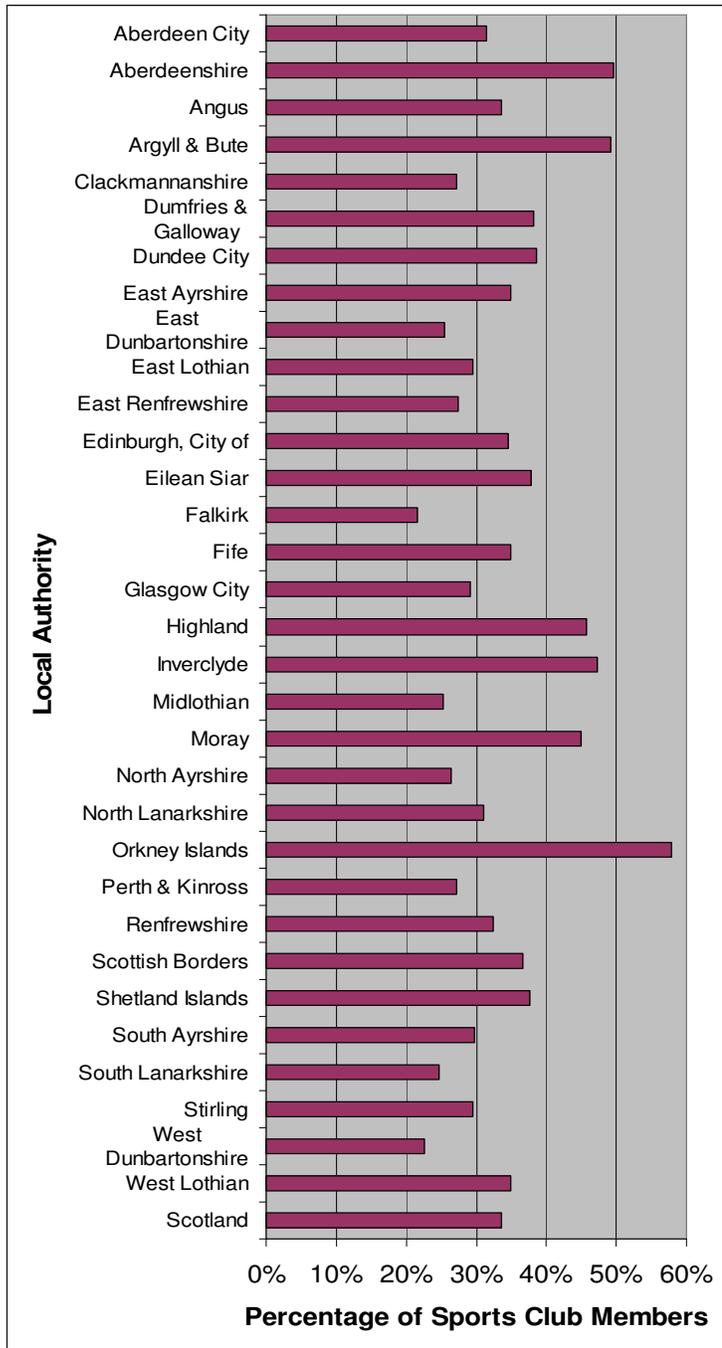
Appendix 18 : Club Membership and Class



Source: Data from SOS 2003-6

Figure 136 : Social Class Make up of Sports Club Members and General Population of Scotland

Appendix 19 : Percentage of Club Members who Volunteered in Sport



Source: Data from SOS 2003-6

Figure 137 : Percentage of Sports Club Members who Volunteered in Sport in the Last Year

Appendix 20 : Definitions of Groups of Sports from Scottish

Opinion Survey Research

Grouped Sports

The following groupings have been used to date for analytical purposes. They exclude Darts but once sufficient data have been obtained for Darts, future analyses with and without Darts will be undertaken for the relevant groupings. Other groupings can be analysed as required.

Sports
This is the main grouped category and comprises all 57 sports included on the list shown to respondents (see above) except Walking (2+ miles), plus others if the respondent identified any eligible sports when prompted with 'any other sports'. 'Eligible' is defined as the sports and physical recreations recognised by the UK sports councils for purposes of investment or services.
Sports plus walking 2+ miles
As above plus Walking provided the occasion was for at least two miles.
Sports less dancing and snooker/billiards/pool
In the light of the recreational nature of some of the activities, this category excludes the popular physical recreations of Dancing and Snooker/billiards/pool as well as excluding Walking.
Strategy sports
This category reflects the definition in the strategy for Scottish sport, Reaching Higher, and comprises 'Sports' excluding Dancing, Keep fit/Aerobics and Multigym/Weight training.
Indoor sports
These are defined as sports mainly or exclusively undertaken indoors and comprise the following: Badminton; Basketball; Bowls (indoor); Climbing (indoor); Curling; Dancing; Football (5-a-side indoor); Gymnastics; Ice skating; Judo; Keep fit/Aerobics; Martial arts; Multigym use/Weight training; Netball; Snooker/Billiards/Pool; Squash; Swimming (leisure pool); Swimming (traditional pool); Table tennis; Tenpin bowling; Tennis (indoor); Volleyball; Yoga. All these sports were on the showcard shown to the respondent. If the respondent identified any further indoor sports when prompted with 'any other sports', these are also included.
Hall sports
These are defined as sports whose main provision is multi-use indoor facilities. They comprise Badminton; Basketball; Dancing; Football (5-a-side indoor); Gymnastics; Judo; Keep fit/Aerobics; Martial arts; Multigym use/Weight training; Netball; Table tennis; Volleyball; Yoga. All these sports were on the showcard shown to the respondent. If the respondent identified any further hall sports when prompted with 'any other sports', these are also included.

Swimming
Indoor only, ie Swimming (leisure pool) and Swimming (traditional pool).
Other indoor sports
Includes all indoor sports not captured by 'Hall sports' or 'Swimming', namely, Bowls (indoor), Climbing (indoor), Curling, Ice skating, Snooker/billiards/pool, Squash, Tenpin bowling and Tennis (indoor).
Team sports
Comprises basketball, cricket, football, hockey, netball, rugby, shinty and volleyball. All these sports were on the showcard shown to the respondent. If the respondent identified any further team sports when prompted with 'any other sports', these are also included.
Outdoor sports
Defined as sports mainly or exclusively undertaken outdoors and include the following: Angling; Athletics; Bowls (outdoor); Canoeing/Kayaking; Climbing (outdoor); Cricket; Cycling (on the road); Cycling (on a cycle path); Cycling (mountain biking/off-road on a purpose-built track or facility); Cycling (mountain biking/off-road elsewhere); Cycling (BMX at a purpose-built facility); Cycling (BMX elsewhere); Cycling (velodrome); Football (11-a-side); Football (5-a-side outdoor); Football (in street/garden/wasteland); Golf; Hillwalking; Hockey; Horse riding; Powerboating/Jetskiing; Rowing; Rugby; Running/Jogging; Sailing/Windsurfing; Shinty; Skateboarding/Inline skating; Skiing/Snowboarding; Subaqua; Surfing/Bodyboarding; Swimming (outdoor); Tennis (outdoor); Waterskiing. Walking is excluded. All these were on the showcard shown to the respondent; if they identified any further outdoor sports when prompted with 'any other sports', these are also included.
Pitch sports
Defined as sports whose main provision is natural-grass or artificial-surface pitches, and includes the following: cricket, football (11-a-side), football (5-a-side outdoor), hockey, rugby and shinty. All these sports were on the showcard shown to the respondent. If the respondent identified any further pitch sports when prompted with 'any other sports', these are also included.
Countryside sports
Comprises Angling, Canoeing/kayaking, Climbing (outdoor), Cycling (mountain biking/off-road on a purpose-built track or facility), Cycling (mountain biking/off-road elsewhere), Cycling (countryside), Hillwalking, Horse riding, Powerboating/jetskiing, Sailing/windsurfing, Skiing/snowboarding, Subaqua, Surfing/bodyboarding, Swimming (outdoor) and Waterskiing.
Access Sports
Defined as sports whose main provision is the natural environment in the context of current access legislation (Land Reform (Scotland) Act 2003) – hence non-motorised; excluding angling/shooting; no charges for access; and including some use of urban open space. They comprise the following: Canoeing/Kayaking; Climbing (outdoor); Cycling on a cycle path (eg, canal towpath, National Cycle Network); Cycling (mountain biking/off-road elsewhere); Hillwalking; Horse riding; Rowing; Sailing/Windsurfing; Subaqua; Walking (2+ miles in the countryside).
Other outdoor sports
These comprise sports undertaken mainly or exclusively outdoors, excluding the Countryside sports: Athletics, Bowls (outdoor), Cricket, Cycling (on the road), Cycling (on a cycle path), Cycling (BMX at a purpose-built facility), Cycling (BMX elsewhere), Cycling (velodrome), Football (11-a-side), Football (5-a-side outdoor), Football (in street/garden/wasteland), Golf, Hockey, Rowing, Rugby, Running/jogging, Shinty, Skateboarding/inline skating and Tennis (outdoor).

Source : Best (2008a)

Appendix 21 : NPPG 11

Extracts from NPPG 11 (Scottish Executive, 1996, p11-12)

Illustrative Example 1 Edinburgh District Council Local Plan Open Space Standard

The overall standard in new general purpose housing is 1.62 hectares per 1000 persons (or 0.4 hectares per 100 houses) comprising 0.81 hectares of amenity open space and 0.81 hectares of recreational.

Smaller new development schemes and schemes catering for special groups such as the elderly or the single will be considered more flexibly and on merit.

An open space provision in excess of the minimum standard may be required if necessary to ensure that existing landscape features (for example, woodland or tree belts) are retained.

In urban redevelopment schemes (usually at relatively high densities) a lesser standard of provision will be acceptable, but must amount to at least 10% of the total site area comprising 5% recreational open space and 5% amenity.

- Open space will not normally be required where the development of small gap sites is proposed.
- Amenity open space may be dispersed in a development.
- Recreational open space should be provided in a single area.

In existing built up areas the Council seeks to improve provision and overcome shortages, subject to opportunities being available and expensive land acquisition not

being involved. Priority is given to areas of need as measured against the following standards:

- a local park of at least 1.5 hectares in extent suitable for informal recreation within 400 m of every home.
- more extensive facilities, up to 6 hectares in extent, suitable for organised sport within 1200 m of every home.

Illustrative Example 2 - Summary of the National Playing Fields Association minimum standard for outdoor playing space recommendations

The National Playing Fields Association recommends a minimum standard for outdoor playing space of 2.43 hectares per 1000 population. This is commonly referred to as the 'NPFA Six Acre Standard'. Depending on the population profile of the locality concerned, the total standard should be met by an aggregation of space within the ranges given below:

A Youth and Adult Use

Facilities such as pitches, greens, courts and miscellaneous items such as athletics tracks, putting greens and training areas in the ownership of councils; facilities as described above within the educational sector which are as a matter of practice and policy available for public use; facilities as described above within the voluntary, private, industrial and commercial sectors which serve the leisure time needs for outdoor recreation of their members or the public. Size range 1.6-1.8 hectares.

B Children's Use

B1 Outdoor equipped playgrounds for children of whatever age; other play facilities for children which offer specific opportunity for outdoor play, such as adventure playgrounds

Size range 0.2-0.3 hectares.

B2 Casual or informal play space within housing areas. Size range 0.4-0.5 hectares.

Appendix 22 : Information Sheet for Linlithgow Tennis Club Members

Project

As part of a small research project into tennis clubs in Scotland and New Zealand, I am hoping to interview a number of club members, players and officials at Linlithgow Tennis and Sports club, Scotland and Woodend Tennis Club, New Zealand. In order to do this, I would like to interview you to find out more about the club and your involvement and to record the interview for analysis.

If you are willing to take part in the study, please sign and return this form.

You do not have to take part and if you decide not to participate at any time, there will be no disadvantage to you.

What are the aims of the project?

The main aims of the project are

- To describe in detail the nature of each case study club.
- To make a comparison between the two case study clubs.
- To understand why a greater percentage of the population play tennis in New Zealand than in Scotland.

What will you be asked to do?

If you agree to take part, you will be asked to talk about your involvement in the tennis club in a place and at a time convenient to you.

You will not get any direct benefit from this study. However, by taking part, you may help us to increase knowledge of tennis clubs.

Can you stop taking part?

You can change your mind and decide not to take part at any time. If you decide to stop, you do not have to give any reasons for your decision, and you will not be placed at any disadvantage whatsoever.

What information will be collected, and how will it be used?

The recorded interview may be transcribed. The interviewer may also take notes during the interview. The interview will be analysed by the researcher. The recording, transcript, and notes will be used only for the purposes of the research.

The results of this project may be published, but the information will not be linked to any specific person. A copy of your results will be given to you if you ask for them.

You can ask questions about the project at any time. Please contact Fiona Reid, on 0131-337-1731, or at fionareid13@btinternet.com or at 11 Glencairn Crescent, Edinburgh, EH12 5BS.

Appendix 23 : Informed Consent Form for Linlithgow Tennis Club Members

Name of Interviewee

Statement by subject

- I am willing to take part in this project
- I know I can stop taking part at any time without being disadvantaged
- I am satisfied that the results will be stored securely
- I know that the results may be published, but they will not be linked to me
- I agree to inform the researcher immediately if I feel uncomfortable
- I have had the chance to ask questions
- I know that I will not receive any money for taking part

I have read this form and I understand it. I agree to take part in the project titled “A case study of two tennis clubs”.

Signed :

Date:

Please return this form to Fiona Reid (researcher).

You can ask questions about the project at any time. Please contact Fiona Reid, on 0131-337-1731, or at fionareid13@btinternet.com or at 11 Glencairn Crescent, Edinburgh, EH12 5BS.

Appendix 24 : Semi-Structured Interview Outline for Linlithgow Tennis Club Members

Interview Schedule for Interviews with Members of Linlithgow Tennis Club

The following is a list of themes and some example prompt questions that I used if the interviewee had not already told me about that aspect of their tennis already through the very open nature of our conversation. Many themes did not need to be raised directly. They rarely happened in order as the conversation moved differently with each interviewee.

Themes

5) Introduction

Introduction of researcher, consent form, recording procedure, a little about them + ask them to complete questionnaire and follow up any gaps, misunderstandings, leads to other things that come up

6) Facts

Any information missing from questionnaire.

7) Their Tennis

First experience of tennis, first introduction to LTC, when they came to tennis club and who with – social, match, etc., any tennis on holiday, what does tennis give them – activity, friends, status, chance to compete, separation from other roles e.g. worker, mother etc, raised self-esteem and confidence ?

8) Role in Club

Any voluntary positions? Explain what organisation of club is like as they see it, any gender issues, any problems?

9) Club in Community

How does club fit into Linlithgow community, are they member of other clubs e.g. golf, church, can they explain community,

Example Prompt Questions

- How did you get started in tennis generally, first experiences, then why did you join the club
- Do you go to the club on your own, with friends, etc.
- Ask them to describe their visits to the club, types of participation etc
- What is purpose of club? Serious ? social etc. ?
- How does LTC fit into the local community? Do you see it as one of the key factors that define community?
- Does membership of the club elevate you in the eyes of the community / work colleagues / friends etc? Is exclusivity important ?
- What is your own involvement in sporting activities (other than tennis)
- What do you think the club is for?
- How is LTC organised and administered?
- Are there any gender issues within the club?
- Are there any types of expertise in membership and are they utilised?
- Follow up on personal activities in club + their role, e.g. social tennis, committee member, volunteer?
- Do your friends see you as a “tennis player” or defined by the club ?
- Is tennis a release from the day self? childcare? housework? job responsibility?
- Do you enjoy the chance to compete/ win etc. ?
- Does being involved in tennis club generate self-esteem? Do you feel confident around tennis? Does a win or loss affect you outside club?

- Is being at tennis club a separation e.g. away from roles and/or important people (significant others) linked to those e.g. children , husband, boss etc
- Are you encouraged to come to the club? who by? do they see you differently because you play etc.?
- Can they explain standards + who can do what in club: for example who can go to club night and what happens, who can enter club tournament?
- Is tennis part of your holidays? Did you meet your partner through tennis?

Appendix 25 : List of Linlithgow Tennis Club Members

Interviewed

Details of those interviewed are correct, and names have been changed to protect their identities.

Alias	Sex	Age	Family status	Job	No. of Years Member?
"Susan"	female	57	widow, 2 grown-up children	teacher	29
"Grant"	male	64	married	self-employed engineer	4
"Karen"	female	25	living with parents	student	20
"John"	male	52	divorcee, 2 children	veterinary CBD manager	10
"Patrick"	male	47	married, 2 grown-up children	self-employed businessman,	20
"Josh"	male	25	living with parents	tennis coach	15
"Anne"	female	48	married, 2 Children	housewife,	10
"Patricia"	female	48	married, 2 children	teacher	18
"Simon"	male	57	married, 2 grown-up children	self-employed business consultant	8
"Alison"	female	39	married, 2 children	lecturer	5
"Andrew"	male	60	married, 2 grown-up sons	retired	25
"Ben"	male	55	married, 2 grown up children	accountant	25
"Sarah"	female	47	married, 2 children 19 + 21	administrator	12
"Richard"	male	50	married, children	no senior public safety officer	9

**Appendix 26 : Questionnaire given to Linlithgow Tennis
Club Members Interviewed**

Name _____ Title _____

Address _____

Postcode _____ Date of Birth _____

Occupation _____

Number of Years Lived in Area _____

What is the highest level of education you achieved? _____

When did you join the club? _____

When did you start playing tennis and where? _____

Club Activities

How much time do you spend at the club per week in each season and how is it spent?

Season	Months ?	Activity and time per week		
Spring				
Summer				
Autumn				
Winter				

How much do you pay for annual membership fees ? _____

Do you take part in sports at other sections of this club? (which) _____

Are you a member of other clubs – both sport and other? Please list them with how long (approximately) you have been a member

Do you play tennis? If so, how would you describe your standard? _____

Family

Please indicate your family circumstances? _____

Transport

How do you travel to the club? _____

How long is the journey to the club? _____

Volunteering

How much time do you spend in activities relating to the club when you are not at the club per week in each season and how is it spent?

Season	Months?	Activity and time per week		
Spring				
Summer				
Autumn				
Winter				

Appendix 27 : Tennis Facilities Around Linlithgow Tennis

Club

(These do not include tennis clubs affiliated to Central District)

FACILITY	TYPE	DISTANCE	TIME	POSTCODE
Linlithgow Academy	SCHOOL	1.3 miles	03 mins	EH49 6EH
Linlithgow Leisure Centre	LOCAL AUTHORITY	1.8 miles	04 mins	EH49 6SQ
Bo'ness Recreation Centre	LOCAL AUTHORITY	3.8miles	09 mins	EH51 9QB
Inchyra Grange Hotel, Grangemouth	LEISURE CLUB	5.6 miles	13 mins	FK2 0YB
Xcite Broxburn Tennis Club	TENNIS CLUB	7.4 miles	17 mins	EH52 5EL
Callander Park, Falkirk	LOCAL AUTHORITY	8.2 miles	17 mins	FK1 1YR
Zetland Park, Abbots Road, Grangemouth	LOCAL AUTHORITY	7.2 miles	17mins	FK3 9JD
Dollar Park, Kings Road, Falkirk	LOCAL AUTHORITY	9.0 miles	18 mins	FK1 5SQ
Kirkton Park, Bathgate	LOCAL AUTHORITY	9.9 miles	20 mins	EH48 1ET
Whitburn Tennis Courts, Whitburn	LOCAL AUTHORITY	10.9 miles	22 mins	EH47 0EY
Hatton Tennis Club	TENNIS CLUB	13.5miles	23 mins	EH27 8EA
David Llyod Club Edinburgh	LEISURE CLUB	14.4miles	23 mins	EH12 8GZ
Ladywell Tennis Club	TENNIS CLUB	9.0 miles	23 mins	EH54 6HN
East Calder Leisure Centre	LOCAL AUTHORITY	10.2 miles	25 mins	EH53 0JW
West Lothian Tennis Club	TENNIS CLUB	11.5miles	25 mins	EH54 6NS
West Calder Community Centre	LOCAL AUTHORITY	14.1miles	27 mins	EH55 8DZ
Kings Park, Stirling	LOCAL AUTHORITY	19.3 miles	30 mins	FK7 9JR
Ravenswood Pavilion, Cumbernauld	LOCAL AUTHORITY	21.9 miles	32 mins	G67 1LA
Keir Street, Bridge of Allan FK9 4QP	LOCAL AUTHORITY	25.5miles	33 mins	FK9 4QP