

AN INVESTIGATION INTO THE PHYSICAL ACTIVITY OPPORTUNITIES AVAILABLE IN GLOUCESTER CITY

COREY HARRIS

A thesis submitted to
The University of Gloucestershire
in accordance with the requirements of the degree of
Master of Science
in the Faculty of Sport, Health and Social Care

September 2009

The purpose of this study was to identify the physical activity opportunities located in Gloucester City. The study was commissioned by Gloucester City Council based on the premise that the information gathered will assist health and physical activity promoters to develop strategies and practices to focus on any gaps in provision identified. The information gathered can also provide guidance when developing physical activity opportunities to address health and social inequality, and improving the community's health.

Both qualitative and quantitative research methodologies were utilised in this study. The qualitative research methods consisted of four semi structured interviews with people employed within Gloucester City Council's key partnerships to assist with finding physical activity providers and locations. The quantitative research method consisted of the design and distribution of one hundred and sixty questionnaires to physical activity providers in Gloucester city. Eighty six questionnaires were returned, representing a response rate of fifty four percent.

The results from the questionnaires revealed that a high level of physical activity opportunities were provided by private health and fitness clubs within Gloucester City. Nearly seventy percent of the physical activity opportunities identified were located within private health and fitness clubs, with 'Aerobics' the most popular physical activity opportunity provided. Concessionary price offers used to attract participation in these activities were largely targeted at students and corporate organisations. Activities for priority groups identified by the Department of Health and Gloucester City Council i.e. the elderly, women, the unemployed and people of black and minority ethnicity, were rare. The research found the locations of physical activity opportunities provided within Gloucester City are not evenly spread geographically. Gloucester City Council had previously demarcated the city into four regions (North South, East and West), the research found that both the North and Central regions had over one hundred physical activity opportunities within their respective regions, with the major private health and fitness clubs located within both regions making a major contribution to these figures. Within the East and South regions of Gloucester there were significantly less physical activity opportunities identified in these regions. These findings indicated a direct relationship between the number of private health and fitness clubs located in a region and the amount of physical activity opportunities found within the region.

The author recommends the creation of a physical activity database that is accessible to the public allowing them to search online for suitable physical activity opportunities within Gloucester City. The database should be linked to websites of organisations such as Active Gloucestershire or Aspire Sports and Leisure Trust. It is recommended that physical activity opportunities should be developed within the North, East and South regions specifically with the intention of providing concessionary price offers to the priority groups identified by the Department of Health and Gloucester City Council. It is also recommended that further research is conducted into the facilities, capacity and commitment by organisations such as schools, churches and community centres to host physical activity opportunities.

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

Signed



... Date ... 14/04/10 ...

Table of Contents

1. Introduction

- 1.1 Research aim
- 1.2 Research question

2. Review of Literature

- 2.1 Definition of Terms
 - 2.1.1 Physical activity
 - 2.1.2 Physical activity opportunity
- 2.2 The benefits of physical activity
- 2.3 Physical activity levels
 - 2.3.1 Current physical activity levels
 - 2.3.2 Methods to measure physical activity intensity
- 2.4 Government policy on physical activity
- 2.5 Political Ideals
 - 2.5.1 Civil Society
 - 2.5.2 Social Capital
 - 2.5.3 Social Support
 - 2.5.4 Social Model of Health
- 2.6 The role of Local Government
- 2.7 The local context: Gloucester City
- 2.8 A review of current research into audits of physical activity opportunities
- 2.9 Summary

3. Methodology

- 3.1 Epistemological approach and Paradigm
 - 3.1.1 Epistemological approach
 - 3.1.2 Theoretical Perspective
 - 3.1.3 Research Paradigm
- 3.2 Methodological perspective
 - 3.2.1 Type of Research
 - 3.2.2 Research design
 - 3.2.3 Methodology
- 3.3 Data Collection Methods
 - 3.3.1 Semi Structured Interviews
 - 3.3.2 Questionnaire
 - 3.3.3 Demographic Profile
- 3.4 Sampling
 - 3.4.1 Purposive Sampling
 - 3.4.2 Snowball Sampling
 - 3.4.3 Opportunistic Sampling
- 3.5 Data analysis methods
 - 3.5.1 Data Preparation
 - 3.5.2 Tools to analyse data
 - 3.5.3 Descriptive Statistics
 - 3.5.4 Frequency Distribution

3.5.5 Structures to analyse data

3.6 Ethical Issues

3.7 Summary

4. Findings

4.1 Gloucester City

- 4.1.1 Gloucester City Demography
- 4.1.2 Classifying the physical activity opportunities
- 4.1.3 Location of provision
- 4.1.4 Response to questionnaire
- 4.1.5 Range and scope of activities
- 4.1.6 Targeted opportunities
- 4.1.7 Financial details
- 4.1.8 Specific practices and requirements
- 4.1.9 Summary

4.2 Findings by Region

- 4.2.1 North Gloucester
 - 4.2.1.1 Demography
 - 4.2.1.2 Response rate to questionnaire
 - 4.2.1.3 Range of activities identified
 - 4.2.1.4 Targeting activities for groups
 - 4.2.1.5 Financial details
- 4.2.2 Central Gloucester
 - 4.2.2.1 Demography
 - 4.2.2.2 Response rates to questionnaire
 - 4.2.2.3 Range of activities
 - 4.2.2.4 Targeting activities for groups
 - 4.2.2.5 Financial details
 - 4.2.2.6 Specific practices and requirements
- 4.2.3 East Gloucester
 - 4.2.3.1 Demography
 - 4.2.3.2 Response rates to questionnaire
 - 4.2.3.3 Range of activities
 - 4.2.3.4 Targeting activities for groups
 - 4.2.3.5 Financial details
 - 4.2.3.6 Specific practices and requirements
- 4.2.4 South Gloucester
 - 4.2.4.1 Demography
 - 4.2.4.2 Response rates to questionnaire
 - 4.2.4.3 Range of activities
 - 4.2.4.4 Targeting activities for groups
 - 4.2.4.5 Specific practices and requirements
 - 4.2.4.6 Summary of Qualitative Interview data
 - 4.2.4.7 Summary

5. Discussion

5.1 Gloucester City

- 5.1.1 Response rate for questionnaires
- 5.1.2 Range of activities
- 5.1.3 Targeting activities for groups
- 5.1.4 Financial details

5.1.5 Specific practices and requirements

5.2 The regions within Gloucester city

5.2.1 Category of activities

5.2.2 Venues/location of physical activity opportunities

5.2.3 Targeting activities for groups

5.2.4 Financial details

5.2.5 Specific practices and requirements

5.2.6 Summary

6. Conclusion

6.1 Main findings and Synopsis

6.2 Recommendations

6.3 Implications for research

6.4 Limitations of research

6.5 Reflection

7. References

8. Appendices

Appendix 1	Interview themes
Appendix 2	Results from Semi Structured Interview
Appendix 3	Gloucester audit questionnaire
Appendix 4	Interview with KW
Appendix 5	Interview with DF
Appendix 6	Interview with Z
Appendix 7	Interview with BW
Appendix 8	Activities in North Gloucester
Appendix 9	Activities in Central Gloucester
Appendix 10	Activities in East Gloucester
Appendix 11	Activities in South Gloucester

List of Figures

1. Gloucester City Ward Map
2. Venues where activities are delivered
3. Population split within the regions of Gloucester City
4. Percentage split of activities Identified in Gloucester City
5. Top ten physical activity opportunities in Gloucester City
6. Top ten physical activity opportunities available excluding major commercial health clubs
7. Percentage of activities targeted at specific groups
8. Groups activity providers offer concessionary price rates to
9. North Gloucester
10. Perceived health status of residents in North Gloucester
11. Percentage split of population living in North Gloucester
12. Percentage split of activities Identified in North Gloucester
13. Category of activities provided in North Gloucester
14. Venues where activities are provided
15. Top ten activities in North Gloucester
16. Percentage split of 50 year olds and above in Gloucester City
17. Activities targeted at specific groups in North Gloucester
18. Groups activity providers offer concessionary price rates to
19. Rates of Unemployment within North Gloucester
20. Central Gloucester
21. Perceived health status of residents in Central Gloucester
22. Category of activities provided in Central Gloucester
23. Venues where activities are provided
24. Top ten activities in Central Gloucester
25. Groups activities are targeted at in Central Gloucester
26. Groups activity providers offer concessionary price rates to
27. Rates of Unemployment within Central Gloucester
28. East Gloucester
29. Perceived health status of residents in East Gloucester
30. Population split within East Gloucester
31. Percentage split of activities Identified in East Gloucester
32. Category of activities provided in East Gloucester
33. Venues where activities are delivered
34. Top ten activities in East Gloucester
35. Groups activities are targeted in East Gloucester
36. Groups activity providers offer concessionary price rates to
37. Rates of Unemployment within East Gloucester
38. South Gloucester

39. Perceived health status of residents in South Gloucester
40. Population split within South Gloucester
41. Percentage split of activities Identified in South Gloucester
42. Category of activities provided in South Gloucester
43. Venues where activities are delivered
44. Top five activities in South Gloucester
45. Groups activities are targeted in South Gloucester
46. Rates of Unemployment within South Gloucester

List of Tables

1. Percentage of questionnaires returned by area
2. Activity leaders with relevant qualifications and Insurance cover
3. Percentage of questionnaires returned in North Gloucester
4. Activity leaders with relevant qualifications and Insurance cover
5. Response rates to questionnaire in Central Gloucester
6. Activity leaders with relevant qualifications and Insurance
7. Percentage of questionnaires returned in East Gloucester
8. East Gloucester's ethnic composition
9. Activity leaders with relevant qualifications and Insurance
10. Response rates to questionnaire
11. South Gloucester's ethnic composition
12. Activity leaders with relevant qualifications and Insurance

1. Introduction

Extensive research has identified a relationship between physical activity and improvements in health (Cochrane & Davey, 2008; Ali & Lindstrom, 2006; King et al., 1998; Conn et al., 2003; Lowther et al., 2002). A summary of the health benefits associated with physical activity include; the prevention of premature death from cardiovascular disease and some cancers, the reduction in the risk of type 2 diabetes, the promotion of musculoskeletal health and mental health and well-being, preventing stroke, the treatment of peripheral vascular disease, and modifying the classical cardiovascular risk factors such as high blood pressure and adverse lipid profiles. In 1996 the United States Public Health Service provided recommendations on the levels of physical activity required to improve health and combat disease. The report advised adults to accumulate 30 minutes or more of moderate-intensity physical activity on most (preferably all) days of the week (Jones et al., 1998). These recommendations have been adopted by the World Health Organisation (WHO, 2008) and in the United Kingdom by the Chief Medical Officer (Department of Health, 2004).

Local Government provide a significant investment in the health and well-being of the community through their contribution to the development of infrastructure and the local environment (Steele & Caperchione, 2005). Additionally Edwards & Tsouros (2006) believe local councils should also embrace partnerships and certify that physical activity opportunities are easily accessible for the community. Edwards & Tsouros (2006) study also showed that increasing levels of participation in certain sport and physical activity can contribute to social cohesion, neighbourhood revitalisation and an increased sense of community identity. A further study by Pratt et al., (2000) found that physically active people have lower annual direct medical costs than inactive people and that increasing regular moderate-intensity physical activity among inactive adults can reduce the annual regional medical costs by a substantial amount of money. Creating and maintaining an active city or community can also help reverse the negative consequences of social exclusion and the high economic costs of inactivity in terms of health and social services (Steele & Caperchione, 2005).

Gloucester City is a district authority whose services are provided by the City Council. Gloucester City is demarcated by four regions and 15 wards. Four of these wards i.e. Barton, Westgate, Matson and Podsmead, are amongst the 10% most deprived wards in the South West. Barton and Westgate are amongst the 10% most deprived wards in England (Bramley, 2006). Compared to the other districts in the Gloucestershire County, Gloucester City has the highest unemployment rate, pays the lowest wage, and has the highest percentage of people who believe their health is "Not Good" (ONS, 2009; ONS(a), 2009; Bramley, 2006).

International and national evidence from WHO (2008) and the Department of Health (2004) show how influential physical activity is in improving health and encouraging social inclusion. Low participation in physical activity has been stressed as an area of extreme importance by

national Government. Their response through the release of reports such as *Choosing Activity: A Physical Activity Action Plan* Department of Health (2005) signals the need for urgent action at all levels within the community. Initiatives are required to create innovative and sustainable change within the community. Knowledge of the physical activity opportunities available within Gloucester City will assist health and physical activity promoters in developing strategies and practices that can focus on the gaps in provisions. Also this knowledge could assist in addressing health and social inequality with a view to improving the community's health.

As a consequence this research undertook an audit of the physical activity opportunities available within Gloucester City to provide Gloucester City Council with accurate and thorough data with a view to further develop physical activity opportunities to enhance community health and to inform strategies and initiatives to combat health and social issues. The audit was conducted using a mixed method approach that utilised semi-structured Interviews guided by predetermined themes to locate non-government organisations, voluntary organisations, neighbourhood initiatives or commercial sector organisations whose providers deliver physical activity opportunities in Gloucester City. A questionnaire was also designed to collect the details of the physical activity opportunities identified.

The audit was organised to identify existing physical activity opportunities in Gloucester City highlighting the exclusive groups some activities were targeted at and reviewing the economic composition of these activities i.e. costs, concessions, and incentives. The screening and monitoring utilised by these activities were examined with the delivery requirements for activities i.e. the qualifications and insurance for people delivering physical activity opportunities were explored. A demographic profile of Gloucester City was also completed to show the socioeconomic issues affecting Gloucester City as a whole. This demographic profile examined the socioeconomic construct of the regions and wards within Gloucester City. The data gathered enabled the identification of gaps between the needs of groups within the regions and wards of Gloucester City and the physical activity opportunities, exclusive offers and tangible support available to the population. The subsequent analysis of these findings may assist decision makers with the design and development of future physical activity initiatives to address health and social issues.

There are underlying theories ideologies and concepts that influence the policies employed by Government to tackle the health and social issues already stated. Civil society as an ideology was examined and its influence on policies that address health and social issues explained. As social capital and social support are sociological concepts used to invoke civil society, these ideas were also analysed and their significance within the civil society ideology clarified. The social model of health was another theory underpinning this research and its influence on policy and health concerns are reflected upon throughout. The investigation of these

ideologies, theories and concepts required distinguishing the components that constitute them and acquiring an understanding of why they have been adopted by Government and how they may influence future strategies for Gloucester City Council in the area of physical activity promotion for health improvement.

1.1 Research aim

The aim of this research was to carry out an audit of the physical activity opportunities available in Gloucester City. This was done to assess what activities were available within the city and identify whether demographic factors affect the number and type of physical activity opportunities provided.

To meet this aim the specific research objectives included:

- To carry out an audit of physical activity opportunities using questionnaires and interviews of residents in the Gloucester City area.
- To contextualise the findings of the audit and map this with the current demography of the regions and wards within the city.
- To contextualise the findings of the audit within the context of current national and local health and social policies.
- To develop, if appropriate, evidence-based recommendations for health and physical activity promoters in the city of Gloucester to further enhance opportunities for physical activity.

1.2 Research Questions

- What physical activity opportunities are currently available in the wards of Gloucester City?
- To what extent do the current physical activity opportunities in Gloucester City reflect the demographic profile of its regions, wards, and the city as a whole?

2. Literature Review

To maintain a logical flow throughout, this chapter is presented via nine sections. Initially the review provides a definition of terms such as 'physical activity' and 'physical activity opportunity'. It then examines the potential health and social benefits of physical activity and the current levels in England. The Government policies to promote physical activity levels have been discussed along with the ideals, concepts and theories influencing these policies. The role local Government might assume to tackle physical inactivity has been explored along with the local contextual information of Gloucester City's demographic construct.

Finally a review of previous research and similar audits into the availability of physical activity projects from within England has been reviewed.

2.1 Definition of terms

Social science research requires the items under investigation to be defined and measured. One such concept within the research topic that requires particular attention is 'physical activity' as the foundation of the research is built around this concept. There are two additional aspects of the term that require defining i.e. what is a 'physical activity opportunity' and what criteria the activities will need to meet to qualify as a physical activity opportunity for this research. Defining these terms is important as their interpretation will influence the perception of what should be classified as a 'physical activity' for the audit and how the researcher will define whether an activity is relevant for the research.

2.1.1 Physical activity

The term 'physical activity' has been used within a variety of texts and under a variety of circumstances. During an early epidemiological study into the definition and measurement of health terms Capersen et al., (1985) defined any bodily movement produced by skeletal muscles that requires energy expenditure as a physical activity, with the amount of energy required to accomplish an activity measured in kilojoules (kJ) or kilocalories (kcal), making 4.184 kJ equivalent to 1 kcal (1). Alternatively physical exercise can be viewed as a sub category of physical activity that is planned, structured, repetitive and purposive where improvement of physical fitness is the objective. Physical fitness is a set of attributes that people have or achieve, with these terms a by-product of physical activity (Capersen et al., 1985). Capersen et al.'s, (1985) physical activity definition was utilised within Howley's (2001) research into leisure and occupational physical activity, and can also be found in the World Health Organisation's (WHO) *Global Strategy on Diet, Physical Activity and Health* report (WHO 2008), and Sagatun's (2008) longitudinal study into the physical activity of Norwegians. Sisson & Katzmarzyk's (2008) research consistently uses the term physical activity in preference to physical exercise or physical fitness as the flexibility of the term allows them to include "a gradual or intense exercise with adequate muscular strengthen and flexibility that encourages proper body mechanics" to their description physical activity definition. The definition fashioned by Capersen et al. (1985) has been used to define what represents physical activity within this research.

2.1.2 Physical Activity Opportunity

This research required an audit of the physical activity opportunities in Gloucester City. The term 'physical activity opportunity' can seem ambiguous and there are few research projects that actually utilise the term. Nottingham Primary Care Trust (PCT) utilises the term in their physical activity opportunities flow chart. Within this document Nottingham PCT refer to healthy living centres, walking groups, specialist physical activity advisors and exercise

referral schemes as physical activity opportunities (Nottingham City PCT, 2006). But the document did not show what criteria these activities should meet to be considered a physical activity opportunity. Lounsberry et al., (2007) employed the term 'physical activity programme' while referring to a structured organised activity available for participants to develop and maintain physical fitness and improve health. Within the report *Physical Activity & Sport Playing its Part in Delivering Choosing Health* Sport England (2006) Sport England and the British Heart Foundations National Centre (BHFNC) defined physical activity interventions as:

"All forms of physical activities which, through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels." Sport England (2006)

The purpose of Sport England's report was to assist the health sector to improve the planning, strategic placement, partnerships, resource commitments and performance management of physical activity (Sport England, 2006). This is a useful definition relating to organised programmes that are structured, but Carter (2005) report recognises the rapid rise in informal physical exercise and how complex it can be to collect valid and reliable data from these unorganised/informal activities that is sufficiently robust. Sport England (2004) report *Sport and Physical Activity in 2nd Generation Local Public Service Agreements* provides a definition for a 'physical activity opportunity' which describes an activity that is planned and structured i.e. a weekly Yoga class at a specified venue. The application of this definition enabled the collection of valid and reliable data (Sport England, 2004). With these suggestions in mind un-planned and un-structured activities such as playing football with friends or selecting the option of using the stairs instead of the elevator will not be included for this research. As a consequence of these findings the classification of a physical activity opportunity for this research is;

"An event which through organised participation aims to improve physical fitness and mental well-being, while forming social relationships. This also includes non exercise related activities such as walking, or dancing."

2.2 The benefits of physical activity

The relationship between physical activity and improvements in health has been the subject of extensive research (Cochrane & Davey, 2008; Ali & Lilstrom, 2006; King et al., 1998; Conn et al., 2003; Lowther et al., 2002). A summary of the health benefits recognised and associated with physical activity include; the prevention of premature death from cardiovascular disease and some cancers, the reduction in the risk of type 2 diabetes, the promotion of musculoskeletal health and mental health and well-being, preventing stroke, the treatment of peripheral vascular disease, and modifying the classical cardiovascular risk

factors such as high blood pressure and adverse lipid profiles. In 2005 the Department of Health released the report, *Choosing Activity: A Physical Activity Action Plan* (Department of Health, 2005), which highlighted the connection between physical activity and potential social health gains. The report describes how physical activity can be used to combat social issues such as reducing crime, engaging with the adolescent population, encouraging social inclusion and stimulating urban regeneration (Department of Health, 2005). A strategy suggested within the report to achieve these outcomes involves creating an environment which encourages people to lead a more active lifestyle. This environment is created through providing a range of options and choices of physical activity opportunities that will encourage people to sustain or increase their participation in a physical activity opportunity (Department of Health, 2005). Cochrane & Davey (2008) also support the need for choice when communicating the benefits of physical activities, advocating the promotion of a wide variety of sport and leisure time pursuits such as aerobics, football, cycling, dancing and swimming. Harris (1998) research also showed that a policy which includes choice when supplying physical activity programmes can have a positive impact on the community's response to the strategy. Harris (1998) also found when choice was inherent within policies to increase physical activity the potential to cultivate community cohesiveness and provide a focal point for civic engagements that offer opportunities for new friendships and communal endeavours that can transgress gender, race, and class boundaries is enhanced.

However there are risks associated with participating in physical activities, for example participants who do not consult an expert before performing an activity, are at risk from incurring injuries such as muscle strains or in extreme cases dislocated or broken bones (Cale & Harris, 2001). Furthermore the hypothesis that physical activity can assist in averting osteoporosis and improve joint mobility for older people is offset by the possible hazards to an older person participating in a physical activity programme who has not first consulted a doctor or health practitioner due to some having a frail physical demeanour and fragile bone density (Bawley et al., 2003). Also from a social perspective sport and physical activities can lead to inequalities and social divisions developed through team or communal sports that have the potential to form strong exclusive bonds, reinforcing social stratification and exclusion (Putnam, 2000). Strong bonds within a sporting team or fitness club can make it homogeneous in its membership and relatively hostile to outsiders, making access to physical activity opportunities for women, gay men, ethnic minorities, and the economically disadvantaged difficult (Tonts, 2005). It is important to have an understanding of the benefits and cautionary elements associated with physical activity so it can be promoted effectively and increase the number of people who participate. The need to promote and increase participation in physical activity has been realised due to figures illustrating the current level of physical activity within England.

2.3. Physical activity levels

2.3.1 Current physical activity levels

Participation levels in physical activity are illustrated within *The Health Survey for England* (Craig & Mindell, 2008). The survey showed that in 2006 only 40% of men and 28% of women met the current physical activity guidelines recommended by the United Kingdom's Chief Medical officer (CMO). In 2006 approximately one third of English adults were inactive, that is, participated in less than one occasion of 30 minutes activity a week (Craig & Mindell, 2008). Further data on physical activity participation levels are provided by Sport England within their yearly active people survey. This survey provides the largest sample size ever established for a sport and recreation survey. The survey identifies how participation varies from place to place and between different groups in the population, the 2009 survey revealed the number of adults in England who do sport at least three times a week had reached 6.93 million (Sport England, 2009). The survey was conducted using Computer Assisted Telephone Interviewing (CATI) which, according to Hillsdon et al., (2005), meant the data provided is not entirely reliable as their research found virtually all studies of physical activity participation that rely on self-reported outcome measure are typically retrospective and therefore risk recall bias.

The targets for physical activity participation within the English population are summarised in *Game Plan: A Strategy for Delivering Government's Sport and Physical Activity Objectives* (DCMS, 2002). This report outlines how by 2020 the Government expect 70% of the population to do 30 minutes of physical activity at least 5 days a week, with an interim target of 50% of individuals by 2011 (DCMS, 2002). Previous research into promoting physical activity suggests those who participate in leisure-time physical activity regularly choose the kind of activity most suited to them, and take part because they enjoy it and get something positive from it (Lowther et al., 2002). Also low levels of leisure time physical activity are affected by demographic and socioeconomic characteristics such as lack of education, money, and means of transportation among the less wealthy, and lack of time among the wealthy (Kelaher et al., 2009). Cochrane & Davey (2008) suggests a shift away from focusing on the individual when addressing low physical activity levels to considering the whole environment in which behaviour choices are made. This social ecological perspective provides a wider public health approach to improving the population's behaviour towards health. Furthermore factors needed to ensure physical activity programmes are sustainable exist within the design of these activities. Activities should be available, accessible, affordable, acceptable and appropriate. The first three factors are important in getting people to attend the activity initially, with the last two factors contributing to the continuation of participant's attendance (Cochrane & Davey, 2008).

The recommended levels of physical activity required to improve health and combat diseases are provided in the report *Moderate Leisure-Time Physical Activity: Who Is Meeting*

the Public Health Recommendations? (Jones et al., 1998). The recommendations are for adults to accumulate 30 minutes or more of a moderate-intensity activity on most (preferably all) days of the week. The report found the enthusiasm generated for physical activity is influenced by someone's previous experience of physical activity, the relative fitness of a participant, and the type of activity they're participating in (Jones et al., 1998). These guidelines on the levels of physical activity participation have been applied by the CMO for the United Kingdom (Department of Health, 2004), and the world health organisation in their report *Recommended Amount of Physical Activity* (WHO, 2008). The report illustrates how a moderate-intensity physical activity involves a reasonable amount of effort that noticeably accelerates the heart rate with examples of activities that fall into this category being brisk walking, dancing and active involvement in games and sports (WHO, 2008).

2.3.2 Methods to measure physical activity intensity

There are diverse methods available to measure whether an activity is light, moderate or vigorous in its intensity. Initially measuring a participants VO₂ max during physical activity was thought to provide an indication of how intense that activity was. VO₂ max, or maximal oxygen uptake, is a method used to determine a participant's capacity to perform sustained exercise and is linked to aerobic endurance (Haskell & Kiernan, 2000). VO₂ max refers to the maximum amount of oxygen that an individual can utilize during intense or maximal exercise. It is measured as millilitres of oxygen used in one minute per kilogram of body weight. This measurement is generally considered the best indicator of an athlete's cardiovascular fitness and aerobic endurance. Theoretically, the more oxygen you can use during high level exercise, the more ATP (energy) you can produce. This is often the case with elite endurance athletes who typically have very high VO₂ max values. Unfortunately a VO₂ max measure is mainly concerned with measuring the intensity with which an individual is participating in a physical activity as opposed to the measurement of how intense a physical activity is (Nieman et al., 1994).

The talk test measures the intensity of a physical activity by observing the participants ability to communicate while participating in a physical activity at different levels (Webster & Azan-lain, 2008). Someone who is active at a light intensity level should be able to sing while doing the activity. One who is active at a moderate intensity level should be able to continue a conversation comfortably while engaging in the activity. If a person becomes winded or out of breath and cannot carry on a conversation, the activity can be considered vigorous (Webster & Azan-lain, 2008).

The United States Public Health Service preferred the use of MET's to measure the intensity of an activity, defining a moderate intensity activity (the recommended intensity mentioned above) as an action performed at an intensity of between 3-6 metabolic equivalents i.e. METs (Jones et al, 1998). MET's are the common method used to express the intensity of a

physical activity (Ainsworth et al., 2000) and has been utilised by the WHO and United Kingdom's CMO. The Basal metabolic rate (BMR) is the energy required for essential physiological functioning while at rest. MET's are the portion of a person's working metabolic rate relative to their resting metabolic rate (Ainsworth et al., 2000). This method has been utilised to define physical activity intensity during research by Lee & Paffenbarger, 2000; Haskell et al., 2007; Riccardo et al., 2008; Zanker & Gard, 2008 and Kwak et al., 2007, and has been used to determine whether a physical activity opportunity is relevant for this research. Anisworth et al., (2000) research has an extensive list that provides the MET values for a number of activities e.g. the energy cost of swimming is 8 MET, which means you use eight times more energy than if you were to lie down and rest. This list was utilised to identify which physical activities are relevant for a participant to meet the recommended physical activity levels. Participation levels in physical activities are influenced by factors such education, affordability, and socioeconomics. These factors have influenced the content of Government policies to address physical inactivity.

2.4 National Government policy on physical activity

The report *At Least Five a Week* Department of Health (2004) provides an insight into the proposal suggested by the United Kingdom's CMO to address physical inactivity. The report estimates the cost of physical inactivity to the English economy is £8.2 billion annually. This does not include its affect on obesity levels which in itself has been estimated at £2.5 billion annually (Department of Health, 2004). These financial implications of physical inactivity to the economy will have an influence on Government health policies.

A policy is a deliberate plan of action to guide decisions and achieve rational outcome (Allen, 2003) and there are various facets within policies that attempt to change behaviour and increase physical activity, with policies including rules that are formal or informal and design standards that may be explicit or implicit (Schimd et al., 2006). Key elements of public policy that produces change in behaviour include, leadership that informs and motivates, economic incentives that encourage and facilitate change, and science that moves the frontiers (McGinnis et al., 2002). Heath (2003) found the most effective factors within policies that changed behaviour were; community-wide highly visible media campaigns that promote the essential aspects of the policy, Individually adapted health behaviour change programmes, social support interventions in community contexts, creating or improving access to places for physical activity and informational outreach i.e. providing training on equipment. Policies aimed at encouraging improvements in physical activity are not solely about individual behaviour change, but achieving advancements in political commitment, policy support, funding, infrastructure and systems change (Shilton, 2008).

The current Government's initial policy to address physical inactivity or sedentary behaviour, i.e. individuals who report a usual daily leisure-time energy expenditure of less than 1.5

kcal/kg per day, came via the Department of Culture Media & Sport's (DCMS) White Paper *A Sporting Future for All* (DCMS, 2000). This paper promoted how participation in sport can help improve health and develop important constructive behaviours such as discipline, team work, creativity and responsibility within a community (DCMS, 2000). The reports premise was to encourage people of all ages and social groups to take part in sport, but it did not provide tangible initiatives to increase physical activity, or offer any proven theories to induce change.

The report *Choosing Activity: A Physical Activity Action Plan* (Department of Health 2005) provides more in-depth suggestions on how to combat physical inactivity, identifying specific groups who need intervention to increase their level of physical activity, and highlighting the Government departments required to provide leadership and guidance on these strategic processes. Elements of the policy proposals within the report include, providing activity provision for people (i.e. women) who may not be interested in traditional forms of physical activity, and consulting a variety of diverse groups prior to designing physical activity opportunities to ensure they are made appealing and accessible to all groups. This last proposal is aligned with Lowther et al., (2002) findings that people who regularly participate in physical activity do so because the activity is tailored to their needs and is most suited to them. With the communities views taken into account potential activities should reflect their choices and acknowledge specific requirements such as religious and cultural needs of minority ethnic groups (Department of Health, 2005). The report also emphasises the need to create opportunities in recognition of the changing physical and cultural landscape within communities, building an environment that encourages all people into a more active lifestyle (Department of Health, 2005). Once again the importance stressed is choice and providing a range of options to present the platform for people to be active on a regular basis.

Choosing Activity: A Physical Activity Action Plan (Department of Health, 2005), has acted as a catalyst for further Government policies and initiatives whose purpose is to use physical activity to improve the nation's health and promote social inclusion. The table below provides the aims and of two initiatives i.e. *Community Health Pilots* (Department of Health, 2007), and the *Local Exercise Activity Project* (Department of Health, 2007).

Policy/Initiative	Aims
Community Health Pilots	To help disadvantaged communities in England to take control of their own health and wellbeing, tackling obesity, smoking, drugs and alcohol
	Encourage and facilitate local authorities, Primary Care trusts (PCTs), community and voluntary organisations to work together to make real improvements to the health of some of the country's most deprived communities.
	Put local people first and empower them to contribute to the planning and delivery of these Community Health Pilots
Local exercise Activity Project (LEAP)	To encourage people to participate in regular physical activity that meets the Department of Health's recommendations.
	Collect evidence on the effectiveness of physical activity interventions and disseminate the results for effective learning.
	Evaluate the results of the LEAP interventions to provide a robust set of qualitative and quantitative data that will contribute to the evidence of short term behaviour change due to physical activity and the effectiveness of physical activity interventions.

The *Communities for Health* programme was launched in 2005 as a new approach to unlocking the energy that lies within communities to improve their own health and support individuals to live healthier lives (Department of Health, 2007). The emphasis of these pilots was to put the local people first when considering planning and delivering a physical activity programme. One such pilot took place in Nottingham with the key aspects of this project including a social marketing campaign to encourage lifestyle changes through introducing more physical activity into people's daily lives, awarding small grants to local projects that directly targeted disadvantaged groups, and forging partnerships with further physical activity initiatives such as the *Local Exercise Activity Project* (Department of Health, 2007).

The Local Exercise Activity Project (LEAP)

Local Exercise Action Projects (LEAP) were commissioned and managed by the Department of Health, Natural England and Sport England. Evidence on the effectiveness of physical activity interventions was collected and published, good practice schemes were highlighted, and the methods employed to use physical activity to tackle health and social issues was promoted (Department of Health, 2007a). The scheme advocated community driven, appropriately designed, activity-based interventions that look to attract and engage a broad

range of people into physical activity opportunities, in particular those from priority groups (Department of Health, 2007a). A pilot in Hastings, included; street dance clubs with taster classes in schools followed up by community based street dance sessions, 'extend your life' theatre productions educating young people on how to achieve moderate intensity physical activity and follow an active lifestyle, and young mums activities providing affordable exercise classes with childcare provision (Department of Health, 2007a). Both LEAP and *The Community Health Pilot* utilise the suggestions for policy changing behaviour by McGinnis et al., (2002) and Heath (2003).

2.5 Political Ideals

The previous section showed how the Government has implemented initiatives and schemes that identify a local community's health priorities and advocate community driven, appropriately designed, activity-based interventions. The context and content of the policies created to increase physical activity and improve health and social care are influenced by the Governments political ideal. Houlihan (2005) believes perceived policy ideas are little more than the ratification of entrenched political interests, with Harvey (2007) revealing that over the last 30 years the majority of western political policy making has been dominated by a neo-liberal ideology. Neo-liberalism is an ideology that, seeks to transfer control of the economy from the state to the commercial sector. The current Government's political approach to increase physical activity and improve health and social wellbeing in England demonstrates an ideology not based on neo liberalism but on civil society.

2.5.1 Civil Society

This ideology has been cited by the United Nations in their paper on using sport for development and peace (United Nations, 2003) and has also been referred to during collaborations between sporting institutions and Governments in Georgia, Thailand and South Africa (Allison, 1998). Though its aims, beliefs, and ideas can seem ambiguous, Edwards (2005) provides an uncomplicated interpretation observing how a civil society seeks to generate an arena for argument, deliberation, and institutional collaboration. Allison, (1998) Edwards (2005), Calabrese (2006), Fukuyama (1995), and Perks (2007) all distinguish communities that are central to the decision-making process that affect their commune as the heart of the ideal. These communities also contribute to and participate in community activities. Furthermore the community forges and maintains social networks and horizontal partnerships, with the focus on education, health, government and economics. Sports and coordinated physical activity opportunities can be sites of civic engagement where communities can have a degree of autonomy, thus sports and coordinated physical activity can be utilised to cultivate a civil society. However Perks (2007) research found efforts to embrace aspects of civil society i.e. to strive for a horizontal impartial community, can be problematic as professionals within a community usually have more power and influence

than the majority of the community thus creating a relationship that is more vertical than horizontal.

The health, social policies and reports reviewed for this research all have elements of the civil society ideology contained in their strategy. They want the activities to engage the community, promote action within the community, be community driven and have the community involved with the design, management and delivery of these activities (Department of Health, 2005; Department of Health, 2007; Department of Health, 2007a). These policies aim to empower a community and provide them with a level of autonomy which is the principle of the civil society ideology. The concepts inherent within the civil society ideology are intrinsic from both a macro and micro level (Edward, 2005) and should be explored further. The macro level strategy i.e. Social Capital can be applied from a local, national or global perspective.

2.5.2 Social Capital

Social capital is a macro level concept established within civil society and has been a focus of research since 1916 (Hanifan, 1916). Theorist's Bourdieu, Coleman and Putnam cite social capital as a concept that generates social networks based on social and group norms which enable people to trust and cooperate with each other which can foster advantageous circumstances (Coalter, 2007). The three attributes associated with social capital are bonding, which refers to the strength of relationships that people have with each other; bridging represents the relationship of group members based on shared interests, and linking is the association formed between communities and groups to gain access to resources needed for social and economic development (Calabrese, 2006). The knowledge and correct use of these attributes can assist with the promotion and successful application of physical activity opportunities by creating social connections between people which subsequently builds trust within a community thus helping to establish the foundation for an active and engaged population which is likely to serve broader community interests (Perks, 2007). However Forrest and Kearns (1999) do raise concerns with applying this concept as fostering social capital can reinforce unconstructive networks. In addition the creation of community cohesion through social capital can cause the community to be inward-looking and suspicious of outsiders. Further caution is provided by the performance unit of the Government who point out that cultivating social capital through physical activity can link disadvantaged groups together, excluding them from the wider society and its resources and opportunities (The Performance and Innovation unit, 2002).

2.5.3 Social Support

Another relevant concept inherent within the national Government's health and social policies is social support. Social support is a concept within the civil society ideology that functions at a micro level and is an ideal complementary concept to social capital. Social

support encourages individuals to start and sustain attendance to a physical activity opportunity (Pilisuk and Paks, 1986). This concept has been cited in behavioural and social science research into physical activity promotion and provides numerous suggestions that professionals can use to assist their development of physical activity opportunities that address health related issues (Potts et al., 1992). Social support endorses supportive behaviours from a group or facilitator that can make a positive contribution to the physical and mental well-being of a population, especially the elderly (Trost et al., 2002). Research conducted by Christensen et al., (2006), Trost et al., (2002), and Wallace et al., (2000) all realised the association between social support from family, friends and exercise facilitators and the taking up and continued adherence to exercises activity. The four categories of support that underpinned this concept are; emotional support which involves sharing life experiences with relatives who listen and provide trust; companionship support provides a welcome distraction from a problem or the practicalities of life through involvement in physical or recreational activities with a friend that invoke a positive mood. Tangible support involves physical resources such as financial aid, provisions and needed services; and, informational support is concerned with the participant receiving knowledge, advice, feedback or suggestions that can bolster their belief in their capacity to handle challenges (U.S. Department of Health and Human Services, 1996; Wan et al., 1996; Wallace et al., (2000) Neergaard et al., 2005). Social Support provides people with the emotional and practical resources needed to change and maintain a healthy life style. The ideology and policies employed by the Government indicate a realisation of the wider social determinants that contribute to a healthy society, as opposed to just the presence or absence of disease.

2.5.4 Social Model of Health

This model of health provides a shift away from the conventional 'medical model of health' i.e. health is defined as the absence of disease with medical science curing diseases and returning people to health (Martin, 2008). The social model of health considers how wider determinants outside of biomedical factors have an impact on a person's health. The model shows that 50% of our health is influenced by determinants such as a person's culture, level of relative income, access to housing, education and employment opportunities (Martin, 2008). Tannahill (1985) research also found wider environmental, political and socio-economic conditions affect a community's health. The availability of physical activity opportunities is also intrinsic within this model as the lack of opportunities to participate in a physical activity can have an effect on a community's health. The World Health Organisation (WHO) believe the utilisation of a social model of health can improve social and mental well-being and provide a better understanding of the various barriers existing which may compromise a healthy community (Wilkinson & Marmot, 2003). The operational aspects of this model involve: promoting inter sectional collaboration, reducing social inequalities, empowering individuals and communities, making health care easily accessible and increasing the opportunities for participation in sport and physical activity opportunities

(Department of Human Services, 2002). These principles have been employed by the Government within their *Community Health Pilot* and the LEAP policies (Department of Health, 2007; Department of Health, 2007a) and more prominently within the initiative *Tackling Health Inequalities: A Programme for Action* (Department of Health, 2003). This report articulates the Government objective to reduce health inequalities by addressing the wider determinants that initiate health inequalities such as poverty, poor education, unemployment, poor housing, homelessness, and disadvantaged neighbourhoods (Department of Health, 2003).

2.6 The role of Local Government

If the national Government targets on physical activity participation are to be achieved the local Government will have a major role to play (DCMS, 2002). Significant investment in the health and well-being of the community is required to increase participation in physical activities with local Government managing this through the development of local infrastructure and their environment (Steele & Caperchione, 2005). To address physical inactivity issues local Government need to embrace partnerships and ensure physical activity opportunities are easily accessible for the community (Edwards & Tsouros, 2006). The need for a cohesive partnership plan involving local Government, regional sports boards, leisure services, transport planners and providers, regional development agencies, and industry is advocated further within the report *Choosing Activity: A Physical Activity Plan* Department of Health (2005). These partners should be tasked with developing, delivering and monitoring physical activity plans. Furthermore the formation of community 'hubs' with management partnerships that link sport and physical activity with health, education, lifelong learning and social welfare should contribute to building partnerships and empowering the local commercial sector (Cavill et al., 2006).

Research into physical activity opportunities within urban environments showed that increasing levels of participation in sport and physical activity within a community can contribute to social cohesion, neighbourhood revitalisation and an increased sense of community identity (Edwards & Tsouros, 2006). A further study by Pratt et al, (2000) found that physically active people have lower annual direct medical costs than inactive people and that increasing regular moderate physical activity among inactive adults can reduce the annual regional medical costs by a substantial amount of money. Furthermore creating and maintaining an active city can help reverse social deprivation and the high economic costs of inactivity in terms of health and social services (Pratt et al., 2000). The local Government will have a role to play to ensure national Government policies are implemented, and they also have a responsibility to improve the general health and well-being of the community. Partnerships between organisation such as local Government, regional sports boards, leisure services, etc are necessary and need to be maintained and if possible enhanced.

2.7 The local context: Gloucester City

An appreciation of the demographic profile of Gloucester City and the health and social issues it is currently facing is required to contextualise this research. Gloucester City is situated in the county of Gloucestershire in the South West of England. This is a district authority whose services are provided by Gloucester City Council. The population are situated within four regions and 15 wards within the city. Bramley (2006) area profile of Gloucester City highlighted the social issues affecting the city using data from the Index of Multiple Deprivation. This index provides a breakdown of data that identifies areas of relative deprivation across the UK. In 2000 it ranked Gloucester at 162 out of the 354 local authority areas nationally, where 1 has most deprivation and 354 has the least. This information was updated in 2004 and reports that Gloucester is now placed 154th. This indicates a worsening trend for the city in terms of a comparison with other geographical areas in the UK (Bramley, 2006). Furthermore three of the wards in Gloucester; Barton & Tredworth, Westgate, and Matson & Robinswood, are amongst the 10% most deprived wards in the South West, with Barton & Tredworth and Westgate amongst the 10% most deprived wards in England (Gloucestershire PCT, 2008). The report *Sustainable Community Strategy for Gloucester 2008-2018* Gloucester Partnership (2008) contextualises the initiatives created in Gloucester to address the deprivation issues within the City. The report promotes collaborative working between public, commercial, voluntary and community sectors within Gloucester to address the main issues facing the such as poor health, poverty and social exclusion (Gloucester Partnership, 2008). These partners contribute their ideas and priorities to a strategy that aims to regenerate Gloucester City into a place that promotes social inclusion. This scheme is part of a large urban regeneration initiative which is the only heritage regeneration scheme in the country (GHURC, 2008).

Gloucester City Council plan to use sports and physical activity to improve the health of the city's residents and address social exclusion. Due to the council's limited resources it has to employ creative, innovative and cost effective tactics to encourage and enhance sporting opportunities and physical activity that result in higher participation rates at all levels (Gloucester City Council, 2005). Hence this research projects ambition was to provide Gloucester City Council with accurate and thorough data on the physical activity opportunities available within regions and wards of the city. The information from this research can provide evidence to support the further development of physical activity opportunities to enhance the community's health and to inform strategies and initiatives to combat health and social issues. The findings from the research can also assist with the formation of appropriate, evidence-based recommendations for health and physical activity promoters in the city of Gloucester to further enhance opportunities for physical activity. The council's assertion to increase the physical activity participation rates in Gloucester City is endorsed by Baker & Owen (2008) report which revealed 18.9% of the Gloucester City's

population were physical active, which is below the Government target of 50% active population in the UK by 2011 (DCMS, 2002).

2.8 A review of current research into audits of physical activity opportunities

Although this research projects ambition to identify the current physical activity opportunities in Gloucester City is fairly unique, research to obtain an understanding of sport, exercise and physical activity projects within an area has been undertaken by various regions within the UK. Between 2004 & 2006 a regional mapping activity was carried out in the UK by the North East region (Ford, 2007), the North West region (Stratton et al., 2006), the West Midlands (Buxton, 2004), and the East of England (Rigarsford, 2004). These mapping activities were commissioned by Sport England, the British Heart Foundation and regional specific institutions (Rigarsford, 2004; Buxton, 2004; Stratton et al, 2006; Ford, 2007). While there are differences in context between the research into Gloucester City's physical activity opportunities and the commissioned research, there are similarities in their aspirations and methodology. For this reason these research projects have been examined in more detail.

There appears a slight difference between the aims for the North West and the rest of the regions. The research conducted in the North West aimed to produce a database of the different types of physical activity programmes, projects, schemes and initiatives in existence in that region (Stratton et al., 2006). The West Midlands, East of England and North East region all shared a common goal, to gain an understanding of the nature and degree of 'direct physical activity projects' i.e. exercises referrals and walking schemes, and 'indirect physical activity projects' i.e. strategic planning and transportation issues, within their respective regions (Rigarsford, 2004; Buxton, 2004; Ford, 2007). The recognition that factors such as transportation can impact on the health of a community complies with the Department of Human Services (2002) interpretation of a social model of health. The Department of Human Services (2002) believe the broader determinants of health such as social, environmental and economic factors should be considered when dealing with health and physical inactivity.

Each research was conducted at different periods between 2004 & 2006, but all regions employed a similar methodology and utilised the same questionnaire created by the British Heart Foundation. This demonstrates a level of consistency between the research projects. However there is a slight difference between projects in the structure and appearance of the methodology. The West Midlands, North East and East of England present their methodology through the text within the body of their final report and a flow diagram in their appendix (Rigarsford, 2004; Buxton, 2004; Ford, 2007). Alternatively Stratton et al., (2006) presents the North West regions methodology through a five stage research model. The first stage of the model suggests meeting with key partners to agree the context and direction of

the research. The development of a database with details of contacts obtained from initial sources and internet searches is the next stage with the distribution of the British Heart Foundations questionnaire via email to the contacts discovered and the mapping (using GIS) of the programmes following. The final stage of the model culminates in the selection of the most engaging activities collected and producing qualitative data about these activities through case studies and face to face interviews (Stratton et al., 2006). The use of quantitative (questionnaire) and qualitative (case studies) methods within the research indicates a mixed method approach to conducting research which will be discussed during this research methodology chapter.

The potential response rate to the questionnaire distributed was an issue identified by the previous research projects. Their questionnaires were issued to a range of institutions, including local Government, the health sector, Primary Care Trusts, the commercial sector, the transport department, and the voluntary sector. Ford (2007) explains that these institutions were selected to ensure the mapping research would provide details of a wide range of existing programmes, and also identify key agencies and partnerships while identifying areas of good practice. The breakdown of response rates to the questionnaires shows the West Midlands had a 20% response; the North East had a 15.2%, with the East of England gaining a 21% response rate (Rigarlford, 2004; Buxton, 2004; Ford, 2007). Although the North West report details which institution returned the highest percentage of questionnaires (90% local authority) and the total number of questionnaires returned (296) the report does not indicated the percentage response rate in relation to the amount of questionnaire sent out. Stratton et al., (2006) acknowledges the low response rate experienced by other regions during their mapping activity and asserts that for research to meet strict validity guidelines a 50% response rate is required. But Stratton et al., (2006) accepts that due to the nature of this research i.e. the attempt to discover what physical activity opportunities, projects, initiatives and schemes are taking place within a specified area; concerns may occur about the number of returned questionnaires and consequently the overall response rate. An example illustrating the extent of resources required to improve response rates in this form of research is provided by Katie Cooke from NHS Health Scotland (Personal communication, 27/03/09). This descriptive research attempted to discover what physical activity opportunities are available within Scotland. To gather this data NHS Health Scotland employed (on a temporary basis) 10 people working full time (9am-5pm) over a 16 week period continuously ringing venues such as schools, leisure centres, community centres, churches and libraries, and searching the internet to obtain details of physical activity opportunities in Scotland (Personal communication, 27/03/09). No report, article or analysis was created or undertaken using the data obtained, the data was inputted into a database and a website was created as a "first port of call" for people who wish to take part in physical activity in Scotland (Personal communication, 27/03/09).

To analyse the data collected Stratton et al., (2006) employed a RE-AIM framework. This provided a theoretical focus to the research with the findings reported against a framework consisting of the sub categories; Reach i.e. who did the programme reach, Effectiveness i.e. how effective was the programme at reaching aims and objectives, Adoption i.e. has the programme been adopted else were, Implementation i.e. how was the programme implemented and managed and Monitoring i.e. the monitoring and evaluation strategies used to assess the programmes quality (Stratton et al., 2006). Glasgow et al., (2004) further endorses the RE-AIM framework recommending researchers apply this framework as it improves extrapolation results, assists in designing replication studies and is particularly useful in efficacy and effectiveness studies. The use of this theoretical framework allowed Stratton et al., (2006) to develop recommendations for future research projects of this type. These included; the development of a questionnaire that would be manageable for organisations with a large number of programmes, producing a web based questionnaire, organising face to face visits to key venues hosting activities and producing a reward system for returning questionnaires.

The remaining physical activity mapping research projects did not utilise a theoretical framework to analyse the data. Although this may have affected their ability to offer recommendations for future investigations of this type (none were provided by the other research projects), it did not diminish the level of data analysis carried out and the recommendations provided. Recommendations were specific to a particular region with the most relevant to the current research comprising of; the North East region suggesting the construction of a regional database to contain details of professionals working within the sector associated with physical activity, so as to share best practice and experiences (Ford, 2007). This recommendation embraces the principals within the civil society ideology encouraging establishments to generate an arena for associations and institutional collaboration (Perks, 2007). The research conducted in the East of England suggested making physical activity programmes inclusive to all groups, with tangible support provided to specific sub groups who are hard to reach or facing inequalities in health. These include older adults, black and minority groups and people with disabilities (Rigalsford, 2004). The U.S. Department of Health and Human Services (1996); Wan et al., (1996) & Neergaard et al., (2005), have all suggested using tangible support when developing physical activity initiatives to address health related issues. The West Midlands recommendations provide a holistic view of what is required within the region, emphasising; building effective partnerships, continued investment and maintenance of regional networks, and creating a planning framework to guide professionals through the process of developing and maintain projects. These are all seen as interconnected and reliant on each other for the whole initiative to succeed (Buxton, 2004). This panoramic resolution embraces the fundamental principles advocated by a social model of health i.e. promoting inter sectional collaboration and addressing the broader determinants of health.

The South East region and East Midlands did compile research projects regarding physical activity within their respective regions however these research projects investigated how often people incorporated a physical activity into their time and what forms of activity were most popular (Cavill et al., 2006; Jenner et al., 2007). As these research projects did not intend to identify what activities were available in their region, and the forms of activities they did include incorporated informal non-organised activities, these research projects were deemed not relevant for this research.

2.9 Summary

This review has provided valuable information that will ensure the research addresses the aims and objectives previously stated. To do this the chapter explained the ways in which 'physical activity' and 'physical activity opportunities' will be referred to within this research. The relevant policies underpinning physical activity development have been outlined and discussed, with previous research relevant to this research analysed. Furthermore, the chapter evaluated the ideologies and concepts that underpin the health and social policies of the government to improve wellbeing and increase the levels of physical activity in England. The benefits of maintaining an activity lifestyle are also revisited with the most suitable method to measure the intensity of a physical activity opportunity provided.

3. Methodology

This chapter begins by examining the philosophical facets such as the epistemological stance, research paradigm and theoretical perspectives underpinning the research. The research type, methodology and design are clustered together to give an overarching methodological perspective to the investigation. The combination of philosophical stance and methodological perspective directed the selection and design of research methods chosen to collect data for the research. A justification of the sampling methods selected, and the inclusion criteria required for an activity to be included in this research is provided. Finally an explanation of the tools used to analyse and process the data is done along with clarification of the ethical issues concerning the research.

3.1 Epistemological approach and Paradigm

3.1.1 Epistemological approach

There seems a consensus amongst various researchers regarding the definition of epistemology. Crotty (1998), Ritchie & Lewis (2003), Krauss (2005), Ardalan (2003), Love (2002), and Somekh & Lewin (2005) all interpret epistemology as the nature of knowledge and how it can be acquired. Throughout this research there was a need to apply different

meaning to a variety of concepts which is consistent with a social constructionism epistemology. A social constructionist perspective interprets objects not as items awaiting discovery and naming, but as the combination of human knowledge or opinion with that object that provides it with meaning (Crotty, 1998). While conducting this research it has been necessary to investigate and comprehend ideologies and theories that are already in the external world, and use them within the context of this research. For example, throughout this research 'civil society' has been expressed as an ideological perspective, whereas during Heins (2004) research 'civil society' was conveyed as a social concept. The most recognised alternative epistemologies to social constructionism are; objectivism, which defines truth as external to the researcher and available to be discovered and analysed (Somekh & Lewin, 2005), and subjectivism, where meaning is imposed on the object (the external world) by the subject (consciousness) (Crotty, 1998). Social constructionists emphasise that subject and object are collaborative in the creation of perceived reality with human beings constructing meanings as they engage with the world they are interpreting (Love, 2002).

3.1.2 Theoretical Perspective

A researcher's theoretical perspective influences the development of the research and the data gathering methods, and is founded on their world view, human values and theories, (Love, 2002). A theoretical perspective determines the form of analyses, background material, theories and research techniques chosen (Love, 2002). The most suitable practical methods available have been used to obtain the data for this research. The theoretical perspective relevant to this form of research is pragmatism, or specifically, philosophical pragmatism. The premise underpinning philosophical pragmatism is to use the most practical means that works most effectively to obtain the information required for the research (Crotty, 1998). Thus the approach for this research will be to identify and use methodologies, research methods, and sampling frames that work satisfactorily to assist the completion of the research project, unpractical ideas will be rejected. Descombe (2008), Krauss (2005), Crotty (1998), Mangan (2004), Ritchie & Lewis (2003), Coyne (1998), and Johnson & Onwuegbuzie (2004) all advocate philosophical pragmatism as the most relevant theoretical perspective to operate under when research requires a mixture of design components to answer the research question. Borkan (2004) believes philosophical pragmatism promotes mixing methods from different paradigms to answer the research question, which amounts to good social research practice. However Descombe (2008) warns against the possible misinterpreted commonsense use of the word 'pragmatic' that implies a certain lack of principles underlying a course of action. This interpretation is not relevant to this investigation and should not be associated with this research.

3.1.3 Research Paradigm

Kuhn formulated the term 'paradigm' and described it as a conceptual construct, a particular way in which a researcher makes sense of the world or some segment of the world (Kuhn, 1970). Furthermore a paradigm establishes the parameters and sets the boundaries for scientific research (Kuhn, 1970). The paradigm influencing this research is constructivism, with its assumption being people's perceptions and experiences produce multiple ways of knowing and understanding the world and reality (Mactavish & Schleien, 2000). A constructivism approach means the findings, discussion, knowledge and meaning generated from the research is wholly influenced by the researcher experiences while conducting the study (Krauss, 2005). Johnstone (2004) believes assuming this paradigm is appropriate when research is aimed at enhancing the understanding of a social phenomenon within a naturally occurring environment. Constructivism provides a flexible framework that accommodates emerging insights and information as the research evolves. Creswell (1994) suggests a researcher should keep his or her assumptions explicit at all times. To obtain an appreciation of constructivism, a brief consideration of paradigms that have a secondary influence on the research i.e. positivism and Interpretivism, is provided.

Firstly Positivists advocate science as the way to obtain truth, with understanding determined and verified through direct observations or measurements of a phenomena and applying quantitative research methods (Coll & Chapman, 2000; Cousins, 2002). Previously positivism was the dominant paradigm within social research, but its dominance is now challenged by alternative paradigms such as Interpretivism. Interpretivists are concerned with meaning and seek to understand people's definition of a situation (Schwandt, 1994). Interpretivists believe facts and values are not distinct, the researchers' perspectives inevitably influence findings and values, thus making it impossible to conduct objective value free research (Ritchie & Lewis, 2002).

3.2 Methodological perspective

The acquired knowledge of the research methodological perspective provided the interface between the underlying theory, research methodology, methods, and techniques that were used during this investigation.

3.2.1 Type of Research

Three types of research used to identify and form relevant research methods are; exploratory, descriptive and explanatory (Balnaves & Caputi, 2001). Descriptive research describe in detail a situation or set of circumstances. This type of research seeks to answer questions such as "how many" "who" and "what is happening", with the outcome adding to knowledge of the social world (McNeil & Chapman, 2005). This research is descriptive as the information obtained is describing what and how many physical activity opportunities are

taking place in the regions and wards of Gloucester City, who is providing these activities and who are their target audience. The research also requires this information to be analysed relative to the demographic profile of the regions and wards in Gloucester City.

The alternative types of research that were considered for this research were exploratory research, which is conducted in the interest of getting to know or understand a new or rarely researched phenomenon (Ruane, 2004), and explanatory research which explains a social phenomenon and discovers answers to social problems (McNeil & Chapman, 2005). The information requested by Gloucester City Council is purely descriptive. This research was commissioned by the sports development department of Gloucester City Council. The department required information concerning the physical activity opportunities proceeding in Gloucester City now. The information requested was purely descriptive as no problem had been clearly defined to explore further. An explanation as to why the findings are what they are has been alluded to within elements of the discussion and conclusion chapters. As these explanatory comments are not directing the structure and content of the majority of the research this type was not suitable for the project, though the descriptive findings from this research can be utilised to conduct further exploratory and explanatory research into this topic.

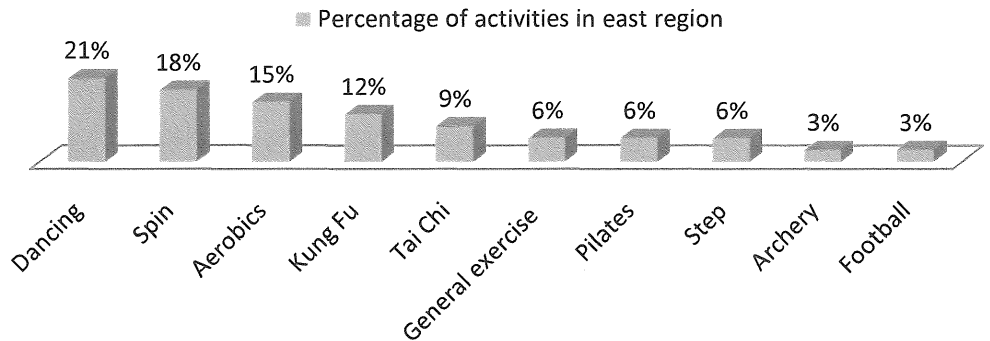
3.2.2 Research design

There are four categories of research that a descriptive research type can assume; case studies, longitudinal study, Cross sectional study or a combination of the three (Somekh & Lewin, 2005; Balnaves & Caputi, 2001). This research required a snapshot of the physical activity opportunities in Gloucester City. There were no obligations to revisit the situation at a later date, there were no comparisons required with other cities or industries and the research required data on more than one case at a single point in time. The conditions placed upon the research project by Gloucester City Council meant that a Cross sectional study was the most suitable design for this research. Cross sectional research involves documenting facts at a single moment in time via the population or a selected subset (Balnaves & Caputi, 2001). Burton et al., (2006) recognise Cross sectional study as the appropriate design to use when conducting descriptive or exploratory research. Although Balnaves & Caputi (2001) point out Cross sectional designs do not replicate the research at a later date, meaning that no account is taken of changes over time as would be the case in a longitudinal research study. Defining the research design provided a framework for the collection and analysis of data and contributed to identifying the appropriate methodology to complete the project.

3.2.3 Methodology

The research project required a flexible approach to collecting primary data relating to the physical activity opportunities in Gloucester City, and secondary data to form the

Figure 34: Top ten activities in East Gloucester



4.2.3.4 Targeting activities for groups

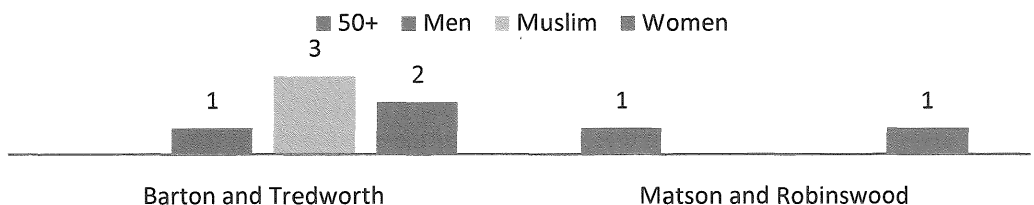
Table 8 shows how ethnically diverse the population living within East Gloucester were. The percentage of BME group living in Barton & Tredworth was substantially higher than the city average of 8%.

Table 8: East Gloucester's ethnic composition

East			
	Barton & Tredworth	Matson & Robinswood	Moreland
White British	7245	9516	9234
Mixed	437	277	243
Indian	1414	23	114
Pakistani	164	23	26
Bangladeshi	147	4	40
Black Caribbean	606	289	280
Black African	67	0	20
Chinese	10	26	24
Other	217	68	77
% BME	30%	7%	8%
All people	10307	10226	10058

This may explain the number of activities identified in figure 35 that were targeted at a BME dominated religious group.

Figure 35: Groups activities are targeted in East Gloucester



4.2.3.5 Financial details

The data illustrated in figure 37 show the unemployment rate of each ward in East Gloucester is higher than the city average of 5.4% (rates for Barton & Tredworth rate was nearly double that of the city). Yet figure 36 shows only 2% of activities identified by this research make concessionary price offers available to the unemployed.

Figure 36: Groups activity providers offer concessionary price rates to

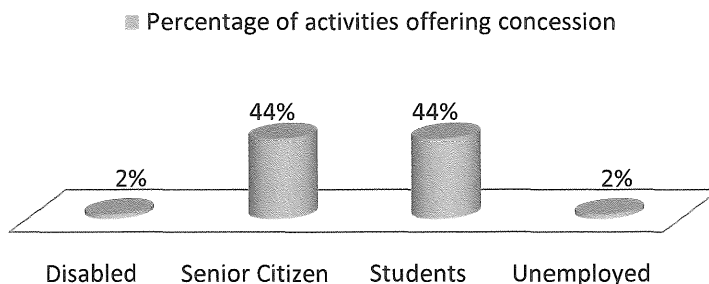


Figure 37: Rates of Unemployment within East Gloucester



4.2.3.6 Specific practices and requirements

The information required to confirm whether activity leaders were suitably qualified and insured was harder to obtain for activities in East Gloucester. Table 9 shows for each question regarding qualifications and insurance 19% response was unknown. The lack of clarity regarding this can affect the credibility and subsequent sustainability of these activities.

Table 9: Activity leaders with relevant qualifications and Insurance

	Percentage		
	Yes	No	Not known
Activity leaders qualified	79%	2%	19%
First aid qualification held by activity leader or venue	72%	9%	19%
Activities with insurance cover	79%	2%	19%

4.2.4 South Gloucester

4.2.4.1 Demography

South Gloucester is comprised of five wards which are; Podsmead, Grange, Tuffley, Quedgeley Severn vale and Quedgeley Fieldcourt (see figure 38).

Figure 38: South Gloucester

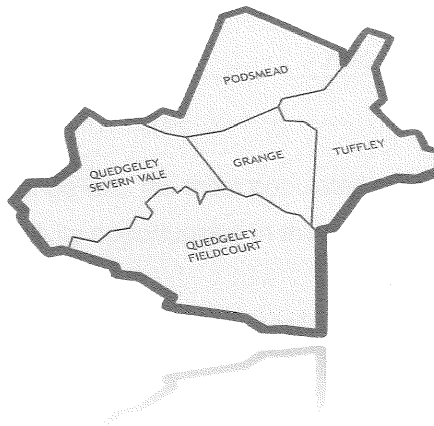
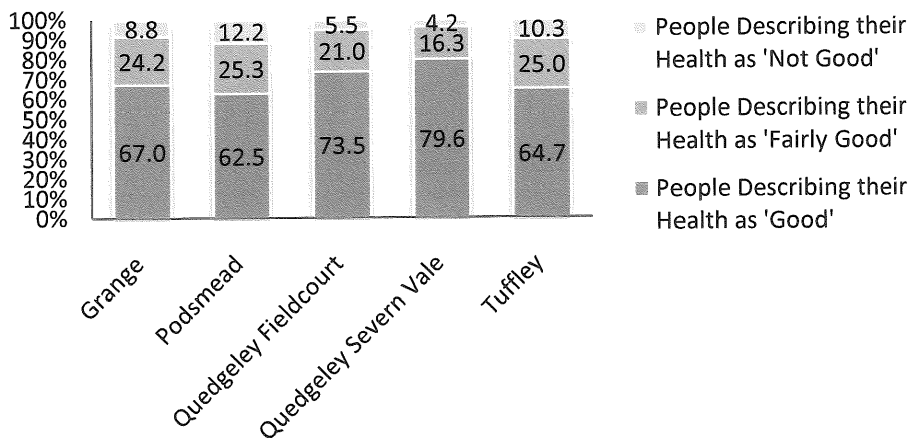


Figure 39 shows that over 79% of the people living in Quedgeley Severn Vale believe they are in good health. Residents of Quedgeley Severn Vale have the best perception of their health than any other ward in Gloucester City.

Figure 39: Perceived health status of residents in South Gloucester



Source: Gloucester City District Health and Population Profile Gloucestershire PCT (2008)

4.2.4.2 Response rates to questionnaire

Although the response rates shown in Table 10 indicate a good range of returned questionnaires, only 24 activities relevant to this research were identified in South Gloucester.

Table 10: Response rates to questionnaire

Wards	Percentage of questionnaires returned	Number of questionnaires returned
Podsmead	86%	6
Tuffley	44%	7
Grange	71%	5
Quedgeley Fieldcourt	25%	2
Quedgeley Severn Vale	75%	3

4.2.4.3 Range of activities

Although figure 40 shows Grange was the most populated ward in South Gloucester, Tuffley contains the most physical activity opportunities in the region (see figure 41)

Figure 40: Population split within South Gloucester

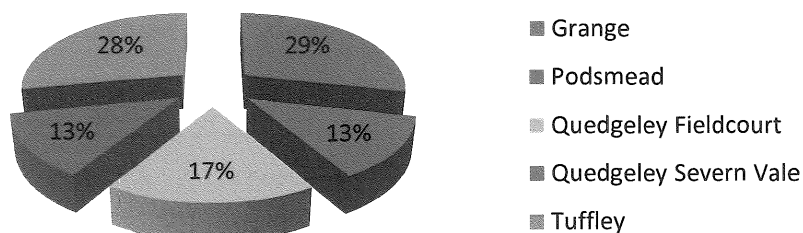
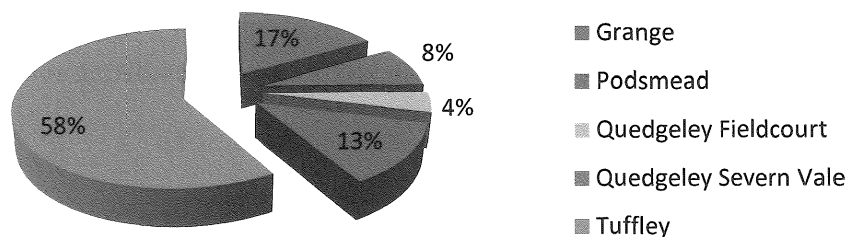
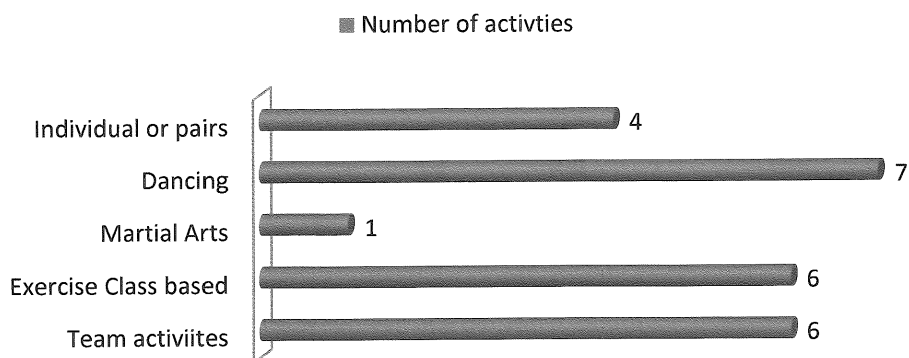


Figure 41: Percentage split of activities Identified in South Gloucester



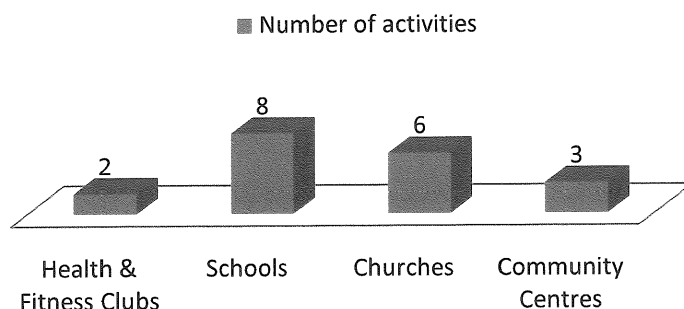
Dancing is the most popular category of activity in South Gloucester (see figure 42). This is unlike the other regions in Gloucester who have exercise class based activities as their preferred category.

Figure 42: Category of activities provided in South Gloucester



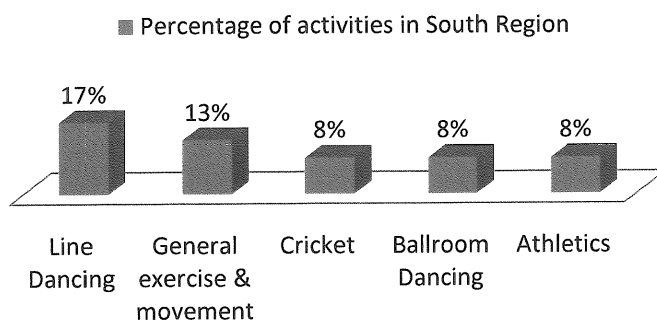
As there were no major health and fitness club in South Gloucester figure 43 shows schools accommodated the majority of physical activity opportunities.

Figure 43: Venues where activities are delivered



Line dancing was the most popular physical activity opportunity in South Gloucester. The popularity of this activity was unique to this region as was cricket being such a top five activity.

Figure 44: Top five activities in South Gloucester



4.2.4.4 Targeting activities for groups

Figure 45 shows Tuffley was the ward with the most activities targeted for groups, with women the group most activities were targeted at in South Gloucester.

Figure 45: Groups activities are targeted in South Gloucester

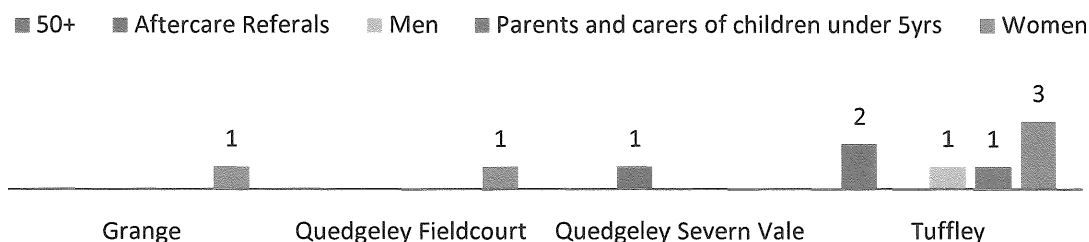


Figure 46 shows the diversity between two wards within South Gloucester. Podsmead unemployment rate was higher than the city average (5.4%), yet Quedgeley Severn Vale unemployment rate was well below the city average.

Figure 46: Rates of Unemployment within South Gloucester

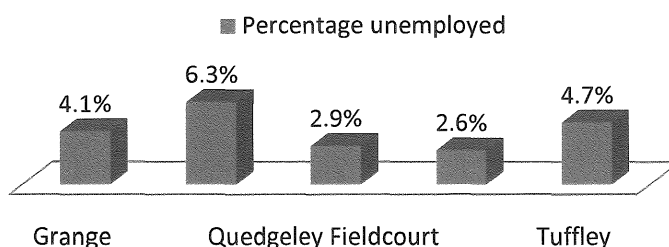


Table 11 shows Podsmead ethnic composition was marginally below that of the city as a whole (8%), yet Quedgeley Severn Vale ethnic composition was well below the average for Gloucester City overall.

Table 11: South Gloucester's ethnic composition

South					
	Podsmead	Quedgeley Fieldcourt	Quedgeley Severn Vale	Tuffley	Grange
White British	2927	5384	6056	5504	5623
Mixed	84	44	110	78	54
Indian	10	10	10	26	10
Pakistani	7	3	10	3	3
Bangladeshi	3	8	3	6	0
Black Caribbean	61	18	42	89	62
Black African	0	12	3	6	12
Chinese	12	3	35	14	3
Other	21	25	30	22	12
% BME	6%	2%	4%	4%	3%
All people	3125	5507	6299	5748	5779

There were no concessionary price offers available for: people 50 years or over, the unemployed or BME in South Gloucester. There was only one activity offering concessions

to students (rowing) and three offering concessions to residents (Karate, Circuit Training, Tennis).

4.2.4.5 Specific practices and requirements

A high percentage of activity leaders in South Gloucester were qualified to lead their activities but not as many as those in the other regions. This may be due to the most popular activity in South Gloucester (line dancing) and how participant find it acceptable that leaders of these activities don't have (or need) relevant qualification.

Table 12: Activity leaders with relevant qualifications and Insurance

	Percentage		
	Yes	No	Not known
Activity leaders qualified	75%	13%	13%
First aid qualification held by activity leader or venue	79%	4%	17%
Activities with insurance cover	96%	4%	0%

4.2.4.6 Summary of Qualitative Interview data

In answer to the question posed during the semi structured interview "What do you believe are the current issues confronting physical activity providers or venues when trying to start up or maintain a physical activity opportunity?" DF identifies a lack of proper marketing of activities for the elderly and poor communication about the benefits of physical activity for the elderly as their main concerns. Z found ethnic minority groups can be very suspicious of local government or councils. From Z's experience these groups do not accept funding, advice or help from local government as they believe that local government are trying to close down their activity for health and safety reasons or because they don't have the relevant licence to deliver the activity. Some also believe the Government will force them to open up their activity to all when they want it specifically for their minority group. AW wants more diverse activities to be subsidised by Government. AW acknowledges the expense involved but believes it better to take action early through providing physical activity opportunities that may prevent young people from turning to crime and costing the Government through incarcerating then rehabilitating them. Also young people can become obese through lack of physical activity, thus costing the Government more in health care. Finally KW believes that people should be encouraged to set up their own walking or running club, and local parks should be more accessible and utilised more effectively by creating family activities that can take place within them. KW also thinks the excessive rise of commercially run health and fitness clubs divides the community between the haves and have not's.

4.2.4.7 Summary

The key findings from this chapter are:

- Data from the major commercial health and fitness clubs were disproportionately high compared to the data identified from other venues. This affected the overall research findings which did not present a balanced account of all the activities provided in Gloucester City.
- Physical activity opportunities provided within Gloucester City are not evenly spread geographically, with North and Central Gloucester providing the majority of activities identified.
- Demographically there were major differences in ethnicity, unemployment rates and weekly income between regions.
- South Gloucester was the region with the lowest number of activities identified, and the only region not to have “exercise class based” as the most provided category of activity.
- The semi structured interviews raised issues regarding;
 - The amount of physical activity opportunities available for the elderly and how they are marketed.
 - Ethnic minority groups providing physical activity opportunities believe the local government pose a threat to them sustaining their activity.
 - Diverse physical activity opportunities should be provided and subsidised by the Government.
 - Access to commercial health and fitness clubs can seem exclusive to some parts of the community.

5. Discussion

The findings from the research are discussed in two sections; firstly the findings for Gloucester city are discussed. The discussion is structured around the headings used within the findings chapter i.e. range of activities, targeting activities for groups, financial details and specific practices and requirements. The second section compares the findings between the regions and wards of Gloucester and the implications of these findings for those regions and wards. The same headings used to present the first section are used in the second section.

5.1 Gloucester City

5.1.1 Response rate to questionnaires

A major obstacle to overcome when using a questionnaire in a social survey is cooperation from participants. To help improve response rates a cover letter/email was sent along with the questionnaire explaining the rationale for the questionnaire and research. Although Ruane (2005) believes this action can improve response rates to survey questionnaires,

Edwards et al., (2002) investigation into this issue found the odds of response to a questionnaire are doubled when a monetary incentive is used. Despite the response rate of returned questionnaires for this research was a respectable 54% overall, this research found that 68% of the activities identified were located within major commercial health and fitness clubs such as Virgin Active Health and Fitness Centre or Riverside Health Centre. This is not a definitive figure of physical activity opportunities taking place within Gloucester City. The majority of major health and fitness clubs initially identified enthusiastically completed and returned the questionnaire, whereas approximately 46% of questionnaires sent to other venues and facilitators were not completed, meaning these figures are not a true reflection of all the physical activity opportunities available in Gloucester City. Rigarlsford (2004), Buxton (2004), and Ford (2007) research and mapping of physical activity programmes and initiatives also had response rate issues. No monetary incentives were used and the 21% experienced during Rigarlsford's research was the best response rate out of the three research projects. This response rate is contrary to Stratton et al., (2006) postulation that for research to meet strict validity guidelines a 50% response rate is required. Though Stratton does realise that due to the nature of these forms of research, i.e. mapping physical activity opportunities, concerns may arise regarding the number of returned questionnaires and consequently whether the data produced is a true reflection of what is happening within the area researched.

The lowest numbers of activities identified were in South Gloucester; however physical activity opportunities were identified within all the wards of South Gloucester which was not true of the wards in North and East Gloucester. No physical activity opportunities were identified within wards Elmbridge (North Gloucester) and Moreland in the East. The demographic profile of the two wards were different in that Elmbridge is the smallest ward in North Gloucester with a population size of 5,691, unemployment levels are below the city average (3.3%), residents earn an average weekly income above the city average (£490), and only 14% of the population is aged 50 years or older. In contrast, Moreland had a population size of 10,237, unemployment levels were above the city average (6.8%), the average weekly income was below the city average (£340) and 31% of the population was aged 50 years or older. Initially these differences could be interpreted as showing the demographic composition of a ward does not influence whether a physical activity opportunity will be located within its boundaries. But, as stated previously, not all physical activities available within Gloucester City are represented within this research. Furthermore research conducted by Powell et al., (2006) found the demographics of an area do affect the location of facilities as commercial physical activity related facilities were less likely to be present in lower-income neighbourhoods. Furthermore Arbour & Martin-Ginis (2009) research also concluded that living in close proximity to a commercial facility that provides accessible programming and equipment does not necessarily translate into greater physical activity behaviour.

As three of the six major commercial health and fitness clubs were located in the ward of Westgate, Central Gloucester was the region with the largest percentage share of physical activity opportunities in Gloucester City, with 43% of all the activities being located there. Gloucester City centre is located within Central Gloucester which could explain the close proximity of major health and fitness facilities. The benefits of locating a health and fitness club within easy access of other facilities in a city centre i.e. shops, restaurants, bars will provide a degree of spin off trade that will not be available for 'stand alone' facilities (Covell et al., 2007). However the close proximity of these health and fitness clubs is contrary to the public sectors leisure planning process, where consideration of current facilities, the availability of resources and the community's needs are initially analysed before building such facilities (Torkildsen, 2005). The GL1 Leisure Centre is also located within Central Gloucester and was the largest public sector managed leisure facility in Gloucester City until October 2008 when management of the facility was transferred to Aspire Sports and Cultural Trust, a company with charitable status (Aspire, 2009).

Interestingly Central Gloucester is the region with the lowest population and these residents have the worst perception of their health in the City, with only 61% of residents believing they had "good" health (Gloucestershire PCT, 2008). This contradiction between actual activities available and residents' perception of health could be attributed to external medical and media communications exerting persistent pressure for people to desire a physical appearance which is unobtainable (Frew & Mcillivary, 2005). Another factor to be considered is the demographic and socioeconomic constituents of Central Gloucester. This research found a large portion of residents in Central Gloucester are paid a much lower weekly wage (average of £310 per week) than those living in North and South Gloucester (North £488 & South £394 per week). Furthermore Westgate (a ward in Central Gloucester) has the highest unemployment levels in Gloucester City at 12.3%. Ali & Lindstrom (2006) found the enthusiasm for leisure time physical activity is affected by demographic and socioeconomic characteristics such as education, income, employment and means of transportation which is lacking among the less wealthy communities. Additionally Martin (2008) and Tannahill (1985) assertion that wider determinants outside of biomedical factors affect a community's general health and wellbeing and the perception they have of their health are supported by these findings. A consideration of the 'social model of health' when addressing physical inactivity in a community would recognise the issues identified.

5.1.2 Range of activities

The findings from this research identified 374 physical activity opportunities. These included 48 different types of activities which were clustered into categories with the variety of venues also clustered into groups. This was done to provide structure and to aid with analysis. Clustering activities into types and venues is a method employed by Rigarlsford (2004)

during research into the nature and extent of physical activity projects in East England and by Ford (2007) during similar research in the North East of England. Rigarsford (2004) found leisure/sports facilities the most common setting for physical activity projects with 26% of activities located there, with fitness/exercise classes (24%) the most common type of activity. Ford's (2007) categories for type and location of activities were different to Rigarsford and the findings differed also. Ford's (2007) research found the most common location for physical activity projects were formal community settings, with the most frequent type of activity being walking schemes. This research found the most common physical activity category provided in Gloucester City as exercise class based, with health and fitness clubs the most common venue. The major commercial health and fitness clubs identified hosted 68% of all the activities found. Kaermer et al., (2001) research may provide the reasoning for the popularity of this category and its preferred location. The research found the majority of exercise class based activities appeared to enhance the total fitness profile of participants by improving muscular performances, muscle morphology, and cardiovascular fitness greater than most sport practices. Though Waring (2008) suggests the motivation behind the exalted use of commercial health clubs is defined according to the social and cultural experience of working in a city centre and with certain participants utilising commercial club membership for status and to benefit their own careers.

Within the report *At least five a week* (Department of Health, 2004) the United Kingdom's Chief Medical Officer reveals the annual cost of physical inactivity in England as £8.2 billion. Physical inactivity also contributes to the high obesity levels in England and the increased risk of type two diabetes (Department of Health, 2004). There are improving statistics regarding physical activity participation in England. Sport England surveyed 498 people about their exercise habits in 2008/09 and the results showed 20.9 per cent exercised three times a week compared with 16.4 per cent the previous year (Sport England, 2009). By identifying and collating data on the physical activity opportunities available in Gloucester onto a database, accessing this wide choice of activities can be made straightforward. This may help increase the physical activity participation levels. Lounsbury et al., (2007) advocates providing an arena that allows choice when attempting to increase physical activity participation levels. They suggest communicating the benefits of physical activity and providing a diverse choice of activities for the population to participate in. The Department of Health (2005) and Lowther et al., (2002) also state that providing a range of options and choices of physical activity opportunities creates an environment where people can choose the activity most suited to them. However the social and environmental pressures that influence individuals and their community are determinants that will affect the choices made by potential participants (Wetter et al., 2001). This further highlights the social model of health concept, i.e. identifying and addressing social and economic determinants that affect the levels of physical activity participation, is an important variable that can affect participation levels. The findings from this research show numerous types of physical activity

opportunities for residents of Gloucester to participate in (48) and a variety of formal and informal venues available. The category of activities was, however, dominated by exercise class based activities and the capacity to utilise further venues aside from major commercial health and fitness clubs is apparent.

As stated previously the findings from this research were not conclusive. Although a 54% response rate from the questionnaires sent is reasonable (Stratton et al., 2006), numerous activities delivered in a variety of venues were not captured. For that reason the physical activity opportunities identified within the major commercial health and fitness clubs had a major influence on the findings. The physical activity opportunities provided in these clubs must be considered within the context in which they operate. Although commercial health and fitness clubs may be sincere in their goals of improving a community's health and fitness, they are businesses and their primary focus is profit and margins (Waring 2008, Peterson 2006, Lam et al., 2005). Their profit making ethos is not conducive with the government's ideological approach to tackling physical inactivity and social issues which is influenced by a civil society ideology (Edwards, 2005). The Department of Health (2005) encourages the use of physical activity to assist with the resolution of social issues such as reducing crime and promoting social inclusion and urban regeneration.

From a social perspective commercial health and fitness clubs are used as venues for people to meet and socialise, with these organisations also contributing to the local economy and employing staff from the local labour market (Warring, 2008). It is also possible for commercial health and fitness clubs to appear exclusive and elusive to some with the potential for these exclusive membership clubs to form strong bonds to reinforce social stratification and exclusion (Conn, 2008). Previously such divisions have made access to physical activity opportunities for women, gay men, BME groups, and the economically disadvantaged difficult (Perks, 2007). These previous attitudes highlight the negative aspects of social capital, instead this concept should utilise physical activity opportunities to empower a community and encourage social inclusion. While these observations appear to suggest commercial sector health organisations are wholly commercially driven it should be considered that some public leisure facilities are required to counteract facilities designed to achieve commercial gain (Torkildsen, 2005). With this in mind there is an opportunity for further research into the perceptions of residents within Gloucester City top commercial health and fitness clubs. This research would be especially poignant if the type of residents Perks (2007) identified as groups whose access to physical activity opportunities have been made difficult were researched.

This research was concerned with identifying what opportunities are available in Gloucester and not with participation levels for the activities located, this then provides an opportunity

for further research into the level of attendance to physical activity opportunities in Gloucester city.

5.1.3 Targeting activities for groups

The report *Choosing Activity: A Physical Activity Action Plan* (Department of Health, 2005) revealed the government's goal of specifically targeting physical activity opportunities at particular groups such as women, people of black and minority ethnicity (BME), older people, and people with a disability. Evidence from this report (Department of Health, 2005) showed that these groups have poor participation rates within physical activity opportunities. Women's participation in physical activity opportunities has grown in recent times, which is mainly due to the increased availability of aerobics programmes within safer environments stemming from the fitness boom of the early nineties (Peterson et al., 2005). To increase participation in these groups Hillsdon et al., (2005) found Interventions targeting individuals in community settings were effective in producing short-term changes in physical activity, and were likely to be effective in producing mid- to long-term changes too. In comparison Stratton et al., (2006) and Ford (2007) research in to physical activity programmes in their respective regions found the majority of activities identified that weren't available to all were targeted at children (in schools and communities), followed by activities targeted at people with medical issues. Rigarsford (2004) findings also identified a large percentage (16%) of activities targeted at people with medical issues with relatively few targeted at women, people with disabilities, ethnic minorities or socially disadvantaged groups. The findings related to activities targeted at the priority groups identified by central government are similar to that of Stratton et al., (2006), Rigarsford (2004) and Ford (2007) and support the proposal by the Department of Health to target activities at the groups mentioned to increase their participation levels (Department of Health, 2005).

The elderly are one of the priority groups identified by central and local Government to target physical activity opportunities to, yet although 32% of people living in Gloucester were aged 50 years or older, only 12 activities (3%) were targeted at this group. This was not consistent with the guidance provided by Bawley et al., (2003) after research conducted into physical activity and the elderly. Bawley et al., (2003) advised targeting and customising physical activity programmes specifically for the older generation as they have tended to have a frail physical demeanour and bone density. Bawley believed customised activities would provide an opportunity for people of a similar age group to meet and socialise, facilitated by providing each other with a high level of social support. Collins et al., (1999) also recognised the importance of social support for the elderly noting that older people recognised and valued the importance of social support in their leisure and physical activities. But the interview conducted with DF found that the number of physical activity opportunities targeted at the elderly in Gloucester City are being reduced, and those that are available have not

been communicated sufficiently to engage with this community to provide social support and generate social capital. Incidentally research by Peterson et al., (2005) also highlighted how high levels of social support for physical activity programmes targeted at women meant they were twice as likely to continue attending the programme than those with low or no social support.

The Gloucestershire County's Research team (2003) identified 7.4% of Gloucester City's population as BME, yet only five of the 374 activities identified (1.3%) were targeted at a specific BME group. Z argued that BME activity providers distrusted the local government because they think that they will close their activities down by requesting some form of accreditation or insurance policy for the delivery of the activity. Although there seems to be a consensus from central and local governments to advocate for the targeting of physical activity opportunities at BME groups, (Publica, 2003) research highlighted how divisive and unnecessary this approach can appear. Publica, (2003) recommend a multilevel intervention approach to promoting physical activity applying the inclusion principle, which avoids messages, attitudes or activities that might exclude any social group (Publica, 2003). Furthermore, Hillsdon et al.'s, (2005) research established some issues with the effectiveness of a physical activity intervention targeted directly at BME groups or adults with physical limitations. Glasgow et al., (2004) found an association between the majority of BME groups and high physical inactivity rates. Importantly Gloucester City Council recognises there are issues with low participation in physical activity and sport by BME groups in Gloucester City (Gloucester City Council, 2005) and are taking action to address the ongoing issue through action such as commissioning this research.

This research also found people with disabilities were under represented through the number of physical activity opportunities targeted at them. Only three activities out of those identified were targeted at people with a disability. This is consistent with the low number identified in research completed by Stratton et al., (2006), Rigalsford (2004) and Ford (2007). However this is not consistent with the requirements set out in *Choosing Activity: A Physical Activity Action Plan* (Department of Health, 2005) which identified people with disabilities as a priority group that physical activity opportunities should be targeted at.

5.1.4 Financial details

Neergaard et al, (2005) and Wan et al, (1996) associate flexible payment methods and concessionary price offers as tangible forms of support which can be used to increase participation in physical activity and assist participants to maintain their physical activity levels. Cochrane & Davey (2008) also recognise the cost of attending opportunities as a major barrier to someone sustaining their physical activity levels. With these findings in mind concessionary price offers can be used to encourage attendance at physical activity opportunities. Although Gloucester City's unemployment rate is 4.6% (ONS, 2009), the

highest within Gloucestershire county, only 13% of the activities identified in this study provide concessionary price offers to the unemployed. Ali & Linstrom's (2006) research showed that the unemployed spend little of their leisure time participating in physical activity opportunities, and results from Kauklainen et al's (2002) research indicates that regular supervised training and an increase in physical activity participation can improve the functional capacity, motivation and health of the unemployed. These findings support the Department of Health (2004) proposal to use physical activity opportunities to keep the unemployed active and engaged within the community.

What was also evident within the findings of this research was the number of activities (especially those located in health and fitness clubs) that offer multiple payment options for physical activity sessions i.e. the majority of aerobics programmes can be paid for "per session", or payment to attend a class can be included within a regular membership subscription. These flexible payment methods highlight a different form of financial support to that referred to within the findings of research by Buxton (2004), Ford (2007), Rigarlsford (2007) and Stratton et al., (2006). These studies all focused on the financial resources used to increase participation in physical activity programmes and the nature of funding for these programmes, as opposed to the benefits to providing tangible support to potential participants. Tangible support is one of the four components inherent within the social support concept and an important aid to help participants attend and maintain physical activity levels (Christensen et al., 2006). McGuinnis et al., (2002) believes the policies that produce a change in behaviour i.e. increase physically active, should offer tangible economic incentives that will encourage and facilitate change. In addition to these incentives (Bailis et al., 2005) argues that providing a range of physical activities will encourage self determination within the community and providing communications that appeal to all will provide the maximum yield of participation from the community.

Most of the activities identified from this research provide concessionary price offers to students, with 45% of the activities identified offering concessions. The university campus located in Gloucester City could be a contributing factor to this high percentage, but Lam (2005) argues that students also have good employment prospects and will eventually pay full price for the physical activity opportunity or membership, with health clubs anticipating brand loyalty to their activity/health club (Lam, 2005). This investment in future revenue streams could explain why only 13% of activities identified offered concessions to the unemployed and only one activity for the disabled. These groups may not generate sustainable income streams from the commercial sectors perspective and thus there is no incentive for them to offer concessions. The findings from this research show an opportunity for local government to provide two of the four components that underpin social support. Initially local government can provide physical activity opportunities that contain tangible support for groups that may seem financially unappealing to the commercial sector, while

also supplying relevant and easily accessible information support. *Learning from LEAP: a report on the Local Exercise Action Pilots* (Department of Health, 2007a) has shown that the cost to deliver and promote these opportunities need not be as taxing on local government as one might think. The implementation of these projects was relatively low in cost or cost effective and demonstrated potential cost savings to the NHS that exceeded the costs per participant of implementing the intervention (Department of Health, 2007a).

5.1.5 Specific practices and requirements

Both Cale & Harris (2001) and Cavill (2006) argue that screening prior to starting an activity can help to prevent injury and identify frailties. They also believe that monitoring the participant's attendance patterns can help to identify whether the activity is a success, as data from monitoring can be used to identify underlying trends such as what time of the year participants are likely to attend, or from which region/ward participants come from. Stratton et al.'s, (2006) research found the relationship between the effectiveness and sustainability of a physical activity programme is linked to monitoring and evaluation of that programme. The respondents' view that their programmes were effective was erroneous, as programme leaders did not have the time or expertise to monitor and evaluate their programme with appropriate rigour (Stratton et al., 2006). This research found only 21% of the activities identified overtly monitored attendance by participants. The major commercial health and fitness centres that accommodate a large portion of the activities identified through the research stated that they did not monitor participants by taking a register. But the computer systems utilised by these organisations have sufficient knowledge management capabilities to conduct this monitoring covertly (Simmons et al., 2009), with Information gathered from monitoring the attendance of participants used for statistical purposes.

National recommendations provided by *Skills Active* recognises the need for physical activity opportunities to be delivered by activity leaders who are qualified in their discipline, and have the appropriate insurance and first aid qualifications to deliver the activity (skillsactive.com, 2009). Furthermore, physical activity opportunities need to be available, accessible, affordable, acceptable and appropriate with the final two factors relating to whether an activity is potentially sustainable (Cochrane & Davey, 2008). Cochrane & Davey (2008) consider an activity with a leader who has acceptable/appropriate insurance cover for accidents and injuries and appropriate/acceptable level of qualifications to be credible, potentially sustainable, and more likely to attract ongoing participants. Hamelin's (2004) research also found that participants had issues with attending an exercise class with uncertified fitness instructors, and identified numerous benefits of certification, both for class attendees and the fitness club owner or manager.

The findings from this research found that 92% of activity leaders in the city possessed the relevant qualifications to lead their activities and 91% of the physical activity opportunities

had activity leaders that possessed a first aid qualification. An even larger majority (95%) of activity providers had the appropriate insurance to cover for accidents and injuries to participants. The small minority of activity leaders who did not have formal qualifications to deliver activities were in areas such as ballroom or tea dancing. Z stated in their interview that participants do not feel a formal qualification is required due to the nature of the activity. Stringent efforts have been made by partners such as the Department of Health, the National Skills Academy, Skills Active and Sport England to ensure that physical activity providers and sports coaches are adequately trained and qualified to deliver their programmes. For example, the Department of Health has published the National Quality Assurance Framework on Exercise Referral Systems (NQAF) which provides guidance on the required qualifications for primary care and fitness professionals (Department of Health, 2001). Additionally, the Register of Exercise Professionals (REPs) has been established to ensure that there are appropriate professional qualifications and career pathways for exercise professionals. This register is used by primary care organisations to identify appropriately qualified professionals for exercise referral schemes and complements the NQAF guidance (The National Skills Academy, 2009).

5.2 The regions within Gloucester City

5.2.1 Category of activities

The report *Choosing Activity A Physical Activity Action Plan* (Department of Health, 2005) advocates providing a range of physical activity opportunities and sports to improve health and encourage social inclusion. Edwards & Tsouro's (2008) research shows that group based physical activities are ideal for tackling social issues and fostering social capital and a civil society (Edwards, 2005). The categories of physical activity opportunities created for this research had a "group" element to them, with the "individuals and pairs" category also containing activities such as ballroom dancing, which were attended by groups and promoted as a 'community-environment' type activity. The most popular category of activity provided in North Gloucester was exercise class based which accounted for 68% of the activities identified. A higher percentage of activities identified in Central Gloucester (82%) were exercise class based with 46% of activities identified in East Gloucester within this category. Although exercise class based activities are delivered in groups the opportunity to foster social capital and social cohesion can be limited as the focus of the groups is directed onto the activity leader and there may be limited communication between class members. Additionally, the decision to participate in and accessing such resources as An exercise classes ultimately rests with the individual. With most of the activities identified in Central and North Gloucester provided by commercial health and fitness clubs, members of a community will have differential access to these activities and this form of social capital by

virtue of their social position within that network, community or social grouping (Glover, 2006).

In Rigarlsford's (2004) research 24% of the physical activity opportunities identified were placed within the fitness/exercise class or group category. This represented the highest category. This was followed by walking (17%) and multiple sports (16%). Ford's (2007) research identified walking schemes as the most popular category of activity undertaken, followed by community health/physical activities and sport and leisure development programmes. The ideal group dynamic to foster social capital and a civil society would involve a group dynamic from a variety of positions within a community which has defined its own needs for assistance. A social support facilitator would define what is expected from the group members and listen carefully to all opinions in the group. This would enhance the group's values and capability to connect with, and care for, each other (Harris, 1998). Of all the regions South Gloucester had the least exercise class based activities. This could be attributed to the region's lack of a major commercial health and fitness club. This may provide an opportunity for local government to develop and promote physical activity opportunities that foster positive social capital, initially in South Gloucester then eventually across all regions of Gloucester City.

5.2.2 Venues/location of physical activity opportunities

Cavill (2006) believes that the location of a provision or venue will affect the participation levels of physical activity by a population as this will impact on their access to physical programmes and facilities. Strategies such as spatial analysis have been utilised to determine the number of leisure facilities required within a specified catchment area (Torkildsen, 2005). This method, however, is utilised to justify the creation or maintenance of public leisure facilities and does not take into consideration the location of activities within community settings i.e. churches, schools and community centres. The findings from this research support the Department of Health's suggestion to use a variety of facilities within the community to host physical activity initiatives (Department of Health, 2005). For example, in North Gloucester the majority of activities identified were provided within a health and fitness club, which is similar to Rigarlsford's (2004) findings. Activities in East Gloucester were largely located within health and fitness clubs but also in other locations such as church premises. As South Gloucester did not have a major health and fitness club within its boundaries the physical activity opportunities identified were mostly located within schools and churches. This is consistent with Ford's (2007) findings which indicate that locations such as schools and churches are suitable for hosting physical activity opportunities.

The types of venues that provide physical activity opportunities and the organisations that manage them have an impact on the ability for that activity to foster social capital. Physical activity “isolated organisations” i.e. those that provided physical activity or sport only, have a weaker positive effect on fostering social capital than “connected” venues/organisations i.e. schools or churches, venues that have other community commitments (Coatler, 2007). To utilise these venues appropriately local Government would need to form partnerships with these venues/organisations. A large proportion of the physical activity projects found in the North West region worked within a partnership to deliver their activities (Stratton et al., 2006). This is an encouraging scenario which could inspire local Government to improve access to venues within a community setting to provide physical activity opportunities. This tactic was prominent in Burnett's (2006) project which aimed to build social capital at a community level. The initiative *Active Community Clubs* successfully developed sports and physical activity programmes by interfacing with social institutions, developing networks within the community and encouraging active citizenship that generated social capital at an individual and community level (Burnett, 2006). Consequently Gloucester City Council's (2005) ambition to build effective partnerships to ensure that provision is available to meet the sporting and physical activity needs of the community can be achieved by utilising venues such as schools or churches within local communities that are currently underused and available.

5.2.3 Targeting activities for groups

Scott-Samuel & Springett's (2007) research showed that physical activity opportunities are not equally available to all. For instance, BME groups, women, the economically improvised, and people with disabilities frequently encountered inequitable social arrangements that made access to physical activities difficult. Reichert et al.'s, (2007) research reported that women in particular found psychological and cognitive, sociocultural, and environmental factors restricted their participation in physical activity. While Caperchoine et al., (2009) suggests that areas such as the home and community, marketing, medical systems, and public policy affect participation levels for these underrepresented groups. These writers indicate that it is vital to address the broader determinants identified within the social model of health if government's are going to increase physical activity participation levels within identified priority population groups.

The findings from this research show that the region with the most activities targeted at people aged 50 or over was Central Gloucester. In North Gloucester 41% of the population are over 50 years old, yet only two activities are targeted at this group. This amount of targeted activities for the elderly is significantly lower than the 5% of physical activity programmes targeted at this group in the North West of England (Stratton et al, 2006), though the North West is a larger area making the necessity and capability to provide

physical activity programmes targeted at this group easier to justify and more essential. The findings showed Barton & Tredworth (a ward in East Gloucester) had the only activity in Gloucester city that was targeted at people of black and minority ethnicity (BME). However this ward is the most ethnically diverse in Gloucester City with 30% of its population classed as BME, and the one targeted activity is aimed at Muslims which is a religion as opposed to an ethnic group. Although targeting physical activities at groups can be seen as a contentious issue, Heath (2003) strongly recommends targeting physical activity opportunities that incorporate goal setting, social support, relapse prevention and teaching behavioural skills to the needs of specific groups. Rigarsford (2004) on the other hand suggests making physical activity programmes inclusive to all groups, with tangible support provided to the priority groups. Publica, (2003) also preferred utilising an inclusion principle when using physical activity to promote health, i.e. to avoid messages or attitudes that might exclude any social group.

5.2.4 Financial details

Finance and funding is an essential aspect to the success of physical activity initiatives. This is illustrated within Rigarsford (2004) research which found that financial resources and the short-term nature of funding were fundamental determinants of the sustainability of physical activity programmes. Kirk., et al's (1998) research also found concessionary pricing of leisure services (which is a form of tangible support) affected participation in these activities. The consumers who are likely to respond to the leisure service price deals are motivated primarily by economic reasons Kirk., et al (1998). Heath (2003) also believes reducing fees for selected groups to attend physical activity programmes is a plausible strategy to reduce the barriers that prevent participation. But Coatler et al., (1998) suggests certain studies overestimate the role price deals has on the utilization of public leisure facilities, and concludes that what is needed is further exploration into concessionary pricing schemes and whether they truly engage consumer away from commercial provision in the mixed economy of leisure. Further exploration of this proposal could be beneficial for the unemployed in Central and East Gloucester as the findings showed the unemployment rate in both regions were higher than that of the City overall. Despite this only one activity identified in East Gloucester made concessionary price offers available to the unemployed, and although the unemployment rate in South Gloucester was the same as the city as a whole, none of the activities identified for the region offered concessions to the unemployed, people with disabilities people who are BME, or people 50 years or over.

In North Gloucester 8% of activities provided concessionary price offers to people aged 50 years or above, but the percentage share of activities offering concessions to students (70%) and corporate organisations (68%) was far higher. There does seem an unjust favouritism by activity providers who offer concessionary price offers to students and corporate organisations, but to an organisation operating in the commercial sector people 50

years or over, the unemployed, people with disabilities or a BME group would generate minimal profits (unless subsidised by the Government) (Lam et al., 2005). This is despite the mental health benefits of physical activity i.e. mood elevation, better cognitive functioning, improved self-perception and self-esteem that would be especially beneficially to these groups (Wallace et al, 2000). To address this issue an attribute of the social support concept i.e. tangible support, could be provided in the form of concessionary price offers to access physical activity opportunities, making these more accessible to the disadvantaged portion of the population. Also financial support need not be provided by concessionary offers alone, Buxton (2004) suggests a holistic approach in using finance to tackle physical inactivity with continued investment and maintenance of regional networks to improve the delivery and uptake of physical activity.

5.2.5 Specific practices and requirements

The need for qualified activity leaders is apparent as physical activity opportunities that incorporate regular contact with qualified exercise specialist tend to report sustained changes in physical activity behaviour (Hillsdon et al., 2005). Stratton et al., (2006) found that most of the physical activity programmes identified during their research were implemented and managed by groups and organisations that were sufficiently trained to deliver the programmes. Initially this supposition seems consistent with the findings from this research as the activities provided in North and Central Gloucester had a high percentage of activity leaders with relevant qualifications to deliver their activity. The majority of activities identified from these regions however are located in major commercial health and fitness clubs. The information required to confirm whether activity leaders were suitably qualified and insured was harder to obtain for activities in East Gloucester and the percentage of qualified activity leaders in South Gloucester was even lower due to no major commercial health and fitness clubs being located within this region. Numerous activity providers from both East and South Gloucester did not complete and return the questionnaire, which means there is a possibility the number of activities that are delivered by unqualified activity providers who have no relevant insurance could be higher. In South Gloucester Line dancing was the most popular activity with participants in this activity possibly accepting that activity leaders of this form of activity do not have (or need) qualifications to deliver the activity. This is not to imply that unqualified activity providers deliver an inferior service. Research conducted by Sugman et al., (2001) found a little more than half the sports clubs surveyed in Slovenia had activity providers with a formal professional qualification, and Arora et al., (2007) believes that carefully designed messages to reach and affect a target population are more fundamental than formal qualifications in convincing physical inactivity consumers to participate in an activity. These findings challenge Cochrane and Davey's (2008) supposition that formal physical activity programmes need qualified activity leaders in order for the activity to be acceptable and appropriate to participants. Gloucester City Council requires

the activities they provide or endorse to be delivered by qualified activity leaders (Gloucester City Council, 2005).

5.2.6 Summary

The majority of activities identified in this research were categorised as exercise class based and located within health and fitness clubs. These types of 'group based' activities are seen as ideal for tackling social issues and fostering social capital and civil society. Not all of the physical activity opportunities delivered in Gloucester City were identified, which meant that the six major commercial health and fitness clubs provided a large proportion of the activities within this research. Although sincere in their premise to improve the health of residents in Gloucester City, the underlying motives for these commercial health and fitness clubs may not be consistent with the goals of Government to increase physical activity, reduce inactivity and address social issues through increased community interaction. The ideal group dynamic to foster social capital and civil society would include people from a variety of areas of the community taking part. The Department of Health and local government both advocate the targeting of activities to specific groups i.e. BME, older people, unemployed and women. This research reveals that only a small number of activities are targeted to these priority groups in Gloucester City. Previous research has found that the wider determinants of participation in physical activity including the family home, community, the local environment, how activities are marketed and public policies are influential in determining whether disadvantaged or priority groups participate in physical activity opportunities. The capacity to provide concessionary price offers to increase participation from these specific groups was found to be available but as the majority of activities identified are provided by commercial health and fitness clubs, the concessionary price offers are used to generate prospective long term income streams or to attract corporate organisations. This highlighted the necessity for local government to provide or subsidise physical activity opportunities in Gloucester city. The venues where physical activity opportunities are provided can also assist with fostering social capital with 'connected' venues i.e. location that have other community commitments (schools & churches) more appropriate than isolated organisations i.e. health and fitness clubs.

6. Conclusion

This conclusion summarises the findings of this research in relation to the objectives, which included the following:

- To undertake an audit of physical activity opportunities through the use of questionnaires, interviews and observation in the Gloucester city area.
- To contextualise the findings of the audit of physical activity opportunities and map this with the current demography of the regions and wards within the city.
- To contextualise the findings of the audit of physical activity opportunities within the context of current national and local health and social policies.

- If necessary, provide evidence-based recommendations for health and physical activity promoters in the city of Gloucester to further enhance opportunities for physical activity.

The conclusion has four sections; the main findings from the research with a synopsis of these findings. This is followed by recommendations for practice directed to policy makers and practitioners at both a national and local contexts. This is followed by recommendations for future research with the limitations attributed with this research discussed, and finally a reflection related to how the research has impacted on the researcher.

6.1 Main findings and Synopsis

The main findings from the research were:

- Data from the major commercial health and fitness clubs were disproportionately high compared to the data identified from other venues. This affected the overall research findings which did not present a balanced account of all the activities provided in Gloucester City.
- Physical activity opportunities provided within Gloucester City are not evenly spread geographically, with North and Central Gloucester providing the majority of activities identified.
- A large majority of the physical activity providers identified had the relevant qualifications and insurance to deliver these activities
- Demographically there were major differences in ethnicity, unemployment rates and weekly income between regions.
- South Gloucester was the region with the lowest number of activities identified, and the only region not to have “exercise class based” as the most provided category of activity.
- The semi structured interviews raised issues regarding;
 - The amount of physical activity opportunities available for the elderly and how they are marketed.
 - Ethnic minority groups providing physical activity opportunities believe the local government pose a threat to them sustaining there activity.
 - Diverse physical activity opportunities should be provided and subsidies by Government.
 - Access to commercial health and fitness clubs can seem exclusive to some parts of the community.

The research found major commercial health and fitness clubs were the main providers of physical activity opportunities within Gloucester City. Churches, schools and community centres were further venues where physical activity opportunities were located. These venues are termed ‘connected’ as they provide physical activity opportunities as an

additional function to their principal responsibility within the community. Opportunities provided from these 'connected' venues have a more positive effect on a community than those delivered from 'isolated organisations' i.e. commercial health and fitness clubs. The research concludes that 'connected' venues were underutilised when providing physical activity opportunities in Gloucester city and the potential for usage of these venues requires reviewing and possibly exploiting.

The main commercial health and fitness clubs in Gloucester City targeted most of their concessionary price offers to encourage participation in their activities at students and corporate groups. People with disabilities, older people, the unemployed and people of black & minority ethnicity are the priority groups the Department of Health and Gloucester City Council suggest activities should be targeted at. The research concludes that these priority groups should have more physical activity opportunities and concessionary price offers targeted at them to encourage participation in their local communities.

Nationally numerous bodies for example Skills Active, Sport England and the National Skills Academy have been striving to raise standards and ensure the activity providers for physical activity programmes have the relevant qualifications and insurance to deliver these programmes. This effort appears to have been successful in Gloucester City as a large majority of providers delivering the activities identified had the relevant qualifications. Providers who may deliver physical activity opportunities for Gloucester City Council or are endorsed by them will need to be appropriately qualified to ensure the activity is acceptable for potential participants. The data from the audit has been registered on a database which the research concludes could be utilised by Gloucester City council to inform residents of current physical activity opportunities available. Ford (2007) collected similar data whilst conducting their research into physical activity projects in the North East of England and suggested using this data to construct a regional database containing details of professionals working within the sector who are associated with physical activity.

The major commercial health and fitness clubs in Gloucester were located in the North and Central regions which consequently meant the majority of physical activity opportunities identified were located within these regions. Gloucester city centre is also located in the Central region which accounted for the concentration of commercial health and fitness clubs (along with businesses, retail shops, bars, and restaurants) in the area and also for it being the least populated region. The number of physical activity opportunities in the South and East of Gloucester was small compared to those provided in the North and Central regions, but the activities provided in the South and East were more diverse. Targeted and concessionary priced activities for priority groups were mostly concentrated in the Central region highlighting the scarcity of these activities in the other regions of Gloucester. Furthermore the ethnic diversity and unemployment rates within Central and East

Gloucester were higher than in the North and South regions. An assessment of the findings indicate there is an opportunity for local Government to provide appropriate training to the unemployed and other priority groups to deliver concessionary priced physical activity opportunities to residents in the North, East and South regions of Gloucester City. Negotiations for the location of these activities could be conducted with 'connected' organisations identified previously, with people from all ethnic backgrounds given the opportunity to deliver these activities in the various regions and wards of Gloucester City.

The national Governments policies and initiatives to address physical inactivity are based on a civil society ideology where these activities can be used to create a civically engaged environment that empowers communities. Currently the physical activity opportunities in Gloucester are mostly provided by commercial health and fitness clubs who are profit making businesses. Activities that local Government develop or promote that are conducive with the national Governments ideology would find it difficult to compete with those offered by the commercial sector but they could complement them by targeting those priority groups whom the commercial sector may deem unprofitable.

6.2 Recommendations

The recommendations and implications from this research are classified into both national recommendations for researchers, policy makers and practitioners undertaking similar audits, and those specific to Gloucester City Council.

The recommendations related to the national context include:

- Develop or promote physical activity opportunities and initiatives that offer concessionary price offers to people from priority groups i.e. older people, people with a disability or the unemployed. For example providing or promoting Tai Chi classes located within 'connected' venues that are subsidised by the Government so people with a disability can attend the classes at a discounted price
- Accompanying media releases to promote the opportunities within newspapers (via press release), radio, leaflets & posters.
- Encourage the sharing of findings from this and other similar audits of physical activity opportunities, projects or programmes. All of these can be located on one website i.e. via the Department of Health or the British Heart Foundation National Centre websites

The recommendations relevant to Gloucester City Council include:

- An activity database could be created using the data gathered from the research. The information within the database could be accessible via the Gloucester City

Council website. This will provide local residents and visitors to Gloucester City with details of what physical activity opportunities are available in the city.

- The physical activity questionnaire could be made available online making it accessible to future activity leaders, physical activity providers and commercial health clubs who wish to add their physical activity opportunity onto the database. A paper copy of the questionnaire would still be available for those who do not have access to the Internet, with updates and amendments to activities available through the completion of the paper questionnaire
- The activity leaders, physical activity providers and commercial health clubs already identified during the research could be supplied with a username and password that provides them with access to update their physical activity opportunity details online.
- The physical activity database could be promoted extensively throughout Gloucester City. The promotion should have two objectives; firstly to promote the database, its location, what details it provides, how the database can benefit residents of Gloucester City, and how people can use the facility free to locate any of the variety of physical activity opportunities available in Gloucester City. The next objective should promote the advantages of uploading a physical activity opportunity onto the database to activity providers, venues and organisations. These benefits include free online advertising for their activity and the opportunity for them to manage the details of the activity themselves, giving them a certain level of autonomy.
- A web-link from Gloucester City Councils website could be created making the database available through different websites i.e. Gloucester County Council, Active Gloucestershire or Aspire Local Trust Ltd.
- Future initiatives could attempt to address the lack of targeted activities and concessionary price offers (tangible support) within the North, East and South regions of Gloucester for the priority groups identified by the Department of Health and Gloucester City Council.

Physical Activity interventions to foster Civil Society

- Gloucester City Council should continue developing initiatives and activities that employ a similar civil society ideology to that of the health walk schemes (this scheme involved Gloucester City Council providing training for people within the community to become walk leaders, once qualified the walk leaders can direct walks around picturesque areas of Gloucester City) they need to:
 - Offer the priority groups identified training and qualifications to deliver a physical activity opportunity (on a voluntary basis). These activities should

have concessionary price offers targeted at the unemployed and people 50 years and older.

- Be inclusive for all ethnic and religious groups
 - Provide a range of promotional material to target different ethnic groups within the community.
 - Monitor attendance for trends i.e. which area/ward within a region is people who attend the activity from?
 - Be temporary (initially) so results from monitoring can confirm whether the initiative/activity is a success and should be maintained
 - Be designed and implemented with input from the community from the beginning
- Physical activity opportunities that make available concessionary price offers to people within the priority groups identified should be considered.
- Gloucester City Council could provide training for people who are within the priority groups identified to deliver physical activity opportunities voluntarily. The delivery of these activities could be alternated between different regions i.e. an unemployed person or someone whose 50 years or older in East Gloucester would be suitably trained to deliver a physical activity opportunity within locations in North, South and East Gloucester. The benefits for these groups include, free training which may lead to future employment opportunities, the experience of delivering a physical activity opportunity should increase their self esteem, and provide them with opportunities to meet new people from different parts of the community.
- These initiatives should involve collaborations between sectors that have not previously been associated with public health, for example Jobcentres could be encouraged to advertise the above initiative within their centres, providing the council with suitable candidates. The transport department of the council could reduce the price of using public transport for volunteers delivering the physical activity opportunities.
- Physical activity initiatives could utilise 'connected' venues or organisations that have the capacity to host physical activity opportunities. These 'connected' venues and organisations include schools, churches and community centres. The research identified a large number of these 'connected' venues whose facilities were not used for physical activity opportunities.

6.3 Implications for research

After completing this research the following areas have been identified for further investigation:

- South Gloucester has no major commercial health and fitness clubs within its boundaries but has schools that allow physical activity providers to use their facilities. A possible research question could be whether commercial health and fitness clubs stifle the creative construction of smaller community based physical activity opportunities?
- An audit of schools in Gloucester City to determine if they have the facilities, capacity and desire to provide further physical activity opportunities
- Concessionary price offers provided in Gloucester City are mostly made available to students and corporate organisations. Concessions are a tangible form of support its use is suggested by Cochrane & Davey (2008), Neergaard et al, (2005) and Wan et al, (1996). Further research could be performed to investigate the impact providing concessionary offers and incentives has on increasing and sustaining participation in a physical activity opportunity.
- The research has highlighted the major influence commercial health and fitness clubs have on the number of physical activity opportunities provided in a region. The information required to enhance this research would be to discover the participation levels for activities located in commercial health and fitness clubs and information about how far the people who participate in these activities travel from i.e. do residents living in Quedgeley Severn Vale (South Gloucester) travel to the Riverside Health Centre (Central Gloucester) to attend a physical activity opportunity.

6.4 Limitations of research

The main limitation for this research was the response to the questionnaires. There had been a good response rate overall but the exceptional responses by the major commercial health and fitness clubs affected the whole research. Also there were some notable absentees that would have influenced the results and thus the conclusion to this research. Establishments such as Thomas Rich Sports Centre, and individuals who had information about numerous activities within Gloucester did not respond to the questionnaire and various emails and phone calls that preceded the initial contact. Another limitation identified was the lack of similar research to compare with. There had been mapping exercises carried out within large areas of England i.e. North West, North East, West Midlands and East of

England but none specifically researching a city. Also these mapping research projects performed a more holistic research which included information about various departments, programmes, projects, schemes and initiatives currently in existence. This research was concerned with identifying the physical activity opportunities (programmes) available in a city. Although this was initially limiting as the research had no baseline to assess whether there had been changes over time in Gloucester City or the particular regions within Gloucester. However this research can now be used as this baseline and as a template for further research of this type within the city, and in other areas in the United Kingdom alongside other published audits such as the physical activity mapping research conducted in the North West, North East, West Midlands and East of England.

6.5 Reflection

The transition from finishing a Bachelors of Arts to undertaking a Master of Science has been a challenging period. During my time undertaking this research I believe the main characteristic I have had to improve is my writing skills. At times my writing has been convoluted, vague and not as concise as it should be. My writing style normally entails me reviewing my work numerous times before it is handed in for grading. But due to the nature of this research and short timescales I was working to I had to hand in work to be scrutinised before I had the opportunity to review it as I usually do. This has forced me to focus my writing and become more succinct. I have also developed my knowledge regarding the philosophies that underpin research. I had an inclination about research philosophies and approaches but designing and implementing this research has provided me with the opportunity to develop a deep understanding of epistemology, paradigms, theoretical perspectives and the difference between concepts and theories. Skill's I had previously obtained that have been improved from conducting this research include the capacity to build relationships with different people at all levels. I was required to communicate with people in Gloucester City Council, local Councillors, managers, directors of Health clubs and residents within the community who provided details of physical activity opportunities for their community. There were new skills I acquired through conducting this research such as the ability to develop a semi structure interview utilising themes and designing a questionnaire using themes. This was challenging as the questionnaire needed to be flexible (so more than one activity could be input into a questionnaire) and easy to understand and complete. The questionnaire themes used to design the questionnaire was used as a framework to analyse the data. This was also a new proficiency I learned and applied. These have all contributed to the improvement of my writing and communication skills, and analytical thinking.

References:

- Ainsworth, B E., Haskell, W L., Whitt, M C., Irvin, M L., Swartz, A M., Strath, S J., O'Brien, W L., Bassett, D R., Schmitz, K H. Emplaincourt, P O., Jacobs, D., Leon, A S. (2000) Compendium of Physical Activities: an update of activity codes and MET intensities. *Medicine & Science in Sports & Exercise* 32 (9) pp 498-516
- Alberini, A., Chiabai, A (2007). Discount Rates in Risk Versus Money and Money Versus Money Tradeoffs *An International Journal* 27 (2) pp.483-492
- Allen, R. (2003) *English Dictionary* Penguin, London
- Ali S.M, Lindstrom M. (2006). Psychosocial work conditions, unemployment, and leisure time physical activity: A population-based. *Scandinavian Journal of Public Health*, 34, 209–216.
- Allison, L. (1998). Sport and Civil Society. *Political Studies*, 46(4), 709-726.
- Arbour, K.P., Martin-Ginis, K.A. (2009) The relationship between physical activity facility proximity and leisure-time physical activity in persons with spinal cord injury. *Disability and Health Journal*. 2 (3), pp. 128-135
- Ardalan, K. (2003). Theories and controversies in finance: a paradigmatic overview. *International Journal of Social*, 30(1), 99-209.
- Arora, R., Stoner, C., Aroa, A (2006) Using framing and credibility to incorporate exercise and fitness in individuals lifestyle. *Journal of Consumer Marketing* 23(4) pp199-207
- Aspire. (2009). Aspire Sports and Cultural Trust
<http://www.gloucester.gov.uk/Freetime/Aspire/aspire.aspx> accessed 04/06/09
- Atsushi, A., Nakayama, T., Naito, M. (2003). Ethics in questionnaire-based research *Journal of Asian and International Bioethics* 13, 147-151
- Baker, C M., Owen, C S. (2008). *Participation in sport and active recreation in Gloucestershire – a summary*. Gloucester: University of Gloucestershire
- Bailis, D.S., Fleming, J.A., Segall, A. (2005) Self-determination and functional persuasion to encourage physical activity. *Psychology & Health*. 20 (6) pp. 691 – 708
- Balnaves, M., Caputi, P. (2001). *Introduction to Quantitative Research Methods: An Investigative Approach*. Sage: Queensland, Australia.
- Berrett, T., Slack, T., Whitson, D. (1993) Economics and the pricing of sport and leisure, *Journal of Sports Management* 7(3) pp.199-215
- Borkan, J. (2004). Mixed Methods Studies: A Foundation for Primary Care Research. *Annals of family medicine*, 2(1), 4-6.
- Bramley, S. (2006). *Local Authority Area Profiles*. IN business for neighbourhoods network SW, Gloucester.
- Brannen, J. (1995). *Mixing Methods: Qualitative and Quantitative Research*. Ashgate Publishing, Aldershot

demographic profile for the regions and wards in Gloucester. As previously established, this research is influenced by a philosophically pragmatic perspective encouraging the researcher to employ the most practical means that works most effectively to obtain the information required for the research. This approach recognises the use of both quantitative and qualitative research methods to make sure the largest achievable amount of data is identified and recorded (Mangan, 2004).

Mixed methods methodology utilises both qualitative and quantitative methods to collect and analyse research data. There is a variety of mixed method designs available to collect and analyse research data. The dominant-less-dominant mixed method approach recognises one methodology and its method as dominant i.e. quantitative, while a small component of the overall study is drawn from an alternative approach/perspective i.e. qualitative (Tashakkori & Teddlie, 1998). A dominant-less-dominant mixed method approach provides useful insights that inform subsequent data collection and analyses (Creswell & Plano Clark, 2007). A dominant-less-dominant mixed method was applied during data collection and analysis. Semi-Structured interviews (qualitative method) were conducted to gather information about the location of physical activity opportunities and the facilitators who manage them. Questionnaires (quantitative method) were used to collect data regarding the physical activity opportunities available, and quantitative methods were employed to record and analyse the data obtained. Although these processes are used sequentially the methodology is dominated by the quantitative methods utilised to gather and analyse data.

Tashakkori & Teddlie (1998), Teddlie & Tashakkori (2006), Creswell & Plano Clark (2007) and Onwuegbuzie & Johnson (2006) supply alternatives to the dominant-less-dominant mixed method approach that were considered and deemed unsuitable for this research, these included; the equal status design which uses qualitative and quantitative methods equally, a sequential (two phase design) approach has a qualitative phase of a study followed by a separate quantitative phase (or vice versa), a parallel approach which collects quantitative and qualitative data at the same time and analyses them in a complementary manner, and a multi level approach collecting data quantitatively at one level and qualitatively at another. Good social research will almost inevitably require the use of both qualitative and quantitative methods in order to provide adequate answers (Denscombe, 2007).

3.3 Data Collection Methods

There are a variety of data collection methods that can be utilised to gather and examine data. To ensure the research questions were answered accurately, the following methods were employed with the rationale for their use discussed below.

3.3.1 Semi Structured Interviews

A semi-structured interview guided by predetermined themes was the qualitative method used in this research. These interviews were conducted with key individuals within Gloucester City Council and relevant people employed within Gloucester City Council's key partnerships. Interviews were used to identify non-government organisations, voluntary organisations, neighbourhood initiatives or commercial sector organisations that have access to the facilitators who deliver physical activity opportunities in Gloucester City. Other qualitative data collection methods were considered but arranging a suitable time for various people to meet and partake in a focus group discussion was seen as unfeasible, and as the information required concerned locating physical activity opportunities, unstructured interviews with in-depth questions about feelings, emotions and beliefs were not required. These stipulations endorsed semi-structured interviews as the preferred research method. The interview time was arranged for when it was suitable for the interviewee. The interviews were structured using closed questions but allowed an element of depth in the information gathered by including open questions.

Designing the semi structured interviews required listing the themes, issues, problems and questions that needed to be covered. These were drawn from the research questions and from a review of previous literature related to the area of research. Identifying the themes associated with the research assisted the formation of specific questions to allow the probing of that theme in more detail. Ritchie & Lewis' (2003) suggestion of following the themes and sub-questions in a structured fashion to ensure the research attains the definitive information required was employed. Closed questions were used to direct the interview but open-ended questions were used sparingly to ensure unexpected issues and information was captured. The open ended questions also allowed the interviewee scope to elaborate on details about key personnel, facilitators or organisations within the regions and wards of Gloucester City that may assist the research i.e. details of times facilitators are available or information about perspective interviewee's (Please see Appendix 1 for interview themes).

The interview process involved the researcher introducing themselves and the research project, providing details of why the research was taking place and the definition of a 'physical activity opportunity'. Further warm up questions were then posed to establish trust and develop a rapport with the interviewee. Demographic questions elicited factual data that were followed by core questions which addressed the key themes of the research. The interviews provided some information about activities taking place in the regions and wards of Gloucester City. The transcribed interviews can be found in Appendix 4-7, with the activities discovered that are attributed to the information gathered from the interviews located in Appendix 2.

3.3.2 Questionnaire

A questionnaire was designed and used to collect the descriptive research data. The information required was factual and relatively brief. The construction of the questionnaire involved translating requirements identified in the research questions and objectives into specific, concrete questions to ensure their attainment. A framework of indicators was developed to address the concepts inherent in the research questions and objectives (Greenfield, 2002). The use of this framework assisted with the creation of the following objectives of the questionnaire.

- Identify the physical activity opportunities in the regions and wards of Gloucester City.
- Classify the physical activity opportunities targeted at specific groups.
- Discover what financial incentives and concessions are available for participants.
- Identify the number of facilitators who are qualified to deliver the activities.
- Is there screening or monitoring of potential and current participant's physical capacity to participate in the activity.

The context and content of the questionnaire was influenced by both Gloucester City Council and current physical activity policies. Gloucester City Council requested baseline information from the questionnaire in order to make the questionnaire easy to complete and accessible to all. This would hopefully improve the number of activities captured. Gloucester City Council also wanted to promote the activities identified by this research. To do this information regarding the activity leaders and facilitator's qualifications and insurance were required. Information about the activities targeted to groups and concessionary offers for participants aim to highlight whether the priority groups identified by the Government with their report *Choosing Activity: A Physical Activity Action Plan* Department of Health (2005) have activities or concessionary offers targeted at them in Gloucester City. This framework assisted the wording of questions with the questions clustered under the relevant heading within the framework. The questions created from this translation were reliable i.e. consistent on different occasions, they had the same meaning for all respondents, and were unambiguous. Questions were organised in a logical and systematic fashion and care was taken to ensure they were not intrusive, insensitive, irrelevant, repetitive and difficult to understand, but objective and value free. The construction of the questionnaire and the subsequent answers provided in response is collaboration between the researcher and participants to construct shared knowledge that will be utilised by both parties. This phenomenon is conducive with the social constructivist paradigm. Sufficient response alternatives were included so that all respondents could answer the questions, and alternative responses were exclusive so only one response for each variable was applicable to any respondent (Greenfield, 2002). As this was a large scale survey, closed questions were utilised as they were quick for respondents to answer and allowed for ease of analysis.

The first page of the questionnaire was concerned with the information regarding sponsors, who commissioned the questionnaire, the purpose of the questionnaire, what information was required to complete the questionnaire, which groups the questionnaire was targeted at, a return address (email or postal), contact details for any queries, and a word of thanks for completion (Descombe, 2007). A cover letter/email was sent along with the questionnaire which has been cited by Ruane (2004) as a positive action that could improve response rate of the distributed questionnaires. Various forms of media were used to ensure the questionnaires were distributed to the relevant facilitators within a set time, including (but not exclusively) email, post and face-to-face. Structured interview (guided by the questionnaire) were utilised when facilitators were unable to complete the questionnaire themselves. Facilitators were identified within every ward in Gloucester City and questionnaires were sent out to them accordingly. Address and postcode details were requested within the questionnaire but this was rarely completed though the mapping of activities for visual purposes is still possible from the data collected.

Staff at Abbeydale Community Centre (within the North region of Gloucester City) agreed to pilot the questionnaire before its general release. Amendments were made to the questionnaire guided by the feedback from Abbeydale staff, and by improvements identified by researcher. These changes included;

- Creating room within the questionnaire to include details of the person completing the questionnaire, and the name/address of the venue.
- A brief description below each question of potential answers they could provide
- Details linked to aesthetic layout of the questionnaire

(See Appendix 3 for questionnaire)

3.3.3 Demographic Profile

The research required the collection and summary of existing socioeconomic data about Gloucester City to construct a demographic profile of the regions and wards in Gloucester City. The information obtained is secondary, unlike the data from the semi structured interviews and questionnaires, which is primary. The secondary data was collected from the Office of National Statistics (ONS), Multi Agency Information Database for Neighbourhoods (Maiden), and the Indices of Multiple Deprivation (IMD). The ONS is the UK Government's main survey organisation and its main producer of official statistics (ONS, 2009). Maiden are a web based initiative funded by organisations in Gloucestershire County to collect data from key public sector agencies and create and maintain a multi-agency database of neighbourhoods in Gloucestershire (Maiden, 2009). The Index of Multiple Deprivation combines indicators that cover a range of economic, social, and health issues into a single deprivation score for each small area in England. This allows each area to be ranked relative to one another according to their level of deprivation (IMD, 2007).

This information was utilised to illustrate the level of deprivation experienced by residents within the regions and wards in the city. The information was also used to identify anomalies between the demographic makeup of a region/ward and the physical activity opportunities available within the area. Data providing information about the age range of people within a ward provided an example of how this information can be used for this research. The questionnaire identified the number of physical activity opportunities available for people over 50 years old within a region/ward of the city. The ONS data indicated the numbers of people over 50 years old living within specific regions & wards in the city. Analysis of the data allowed the researcher to identify gaps between a group living in an area e.g. 50 years and over, and the physical activity opportunities available to them. The categories used to develop the demographic profile were age/sex of population, ethnicity, unemployment, income and perception of health. These categories were selected as they provided information about the population of exclusive groups i.e. women, over 50 years old and their socioeconomic status in Gloucester City. The IMD identified further indicators that determine the level of deprivation within a region, namely, crime, housing, and education. These indicators were not included within the demographic profile for this study as the information from them was not relevant to the research question or objectives.

3.4 Sampling

It was realised from the outset there were no guarantees that every unit i.e. physical activity opportunity within the population i.e. Gloucester City would be audited and recorded. This realisation and the nature of the research question meant non-probability sampling methods were selected. These sampling methods are best used when a sampling frame is impractical to construct (McNeil & Chapman, 2005). From the non-probability sampling methods available the following were employed for this research.

3.4.1 Purposive Sampling

Purposive sampling involves establishing a purpose for the investigation, creating set criteria relevant for the purpose and selecting the appropriate programmes/opportunities for the said purpose (Somekh & Lewin, 2005). The purpose for this research is to identify and record the physical activity opportunities within Gloucester City. The criteria used to interpret what constitutes a physical activity opportunity in the research were;

- The participants must be 16 years old or more
- The activity should be formal and have a facilitator
- Participants in the activity must exert 3 METs (metabolic equivalents – see literature review chapter for full explanation) or above during a session (as recommended by the United Kingdom's Chief Medical Officer).

These criteria were used because:

- Gloucester City Council and its leisure partners (Aspire Sports and Cultural Trust) are already managing a variety of initiatives targeted at people 16 years and younger i.e. Street Games
- Research into formal physical activity programmes provides data which is reliable and valid (Thomas & Nelson, 2005).
- METS is the most commonly recognised method to measure exercise intensity (Department of Health, 2004)

3.4.2 Snowball Sampling

Once the purpose and criteria for the research were established, snowball sampling was employed to access specific populations. Snowball sampling is built around referrals, people relevant to the research are contacted who then refer the researcher to another contact and so forth (Somekh & Lewin, 2005). McQueen & Knussen (2002) point out this form of sampling can encourage sampling bias and infect the validity of the research. But Snowball sampling, implemented via semi structured interviews, was useful as this method assisted the identification of information that was unknown to the researcher. Interviews were used to discover what physical activity opportunities are available in Gloucester City, and to gain details of further contacts that may provide information for the researcher. All interviews were recorded and transcribed (see Appendix 4-7). Furthermore to ensure there was no bias in locating physical activity opportunities, Opportunistic sampling was employed.

3.4.3 Opportunistic Sampling

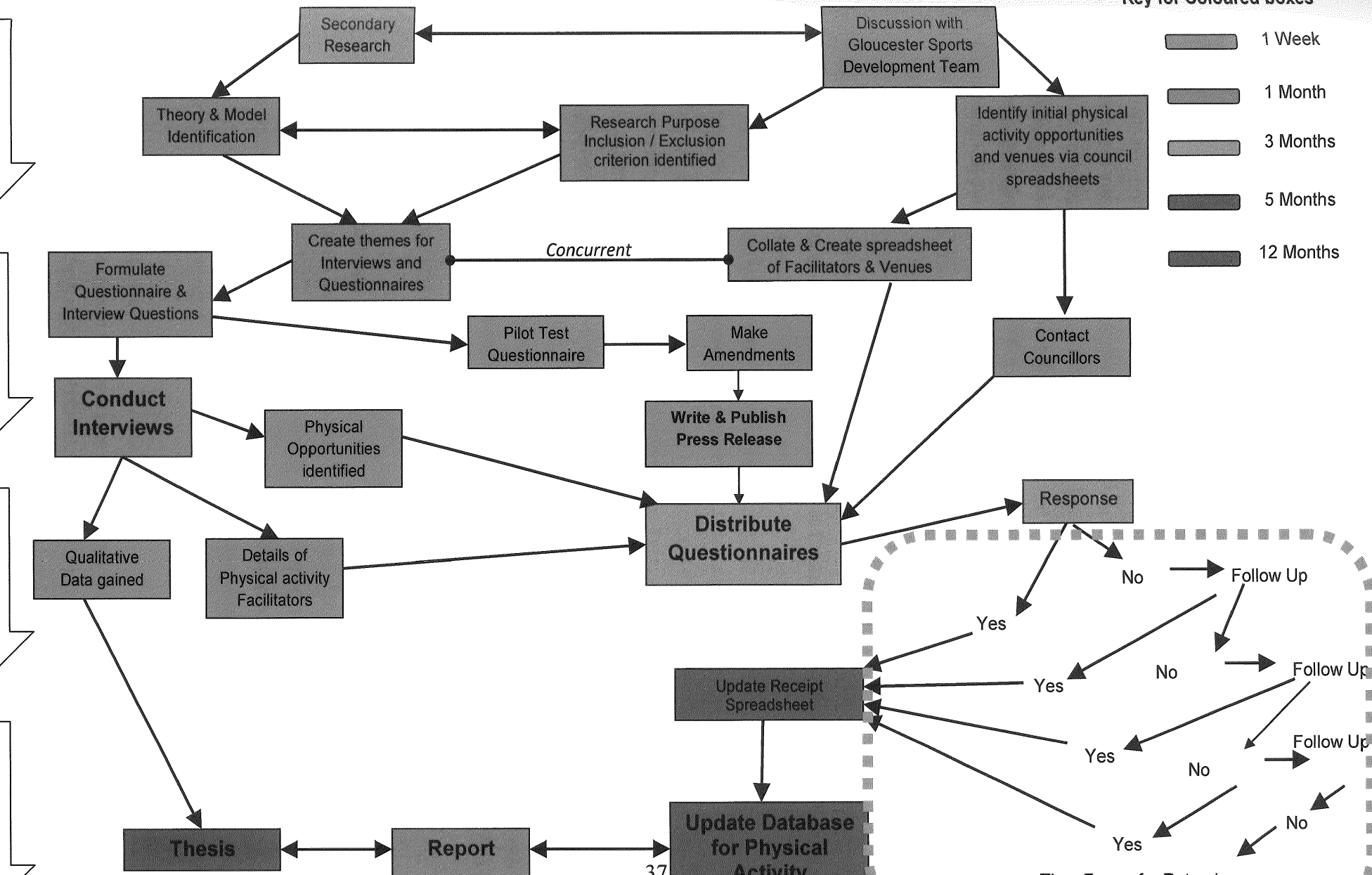
This sampling method involved accessing information from a selection of appropriate contributors most likely to cooperate with the research. Opportunistic sampling encourages researchers to be proactive, identifying opportunities to access and obtain relevant data to enhance the research project (Balnaves & Caputi, 2001). Opportunistic sampling was used to access participants who deliver a physical activity opportunity or participants who manage/work within a venue that hosts physical activity opportunities. Examples of the opportunistic methods employed include:

- Initiating discussions with the sports development team of Gloucester City Council to determine what information the department already held on their various databases in relation to physical activity opportunities in Gloucester City. Information of potential physical activity opportunities in Gloucester City and venues that could potentially host physical activity opportunities was located in a variety of spreadsheets and databases on the council's shared intranet area.
- Details of professionals working in the public, commercial and voluntary sector, health promotion specialists, leisure officers, youth workers, fall prevention officers

and others were also listed on the Sports Development Department's shared intranet area. This information was collated into one spreadsheet.

- Further contacts were identified through web searches, field work, accessing existing databases i.e. change4life and Active Places and support from other organisations i.e. Active Gloucestershire, churches, schools and community centres.
- Questionnaires were distributed via email to all relevant contacts identified during the previous searches and interviews. Non-responses from the initial contact were chased via a phone call and email (with the questionnaire attached) initially after a month, then every two weeks thereafter. This process was repeated up to four times for non-response to request for completion of the questionnaire along with a face-to-face visit if possible.
- Potential participants were offered the option of the researcher completing the questionnaire on their behalf if required.
- A press release was created, approved by press offices at the University of Gloucestershire and Gloucester City Council, and released to the free local newspaper (The Citizen) in Gloucester. The press release explained the research project to the residents of Gloucester City and encouraged potential recipients of the questionnaire to complete the document.
- Local councillors of the wards within Gloucester City were contacted via email inviting them to support the research and encourage assistance from the local residents in completing the questionnaire.

The sampling techniques and research methods have been clarified in the below model. Each box in the model is colour-coded to indicate the length of time it took to complete the action stated within the box. The key for the colours used is also provided. The majority of actions ran concurrently.



3.5 Data Analysis

3.5.1 Data Preparation

Once collected the data was prepared and analysed. The preparation of the information gathered included; developing and populating a database that replicates the structure of the questionnaire, producing a coding system to translate the textual information provided by the questionnaire into numerical data, checking the data gathered for accuracy, and entering the data into the database (Trochim, 2000). Replicating the database with the questionnaire structure enabled easy assessment of the data inputted and the simple integration of data from questionnaire to database. Textual data received from the questionnaire was converted into numerical data utilizing a coding system. The conversion of text to codes helped simplify the statistical analysis required for the research. Excel was then used to produce statistical data from the numerical information provided.

3.5.2 Tools used to analyse data

The application used to collect and analyse the data was Excel. The questionnaire was designed in Excel and sent to participants via email. Within the email the preferred means to return the questionnaire was by email, though the option to print and post the questionnaire was offered. Returning questionnaires by email allowed the easy transfer of data from questionnaire to the Excel spreadsheet for data analysis, and then onto the database at Gloucester City Council who would hold the information. Excel was the preferred tool for analysis as it is easily accessible for Gloucester City Sports Development Team which will enable them to continually update the database. Excel is not the most potent statistical package available, Greenfield (2002) acknowledges Excel lacks many features found in more recognised statistical analysis packages, with some of its analysis features being clumsy to use or limited. But Greenfield (2002) and Balnaves & Caputi (2001) also recognises the widespread use of Excel throughout universities, industry and commerce for assembling, editing and presenting data for rapid calculation, business plans and research.

3.5.3 Descriptive statistics

Descriptive statistics were used to describe the basic features of the data and to illustrate what the data showed. Together with some simple graphical analyses, they formed the basis of this analysis. This form of statistical analysis involved reducing a large quantity of data into a simple summary, and enabling comparisons to be made between the results from the primary and secondary research.

3.5.4 Frequency distribution

This type of analysis was utilised to analyse the data from the research. This analysis provides a summary of the frequency of individual values or ranges of values for a variable (Fielding & Gilbert, 2006). Frequency distribution provided data values such as, what

percentage of activities recorded are targeted at a particular group and what exclusive group has been targeted most frequently by physical activity providers.

3.5.5 Structures to analyse data

The data was analysed for the whole of Gloucester City then by region with the city being divided into four regions, North, Central, East and South. During the analysis of the region's the information regarding each ward was discussed. The structure of analysis replicated the themes formulated to gather data for the demographic profile and those used to create the questionnaire. To analyse the demographic data the items used to create the demographic profile i.e. age, sex, unemployment, Income and ethnicity were analysed and discussed. The arrangement formulated to analyse the data from the questionnaire was adapted from the framework of indicators used to structure the questions for the questionnaire. The framework comprised of:

- Identifying physical activity opportunities in the regions and wards of Gloucester City.
- Identifying physical activity opportunities that target specific groups.
- The financial details and concessions offered by activity providers.
- Delivery of activities and the qualifications required by facilitators to achieve this.
- Screening/monitoring of customers physical abilities to participate in the activity, and attendance required.

The framework was applied to each region within Gloucester City in order to analyse the data obtained from the questionnaire.

3.6 Ethical Issues

Ethics are a critical part of the substructure of a research process, from the initial conception of the problem/hypothesis to the interpretation and publishing of the research findings (Thomas & Nelson, 2005). The British Sociological Association (BSA) states that social research has a responsibility to safeguard the proper interests of those involved in, or affected by, the research and reporting findings accurately and truthfully (BSA, 2004). This research was conducted to identify the physical activity opportunities available in Gloucester City. The ethical nature of the research is to utilise this information to improve the health and wellbeing of residents in Gloucester City. The ethics involved in conducting the research revolve around the construction of the questionnaire, confidentiality, and how the information will be utilised.

The questions constructed for the questionnaire requested information concerning baseline data, i.e. day and venue of the physical activity opportunities. The majority of this information

is already available in the public domain via media such as local newspaper, leaflets and on the internet. Prior to all interviews and distribution of questionnaires the researcher explained fully and in meaningful terms, what the research was about, who the research was for, why it was being done, and how the data would be utilised. Participants involved in the semi structured interviews were notified of how far they will be afforded anonymity and confidentiality and that pseudonyms would be used in the transcribed interview script. They were offered the chance to reject the use of a tape recorder during the interview.

While the information requested from the research is freely available within the public domain, the manner in which the data is presented and reported could affect the physical, social and psychological well-being of research participants (BSA, 2004). This is not the case for this research as the potential hazards were taken into consideration while constructing the questions to collect primary data and during the reporting of secondary information i.e. data from Maiden and ONS. The research continually strived to protect the rights of those studied, their interests, sensitivities and privacy. All data collated is stored and managed via Gloucester City Councils database. This research project was funded by Gloucester City Council, with this in mind, the researcher was vigilant in adhering to the BSA (2004) ethical principle of avoiding, where possible, actions which may have a detrimental consequence for researchers who come after them or which might undermine the university or Gloucester City Council

3.7 Summary

This chapter has provided an insight into the philosophical assumptions influencing the research. The research project requirement to apply different meaning to external phenomena advocated a social constructionism epistemology, the need to use the most practical means that works most effectively to obtain information suggested philosophical pragmatism as the most suitable theoretical perspective, with the constructivism's assumption that people's perceptions and experiences produce multiple ways of knowing and understanding underlying it the research paradigm. This research is descriptive as it describes information such as what and how many physical activity opportunities are occurring in and across Gloucester City. The need to document facts at a single moment in time meant a Cross sectional design was applied, and a dominant-less-dominant mixed method was the most appropriate method identified to gather and analyse the data. Quantitative data collection methods and analysis are used widely in the research project, with semi structured interviews (qualitative) used to identify potential participants and physical activity opportunities, which was a relatively small component of the overall study.

4. Findings

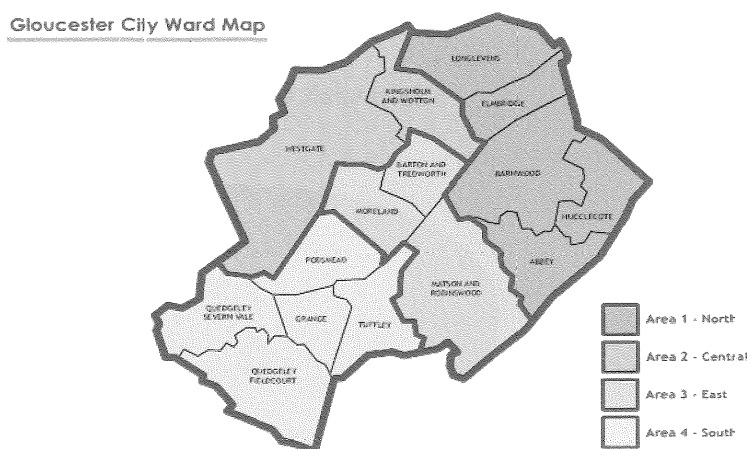
The research findings are presented in two main sections in this chapter. The first section provides an overview of Gloucester City's physical activity opportunities and demographic information identified through this research. This is followed by an in-depth analysis of specific aspects with tables and graphs used to illustrate crucial findings. This first section conceptualises the findings in the context of the city as a whole. The second section presents the findings according to the four main sub-regions used by Gloucester City Council i.e. North, Central, East and South Gloucester. The findings are presented for each region with an initial overview of the physical activity opportunities identified within the region followed by an analysis of the data found through graphs and tables. An analysis of demographic elements such as age and sex of the population, ethnicity, unemployment levels, income levels and the population's perception of their health is also provided in relation to the findings. These findings will be discussed in further detail in chapter 5.

4.1 Gloucester City

4.1.1 Gloucester City Demography

Gloucester City Council has divided the city into four regions; North, Central, East & South (see figure 1). There was no documentation from the council to confirm what criteria were used to divide the regions as illustrated in figure 1. As this dissection places the wards into simple clusters allowing the activities identified and demographic information collected to be analysed from this regional perspective, these partition were used for this research

Figure 1: Gloucester City Ward Map



4.1.2 Classifying the physical activity opportunities

From the 160 questionnaires sent, there was a 54% return rate; with the number of returned questionnaires amounting to 86. From these questionnaires 374 physical activity

opportunities were identified within Gloucester City. The activities were clustered into five different types of activity. The heading for these types and the percentage share of activities identified within them are;

Category	Activity types	Percentage share
Team sports	hockey, cricket, korfball	7%
Exercise class	aerobics, spin, step	70%
Martial arts	aikido, karate, kung fu	5%
Dance	salsa, ballroom, line	7%
Individual or pairs	archery, skateboarding, tennis	11%

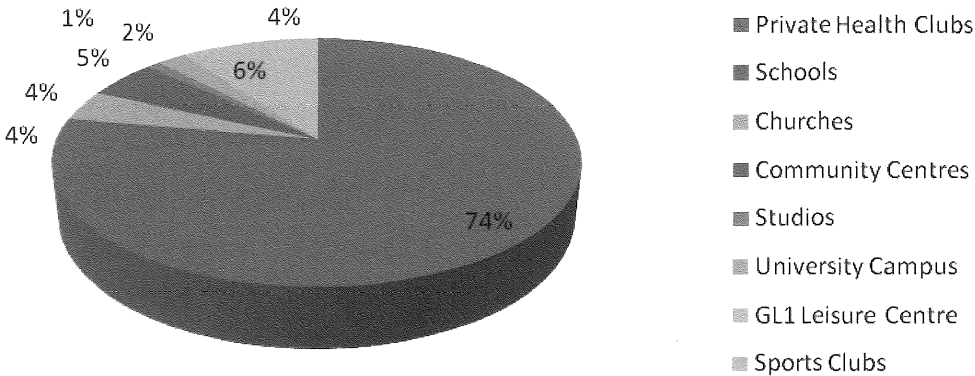
Aerobics was the most provided physical activity opportunity identified in the city as a whole, representing 22% of the total opportunities available. The data collected incorporates activities such as exercise classes including body pump, legs burns & turns, body conditioning, and power plate in to the Aerobics activity. A breakdown of all the activities identified and the ward and region location can be found in Appendices 8-11.

4.1.3 Location of provision

The physical activity opportunities identified were delivered in a variety of venues. The venues are listed below with figure 2 providing details of the percentage share of activities located within them:

- Health & Fitness Clubs
- Community Centres
- Churches
- University Campus
- GL1 Leisure Centre
- Sports Clubs
- Schools

Figure 2: Venues where activities are delivered



As stated the majority of activities were delivered from commercial health and fitness clubs, to illustrate the affect these venues had on the findings, activities located within the six major

commercial health and fitness clubs i.e. Horizon Health and Fitness Centre, Riverside Health Centre, JJB Fitness, Everybody's Gymnasium, Spirit Health and Virgin Active Health and Fitness Centre, have been removed from key sections of this chapter (see figure 6). The removal of these facilities reduced the total number of activities identified to only 119 out of the overall total of 374 activities. This data shows that 68% of the physical activity opportunities identified within this research were occurring in commercial health and fitness clubs.

4.1.4 Response to questionnaire

Questionnaires were sent to activity providers, and potential provisions and venues identified in Gloucester City. Of the 160 questionnaires sent, the overall percentage response rate was 54%. The response rate within regions is provided in table 1, with East Gloucester the region with the highest response rate and North Gloucester, the lowest.

Table 1: Percentage of questionnaires returned by area

Regions	Percentage of questionnaires returned	Number of questionnaires returned
North	48%	26
Central	55%	16
East	60%	21
South	53%	23

Schools were identified by Gloucester City Councils Sports Development Team as potential venues to host physical activity opportunities as they have the capacity and equipment available after hours to hire their facilities to potential activity leaders. Out of the 160 questionnaires sent to venues or activity leaders 45 (28%) of these were sent to schools. Interestingly 26% of the questionnaires sent to schools were returned confirming they did not host activities that fit the criteria for this research, only six school venues (4%) who returned the questionnaire hosted physical activity opportunities at their venue and 65% of schools did not respond to the questionnaire at all.

4.1.5 Range and scope of activities

The most populated region in Gloucester City was North Gloucester with Central Gloucester the least populated (see figure 3). Gloucester city centre is located within the Central region and comprises of mostly shops and commercial residences. Central Gloucester hosts 43% of the physical activity opportunities identified, the most of all the regions (see figure 4).

Figure 3: Population split within the regions of Gloucester City

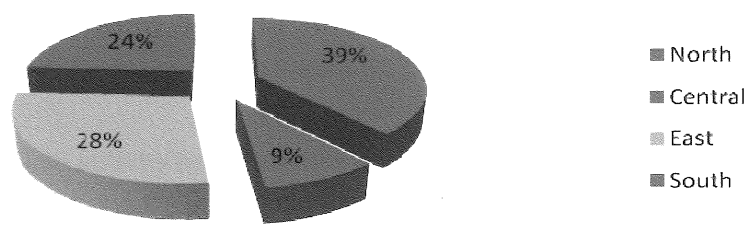
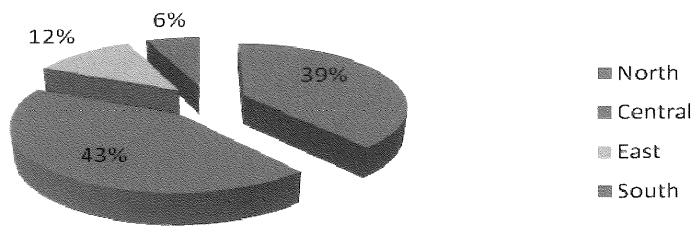
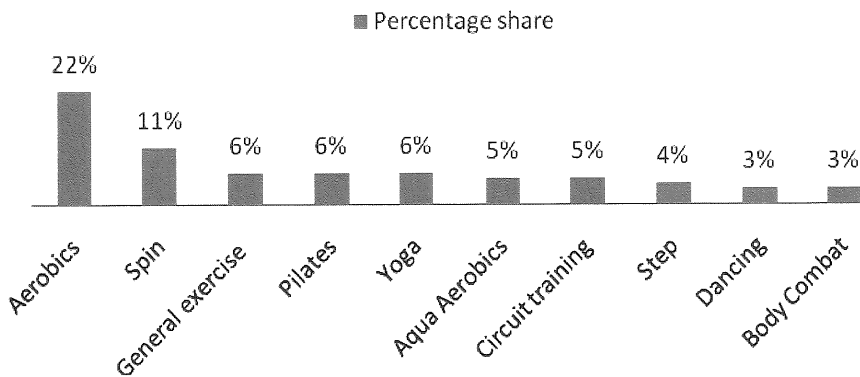


Figure 4: Percentage split of activities Identified in Gloucester City



Aerobics is the most provided physical activity opportunity identified in the city followed by spin (a class based exercise that utilise exercise bikes). Both activities are mostly located within commercial health and fitness clubs. Figure 5 show the top ten activities identified.

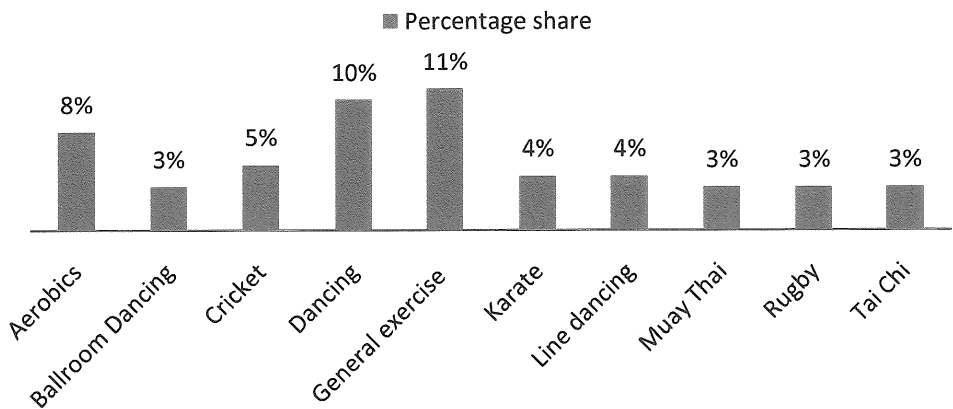
Figure 5: Top ten physical activity opportunities in Gloucester City



As stated previously the most accessible physical activity opportunities in Gloucester City are those provided by commercial health and fitness clubs. To illustrate the impact data from health and fitness clubs had on the findings the data was recalculated removing the physical activity opportunities identified from the six major commercial health and fitness clubs

identified i.e. Horizon Health and Fitness Centre, Riverside Health Centre, JJB Fitness, Everybody's Gymnasium, Spirit Health and Virgin Active Health and Fitness Centre from the results. A consequence of removing this data is that 'General exercise and movement' is now the most recurrent activity provided (see Figure 6).

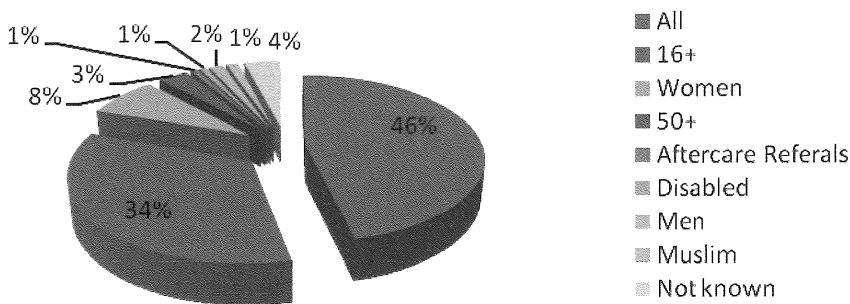
Figure 6: Top ten physical activity opportunities available excluding major commercial health clubs



4.1.6 Targeted opportunities

The percentage of identified activities that were targeted at specific population groups is 16%. Figure 7 shows the majority of activities are for all with 8% of activities specifically targeted at women.

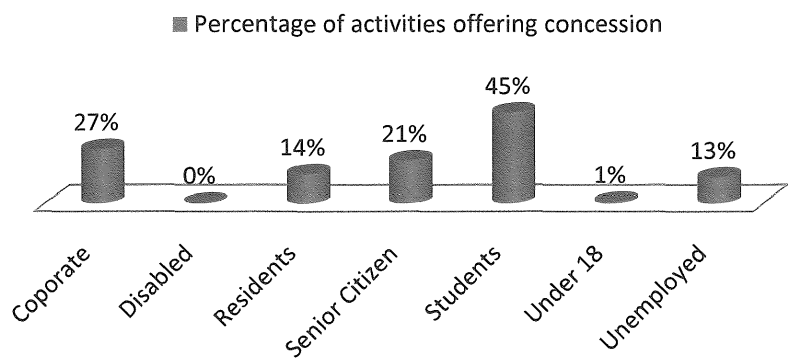
Figure 7: Percentage of activities targeted at specific groups



4.1.7 Financial details

The findings showed no activities were specifically targeted at students or the unemployed, however there were activities that provided concessionary offers for these and other groups (see figure 8).

Figure 8: Groups activity providers offer concessionary price rates to



4.1.8 Specific practices and requirements

Details regarding screening i.e. pre activity questionnaire and monitoring i.e. register of attendance were requested within the questionnaire. This research identified that 80% of the activities available in Gloucester city use a pre activity questionnaire to assess the fitness level of potential participants with 21% of activities overtly monitoring attendance.

Questions were also included within the questionnaire to identify whether the activity leaders had the appropriate qualifications (including first aid qualifications) to deliver the activity and whether the venue or activity leader had the appropriate insurance to deliver the activity. Table 2 shows the majority of activity leaders had acceptable and appropriate qualifications to deliver the identified activity.

Table 2: Activity leaders with relevant qualifications and Insurance cover

	Percentage		
	Yes	No	Not known
Activity leaders qualified	92%	1%	6%
First aid qualification held by activity leader or venue	91%	2%	7%
Activities with insurance cover	95%	0%	5%

4.1.9 Summary

The research identified 374 physical activity opportunities within Gloucester City. These opportunities have been clustered into five types such as team based or exercise classes, with a further 48 different activities within these types to choose from. These activities are located within venues such as churches, schools, community centres and sports clubs. But commercial health and fitness clubs were by far the most popular venues hosting the

identified activities. The results also indicate a small percentage of activities were targeted at the priority groups identified by the Department of Health i.e. women and the elderly. Concessionary price offers were used to attract people to some activities, with students and the corporate sector the most popular group's these concessions were offered to. So far the findings have provided an overview for Gloucester city as a whole. The physical activity opportunities and demographic profile within the regions of Gloucester city will now be analysed.

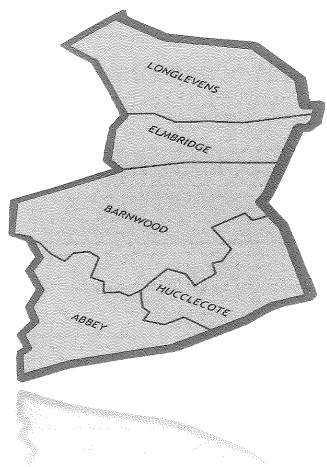
4.2 Findings by Region

4.2.1 North Gloucester

4.2.1.1 Demography

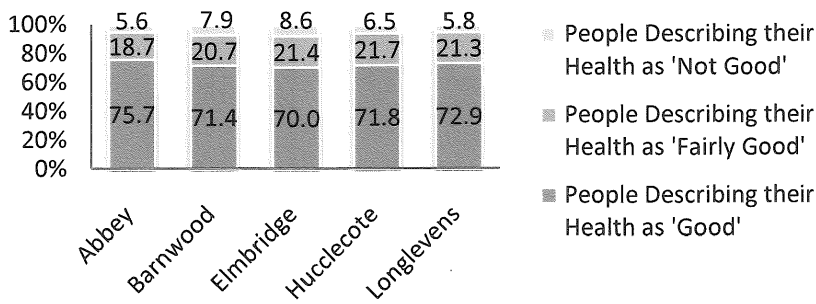
North Gloucester is made up of five wards which are Abbey, Barnwood, Elmbridge, Hucclecote and Longlevens (see figure 9)

Figure 9: North Gloucester



Information from *Gloucester City District Health and Population Profile* Gloucestershire PCT (2008) show residents living in North Gloucester has a better perception of their health than those living in other regions of Gloucester. On average 72% of people in North Gloucester rate their health status as “Good”. Figure 11 presents these perceptions by ward illustrating how people in Abbey ward have the best perception of their health in the region with people in Elmbridge having the worst.

Figure 10: Perceived health status of residents in North Gloucester



Source: Gloucester City District Health and Population Profile Gloucestershire PCT (2008)

4.2.1.2 Response rate to questionnaire

The response rate for completing and returning the questionnaire in North Gloucester was 48%, just below the response rate for Gloucester city as a whole. Table 2 shows Elmbridge had the highest response rate within the region with all the questionnaires sent (5) returned, but the returned questionnaires from Elmbridge did not identify one physical activity opportunity that fit the criteria set by this research.

Table 3: Percentage of questionnaires returned in North Gloucester

Wards	Percentage of questionnaires returned	Number of questionnaires returned
Longlevens	46%	11
Elmbridge	100%	5
Barnwood	44%	4
Abbey	33%	2
Hucclecote	40%	4

4.2.1.3 Range of activities identified

The research found Longlevens and Hucclecote were the most populated ward’s in North Gloucester (see figure 11) but the presence of two major health and fitness clubs in Barnwood meant this ward had the most physical activity opportunities within its boundaries (see figure 12).

Figure 11: Percentage split of population living in North Gloucester

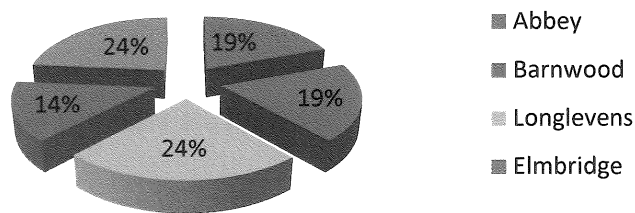
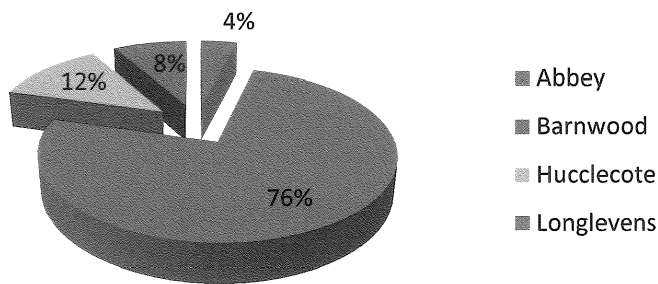
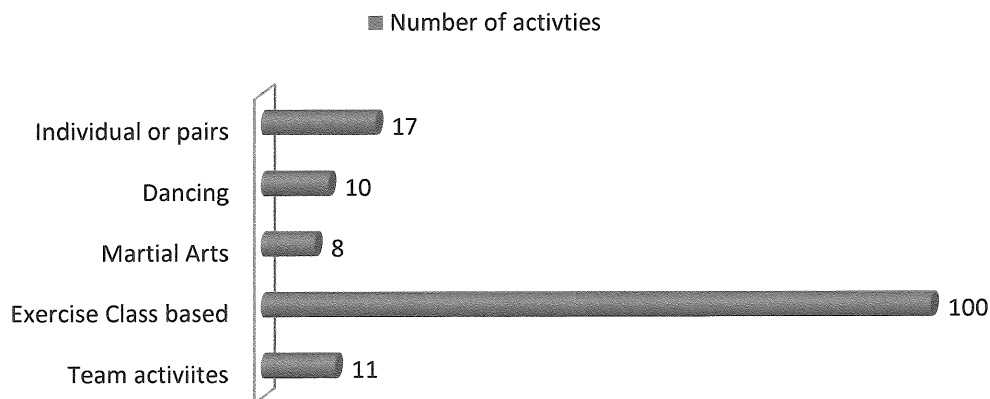


Figure 12: Percentage split of activities Identified in North Gloucester



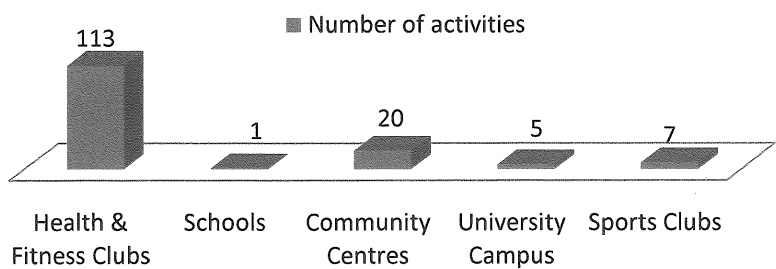
Once again the disproportionate amount of activities identified from commercial health and fitness clubs affected the research findings. Exercise Class based activities were five times more available than the next category of activity (see figure 13). As Gloucester City Council requested concise information regarding the activities found, information about catchment area of the activity e.g. are participants travelling from different regions of Gloucester to attend activities in Barnwood was not explored further. Additional research to discover this information should be considered.

Figure 13: Category of activities provided in North Gloucester



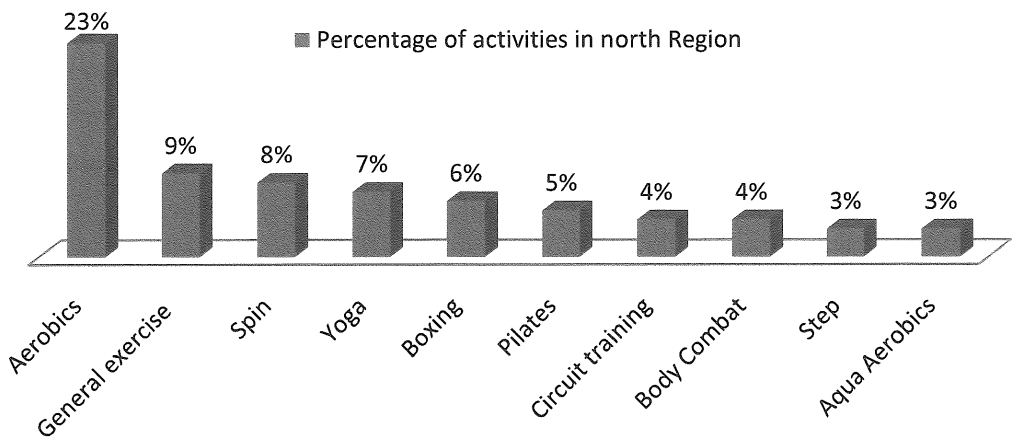
While Exercise class based activities can be located in alternative venues to health and fitness clubs i.e. schools, figure 14 shows that 112 of the 146 activities identified (77%) in North Gloucester takes place within health and fitness clubs.

Figure 14: Venues where activities are provided



The most popular physical activity opportunity identified in North Gloucester was aerobics. All of the top ten activities identified in North Gloucester were exercise class based activities (see figure 15).

Figure 15: Top ten activities in North Gloucester



4.2.1.4 Targeting activities for groups

Figure 16 shows a large percentage of people who were 50 years and older live in North Gloucester. Yet figure 17 shows only 2 activities (one in Barnwood one in Hucclecote) provide activities specifically for this group. Women were the priority with most activities targeted to them in North Gloucester, with Hucclecote hosting a women only health and fitness club.

Figure 16: Percentage split of 50 year olds and above in Gloucester City

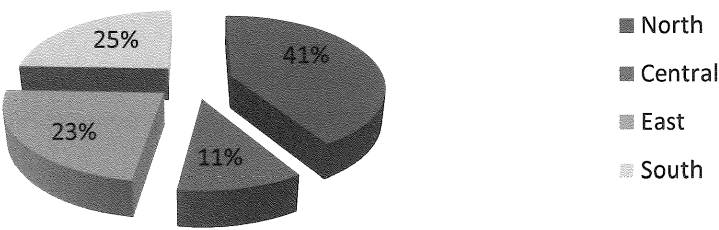
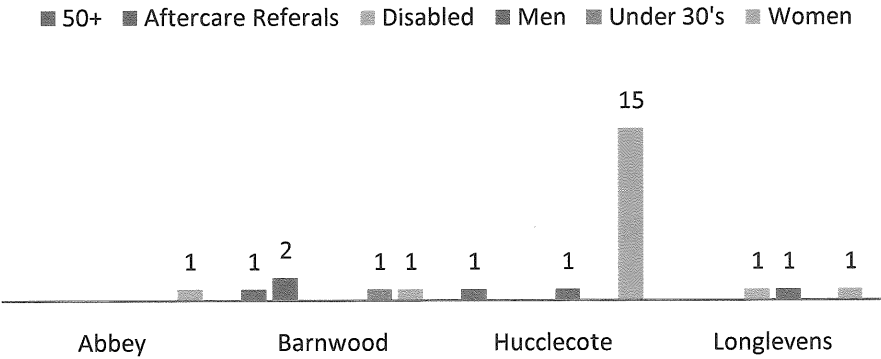


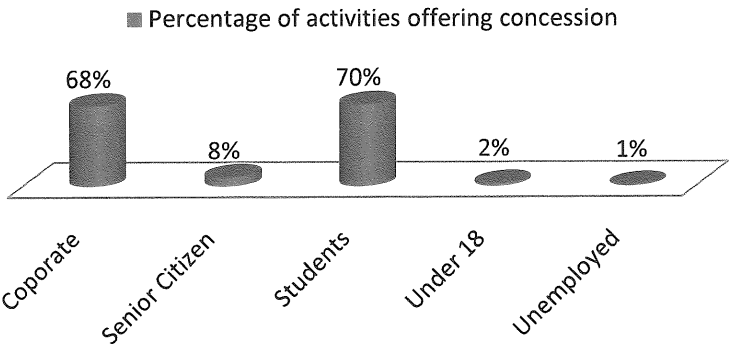
Figure 17: Activities targeted at specific groups in North Gloucester



4.2.1.5 Financial details

The payment options and concessions in North Gloucester were unique to other regions in Gloucester City. The most popular payment schedule in the region was “fortnightly” and the two most popular group’s concessionary pricing offers were made available to were students and corporate organisations (see figure 18). This data was affected by the Virgin Active Health & Fitness Club in Barnwood, which is where the majority of physical activity opportunities identified in North Gloucester were located.

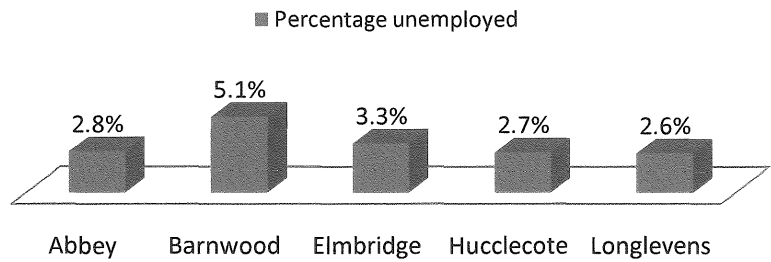
Figure 18: Groups activity providers offer concessionary price rates to



Only one activity identified made concessionary pricing offers available to people unemployed and 8% (11 activities) for senior citizens. Figure 19 shows Barnwood had the

highest unemployment rate in North Gloucester (which is still lower than the average for the city as a whole). Barnwood also had the most physical activity opportunities in North Gloucester with none of those activities offering concessions for the unemployed or people 50 years or older.

Figure 19: Rates of Unemployment within North Gloucester



4.2.1.6 Specific practices and requirements

The activities provided in North Gloucester have a high percentage of activity leaders with relevant qualifications to deliver their activity. The percentage with appropriate insurance cover was high too which, according to Cochrane & Davey (2008), indicates the activities delivered in North Gloucester sustainable.

Table 4: Activity leaders with relevant qualifications and Insurance cover

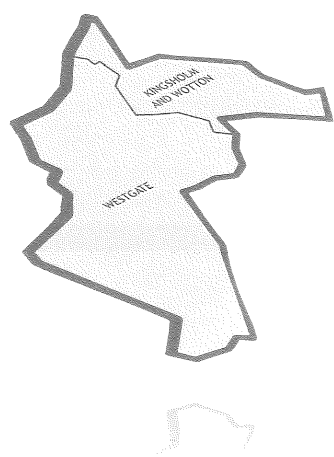
	Percentage		
	Yes	No	Not known
Activity leaders qualified	94%	1%	5%
First aid qualification held by activity leader or venue	93%	2%	5%
Activities with insurance cover	96%	0%	4%

4.2.2 Central Gloucester

4.2.2.1 Demography

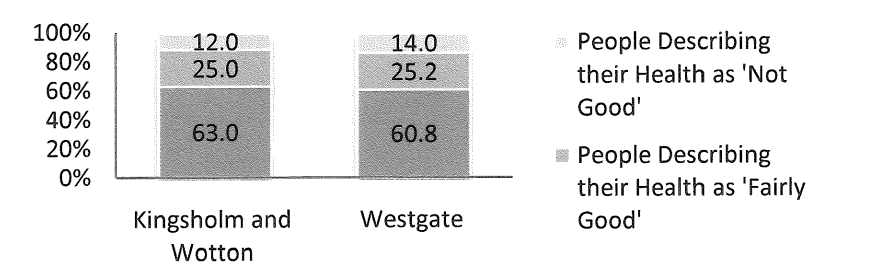
Central Gloucester is made up of only two wards which are Westgate and Kingsholm & Wotton (see figure 20). Previously within this chapter figure 3 illustrated how only 9% of people in Gloucester City lived in Central Gloucester, but figure 4 also showed that 43% of the physical activity opportunities identified in Gloucester were located within the Central region.

Figure 20: Central Gloucester



Residents who live in Central Gloucester have the worst perception of their health than people living in the other regions in Gloucester. Residents in Westgate ward have the worst perception of their health than residents in any ward in Gloucester (see figure 21)

Figure 21: Perceived health status of residents in Central Gloucester



Source: Gloucester City District Health and Population Profile Gloucestershire PCT (2008)

4.2.2.2 Response rates to questionnaire

Westgate had the highest percentage response rate within Central Gloucester and amongst all the wards in Gloucester (see table 5)

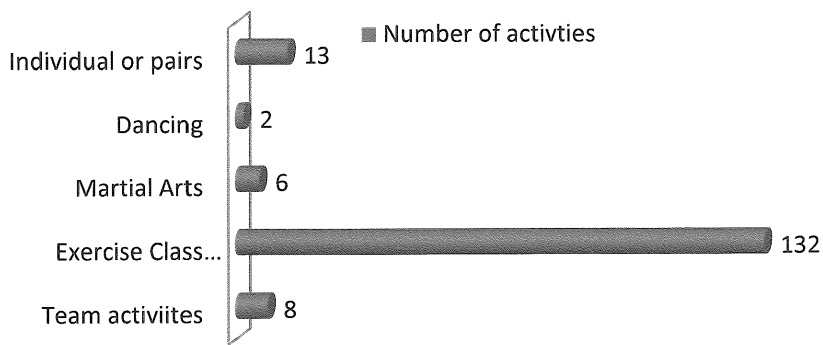
Table 5: Response rates to questionnaire in Central Gloucester

Wards	Percentage of questionnaires returned	Number of questionnaires returned
Westgate	71%	12
Kingsholm & Wotton	33%	4

4.2.2.3 Range of activities

The research identified 161 activities in Central Gloucester with 158 (98%) of those activities located in Westgate. Of the 161 activities identified 132 (82%) were within the exercise class based category of activities (see figure 22).

Figure 22: Category of activities provided in Central Gloucester



The majority of activities identified were located in health and fitness clubs (see figure 23) which correlates with the high percentage of activities that were exercise class based.

Figure 23: Venues where activities are provided

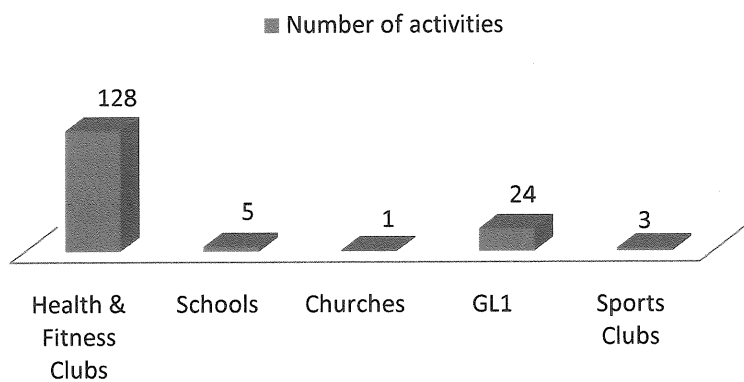
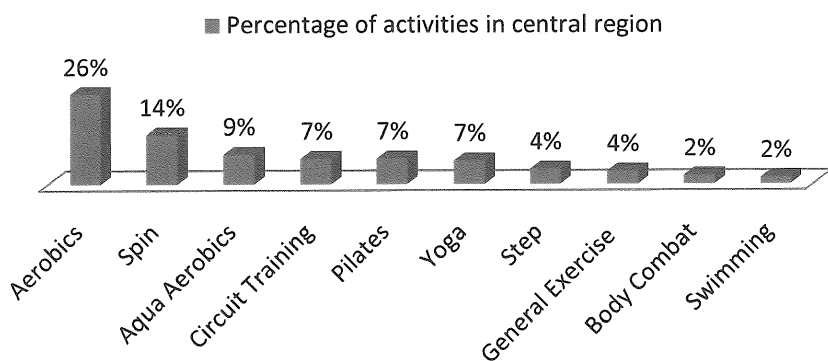


Figure 24 shows aerobics (26%) was the most popular activity provided in Central Gloucester. Nine of the ten most popular activities identified were exercise class based.

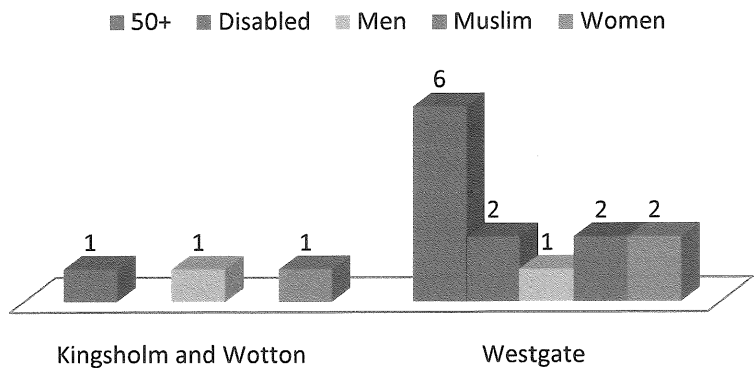
Figure 24: Top ten activities in Central Gloucester



4.2.2.4 Targeting activities for groups

Figure 25 illustrates the variety of group activities were targeted at in Central Gloucester. Despite only 11% of Gloucester City's 50 years or over residents living in Central Gloucester, this group has the most activities targeted at them in this region.

Figure 25: Groups activities are targeted at in Central Gloucester



4.2.2.5 Financial details

Numerous activities identified in Central Gloucester make concessionary price offers to local residents (see figure 26). Activities in Central Gloucester provide the most concessionary price offers to the unemployed compared to other regions. This could be due to Central Gloucester having the highest unemployment rate in the city, and Westgate being the ward with the highest unemployment rate in Gloucester City (see figure 27).

Figure 26: Groups activity providers offer concessionary price rates to

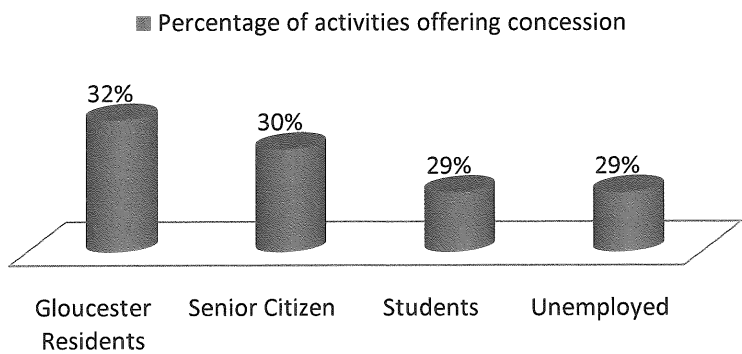
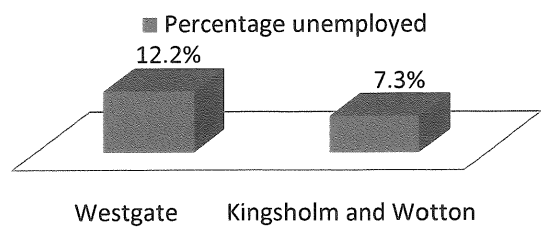


Figure 27: Rates of Unemployment within Central Gloucester



4.2.2.6 Specific practices and requirements

The prospect of activities in Central Gloucester sustaining their participation levels was good. Table 6 shows a high percentage of activity leaders have the relevant qualifications and insurance to deliver the activity, ensuring the activities were acceptable and appropriate to participants.

Table 6: Activity leaders with relevant qualifications and Insurance

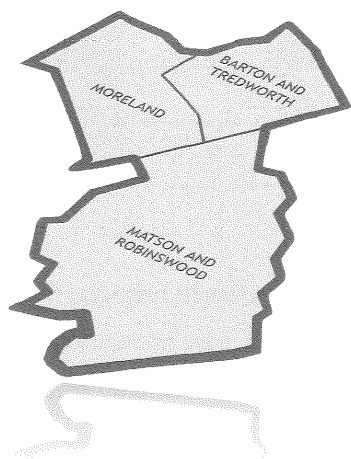
	Percentage		
	Yes	No	Not known
Activity leaders qualified	97%	1%	2%
First aid qualification held by activity leader or venue	96%	1%	3%
Activities with insurance cover	99%	0%	1%

4.2.3 East Gloucester

4.2.3.1 Demography

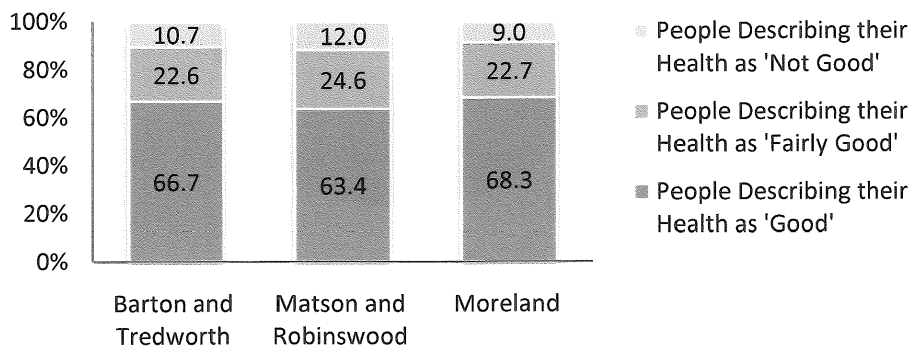
The three wards that make up East Gloucester are Moreland, Matson & Robinswood and Barton and Tredworth (see figure 28).

Figure 28: East Gloucester



Residents in East Gloucester have better perception of their health than those in Central Gloucester but not as good as those in North Gloucester (see figure 29)

Figure 29: Perceived health status of residents in East Gloucester



Source: Gloucester City District Health and Population Profile Gloucestershire PCT (2008)

4.2.3.2 Response rates to questionnaire

The 60% return rate of questionnaires distributed in East Gloucester was the highest of the regions within Gloucester City. Table 7 shows 43% of questionnaires sent to Moreland were returned, but none of these provided data of physical activity opportunities relevant to this research.

Table 7: Percentage of questionnaires returned in East Gloucester

Wards	Percentage of questionnaires returned	Number of questionnaires returned
Barton and Tredworth	57%	8
Moreland	43%	3
Matson and Robinswood	71%	10

4.2.3.3 Range of activities

Figure 30 shows the population split between the wards within East Gloucester. Although Barton & Tredworth has the lowest population size, figure 31 shows this ward had the most physical activity opportunities within its boundaries.

Figure 30: Population split within East Gloucester

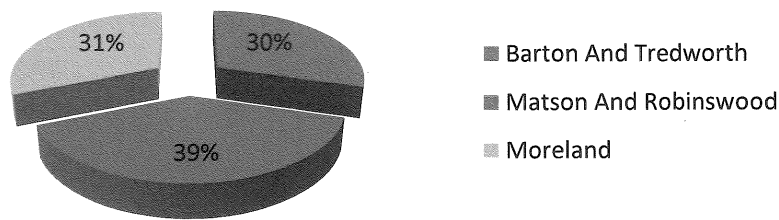
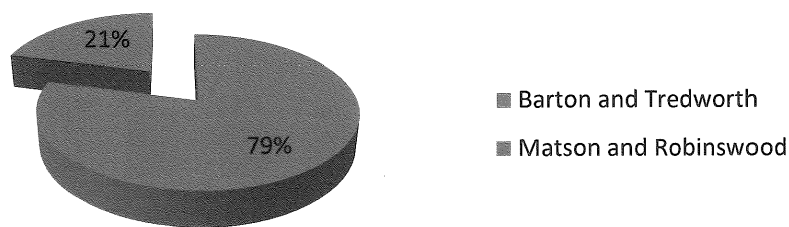
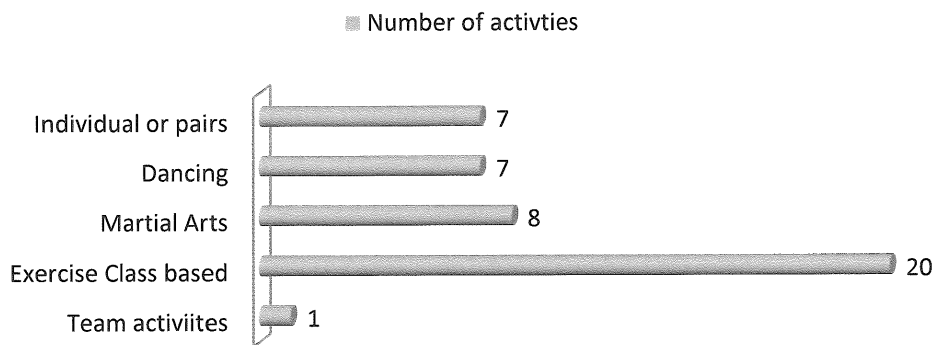


Figure 31: Percentage split of activities Identified in East Gloucester



Exercise class based activities were the prominent category of activity within East Gloucester, though figure 32 shows martial arts, dancing and activities predominantly for individuals or pairs make contribution.

Figure 32: Category of activities provided in East Gloucester



One health and fitness club located in East Gloucester provided the most activities, but figure 33 shows there were a reasonable number of activities located with churches too.

Figure 33: Venues where activities are delivered

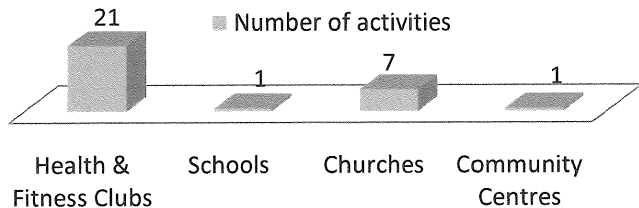
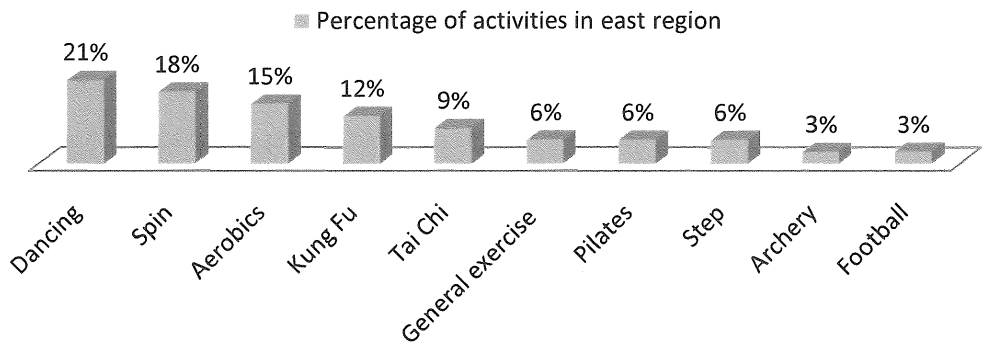


Figure 34 shows dancing was the most popular activity provided in East Gloucester. East Gloucester was the only region to have all the different “categories of activities” within the top ten activities identified.

Figure 34: Top ten activities in East Gloucester



4.2.3.4 Targeting activities for groups

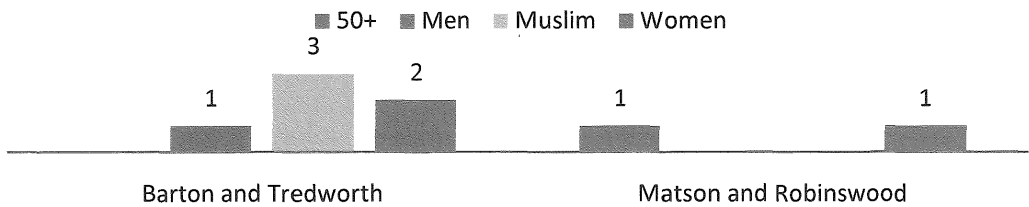
Table 8 shows how ethnically diverse the population living within East Gloucester were. The percentage of BME group living in Barton & Tredworth was substantially higher than the city average of 8%.

Table 8: East Gloucester’s ethnic composition

East			
	Barton & Tredworth	Matson & Robinswood	Moreland
White British	7245	9516	9234
Mixed	437	277	243
Indian	1414	23	114
Pakistani	164	23	26
Bangladeshi	147	4	40
Black Caribbean	606	289	280
Black African	67	0	20
Chinese	10	26	24
Other	217	68	77
% BME	30%	7%	8%
All people	10307	10226	10058

This may explain the number of activities identified in figure 35 that were targeted at a BME dominated religious group.

Figure 35: Groups activities are targeted in East Gloucester



4.2.3.5 Financial details

The data illustrated in figure 37 show the unemployment rate of each ward in East Gloucester is higher than the city average of 5.4% (rates for Barton & Tredworth rate was nearly double that of the city). Yet figure 36 shows only 2% of activities identified by this research make concessionary price offers available to the unemployed.

Figure 36: Groups activity providers offer concessionary price rates to

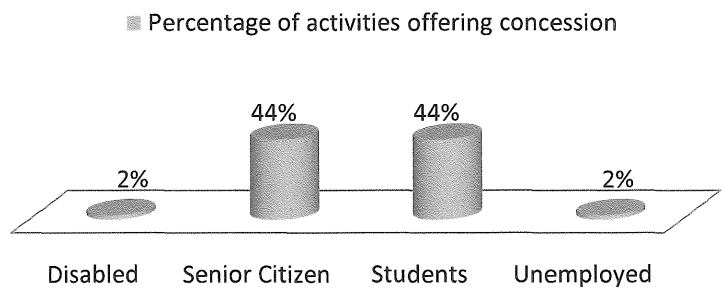
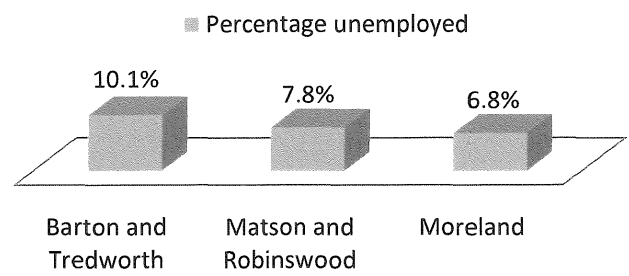


Figure 37: Rates of Unemployment within East Gloucester



4.2.3.6 Specific practices and requirements

The information required to confirm whether activity leaders were suitably qualified and insured was harder to obtain for activities in East Gloucester. Table 9 shows for each question regarding qualifications and insurance 19% response was unknown. The lack of clarity regarding this can affect the credibility and subsequent sustainability of these activities.

Table 9: Activity leaders with relevant qualifications and Insurance

	Percentage		
	Yes	No	Not known
Activity leaders qualified	79%	2%	19%
First aid qualification held by activity leader or venue	72%	9%	19%
Activities with insurance cover	79%	2%	19%

4.2.4 South Gloucester

4.2.4.1 Demography

South Gloucester is comprised of five wards which are; Podsmead, Grange, Tuffley, Quedgeley Severn vale and Quedgeley Fieldcourt (see figure 38).

Figure 38: South Gloucester

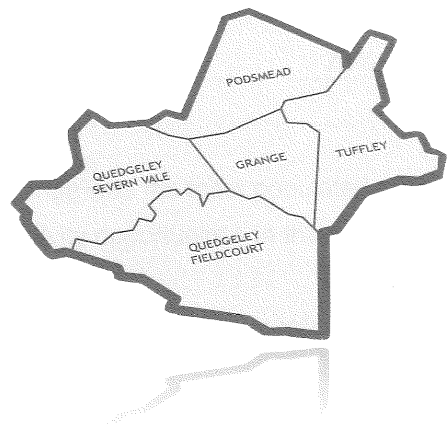
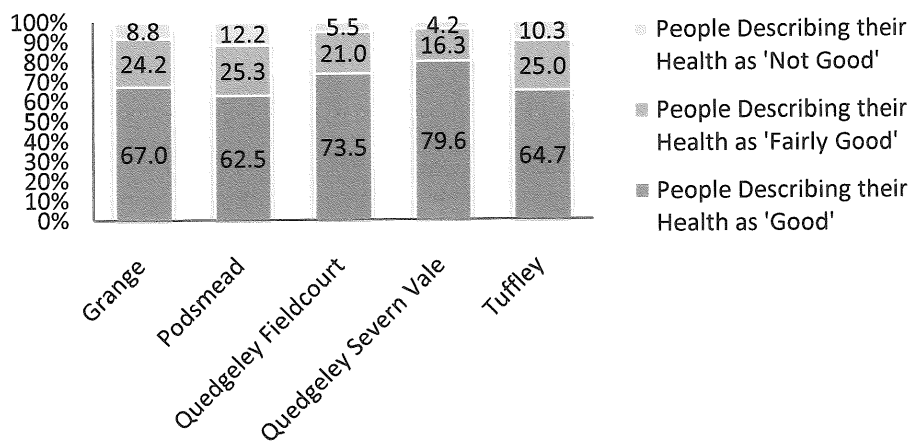


Figure 39 shows that over 79% of the people living in Quedgeley Severn Vale believe they are in good health. Residents of Quedgeley Severn Vale have the best perception of their health than any other ward in Gloucester City.

Figure 39: Perceived health status of residents in South Gloucester



Source: Gloucester City District Health and Population Profile Gloucestershire PCT (2008)

4.2.4.2 Response rates to questionnaire

Although the response rates shown in Table 10 indicate a good range of returned questionnaires, only 24 activities relevant to this research were identified in South Gloucester.

Table 10: Response rates to questionnaire

Wards	Percentage of questionnaires returned	Number of questionnaires returned
Podsmead	86%	6
Tuffley	44%	7
Grange	71%	5
Quedgeley Fieldcourt	25%	2
Quedgeley Severn Vale	75%	3

4.2.4.3 Range of activities

Although figure 40 shows Grange was the most populated ward in South Gloucester, Tuffley contains the most physical activity opportunities in the region (see figure 41)

Figure 40: Population split within South Gloucester

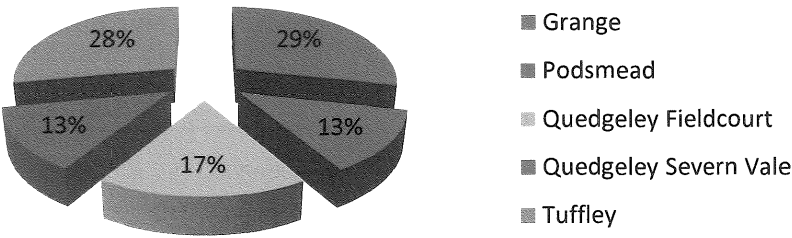
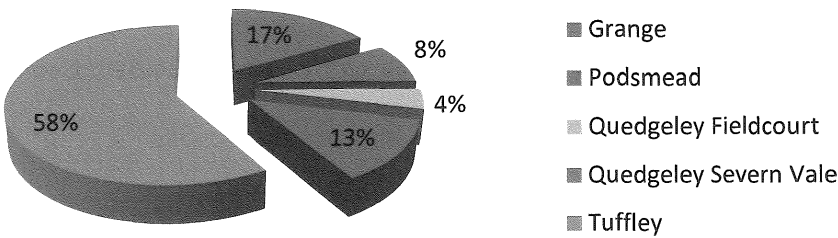
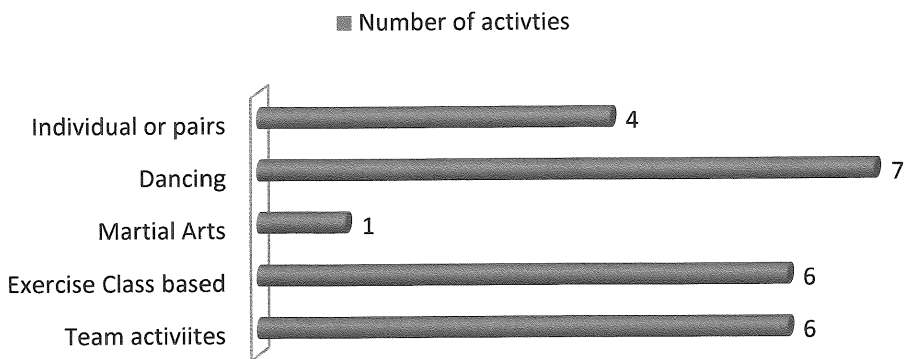


Figure 41: Percentage split of activities Identified in South Gloucester



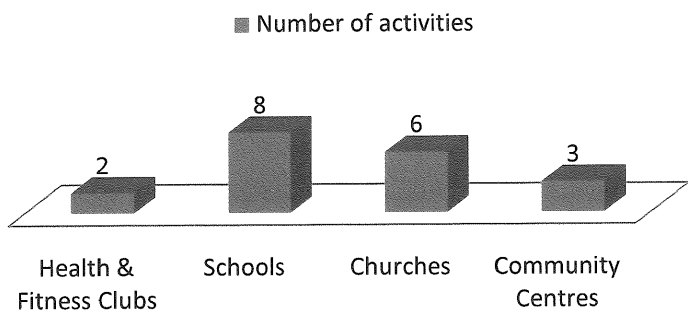
Dancing is the most popular category of activity in South Gloucester (see figure 42). This is unlike the other regions in Gloucester who have exercise class based activities as their preferred category.

Figure 42: Category of activities provided in South Gloucester



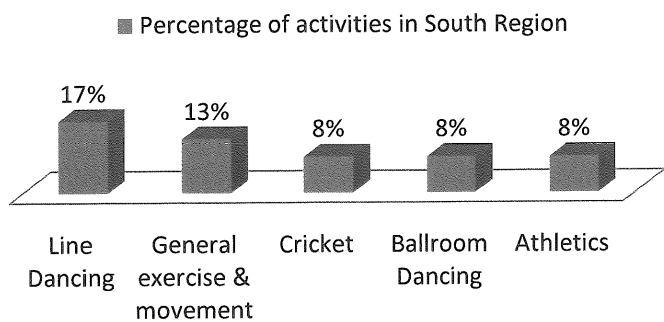
As there were no major health and fitness club in South Gloucester figure 43 shows schools accommodated the majority of physical activity opportunities.

Figure 43: Venues where activities are delivered



Line dancing was the most popular physical activity opportunity in South Gloucester. The popularity of this activity was unique to this region as was cricket being such a top five activity.

Figure 44: Top five activities in South Gloucester



4.2.4.4 Targeting activities for groups

Figure 45 shows Tuffley was the ward with the most activities targeted for groups, with women the group most activities were targeted at in South Gloucester.

Figure 45: Groups activities are targeted in South Gloucester

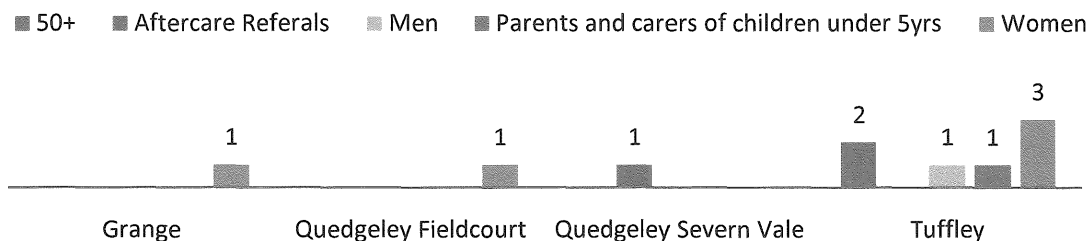


Figure 46 shows the diversity between two wards within South Gloucester. Podsmead unemployment rate was higher than the city average (5.4%), yet Quedgeley Severn Vale unemployment rate was well below the city average.

Figure 46: Rates of Unemployment within South Gloucester

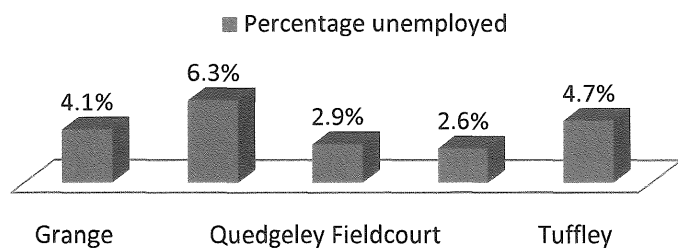


Table 11 shows Podsmead ethnic composition was marginally below that of the city as a whole (8%), yet Quedgeley Severn Vale ethnic composition was well below the average for Gloucester City overall.

Table 11: South Gloucester’s ethnic composition

South					
	Podsmead	Quedgeley Fieldcourt	Quedgeley Severn Vale	Tuffley	Grange
White British	2927	5384	6056	5504	5623
Mixed	84	44	110	78	54
Indian	10	10	10	26	10
Pakistani	7	3	10	3	3
Bangladeshi	3	8	3	6	0
Black Caribbean	61	18	42	89	62
Black African	0	12	3	6	12
Chinese	12	3	35	14	3
Other	21	25	30	22	12
% BME	6%	2%	4%	4%	3%
All people	3125	5507	6299	5748	5779

There were no concessionary price offers available for: people 50 years or over, the unemployed or BME in South Gloucester. There was only one activity offering concessions

to students (rowing) and three offering concessions to residents (Karate, Circuit Training, Tennis).

4.2.4.5 Specific practices and requirements

A high percentage of activity leaders in South Gloucester were qualified to lead their activities but not as many as those in the other regions. This may be due to the most popular activity in South Gloucester (line dancing) and how participant find it acceptable that leaders of these activities don't have (or need) relevant qualification.

Table 12: Activity leaders with relevant qualifications and Insurance

	Percentage		
	Yes	No	Not known
Activity leaders qualified	75%	13%	13%
First aid qualification held by activity leader or venue	79%	4%	17%
Activities with insurance cover	96%	4%	0%

4.2.4.6 Summary of Qualitative Interview data

In answer to the question posed during the semi structured interview “What do you believe are the current issues confronting physical activity providers or venues when trying to start up or maintain a physical activity opportunity?” DF identifies a lack of proper marketing of activities for the elderly and poor communication about the benefits of physical activity for the elderly as their main concerns. Z found ethnic minority groups can be very suspicious of local government or councils. From Z’s experience these groups do not accept funding, advice or help from local government as they believe that local government are trying to close down their activity for health and safety reasons or because they don’t have the relevant licence to deliver the activity. Some also believe the Government will force them to open up their activity to all when they want it specifically for their minority group. AW wants more diverse activities to be subsidised by Government. AW acknowledges the expense involved but believes it better to take action early through providing physical activity opportunities that may prevent young people from turning to crime and costing the Government through incarcerating then rehabilitating them. Also young people can become obese through lack of physical activity, thus costing the Government more in health care. Finally KW believes that people should be encouraged to set up their own walking or running club, and local parks should be more accessible and utilised more effectively by creating family activities that can take place within them. KW also thinks the excessive rise of commercially run health and fitness clubs divides the community between the haves and have not’s.

4.2.4.7 Summary

The key findings from this chapter are:

- Data from the major commercial health and fitness clubs were disproportionately high compared to the data identified from other venues. This affected the overall research findings which did not present a balanced account of all the activities provided in Gloucester City.
- Physical activity opportunities provided within Gloucester City are not evenly spread geographically, with North and Central Gloucester providing the majority of activities identified.
- Demographically there were major differences in ethnicity, unemployment rates and weekly income between regions.
- South Gloucester was the region with the lowest number of activities identified, and the only region not to have “exercise class based” as the most provided category of activity.
- The semi structured interviews raised issues regarding;
 - The amount of physical activity opportunities available for the elderly and how they are marketed.
 - Ethnic minority groups providing physical activity opportunities believe the local government pose a threat to them sustaining their activity.
 - Diverse physical activity opportunities should be provided and subsidised by the Government.
 - Access to commercial health and fitness clubs can seem exclusive to some parts of the community.

5. Discussion

The findings from the research are discussed in two sections; firstly the findings for Gloucester city are discussed. The discussion is structured around the headings used within the findings chapter i.e. range of activities, targeting activities for groups, financial details and specific practices and requirements. The second section compares the findings between the regions and wards of Gloucester and the implications of these findings for those regions and wards. The same headings used to present the first section are used in the second section.

5.1 Gloucester City

5.1.1 Response rate to questionnaires

A major obstacle to overcome when using a questionnaire in a social survey is cooperation from participants. To help improve response rates a cover letter/email was sent along with the questionnaire explaining the rationale for the questionnaire and research. Although Ruane (2005) believes this action can improve response rates to survey questionnaires,

Edwards et al., (2002) investigation into this issue found the odds of response to a questionnaire are doubled when a monetary incentive is used. Despite the response rate of returned questionnaires for this research was a respectable 54% overall, this research found that 68% of the activities identified were located within major commercial health and fitness clubs such as Virgin Active Health and Fitness Centre or Riverside Health Centre. This is not a definitive figure of physical activity opportunities taking place within Gloucester City. The majority of major health and fitness clubs initially identified enthusiastically completed and returned the questionnaire, whereas approximately 46% of questionnaires sent to other venues and facilitators were not completed, meaning these figures are not a true reflection of all the physical activity opportunities available in Gloucester City. Rigarlsford (2004), Buxton (2004), and Ford (2007) research and mapping of physical activity programmes and initiatives also had response rate issues. No monetary incentives were used and the 21% experienced during Rigarlsford's research was the best response rate out of the three research projects. This response rate is contrary to Stratton et al., (2006) postulation that for research to meet strict validity guidelines a 50% response rate is required. Though Stratton does realise that due to the nature of these forms of research, i.e. mapping physical activity opportunities, concerns may arise regarding the number of returned questionnaires and consequently whether the data produced is a true reflection of what is happening within the area researched.

The lowest numbers of activities identified were in South Gloucester; however physical activity opportunities were identified within all the wards of South Gloucester which was not true of the wards in North and East Gloucester. No physical activity opportunities were identified within wards Elmbridge (North Gloucester) and Moreland in the East. The demographic profile of the two wards were different in that Elmbridge is the smallest ward in North Gloucester with a population size of 5,691, unemployment levels are below the city average (3.3%), residents earn an average weekly income above the city average (£490), and only 14% of the population is aged 50 years or older. In contrast, Moreland had a population size of 10,237, unemployment levels were above the city average (6.8%), the average weekly income was below the city average (£340) and 31% of the population was aged 50 years or older. Initially these differences could be interpreted as showing the demographic composition of a ward does not influence whether a physical activity opportunity will be located within its boundaries. But, as stated previously, not all physical activities available within Gloucester City are represented within this research. Furthermore research conducted by Powell et al., (2006) found the demographics of an area do affect the location of facilities as commercial physical activity related facilities were less likely to be present in lower-income neighbourhoods. Furthermore Arbour & Martin-Ginis (2009) research also concluded that living in close proximity to a commercial facility that provides accessible programming and equipment does not necessarily translate into greater physical activity behaviour.

As three of the six major commercial health and fitness clubs were located in the ward of Westgate, Central Gloucester was the region with the largest percentage share of physical activity opportunities in Gloucester City, with 43% of all the activities being located there. Gloucester City centre is located within Central Gloucester which could explain the close proximity of major health and fitness facilities. The benefits of locating a health and fitness club within easy access of other facilities in a city centre i.e. shops, restaurants, bars will provide a degree of spin off trade that will not be available for 'stand alone' facilities (Covell et al., 2007). However the close proximity of these health and fitness clubs is contrary to the public sectors leisure planning process, where consideration of current facilities, the availability of resources and the community's needs are initially analysed before building such facilities (Torkildsen, 2005). The GL1 Leisure Centre is also located within Central Gloucester and was the largest public sector managed leisure facility in Gloucester City until October 2008 when management of the facility was transferred to Aspire Sports and Cultural Trust, a company with charitable status (Aspire, 2009).

Interestingly Central Gloucester is the region with the lowest population and these residents have the worst perception of their health in the City, with only 61% of residents believing they had "good" health (Gloucestershire PCT, 2008). This contradiction between actual activities available and residents' perception of health could be attributed to external medical and media communications exerting persistent pressure for people to desire a physical appearance which is unobtainable (Frew & McIlivray, 2005). Another factor to be considered is the demographic and socioeconomic constituents of Central Gloucester. This research found a large portion of residents in Central Gloucester are paid a much lower weekly wage (average of £310 per week) than those living in North and South Gloucester (North £488 & South £394 per week). Furthermore Westgate (a ward in Central Gloucester) has the highest unemployment levels in Gloucester City at 12.3%. Ali & Lindstrom (2006) found the enthusiasm for leisure time physical activity is affected by demographic and socioeconomic characteristics such as education, income, employment and means of transportation which is lacking among the less wealthy communities. Additionally Martin (2008) and Tannahill (1985) assertion that wider determinants outside of biomedical factors affect a community's general health and wellbeing and the perception they have of their health are supported by these findings. A consideration of the 'social model of health' when addressing physical inactivity in a community would recognise the issues identified.

5.1.2 Range of activities

The findings from this research identified 374 physical activity opportunities. These included 48 different types of activities which were clustered into categories with the variety of venues also clustered into groups. This was done to provide structure and to aid with analysis. Clustering activities into types and venues is a method employed by Rigarsford (2004)

during research into the nature and extent of physical activity projects in East England and by Ford (2007) during similar research in the North East of England. Rigarlsford (2004) found leisure/sports facilities the most common setting for physical activity projects with 26% of activities located there, with fitness/exercise classes (24%) the most common type of activity. Ford's (2007) categories for type and location of activities were different to Rigarlsford and the findings differed also. Ford's (2007) research found the most common location for physical activity projects were formal community settings, with the most frequent type of activity being walking schemes. This research found the most common physical activity category provided in Gloucester City as exercise class based, with health and fitness clubs the most common venue. The major commercial health and fitness clubs identified hosted 68% of all the activities found. Kaermer et al., (2001) research may provide the reasoning for the popularity of this category and its preferred location. The research found the majority of exercise class based activities appeared to enhance the total fitness profile of participants by improving muscular performances, muscle morphology, and cardiovascular fitness greater than most sport practices. Though Waring (2008) suggests the motivation behind the exalted use of commercial health clubs is defined according to the social and cultural experience of working in a city centre and with certain participants utilising commercial club membership for status and to benefit their own careers.

Within the report *At least five a week* (Department of Health, 2004) the United Kingdom's Chief Medical Officer reveals the annual cost of physical inactivity in England as £8.2 billion. Physical inactivity also contributes to the high obesity levels in England and the increased risk of type two diabetes (Department of Health, 2004). There are improving statistics regarding physical activity participation in England. Sport England surveyed 498 people about their exercise habits in 2008/09 and the results showed 20.9 per cent exercised three times a week compared with 16.4 per cent the previous year (Sport England, 2009). By identifying and collating data on the physical activity opportunities available in Gloucester onto a database, accessing this wide choice of activities can be made straightforward. This may help increase the physical activity participation levels. Lounsbury et al., (2007) advocates providing an arena that allows choice when attempting to increase physical activity participation levels. They suggest communicating the benefits of physical activity and providing a diverse choice of activities for the population to participate in. The Department of Health (2005) and Lowther et al., (2002) also state that providing a range of options and choices of physical activity opportunities creates an environment where people can choose the activity most suited to them. However the social and environmental pressures that influence individuals and their community are determinants that will affect the choices made by potential participants (Wetter et al., 2001). This further highlights the social model of health concept, i.e. identifying and addressing social and economic determinants that affect the levels of physical activity participation, is an important variable that can affect participation levels. The findings from this research show numerous types of physical activity

opportunities for residents of Gloucester to participate in (48) and a variety of formal and informal venues available. The category of activities was, however, dominated by exercise class based activities and the capacity to utilise further venues aside from major commercial health and fitness clubs is apparent.

As stated previously the findings from this research were not conclusive. Although a 54% response rate from the questionnaires sent is reasonable (Stratton et al., 2006), numerous activities delivered in a variety of venues were not captured. For that reason the physical activity opportunities identified within the major commercial health and fitness clubs had a major influence on the findings. The physical activity opportunities provided in these clubs must be considered within the context in which they operate. Although commercial health and fitness clubs may be sincere in their goals of improving a community's health and fitness, they are businesses and their primary focus is profit and margins (Waring 2008, Peterson 2006, Lam et al., 2005). Their profit making ethos is not conducive with the government's ideological approach to tackling physical inactivity and social issues which is influenced by a civil society ideology (Edwards, 2005). The Department of Health (2005) encourages the use of physical activity to assist with the resolution of social issues such as reducing crime and promoting social inclusion and urban regeneration.

From a social perspective commercial health and fitness clubs are used as venues for people to meet and socialise, with these organisations also contributing to the local economy and employing staff from the local labour market (Warring, 2008). It is also possible for commercial health and fitness clubs to appear exclusive and elusive to some with the potential for these exclusive membership clubs to form strong bonds to reinforce social stratification and exclusion (Conn, 2008). Previously such divisions have made access to physical activity opportunities for women, gay men, BME groups, and the economically disadvantaged difficult (Perks, 2007). These previous attitudes highlight the negative aspects of social capital, instead this concept should utilise physical activity opportunities to empower a community and encourage social inclusion. While these observations appear to suggest commercial sector health organisations are wholly commercially driven it should be considered that some public leisure facilities are required to counteract facilities designed to achieve commercial gain (Torkildsen, 2005). With this in mind there is an opportunity for further research into the perceptions of residents within Gloucester City top commercial health and fitness clubs. This research would be especially poignant if the type of residents Perks (2007) identified as groups whose access to physical activity opportunities have been made difficult were researched.

This research was concerned with identifying what opportunities are available in Gloucester and not with participation levels for the activities located, this then provides an opportunity

for further research into the level of attendance to physical activity opportunities in Gloucester city.

5.1.3 Targeting activities for groups

The report *Choosing Activity: A Physical Activity Action Plan* (Department of Health, 2005) revealed the government's goal of specifically targeting physical activity opportunities at particular groups such as women, people of black and minority ethnicity (BME), older people, and people with a disability. Evidence from this report (Department of Health, 2005) showed that these groups have poor participation rates within physical activity opportunities. Women's participation in physical activity opportunities has grown in recent times, which is mainly due to the increased availability of aerobics programmes within safer environments stemming from the fitness boom of the early nineties (Peterson et al., 2005). To increase participation in these groups Hillsdon et al., (2005) found Interventions targeting individuals in community settings were effective in producing short-term changes in physical activity, and were likely to be effective in producing mid- to long-term changes too. In comparison Stratton et al., (2006) and Ford (2007) research in to physical activity programmes in their respective regions found the majority of activities identified that weren't available to all were targeted at children (in schools and communities), followed by activities targeted at people with medical issues. Rigarsford (2004) findings also identified a large percentage (16%) of activities targeted at people with medical issues with relatively few targeted at women, people with disabilities, ethnic minorities or socially disadvantaged groups. The findings related to activities targeted at the priority groups identified by central government are similar to that of Stratton et al., (2006), Rigarsford (2004) and Ford (2007) and support the proposal by the Department of Health to target activities at the groups mentioned to increase their participation levels (Department of Health, 2005).

The elderly are one of the priority groups identified by central and local Government to target physical activity opportunities to, yet although 32% of people living in Gloucester were aged 50 years or older, only 12 activities (3%) were targeted at this group. This was not consistent with the guidance provided by Bawley et al., (2003) after research conducted into physical activity and the elderly. Bawley et al., (2003) advised targeting and customising physical activity programmes specifically for the older generation as they have tended to have a frail physical demeanour and bone density. Bawley believed customised activities would provide an opportunity for people of a similar age group to meet and socialise, facilitated by providing each other with a high level of social support. Collins et al., (1999) also recognised the importance of social support for the elderly noting that older people recognised and valued the importance of social support in their leisure and physical activities. But the interview conducted with DF found that the number of physical activity opportunities targeted at the elderly in Gloucester City are being reduced, and those that are available have not

been communicated sufficiently to engage with this community to provide social support and generate social capital. Incidentally research by Peterson et al., (2005) also highlighted how high levels of social support for physical activity programmes targeted at women meant they were twice as likely to continue attending the programme than those with low or no social support.

The Gloucestershire County's Research team (2003) identified 7.4% of Gloucester City's population as BME, yet only five of the 374 activities identified (1.3%) were targeted at a specific BME group. Z argued that BME activity providers distrusted the local government because they think that they will close their activities down by requesting some form of accreditation or insurance policy for the delivery of the activity. Although there seems to be a consensus from central and local governments to advocate for the targeting of physical activity opportunities at BME groups, (Publica, 2003) research highlighted how divisive and unnecessary this approach can appear. Publica, (2003) recommend a multilevel intervention approach to promoting physical activity applying the inclusion principle, which avoids messages, attitudes or activities that might exclude any social group (Publica, 2003). Furthermore, Hillsdon et al.'s, (2005) research established some issues with the effectiveness of a physical activity intervention targeted directly at BME groups or adults with physical limitations. Glasgow et al., (2004) found an association between the majority of BME groups and high physical inactivity rates. Importantly Gloucester City Council recognises there are issues with low participation in physical activity and sport by BME groups in Gloucester City (Gloucester City Council, 2005) and are taking action to address the ongoing issue through action such as commissioning this research.

This research also found people with disabilities were under represented through the number of physical activity opportunities targeted at them. Only three activities out of those identified were targeted at people with a disability. This is consistent with the low number identified in research completed by Stratton et al., (2006), Rigalsford (2004) and Ford (2007). However this is not consistent with the requirements set out in *Choosing Activity: A Physical Activity Action Plan* (Department of Health, 2005) which identified people with disabilities as a priority group that physical activity opportunities should be targeted at.

5.1.4 Financial details

Neergaard et al, (2005) and Wan et al, (1996) associate flexible payment methods and concessionary price offers as tangible forms of support which can be used to increase participation in physical activity and assist participants to maintain their physical activity levels. Cochrane & Davey (2008) also recognise the cost of attending opportunities as a major barrier to someone sustaining their physical activity levels. With these findings in mind concessionary price offers can be used to encourage attendance at physical activity opportunities. Although Gloucester City's unemployment rate is 4.6% (ONS, 2009), the

highest within Gloucestershire county, only 13% of the activities identified in this study provide concessionary price offers to the unemployed. Ali & Linstrom's (2006) research showed that the unemployed spend little of their leisure time participating in physical activity opportunities, and results from Kauklainen et al's (2002) research indicates that regular supervised training and an increase in physical activity participation can improve the functional capacity, motivation and health of the unemployed. These findings support the Department of Health (2004) proposal to use physical activity opportunities to keep the unemployed active and engaged within the community.

What was also evident within the findings of this research was the number of activities (especially those located in health and fitness clubs) that offer multiple payment options for physical activity sessions i.e. the majority of aerobics programmes can be paid for "per session", or payment to attend a class can be included within a regular membership subscription. These flexible payment methods highlight a different form of financial support to that referred to within the findings of research by Buxton (2004), Ford (2007), Rigarsford (2007) and Stratton et al., (2006). These studies all focused on the financial resources used to increase participation in physical activity programmes and the nature of funding for these programmes, as opposed to the benefits to providing tangible support to potential participants. Tangible support is one of the four components inherent within the social support concept and an important aid to help participants attend and maintain physical activity levels (Christensen et al., 2006). McGuinnis et al., (2002) believes the policies that produce a change in behaviour i.e. increase physically active, should offer tangible economic incentives that will encourage and facilitate change. In addition to these incentives (Ballis et al., 2005) argues that providing a range of physical activities will encourage self determination within the community and providing communications that appeal to all will provide the maximum yield of participation from the community.

Most of the activities identified from this research provide concessionary price offers to students, with 45% of the activities identified offering concessions. The university campus located in Gloucester City could be a contributing factor to this high percentage, but Lam (2005) argues that students also have good employment prospects and will eventually pay full price for the physical activity opportunity or membership, with health clubs anticipating brand loyalty to their activity/health club (Lam, 2005). This investment in future revenue streams could explain why only 13% of activities identified offered concessions to the unemployed and only one activity for the disabled. These groups may not generate sustainable income streams from the commercial sectors perspective and thus there is no incentive for them to offer concessions. The findings from this research show an opportunity for local government to provide two of the four components that underpin social support. Initially local government can provide physical activity opportunities that contain tangible support for groups that may seem financially unappealing to the commercial sector, while

also supplying relevant and easily accessible information support. *Learning from LEAP: a report on the Local Exercise Action Pilots* (Department of Health, 2007a) has shown that the cost to deliver and promote these opportunities need not be as taxing on local government as one might think. The implementation of these projects was relatively low in cost or cost effective and demonstrated potential cost savings to the NHS that exceeded the costs per participant of implementing the intervention (Department of Health, 2007a).

5.1.5 Specific practices and requirements

Both Cale & Harris (2001) and Cavill (2006) argue that screening prior to starting an activity can help to prevent injury and identify frailties. They also believe that monitoring the participant's attendance patterns can help to identify whether the activity is a success, as data from monitoring can be used to identify underlying trends such as what time of the year participants are likely to attend, or from which region/ward participants come from. Stratton et al.'s, (2006) research found the relationship between the effectiveness and sustainability of a physical activity programme is linked to monitoring and evaluation of that programme. The respondents' view that their programmes were effective was erroneous, as programme leaders did not have the time or expertise to monitor and evaluate their programme with appropriate rigour (Stratton et al., 2006). This research found only 21% of the activities identified overtly monitored attendance by participants. The major commercial health and fitness centres that accommodate a large portion of the activities identified through the research stated that they did not monitor participants by taking a register. But the computer systems utilised by these organisations have sufficient knowledge management capabilities to conduct this monitoring covertly (Simmons et al., 2009), with Information gathered from monitoring the attendance of participants used for statistical purposes.

National recommendations provided by *Skills Active* recognises the need for physical activity opportunities to be delivered by activity leaders who are qualified in their discipline, and have the appropriate insurance and first aid qualifications to deliver the activity (skillsactive.com, 2009). Furthermore, physical activity opportunities need to be available, accessible, affordable, acceptable and appropriate with the final two factors relating to whether an activity is potentially sustainable (Cochrane & Davey, 2008). Cochrane & Davey (2008) consider an activity with a leader who has acceptable/appropriate insurance cover for accidents and injuries and appropriate/acceptable level of qualifications to be credible, potentially sustainable, and more likely to attract ongoing participants. Hamelin's (2004) research also found that participants had issues with attending an exercise class with uncertified fitness instructors, and identified numerous benefits of certification, both for class attendees and the fitness club owner or manager.

The findings from this research found that 92% of activity leaders in the city possessed the relevant qualifications to lead their activities and 91% of the physical activity opportunities

had activity leaders that possessed a first aid qualification. An even larger majority (95%) of activity providers had the appropriate insurance to cover for accidents and injuries to participants. The small minority of activity leaders who did not have formal qualifications to deliver activities were in areas such as ballroom or tea dancing. Z stated in their interview that participants do not feel a formal qualification is required due to the nature of the activity. Stringent efforts have been made by partners such as the Department of Health, the National Skills Academy, Skills Active and Sport England to ensure that physical activity providers and sports coaches are adequately trained and qualified to deliver their programmes. For example, the Department of Health has published the National Quality Assurance Framework on Exercise Referral Systems (NQAF) which provides guidance on the required qualifications for primary care and fitness professionals (Department of Health, 2001). Additionally, the Register of Exercise Professionals (REPs) has been established to ensure that there are appropriate professional qualifications and career pathways for exercise professionals. This register is used by primary care organisations to identify appropriately qualified professionals for exercise referral schemes and complements the NQAF guidance (The National Skills Academy, 2009).

5.2 The regions within Gloucester City

5.2.1 Category of activities

The report *Choosing Activity A Physical Activity Action Plan* (Department of Health, 2005) advocates providing a range of physical activity opportunities and sports to improve health and encourage social inclusion. Edwards & Tsouro's (2008) research shows that group based physical activities are ideal for tackling social issues and fostering social capital and a civil society (Edwards, 2005). The categories of physical activity opportunities created for this research had a "group" element to them, with the "individuals and pairs" category also containing activities such as ballroom dancing, which were attended by groups and promoted as a 'community-environment' type activity. The most popular category of activity provided in North Gloucester was exercise class based which accounted for 68% of the activities identified. A higher percentage of activities identified in Central Gloucester (82%) were exercise class based with 46% of activities identified in East Gloucester within this category. Although exercise class based activities are delivered in groups the opportunity to foster social capital and social cohesion can be limited as the focus of the groups is directed onto the activity leader and there may be limited communication between class members. Additionally, the decision to participate in and accessing such resources as An exercise classes ultimately rests with the individual. With most of the activities identified in Central and North Gloucester provided by commercial health and fitness clubs, members of a community will have differential access to these activities and this form of social capital by

virtue of their social position within that network, community or social grouping (Glover, 2006).

In Rigarlsford's (2004) research 24% of the physical activity opportunities identified were placed within the fitness/exercise class or group category. This represented the highest category. This was followed by walking (17%) and multiple sports (16%). Ford's (2007) research identified walking schemes as the most popular category of activity undertaken, followed by community health/physical activities and sport and leisure development programmes. The ideal group dynamic to foster social capital and a civil society would involve a group dynamic from a variety of positions within a community which has defined its own needs for assistance. A social support facilitator would define what is expected from the group members and listen carefully to all opinions in the group. This would enhance the group's values and capability to connect with, and care for, each other (Harris, 1998). Of all the regions South Gloucester had the least exercise class based activities. This could be attributed to the region's lack of a major commercial health and fitness club. This may provide an opportunity for local government to develop and promote physical activity opportunities that foster positive social capital, initially in South Gloucester then eventually across all regions of Gloucester City.

5.2.2 Venues/location of physical activity opportunities

Cavill (2006) believes that the location of a provision or venue will affect the participation levels of physical activity by a population as this will impact on their access to physical programmes and facilities. Strategies such as spatial analysis have been utilised to determine the number of leisure facilities required within a specified catchment area (Torkildsen, 2005). This method, however, is utilised to justify the creation or maintenance of public leisure facilities and does not take into consideration the location of activities within community settings i.e. churches, schools and community centres. The findings from this research support the Department of Health's suggestion to use a variety of facilities within the community to host physical activity initiatives (Department of Health, 2005). For example, in North Gloucester the majority of activities identified were provided within a health and fitness club, which is similar to Rigarlsford's (2004) findings. Activities in East Gloucester were largely located within health and fitness clubs but also in other locations such as church premises. As South Gloucester did not have a major health and fitness club within its boundaries the physical activity opportunities identified were mostly located within schools and churches. This is consistent with Ford's (2007) findings which indicate that locations such as schools and churches are suitable for hosting physical activity opportunities.

The types of venues that provide physical activity opportunities and the organisations that manage them have an impact on the ability for that activity to foster social capital. Physical activity “isolated organisations” i.e. those that provided physical activity or sport only, have a weaker positive effect on fostering social capital than “connected” venues/organisations i.e. schools or churches, venues that have other community commitments (Coatler, 2007). To utilise these venues appropriately local Government would need to form partnerships with these venues/organisations. A large proportion of the physical activity projects found in the North West region worked within a partnership to deliver their activities (Stratton et al., 2006). This is an encouraging scenario which could inspire local Government to improve access to venues within a community setting to provide physical activity opportunities. This tactic was prominent in Burnett’s (2006) project which aimed to build social capital at a community level. The initiative *Active Community Clubs* successfully developed sports and physical activity programmes by interfacing with social institutions, developing networks within the community and encouraging active citizenship that generated social capital at an individual and community level (Burnett, 2006). Consequently Gloucester City Council’s (2005) ambition to build effective partnerships to ensure that provision is available to meet the sporting and physical activity needs of the community can be achieved by utilising venues such as schools or churches within local communities that are currently underused and available.

5.2.3 Targeting activities for groups

Scott-Samuel & Springett’s (2007) research showed that physical activity opportunities are not equally available to all. For instance, BME groups, women, the economically improvised, and people with disabilities frequently encountered inequitable social arrangements that made access to physical activities difficult. Reichert et al.’s, (2007) research reported that women in particular found psychological and cognitive, sociocultural, and environmental factors restricted their participation in physical activity. While Caperchoine et al., (2009) suggests that areas such as the home and community, marketing, medical systems, and public policy affect participation levels for these underrepresented groups. These writers indicate that it is vital to address the broader determinants identified within the social model of health if government’s are going to increase physical activity participation levels within identified priority population groups.

The findings from this research show that the region with the most activities targeted at people aged 50 or over was Central Gloucester. In North Gloucester 41% of the population are over 50 years old, yet only two activities are targeted at this group. This amount of targeted activities for the elderly is significantly lower than the 5% of physical activity programmes targeted at this group in the North West of England (Stratton et al, 2006), though the North West is a larger area making the necessity and capability to provide

physical activity programmes targeted at this group easier to justify and more essential. The findings showed Barton & Tredworth (a ward in East Gloucester) had the only activity in Gloucester city that was targeted at people of black and minority ethnicity (BME). However this ward is the most ethnically diverse in Gloucester City with 30% of its population classed as BME, and the one targeted activity is aimed at Muslims which is a religion as opposed to an ethnic group. Although targeting physical activities at groups can be seen as a contentious issue, Heath (2003) strongly recommends targeting physical activity opportunities that incorporate goal setting, social support, relapse prevention and teaching behavioural skills to the needs of specific groups. Rigarsford (2004) on the other hand suggests making physical activity programmes inclusive to all groups, with tangible support provided to the priority groups. Publica, (2003) also preferred utilising an inclusion principle when using physical activity to promote health, i.e. to avoid messages or attitudes that might exclude any social group.

5.2.4 Financial details

Finance and funding is an essential aspect to the success of physical activity initiatives. This is illustrated within Rigarsford (2004) research which found that financial resources and the short-term nature of funding were fundamental determinants of the sustainability of physical activity programmes. Kirk., et al's (1998) research also found concessionary pricing of leisure services (which is a form of tangible support) affected participation in these activities. The consumers who are likely to respond to the leisure service price deals are motivated primarily by economic reasons Kirk., et al (1998). Heath (2003) also believes reducing fees for selected groups to attend physical activity programmes is a plausible strategy to reduce the barriers that prevent participation. But Coatler et al., (1998) suggests certain studies overestimate the role price deals has on the utilization of public leisure facilities, and concludes that what is needed is further exploration into concessionary pricing schemes and whether they truly engage consumer away from commercial provision in the mixed economy of leisure. Further exploration of this proposal could be beneficial for the unemployed in Central and East Gloucester as the findings showed the unemployment rate in both regions were higher than that of the City overall. Despite this only one activity identified in East Gloucester made concessionary price offers available to the unemployed, and although the unemployment rate in South Gloucester was the same as the city as a whole, none of the activities identified for the region offered concessions to the unemployed, people with disabilities people who are BME, or people 50 years or over.

In North Gloucester 8% of activities provided concessionary price offers to people aged 50 years or above, but the percentage share of activities offering concessions to students (70%) and corporate organisations (68%) was far higher. There does seem an unjust favouritism by activity providers who offer concessionary price offers to students and corporate organisations, but to an organisation operating in the commercial sector people 50

years or over, the unemployed, people with disabilities or a BME group would generate minimal profits (unless subsidised by the Government) (Lam et al., 2005). This is despite the mental health benefits of physical activity i.e. mood elevation, better cognitive functioning, improved self-perception and self-esteem that would be especially beneficially to these groups (Wallace et al, 2000). To address this issue an attribute of the social support concept i.e. tangible support, could be provided in the form of concessionary price offers to access physical activity opportunities, making these more accessible to the disadvantaged portion of the population. Also financial support need not be provided by concessionary offers alone, Buxton (2004) suggests a holistic approach in using finance to tackle physical inactivity with continued investment and maintenance of regional networks to improve the delivery and uptake of physical activity.

5.2.5 Specific practices and requirements

The need for qualified activity leaders is apparent as physical activity opportunities that incorporate regular contact with qualified exercise specialist tend to report sustained changes in physical activity behaviour (Hillsdon et al., 2005). Stratton et al., (2006) found that most of the physical activity programmes identified during their research were implemented and managed by groups and organisations that were sufficiently trained to deliver the programmes. Initially this supposition seems consistent with the findings from this research as the activities provided in North and Central Gloucester had a high percentage of activity leaders with relevant qualifications to deliver their activity. The majority of activities identified from these regions however are located in major commercial health and fitness clubs. The information required to confirm whether activity leaders were suitably qualified and insured was harder to obtain for activities in East Gloucester and the percentage of qualified activity leaders in South Gloucester was even lower due to no major commercial health and fitness clubs being located within this region. Numerous activity providers from both East and South Gloucester did not complete and return the questionnaire, which means there is a possibility the number of activities that are delivered by unqualified activity providers who have no relevant insurance could be higher. In South Gloucester Line dancing was the most popular activity with participants in this activity possibly accepting that activity leaders of this form of activity do not have (or need) qualifications to deliver the activity. This is not to imply that unqualified activity providers deliver an inferior service. Research conducted by Sugman et al., (2001) found a little more than half the sports clubs surveyed in Slovenia had activity providers with a formal professional qualification, and Arora et al., (2007) believes that carefully designed messages to reach and affect a target population are more fundamental than formal qualifications in convincing physical inactivity consumers to participate in an activity. These findings challenge Cochrane and Davey's (2008) supposition that formal physical activity programmes need qualified activity leaders in order for the activity to be acceptable and appropriate to participants. Gloucester City Council requires

the activities they provide or endorse to be delivered by qualified activity leaders (Gloucester City Council, 2005).

5.2.6 Summary

The majority of activities identified in this research were categorised as exercise class based and located within health and fitness clubs. These types of 'group based' activities are seen as ideal for tackling social issues and fostering social capital and civil society. Not all of the physical activity opportunities delivered in Gloucester City were identified, which meant that the six major commercial health and fitness clubs provided a large proportion of the activities within this research. Although sincere in their premise to improve the health of residents in Gloucester City, the underlying motives for these commercial health and fitness clubs may not be consistent with the goals of Government to increase physical activity, reduce inactivity and address social issues through increased community interaction. The ideal group dynamic to foster social capital and civil society would include people from a variety of areas of the community taking part. The Department of Health and local government both advocate the targeting of activities to specific groups i.e. BME, older people, unemployed and women. This research reveals that only a small number of activities are targeted to these priority groups in Gloucester City. Previous research has found that the wider determinants of participation in physical activity including the family home, community, the local environment, how activities are marketed and public policies are influential in determining whether disadvantaged or priority groups participate in physical activity opportunities. The capacity to provide concessionary price offers to increase participation from these specific groups was found to be available but as the majority of activities identified are provided by commercial health and fitness clubs, the concessionary price offers are used to generate prospective long term income streams or to attract corporate organisations. This highlighted the necessity for local government to provide or subsidise physical activity opportunities in Gloucester city. The venues where physical activity opportunities are provided can also assist with fostering social capital with 'connected' venues i.e. location that have other community commitments (schools & churches) more appropriate than isolated organisations i.e. health and fitness clubs.

6. Conclusion

This conclusion summarises the findings of this research in relation to the objectives, which included the following:

- To undertake an audit of physical activity opportunities through the use of questionnaires, interviews and observation in the Gloucester city area.
- To contextualise the findings of the audit of physical activity opportunities and map this with the current demography of the regions and wards within the city.
- To contextualise the findings of the audit of physical activity opportunities within the context of current national and local health and social policies.

- If necessary, provide evidence-based recommendations for health and physical activity promoters in the city of Gloucester to further enhance opportunities for physical activity.

The conclusion has four sections; the main findings from the research with a synopsis of these findings. This is followed by recommendations for practice directed to policy makers and practitioners at both a national and local contexts. This is followed by recommendations for future research with the limitations attributed with this research discussed, and finally a reflection related to how the research has impacted on the researcher.

6.1 Main findings and Synopsis

The main findings from the research were:

- Data from the major commercial health and fitness clubs were disproportionately high compared to the data identified from other venues. This affected the overall research findings which did not present a balanced account of all the activities provided in Gloucester City.
- Physical activity opportunities provided within Gloucester City are not evenly spread geographically, with North and Central Gloucester providing the majority of activities identified.
- A large majority of the physical activity providers identified had the relevant qualifications and insurance to deliver these activities
- Demographically there were major differences in ethnicity, unemployment rates and weekly income between regions.
- South Gloucester was the region with the lowest number of activities identified, and the only region not to have “exercise class based” as the most provided category of activity.
- The semi structured interviews raised issues regarding;
 - The amount of physical activity opportunities available for the elderly and how they are marketed.
 - Ethnic minority groups providing physical activity opportunities believe the local government pose a threat to them sustaining there activity.
 - Diverse physical activity opportunities should be provided and subsidies by Government.
 - Access to commercial health and fitness clubs can seem exclusive to some parts of the community.

The research found major commercial health and fitness clubs were the main providers of physical activity opportunities within Gloucester City. Churches, schools and community centres were further venues where physical activity opportunities were located. These venues are termed ‘connected’ as they provide physical activity opportunities as an

additional function to their principal responsibility within the community. Opportunities provided from these 'connected' venues have a more positive effect on a community than those delivered from 'isolated organisations' i.e. commercial health and fitness clubs. The research concludes that 'connected' venues were underutilised when providing physical activity opportunities in Gloucester city and the potential for usage of these venues requires reviewing and possibly exploiting.

The main commercial health and fitness clubs in Gloucester City targeted most of their concessionary price offers to encourage participation in their activities at students and corporate groups. People with disabilities, older people, the unemployed and people of black & minority ethnicity are the priority groups the Department of Health and Gloucester City Council suggest activities should be targeted at. The research concludes that these priority groups should have more physical activity opportunities and concessionary price offers targeted at them to encourage participation in their local communities.

Nationally numerous bodies for example Skills Active, Sport England and the National Skills Academy have been striving to raise standards and ensure the activity providers for physical activity programmes have the relevant qualifications and insurance to deliver these programmes. This effort appears to have been successful in Gloucester City as a large majority of providers delivering the activities identified had the relevant qualifications. Providers who may deliver physical activity opportunities for Gloucester City Council or are endorsed by them will need to be appropriately qualified to ensure the activity is acceptable for potential participants. The data from the audit has been registered on a database which the research concludes could be utilised by Gloucester City council to inform residents of current physical activity opportunities available. Ford (2007) collected similar data whilst conducting their research into physical activity projects in the North East of England and suggested using this data to construct a regional database containing details of professionals working within the sector who are associated with physical activity.

The major commercial health and fitness clubs in Gloucester were located in the North and Central regions which consequently meant the majority of physical activity opportunities identified were located within these regions. Gloucester city centre is also located in the Central region which accounted for the concentration of commercial health and fitness clubs (along with businesses, retail shops, bars, and restaurants) in the area and also for it being the least populated region. The number of physical activity opportunities in the South and East of Gloucester was small compared to those provided in the North and Central regions, but the activities provided in the South and East were more diverse. Targeted and concessionary priced activities for priority groups were mostly concentrated in the Central region highlighting the scarcity of these activities in the other regions of Gloucester. Furthermore the ethnic diversity and unemployment rates within Central and East

Gloucester were higher than in the North and South regions. An assessment of the findings indicate there is an opportunity for local Government to provide appropriate training to the unemployed and other priority groups to deliver concessionary priced physical activity opportunities to residents in the North, East and South regions of Gloucester City. Negotiations for the location of these activities could be conducted with 'connected' organisations identified previously, with people from all ethnic backgrounds given the opportunity to deliver these activities in the various regions and wards of Gloucester City.

The national Governments policies and initiatives to address physical inactivity are based on a civil society ideology where these activities can be used to create a civically engaged environment that empowers communities. Currently the physical activity opportunities in Gloucester are mostly provided by commercial health and fitness clubs who are profit making businesses. Activities that local Government develop or promote that are conducive with the national Governments ideology would find it difficult to compete with those offered by the commercial sector but they could complement them by targeting those priority groups whom the commercial sector may deem unprofitable.

6.2 Recommendations

The recommendations and implications from this research are classified into both national recommendations for researchers, policy makers and practitioners undertaking similar audits, and those specific to Gloucester City Council.

The recommendations related to the national context include:

- Develop or promote physical activity opportunities and initiatives that offer concessionary price offers to people from priority groups i.e. older people, people with a disability or the unemployed. For example providing or promoting Tai Chi classes located within 'connected' venues that are subsidised by the Government so people with a disability can attend the classes at a discounted price
- Accompanying media releases to promote the opportunities within newspapers (via press release), radio, leaflets & posters.
- Encourage the sharing of findings from this and other similar audits of physical activity opportunities, projects or programmes. All of these can be located on one website i.e. via the Department of Health or the British Heart Foundation National Centre websites

The recommendations relevant to Gloucester City Council include:

- An activity database could be created using the data gathered from the research. The information within the database could be accessible via the Gloucester City

Council website. This will provide local residents and visitors to Gloucester City with details of what physical activity opportunities are available in the city.

- The physical activity questionnaire could be made available online making it accessible to future activity leaders, physical activity providers and commercial health clubs who wish to add their physical activity opportunity onto the database. A paper copy of the questionnaire would still be available for those who do not have access to the Internet, with updates and amendments to activities available through the completion of the paper questionnaire
- The activity leaders, physical activity providers and commercial health clubs already identified during the research could be supplied with a username and password that provides them with access to update their physical activity opportunity details online.
- The physical activity database could be promoted extensively throughout Gloucester City. The promotion should have two objectives; firstly to promote the database, its location, what details it provides, how the database can benefit residents of Gloucester City, and how people can use the facility free to locate any of the variety of physical activity opportunities available in Gloucester City. The next objective should promote the advantages of uploading a physical activity opportunity onto the database to activity providers, venues and organisations. These benefits include free online advertising for their activity and the opportunity for them to manage the details of the activity themselves, giving them a certain level of autonomy.
- A web-link from Gloucester City Councils website could be created making the database available through different websites i.e. Gloucester County Council, Active Gloucestershire or Aspire Local Trust Ltd.
- Future initiatives could attempt to address the lack of targeted activities and concessionary price offers (tangible support) within the North, East and South regions of Gloucester for the priority groups identified by the Department of Health and Gloucester City Council.

Physical Activity interventions to foster Civil Society

- Gloucester City Council should continue developing initiatives and activities that employ a similar civil society ideology to that of the health walk schemes (this scheme involved Gloucester City Council providing training for people within the community to become walk leaders, once qualified the walk leaders can direct walks around picturesque areas of Gloucester City) they need to:
 - Offer the priority groups identified training and qualifications to deliver a physical activity opportunity (on a voluntary basis). These activities should

- have concessionary price offers targeted at the unemployed and people 50 years and older.
 - Be inclusive for all ethnic and religious groups
 - Provide a range of promotional material to target different ethnic groups within the community.
 - Monitor attendance for trends i.e. which area/ward within a region is people who attend the activity from?
 - Be temporary (initially) so results from monitoring can confirm whether the initiative/activity is a success and should be maintained
 - Be designed and implemented with input from the community from the beginning
- Physical activity opportunities that make available concessionary price offers to people within the priority groups identified should be considered.
- Gloucester City Council could provide training for people who are within the priority groups identified to deliver physical activity opportunities voluntarily. The delivery of these activities could be alternated between different regions i.e. an unemployed person or someone whose 50 years or older in East Gloucester would be suitably trained to deliver a physical activity opportunity within locations in North, South and East Gloucester. The benefits for these groups include, free training which may lead to future employment opportunities, the experience of delivering a physical activity opportunity should increase their self esteem, and provide them with opportunities to meet new people from different parts of the community.
- These initiatives should involve collaborations between sectors that have not previously been associated with public health, for example Jobcentres could be encouraged to advertise the above initiative within their centres, providing the council with suitable candidates. The transport department of the council could reduce the price of using public transport for volunteers delivering the physical activity opportunities.
- Physical activity initiatives could utilise 'connected' venues or organisations that have the capacity to host physical activity opportunities. These 'connected' venues and organisations include schools, churches and community centres. The research identified a large number of these 'connected' venues whose facilities were not used for physical activity opportunities.

6.3 Implications for research

After completing this research the following areas have been identified for further investigation:

- South Gloucester has no major commercial health and fitness clubs within its boundaries but has schools that allow physical activity providers to use their facilities. A possible research question could be whether commercial health and fitness clubs stifle the creative construction of smaller community based physical activity opportunities?
- An audit of schools in Gloucester City to determine if they have the facilities, capacity and desire to provide further physical activity opportunities
- Concessionary price offers provided in Gloucester City are mostly made available to students and corporate organisations. Concessions are a tangible form of support its use is suggested by Cochrane & Davey (2008), Neergaard et al, (2005) and Wan et al, (1996). Further research could be performed to investigate the impact providing concessionary offers and incentives has on increasing and sustaining participation in a physical activity opportunity.
- The research has highlighted the major influence commercial health and fitness clubs have on the number of physical activity opportunities provided in a region. The information required to enhance this research would be to discover the participation levels for activities located in commercial health and fitness clubs and information about how far the people who participate in these activities travel from i.e. do residents living in Quedgeley Severn Vale (South Gloucester) travel to the Riverside Health Centre (Central Gloucester) to attend a physical activity opportunity.

6.4 Limitations of research

The main limitation for this research was the response to the questionnaires. There had been a good response rate overall but the exceptional responses by the major commercial health and fitness clubs affected the whole research. Also there were some notable absentees that would have influenced the results and thus the conclusion to this research. Establishments such as Thomas Rich Sports Centre, and individuals who had information about numerous activities within Gloucester did not respond to the questionnaire and various emails and phone calls that preceded the initial contact. Another limitation identified was the lack of similar research to compare with. There had been mapping exercises carried out within large areas of England i.e. North West, North East, West Midlands and East of

England but none specifically researching a city. Also these mapping research projects performed a more holistic research which included information about various departments, programmes, projects, schemes and initiatives currently in existence. This research was concerned with identifying the physical activity opportunities (programmes) available in a city. Although this was initially limiting as the research had no baseline to assess whether there had been changes over time in Gloucester City or the particular regions within Gloucester. However this research can now be used as this baseline and as a template for further research of this type within the city, and in other areas in the United Kingdom alongside other published audits such as the physical activity mapping research conducted in the North West, North East, West Midlands and East of England.

6.5 Reflection

The transition from finishing a Bachelors of Arts to undertaking a Master of Science has been a challenging period. During my time undertaking this research I believe the main characteristic I have had to improve is my writing skills. At times my writing has been convoluted, vague and not as concise as it should be. My writing style normally entails me reviewing my work numerous times before it is handed in for grading. But due to the nature of this research and short timescales I was working to I had to hand in work to be scrutinised before I had the opportunity to review it as I usually do. This has forced me to focus my writing and become more succinct. I have also developed my knowledge regarding the philosophies that underpin research. I had an inclination about research philosophies and approaches but designing and implementing this research has provided me with the opportunity to develop a deep understanding of epistemology, paradigms, theoretical perspectives and the difference between concepts and theories. Skills I had previously obtained that have been improved from conducting this research include the capacity to build relationships with different people at all levels. I was required to communicate with people in Gloucester City Council, local Councillors, managers, directors of Health clubs and residents within the community who provided details of physical activity opportunities for their community. There were new skills I acquired through conducting this research such as the ability to develop a semi structure interview utilising themes and designing a questionnaire using themes. This was challenging as the questionnaire needed to be flexible (so more than one activity could be input into a questionnaire) and easy to understand and complete. The questionnaire themes used to design the questionnaire was used as a framework to analyse the data. This was also a new proficiency I learned and applied. These have all contributed to the improvement of my writing and communication skills, and analytical thinking.

References:

- Ainsworth, B E., Haskell, W L., Whitt, M C., Irvin, M L., Swartz, A M., Strath, S J., O'Brien, W L., Bassett, D R., Schmitz, K H. Emplaincourt, P O., Jacobs, D., Leon, A S. (2000) Compendium of Physical Activities: an update of activity codes and MET intensities. *Medicine & Science in Sports & Exercise* 32 (9) pp 498-516
- Alberini, A., Chiabai, A (2007). Discount Rates in Risk Versus Money and Money Versus Money Tradeoffs *An International Journal* 27 (2) pp.483-492
- Allen, R. (2003) *English Dictionary* Penguin, London
- Ali S.M, Lindstrom M. (2006). Psychosocial work conditions, unemployment, and leisure time physical activity: A population-based. *Scandinavian Journal of Public Health*, 34, 209–216.
- Allison, L. (1998). Sport and Civil Society. *Political Studies*, 46(4), 709-726.
- Arbour, K.P., Martin-Ginis, K.A. (2009) The relationship between physical activity facility proximity and leisure-time physical activity in persons with spinal cord injury. *Disability and Health Journal*. 2 (3), pp. 128-135
- Ardalan, K. (2003). Theories and controversies in finance: a paradigmatic overview. *International Journal of Social*, 30(1), 99-209.
- Arora, R., Stoner, C., Aroa, A (2006) Using framing and credibility to incorporate exercise and fitness in individuals lifestyle. *Journal of Consumer Marketing* 23(4) pp199-207
- Aspire. (2009). Aspire Sports and Cultural Trust
<http://www.gloucester.gov.uk/Freetime/Aspire/aspire.aspx> accessed 04/06/09
- Atsushi, A., Nakayama, T., Naito., M. (2003). Ethics in questionnaire-based research *Journal of Asian and International Bioethics* 13, 147-151
- Baker, C M., Owen, C S. (2008). *Participation in sport and active recreation in Gloucestershire – a summary*. Gloucester: University of Gloucestershire
- Bailis, D.S., Fleming, J.A., Segall, A. (2005) Self-determination and functional persuasion to encourage physical activity. *Psychology & Health*. 20 (6) pp. 691 – 708
- Balnaves, M., Caputi, P. (2001). *Introduction to Quantitative Research Methods: An Investigative Approach*. Sage: Queensland, Australia.
- Berrett, T., Slack, T., Whitson, D. (1993) Economics and the pricing of sport and leisure, *Journal of Sports Management* 7(3) pp.199-215
- Borkan, J. (2004). Mixed Methods Studies: A Foundation for Primary Care Research. *Annals of family medicine*, 2(1), 4-6.
- Bramley, S. (2006). *Local Authority Area Profiles*. IN business for neighbourhoods network SW, Gloucester.
- Brannen, J. (1995). *Mixing Methods: Qualitative and Quantitative Research*. Ashgate Publishing, Aldershot

- Broido, E. M. (2002). Philosophical foundations and current theoretical perspectives in qualitative research. *Journal of College Student Development*, 43(4), 434-445.
- BSA. (2004). Statement of ethical practice. *British sociological association*, Durham
- Burnett, C. (2006) Building Social Capital Through an 'Active Community Club'. *International; Review for the Sociology of Sport*. 41 (3/4) pp. 283 - 294
- Burton, S., Calonico, JM, McSeveney. (2006). Effects of Preschool Television Watching on First Grade Children. *Journal of Communication*, 29(3), 164-170.
- Buxton, K. (2004). Physical activity mapping in the West Midlands Region. *WMPHO Health Issues*, West Midlands
- Bryman, A. (2001). *Social Research Methods* (2nd edition). Oxford University Press, Oxford
- Calabrese, R. L. (2006). Building social capital through the use of an appreciative inquiry theoretical perspective in a school and university partnership. *International Journal of Educational Management*, 20(3), 173-182.
- Cale, L., Harris, J. (2001). Exercise recommendations for young people: An update. *Journal of Health Education*, 101(3), 126-138.
- Capersen, C.J., Powell, K.E., Christenson, G.M (1985). Physical activity, Exercise, and Physical Fitness: Definitions and Distinctions for health related research. *Public Health report*, 100(2) 126-131
- Caperchoine, C., Mummery, W.K., Joyner, K (2009). Addressing the Challenges, Barriers, and Enablers to Physical Activity Participation in Priority Womens Group, *Journal of Physical Activity & Health* 6(5) pp.589-596
- Carter, P. (2005). *Review of national sports effort & resources*. London: Department of culture, Media & Sport.
- Cavill, N., Buxton, K, Bull, F, Foster, C. (2006). Promotion of physical activity among adults: Evidence into practice briefing. *National Institute for Health and Clinical Excellence*, London
- Cavill, N., Rolfe, L. (2006) Choosing Health in the South East. *South East Public Health Observatory*, Oxford
- Christensen, U., Schmidt, L., Jorgensen E.B., and Avlund, K. (2006). Group Cohesion and Social Support in Exercise Classes: Results from a. *Health Education & Behaviour*, 33(5), 677-689.
- Coatler, F (1998) Leisure studies, leisure policy and social citizenship: the failure of welfare or the limits of welfare? *Leisure Studies* 17(1) pp 21-36
- Coalter, F. (2007). Sports Clubs, Social Capital and Social Regeneration: ill-defined interventions with hard to follow outcomes? *Sport in Society*, 10(4), 537-559.
- Cochrane, T., Davey R.C. (2008). Increasing uptake of physical activity: a social ecological approach. *The Journal of the Royal Society for the Promotion of Health*, 128(1), 31-40.

- Coll, R. K., & Chapman, R. (2000). Choices of methodology for cooperative education researchers. *Asia-Pacific Journal of Cooperative Education*, 1, 1-8.
- Collins, M.F., Henry, I.P., Houlihan, B., Buller, J (1999) Research Report: Sport and Social Exclusion A report to the Department for Culture, Media and Sport. *Institute of Sport and Leisure Policy*, Loughborough University
- Conn, V. S., Tripp-Reimer, T, Maas M.L. (2003). Older women and exercise: Theory of planned behaviour beliefs. *Public health nursing*, 20, 153-163
- Cousins, C. (2002). Getting to the "truth": Issues in contemporary qualitative research. *Australian Journal of Adult Learning*, 42, 192-204.
- Covell, D., Walker, S., Siciliano, J Managing sports organizations: responsibility for performance *Butterworth-Heinmann*, Oxford,
- Coyne, R. (1998). Cyberspace and Heidegger's pragmatics. *Information Technology & People*, 1(4), 338-350.
- Craig, R., Mindell, J. (2008). Health survey for England 2006 latest Trends: *National Information Centre for Health and Care*, London
- Cresswell, J.W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks,CA :Sage, London
- Creswell, J. W., Plano Clark, V L. (2007). *Mixed Methods Research*. Sage Publications, London
- Crossley, N (2008) (Net)Working out: social capital in a private health club. *British Journal of Sociology* 59 (3), pp475 – 500
- Crotty, M. (1998). *The foundations of social research: meaning and perspective in the research process*. Thousand Oaks, Sage Publications, London
- David, M., Sutton, CD (2004). *Social Research: The Basics*. Sage, London
- Department of Health (2001) *Exercise referral systems: A national quality assurance framework*, Department of Health, London
- Department of Health. (2004). *At least five a week*. Department of Health, London
- Department of Health. (2005). *Choosing activity: a physical activity action plan*. Department of Health, London
- Department of Health. (2007). *Communities for Health: Learning from the Pilots*. Department of Health: Inequalities unit, London
- Department of Health. (2007a). *Learning from LEAP: a report on the Local Exercise Action Pilots*. Department of Health, London
- Department of Human Services. (2002). *Towards a community health policy framework-Discussion paper*. Department of Human Services, Victoria, Australia.
- Denscombe, M. (2007). *The Good Research Guide: For Small-scale Social Research Projects* (3rd edition). Open University Press, London

- Denscombe, M. (2008). Communities of Practice: A Research Paradigm for the Mixed Methods Approach. *Journal of Mixed Methods Research*, 2(3), 270-283.
- DMCS. (2000). *A sporting future for all*. Department of Culture Media & Sport, London
- DMCS. (2002). *Game Plan: a strategy for delivering Government's sport and physical activity objectives*. Department of Culture Media & Sport, London
- Edwards, M. (2005) 'Civil society', the encyclopaedia of informal education, www.infed.org/association/civil_society.htm.
- Edwards, P., Tsouros, A. (2006). Promoting physical activity and active living in urban environments: The role of local governments. *World Health Organisation*, Denmark
- Edwards, P., Roberta, I., Clarke, M., DiGulaappl, C., Pratap, S., Wentz, R., Kwan, I. (2002) Increasing response rates to postal questionnaires: *systematic review*. *BMJ*. 324, pp. 1-9
- Fielding, J., Gilbert, N. (2006) *Understanding Social Statistics*. London Sage Publications
- Ford, G (2007) Mapping physical activity in the North East Region. *Sport England North East*, London
- Forrest, R., Kearns, A. (1999). *Joined-up places? Social Cohesion and Neighbourhood Regeneration*. Communities Scotland, York
- Foster, C., Porcari, J P, Anderson, J, Paulson, M, Smaczny, D, Webber, H, Doberstein, S T, Udermann, B. (2008). The talk test as a marker of exercise training intensity. . *Journal of cardiopulmonary rehabilitation and prevention* 28(1), 24-30.
- Frew, M., McGillivray, D (2005) Health clubs and body politics: aesthetics and the quest for physical capital. *Leisure Studies* 24(2) pp. 161-175
- Fukuyama, F. (1992). *The End of History and the Last Man*. Penguin, New York
- Fukuyama, F. (1995). *Trust: The social virtues and the creation of prosperity*. Free Press, New York
- Gephart, R. (1988). *Ethnostatistics: Qualitative Foundations for Quantitative Research* (Vol. 12). Sage Publications, Alberta
- GHURC, (2009) SWRDA's allocates £10 million to continue Gloucester's Regeneration Gloucester Heritage Urban Regeneration Company Ltd
<http://www.gloucesterurc.co.uk/pr.asp> accessed 20/06/09
- Glasgow, R E., Klesges, L M., Dzwalowski, D A., Bull, S., Estabrooks, P (2004). The future of health behaviour change and research: What is needed to improve translation of research into health promotion practice. *The Society of Behavioural Medicine* 27 (1) 3-12
- Gloucester City council. (2005). *Sports Development Strategy*. Sports Development Department, Gloucester
- Gloucester Partnerships. (2008). *Sustainable Community Strategy for Gloucester 2008—2018*. Gloucester partnerships, Gloucester.

Gloucestershire PCT. (2008). Gloucester City District Health and Population Profile. Gloucestershire Primary Care trust, Gloucestershire

Glover, T.D. (2006) Toward a Critical Examination of Social Capital within leisure Contexts: From Production and Maintenance to Distribution, *Journal of the Canadian Association for Leisure Studies*. 30 (2) pp. 357 – 367

Greenfield, T. (2002). *Research Methods for Postgraduates* (2nd edition). Hodder Arnold, London

Hall, D., Lobina, E, de la Motte, R. (2003). Public resistance to privatisation in water and energy. *Development in Practice*, 15(3&4), 286-301.

Hamelin, W. (2004) Professional qualifications: is your trainer/fitness instructor certified? *Active living* 13 (5) pp. n6-n7.

Hanifan, L. (1916). The rural school community centre. *Annals of the American Academy of Political and Social Science*, 67(2), 130-138.

Harris, J. C. (1998). Civil Society, Physical Activity, and the involvement of Sports Sociologist in the Preparation of Physical Activity Professionals. *Sociology of Sport Journal*, 15, 138-153

Harvey, D. (2007). Neoliberalism as Creative Destruction. *The ANNALS of the American Academy of Political and Social Science*, 610(21), 23-44.

Haskell, W., Lee, I-M, Pate, R, Powell, K, Blair, S, Franklin, B, Macera, C, Heath, G, Thompson, & P, B. A. (2007). Physical Activity and Public Health: Updated Recommendation for Adults from the American College of Sports Medicine and the American Heart Association. *Medicine and Science in Sports and Exercise*, 39(8), 1423–1434.

Hesse-Biber, S., Leavy, P L (2006). *Emergent Methods in Social Research*. Sage Publications Ltd, London

Hillsdon, C. F., Nick Cavill, Hugo Crombie, Bhash Naidoo. (2005). The effectiveness of public health interventions for increasing physical activity among adults: a review of reviews. *National Institute for Health and Clinical Excellence*, London

Houlihan, B. (2005). Public Sector Sport: Policy Developing a Framework for Analysis. *International Review for the Sociology of Sport* 2, 163-185.

Howley, E. T. (2001). Type of activity: resistance, aerobic and leisure versus occupational physical activity. *Medicine and Science in Sports and Exercise*, 33(6), 364-369

IOD. (2007). Indices of Multiple Deprivation
<http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07> accessed 02/02/2009

Jenner, D., Salzano, S., Honstvet, Y., Jephson, D., Flaherty, S J. (2007) Patterns in physical activity in the East Midlands. *East Midlands Public Health Observatory*

Johnson, R. B., Onwuegbuzie, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.

- Jones, D., Ainsworth, BA., Croft., JB., Macera, CA., Lloyd, EE., Yusuf, HR. (1998). Moderate Leisure-Time Physical Activity: Who Is Meeting the Public Health Recommendations? A National Cross-sectional Study. *American Medical Association.*, 7(3), 285-289
- Johnson, R B., Onwuegbuzie, A. J. (2004) Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher* 33, (7), 14-26
- Johnstone, P L., (2004). Mixed Methods, Mixed Methodology Health Services Research in Practice. *Qualitative Health Research* 14 (2) 259-271
- Kraemer, W.J., Keuning, M., Ratamess, N.A., Volek, J.S., McCormick, M., Bush, J.A., Nidle, B.C., Gordon, S.E., Mazzeti, S.A., Newton, R.U., Gomez, A.L., Wickham, R.B., Rubin, M.R., Hakkinen, K. (2001) Resistance training combined with bench-step *aerobics* enhances women's health profile. *Medicine & Science in Sports & Exercise.* 33 (2), pp. 259-269.
- Kaukiainen, A., Nygård, C H., Virtanen, P., Saloniemi, A (2002) Physical Activity Intervention among Unemployed Male Construction Workers. *Advances in Physiotherapy*, 4 (1), 3-15
- Kelagher, M., Paul, S, Lambert, H, Ahmad, W, Smith, D G. (2009). The applicability of measures of socioeconomic position to different ethnic groups within the UK. *International Journal for Equity in Health*, 8(4), 1-23.
- King, A. C., Jeffery, R.W, Fridinger, F, Dusenbury, L, Provence, & S, H. S. (1995). Environmental and policy approaches to cardiovascular disease prevention through physical activity: issues and opportunities. *Health Education Quarterly*, 22, 499–511.
- Kirk, L., Wakefield, V., Bush, D (1998) Promoting leisure services: economic and emotional aspects of consumer response. *Journal of Services marketing* 12(3) pp 209-222
- Krauss, E. S. (2005). Research Paradigms and Meaning Making: A Primer. *The Qualitative Report*, 10(4), 758-770.
- Kreuger, R., Casey, MA. (2000). *Focus Groups: A Practical Guide for Applied Research* (3rd edition). Sage Publications Ltd, Thousand Oaks, CA
- Kuhn, T., (1970). *The Structure of Scientific Revolutions*. University of Chicago Press, Chicago
- Kwak, L., Keremers, S P, Brug, J, Van Braak, M A. (2007). Measuring physical activity in field studies: Comparison of a questionnaire, 24-hour recall and an accelerometer. *European Journal of Sport Science*, 7(4), 193-201.
- Lam, E.T.C., Zhang,J.J., Jenson,B.E. (2005) Service Quality Assessment Scale (SQAS): An Instrument for Evaluating Service Quality of Health-Fitness Clubs. *Measurement in Physical Education & Exercise Science.* 9 (2) pp. 79 – 111
- Lee, M. L., Paffenbarger, R S. (2000). Associations of Light, Moderate, and Vigorous Intensity Physical Activity with Longevity. *American Journal of Epidemiology* 151(3), 293-299
- Lounsbery, M., Bungum, T., Smith, N. (2007) Physical activity opportunity in K-12 Public School settings: Nevada. *Journal of Physical Activity and Health* 4, 30-38
- Love, T. (2002). Multiple theoretical perspectives in the long thesis PhD: A foundation problem in PhD education. *Higher Education Research and Development*, 409-416.

- Lowther M, M. N., Scott E.M. (2002). Promoting physical activity in a socially and economically deprived community: a 12 month randomized control trial of fitness assessment and exercise consultation. *Journal of Sports Sciences*, 20, 577- 588.
- Mactavish, J. B., Schleien, S. J. (2000) Beyond qualitative and quantitative data linking: An example from a mixed method study of family recreation *Therapeutic Recreation Journal*, Second Quarter
- Maiden. (2009) Key Maiden data at ward level for Gloucestershire, <http://www.maiden.gov.uk/DataWards.asp> accessed 03/02/2009
- Mangan, J. (2004). Combining quantitative and qualitative methodologies in logistics research. *International Journal of Physical Distribution & Logistics Management*, 34(7), 565-578.
- Martin, K. (2008). *The social model of health*. Newry, Northern Ireland: Community Development & Health Network.
- McGinnis, J. M., Williams-Russo, P, Knickman, J R. (2002). The case for more active policy attention to health promotion. *Health affairs: The policy journal of the health sphere*, 21(2), 78-93.
- McNeill, P., & Chapman, S. (2005). *Research methods* (3rd edition). Routledge, London
- McQueen, R., Knussen, C (2002). *Research methods for social science*. Prentice Hall, Harlow
- Neergaard, H., Shaw, E, Cater, S. (2005). Social Support Theory: A new framework for exploring gender differences in business owner networks. *Paper presented at the Aarhus School of Business*.
- Nieman, D. C., Miller, A R, Henson, D A, Warren, B J, Gusewitch, G, Johnson, R L, Davis, J M, Butterworth, D E, Herring, J L, Nehlsen-Cannarella, S L. (1994). Effect of high- versus moderate-intensity exercise on lymphocyte subpopulations and proliferate response. *International Journal of Sports Medicine* 15(4), 199-206.
- Nomis, (2009) Local Authority, Official Labour Market Statistics <https://www.nomisweb.co.uk/reports>
Accessed 01/06/09
- Norman, J. F., Hopkins, E, Crapo, E. (2008). Validity of the counting talk test in comparison with standard methods of estimating exercise intensity in young healthy adults. *Journal of cardiopulmonary rehabilitation and prevention* 28(3), 199-202.
- Nottingham PCT. (2006). Physical activity opportunities within Nottingham City (pp. Flowchart). *Primary Care Trust*, Nottingham
- ONS. (2009). The census in England and Wales <http://www.statistics.gov.uk/default.asp> accessed 04/01/2009
- ONS, (2009) Labour market trends, Employment <http://www.statistics.gov.uk/cci/nugget.asp?ID=12> accessed 20/06/09

- ONS(a), (2009) Mid 2007 Population Estimates, Population Estimates for UK, England and Wales, Scotland and Northern Ireland, <http://www.statistics.gov.uk/statbase/Product> accessed 01/06/09
- Onwuegbuzie, A. J., Johnson, R B. (2006). The Validity Issue in Mixed Research. *Research In The Schools*, 13(1), 48-63.
- Performance and Innovation Unit. (2002). Social Capital: A discussion paper. *Government Cabinet Office*, London
- Perks, T. (2007). Does Sport Foster Social Capital? The Contribution of Sport to a Lifestyle of Community Participation. *Sociology of Sport Journal*, 24, 378-401.
- Personal Communication. *Telephone conversation* 27/03/09. Katie Cooke, Alliances e-services advisor, NHS Health Scotland
- Peterson, J.A. (2006) Take Ten: Take-and-Save: Ten characteristics of Great Health/fitness Clubs. *ACSM's Health & Fitness Journal*. 10 (2) p.50.
- Pilisuk, M., & Pak, S.H. (1986). *The healing web: Social networks and human survival*. University Press of New England, Hanover
- Potts, M. K., Hurwicz, M L, Goldstein M S. (1992). Social Support, Health-Promotive Beliefs, and Preventive Health Behaviours among the Elderly. *Journal of Applied Gerontology* 11, 425-440.
- Powell, L.M., Slater, S., Chaloupka, F.J., Harper, D. (2006) Availability of Physical Activity–Related Facilities and Neighborhood Demographic and Socioeconomic Characteristics: A National Study. *Am J Public Health*. 96 (9), pp. 1676–1680.
- Pratt, M., Macera, CA., Wang, G. (2000). Higher Direct Medical Costs Associated With Physical Inactivity. *The physician and sports medicine*, 28(10), 63-70.
- Publica, P.S. (2003) The Agita São Paulo Program as a model for using physical activity to promote health. *Pan Am J Public Health* 14 (4)
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon & Schuster, New York
- Reichert, F.F., Barros, A.J., Domingues, M.R., Hallal, P.C. (2007) The Role of Perceived Personal Barriers to Engagement in Leisure-Time Physical Activity, *American Journal of Public Health* 97 (3) pp 515-52
- Research Team, (2003) Ethnicity in Gloucestershire, what the census tells us, Gloucestershire County Council, Gloucester
- Research Team, (2006) The Gloucester story 2006. Gloucestershire County Council, Gloucestershire
- Rigalsford, A. (2004) Mapping Physical Activity in the East of England, *Eastern Region Public Health Observatory*, Cambridge
- Ritchie, J., Lewis, J. (2003). *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. Sage Publications Ltd, London

Ruane, J. (2004). *Essentials of Research Methods: A Guide to Social Science Research*. Wiley-Blackwell, London

Schillaci, M., Waitzkin, H, Carson, EA, Lopez, CM. (2004). Immunization Coverage and Medicaid Managed Care in New Mexico: A Multi-method Assessment. *Annals Family Med*, 2, 13-1.

Schmid, T. L., Pratt, M, Witmer L. (2006). A Framework for Physical Activity Policy Research. *Journal of physical activity and health*, 3(1), 20-29.

Schwandt, T. A. (1994). *Handbook of Qualitative Research*. Sage Publications, Newbury Park Thousand Oaks

Scott-Samuel, A., Springett, J. (2007). Hegemony or health promotion? Prospects for reviving England's lost discipline. *The Journal of the Royal Society for the Promotion of Health*, 127(5), 211-214.

Shilton, T. (2008) Creating and making the case: Global advocacy for physical activity. *Journal of physical activity and health* 5, 765-776

Simmons, S., Shala, L., Lee, S., Shiva, S (2009) *Knowledge Management in Global Software*. *International Journal of Distributed Sensor Networks*, 3(1) 6-6

Sisson, S.B., Katzmarzyk, P.T. (2008) International prevalence of physical activity in youth and adults. *International Association for the Study of Obesity* 9(6), 606 - 614

Somekh, B., Levin, C. (2005). *Research methods in the social sciences*. Sage, London
The National Skills Academy. (2009). Sport and active leisure: Training providers

Sport England. (2004). *Sport and Physical Activity in 2nd Generation Local Public Service Agreements* Sport England, Department of Culture Media & Sport, British Heart Foundation, London

Sport England. (2006). *Physical Activity & Sport Playing its Part in Delivering Choosing Health*. Sport England, Department of Culture Media & Sport, British Heart Foundation, London

Sport England. (2009). Active People Survey
http://www.sportengland.org/research/active_people_survey.aspx accessed 01/12/2009

Steele, R., Caperchione, C (2005). The Role of Local Government in Physical Activity: Employee Perceptions *Health Promotion Practice*, 6(2), 214-218

Stempel, C. (2006). Gender, Social Class, and the Sporting Capital–Economic Capital Nexus. *Sociology of Sport Journal*, 23, 273-292.

Storey, J. (2000). *Cultural Theory and Popular Culture: An Introduction* (3rd edition). Prentice hall, London

Stratton, G., Ridgers, N., Gobbi, R., Tocque, K. (2006) *Physical activity, Exercise, Sport & Health: Regional mapping for the North West*. North West Public Health Observatory

Sugman, R., Jost, B., Leskosek, B. (2001) Analysis of selected factors of the basic sports organizations in different sports disciplines. *ACTA UNIVERSITATIS CAROLINAE KINANTHROPOLOGICA* 37(1) pp73-87

Tannahill, A. (1985). What is health promotion? *Health Education Journal*, 44, 167-168.

Tashakkori, A., Teddlie, C. (1998). *Mixed Methodology: Combining qualitative and quantitative approaches*. Sage, London

Taylor, K. B. (2004). Global capitalism and the question of global governance: A socioeconomic perspective. *International Journal of Social Economics*, 31(08), 773-789.

Teddlie, C., Tashakkori, A. (2006). A general typology of research designs featuring mixed methods. *Research in the Schools*, 13(1), 12-28

Thomas, J R., Nelson, J K., Silverman, S. (2005). *Research Methods in Physical Activity*, Human Kinetics Europe Ltd; 5th edition

Tonts, M. (2005). Competitive sport and social capital in rural Australia. *Journal of Rural Studies*, 21(2), 137-149.

Trochim, W. M. (2000). *The research methods knowledge base*. Automatic Dog Publishing, New York

Trost, S., Owen, N., Bauman, A., Sallis, J., Brown, W. (2002) Correlates of adults' participation in physical activity: review and update *Medicine and Science in Sports and Exercise*, 34(12). 1996-2001

United Nations. (2003). *Sport Development For Peace: Towards Achieving the Millennium Development Goals*: The United Nations.

U.S. Department of Health and Human Services. (1996). *Healthy people 2000: national health promotion and disease prevention objectives* (No. DHHS Publication No. (PHS) 91-50212.). Washington, DC.

Wallace, L. S., Buckworth, J., Kirby, T. E., & Sherman, W. M. (2000). Characteristics of exercise behaviour among college students: Application of social cognitive theory to predicting stage of change. *Preventive Medicine*, 31(5), 494-505.

Wan, C. K., Jaccard, J. and Ramey, S.L. (1996). The Relationship between Social Support and Life Satisfaction as a Function of Family Structure. *Journal of Marriage and Family*, 58(2), 502-513.

Waring, A (2008) Health club use and 'lifestyle': exploring the boundaries between work and leisure. *Leisure Studies* 27 (3) pp. 295-309

Webster, A. L., Aznar-Laín, S. (2008). Intensity of physical activity and the "Talk Test": A Brief Review and Practical Application. *ACSM's Health & Fitness Journal*, 12(3), 13-17.
Webster, A. (2009) *Unemployment Bulletin*. Gloucestershire County Council, issue 10 May 2009

Wetter, A.C., Goldberg, J.P., King, A.C., Sigman-Grant, M.B., Crayton, R., Devine, E., Drewnowski, C., Dunn, A., Johnson, A., Pronk, G., Saelens, N., Snyder, B., Walsh, K.,

Warland, R. (2001) How and Why Do Individuals Make Food and *Physical Activity Choices?* *Nutrition Reviews*. 59 (3) pp.S11- 20.

WHO. (2008). Recommended Amount of Physical Activity. Global Strategy on Diet, Physical Activity and Health.

http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/ accessed 25/11/2008

Wilkinson, R., Marmot, M (2003). *Social determinants of Health: the solid facts* Copenhagen: World Health Organisation.

Yergin, D., Stanislaw, J. (1998). *The Commanding Heights: The Battle Between Government and the Marketplace That Is Remaking the Modern World*. Simon & Schuster, New York

Zanker C, G. M. (2008). Fatness, Fitness, and the Moral Universe of Sport and Physical Activity. *Sociology of Sport Journal*, 25(1), 48-65.

Appendix 1

Interview Themes

Introduce self and research

Show current information gathered

Current role and background?

Do you have information about provisions hosting physical activity opportunities (not already obtained)?

Do you have details of people who will have knowledge of physical activity opportunities in Gloucester?

Do you have contacts within any of the provisions that I have sent a questionnaire to and can you assist in ensuring the questionnaire is completed? How?

What do you believe are the current issues confronting physical activity providers or venues when trying to start up or maintain a physical activity opportunity?

Appendix 2

Results from Semi Structured Interview

Personal Interviewed	Physical Activity Opportunity or venue Identified	Potential contacts provided	Outcome
Kerry Whitcombe		Zaheera Nanabawa	Conducted Interview
		Jon Edmunds	Questionnaire completed
		Imran Atch	Questionnaire completed
		Andrew Wellington	Conducted Interview
		Jim Hart	Tried to contact no response
		Denise Frost	Conducted Interview
		Mary Dignan	Tried to contact no response
Zaheera Nanabawa	Baby Bounce		Does not fit into research criteria
	Bartongate Childrens Centre		Questionnaire completed
	Chequers Bridge		Tried to contact no response
	Kick Start		Details provided by Jon Edmunds
	Swimming (for Muslim women)		Questionnaire completed
	Fresh Start		Does not fit into research criteria
	Freindship Cafe		Questionnaire completed
		Active Gloucestershire	Used to locate further activties
		Ken Meakins	Tried to contact no response
Andrew Wellington	Central Technical College		Tried to contact no response
	Friendship Cafe		Questionnaire completed
	Andrew Wellington		Did not completed and return questionnaire
Denise Frost	Elsmcroft Community Centre		Questionnaire completed
		Cheryl Walpol	Questionnaire completed
		Ian Preston	No activities at the moment
	Longlevens Chuch Hall		Tried to contact no response
		Beryl Richens	Questionnaire completed

Appendix 3

An Audit of physical Activity Opportunities in Gloucester City

This questionnaire has been developed to discover what physical activity opportunities are currently available for adults (16 years & above) within the wards of Gloucester City. Commissioned by Gloucester City Council, details obtained from the questionnaire will assist in the formation of a plan to promote and support your physical activity opportunity

For this questionnaire a physical activity opportunity consists of a facilitator/instructor supervising a session. These sessions can be diverse physical activities such as Tai Chi, Areobics or Ballroom Dancing.

For each physical activity stated there are sixteen questions to answer, if there are any issues when completing the questionnaire or you require assistance to fill the questionnaire in, please feel free to contact me using the details below and I will endeavor to help resolve any concerns identified

Thank you in advance

Corey Harris

**Room LC213, University of Gloucestershire, Oxstalls Campus,
Longlevens, Gloucester, GL2 9HW**

**S0809361@glos.ac.uk.
Corey.Harris@gloucester.gov.uk**

Name of the person completing the questionnaire? _____

What is the name and location of the provision/venue where the activity will be taking place? _____

Activity Information

Q1. What activities do you provide?	Q2. When does the activity take place and how frequently? i.e. Mondays, 5pm, weekly	Q3. What are the costs? i.e. per session, weekly, annual membership, etc	Q4. Do you provide concessions for some participants who attend the activity? i.e. for unemployed, pensioners, etc	Q5. how long does each session of the activity last?	Q6. Can participants receive a recognised qualification through the activity? Please answer either Yes (specify what), No or Not Applicable (N/A)
Activity 1					
Activity 2					
Activity 3					
Activity 4					
Activity 5					
Activity 6					

	Q7. Do you offer incentives to attract new participants? Please answer either Yes (specify what), No or N/A	Q8. Is there a pre activity health questionnaire? Please answer either Yes, No or N/A	Q9. Is a register taken of attendees for each session? Please answer either Yes, No or N/A	Q10. Is this activity targeted at a particular group? i.e. Disabled, a specific ethnic group, aged 55+, women, other (please state)	Q11. Is this activity funded/supported by an external body? i.e. local authority, private organisation, government body, etc.
Activity 1				€	
Activity 2					
Activity 3					
Activity 4					
Activity 5					
Activity 6					

	Q12. Do the activity leaders have the accreditations to deliver the activity? Please answer either Yes (if so please state), No (do you want the training to obtain the accreditation?), or N/A	Q13. Do the activity leaders hold a first aid qualification? Please answer either Yes, No or N/A	Q14. Do the activity leaders have the relevant insurance to deliver the activity? Please answer either Yes, No or N/A	Q15. Please provide the names of the activity leaders who will be delivering the activity?	Q16. Please provide contact details in relation to the activity. i.e. Office tel, activity leader tel etc.
Activity 1					
Activity 2					
Activity 3					
Activity 4					
Activity 5					
Activity 6					

Appendix 4

Interview with KW – Health improvement facilitator

Corey: So, KW, I'm conducting a research into the physical activity opportunities available in Gloucester city

KW: Oh right

Corey: Yeah it's collaboration between the university of Gloucestershire and Gloucester city council, Pat Bailey's my contact at Gloucester council.

KW: You mean the sport development manager

Corey: The very one, I'm at the very early stages of the research at the moment, just trying to get my bearings and find some activities and contacts.

KW: Well I should be able to help you there

Corey: Great, could you tell me a little about what you do

KW: Well I'm the health improvement facilitator, working with people and communities, to identify their wellbeing needs and providing the skills and knowledge people want to take charge of their own well being. I work closely with Pat at the council, Zaheera and Ruth at GL1 and general health promotion initiatives

Corey: Great, so do you have any details of venues that may host a physical activity opportunity.

KW: Yeah, erm..well of course there's GL1, and Gymnation in Barton

Corey: Whats the best way of contacting them.

KW: I tell you what I can give you a list of people who would be able to give you the information you need, wait just let me get my diary.

Corey: This would be so helpful, thanks

KW: Right you've got Andrew Wellington (but everyone calls him Beefie). He is a youth worker based around the centre/east of Gloucester and manages the positive futures initiative.

Corey: Oh yeah I should have explained the research is identifying activities are for people who are 16 years old or over

KW: Oh, well I'm sure Beefie deals with activities for people over 16 years old, also he's got a lot of contacts within the central area of Gloucester so if he doesn't know someone he'll be able to give you some useful contacts and information on activities in he's area.

Corey: That sounds like a plan any more

KW: Ok, Denise Frost is the falls prevention coordinator for Gloucestershire, she should have info on activities for older people

Corey: Yep

KW: Imran Atcha looks after Gymnation and is involved with the friendship cafe too, there's definitely activities taking place there. Yeah you'll need to speak with Zaheera, she's based at GL1 The main sports centre in Gloucester city.

Corey: I've got a meeting set up with Zaheera in a couple of weeks so I'll speak with her then.

KW: Great, next you've got Jim Hart who manages the onside football based at GL1, i've got his contact details here

Corey: Ok

KW: Now Jon Edmunds is the sports development officer based at GL1, I think his part of Pat's team but manages the activities at GL1.

Corey: Would I be able to get the details Jon has from Pat?

KW: Pat may have some details of activities but Jon would be a really good person to speak to, have definitely has his finger on the pulse.

Corey: Great he sounds like a good contact

KW: and finally I'll give you Mary Dignan's number, she's the community guide and PALS Co-ordinator. She should have some contacts or information for the elderly.

Corey: Excellent

KW: and that's it i think, let me have a look...yeah that's all the info I have, hope its been helpful.

Corey: Its been brilliant thanks KW

KW: No problem

Appendix 5

Interview with DF

Introduce self and research

Show information gathered so far

What is your role?

DF: I am a falls Pathway Facilitator for the Gloucestershire county, so I not only cover Gloucester I look after the forest of dean, Cheltenham, Stroud, etc. I assist people who have an accident/fall in obtaining the right help, like access to the falls prevention clinic, health and wellbeing advice, ensuring they get therapy, assessment and treatment and all that kind of help, though my background is nursing and midwifery. I have also lectured at The De Montfort University and Gloucester College

Corey: Do you have information of provisions/venues that host physical activity opportunities (that I have not already obtained)?

DF: Well I know of activities happening at GL1 and Gymnation, Zaheera will be able to give you full details.

Corey: Yeah i've spoken with Zaheera and shes provided some great information and leads

DF: Oh yes Elmscroft community centre holds activities for the elderly too, I think the trainer is Jackie Allen. I believe residents meet for a bit of friendship and some suitable exercises. If my memories right there's seated exercises as well, and its open to heart patients carers and seniors. I've got the contact details for the centre too.

Corey: That's great anything else on venues that hold physical activities.

DF: They may come to mind later.

Corey: Ok, do you have any information of people running physical activity opportunities in Gloucester?

DF: Yeah, Cheryl Walpol runs an activity called fit as a fish, Its targeted at older people and its funded by age concern. I got her contact details here

Corey: Great

DF: Women Together is a women's group that i believe is located at GL1, they teach each other about different cultures,.

Corey: anything else?

DF: A really good contact would be Ian Preston, i'll give you his contact details. He is the health trainer coordinator for Gloucestershire and coordinates activities for the elderly too.

Corey: Good

DF: Now I have further details here of activities specifically targeted at the elderly. Now I have details for the whole of Gloucestershire, but I'm sure there's a section related to Gloucester. Problem is because I look after the whole area I haven't been able to check every activity on the list to see if they are still running.

Corey: why would they be closed.

DF: The activities can have limited funding, and its not expected for the elderly who do attend to pay for the sessions (or not pay much), they may pay a small contribution but that does not cover the total costs to put on the activity so a large part of it needs to be subsidised.

Corey: Ok

DF: A poor attendance to an activity will impact on the level of subsidy that can be provided for the activity.

Corey: So what activity information do you have and i'll chase them up

DF: Right, there's an exercise group that meets at the Church Hall at Longlevens, I believe the activity leader is Margo, i'll sort out her contact details later.

Corey: Do you know what type of exercise they do there

DF: Standing and sitting exercise for the elderly, i think but with a large slice of fun thrown in

Corey: Good

DF: They hold a low to moderate exercise classes at Churchdown community centre

Corey: I don't remember having churchdown as one of the wards i'm auditing

DF: Oh, well I think it's in Gloucester city, that class is for people aged 50+ and for people who've had heart problems.

Corey: Ok I'll have a look into that, thanks

DF: What I've got for you now is some contact details for trainers I know run courses specifically aimed at the older generation and people who've maybe had a fall or heart problems

Corey: Excellent, my next question answered before I could ask it.

DF: Sorry

Corey: No, its grand, fire away

DF: Ok, now I have details of where they were holding this activities but as I said before, funding goes, things change, but if you contact them, they'll be able to tell you whether they are still doing their activity at the address I have

Corey: Yeah that's fine

DF: Ok, Ian Preston, i've already mentioned him haven't I?

Corey: Yes you have

DF: Well I know of three classes he used to run, one was at the untied reform church in brockworth. He does a general exercise class there for 50 and over, its mainly to get people socialising and a bit fitter as well. Now I'm sure he was doing something similar at GL1 but they had an option to go swimming as part of the class.

Corey: Ok I can get that information from Ian when I contact him.

DF: Make sure you ask him about an activity he was doing at Quedgeley community centre, I'm positive he was doing something there but it was targeted more for older frail people, so there was a lot more sitting exercise.

Corey: Will do

DF: Beryl Richens also does some classes. Now I have her contact details here, I'm positive she was doing a general exercise class at Huccelcote and Quedgeley community centre. And that's about it

Corey: Ok, I think I've covered all the questions I wanted to ask, thanks DF this has been a real help

DF: It's a pleasure, I would like to have a look at your report when it's finished, should be interesting

Corey: OK, no problem

Appendix 6

Z Interview

Introduce self and research

Show information gathered so far

Corey: What is your role, is your remit GL1 only or do you look after any areas?

Z: It's not just GL1,

Corey: Are you saying you cover Gloucester City, as in all of the wards, Quedgely and all the way down?

Z: Yeah, but what happens, because obviously I'm only one person, that means I can only achieve a certain amount.

Corey: Ok, so what is your role?

Z: my job description is to increase levels of health and learning in Gloucester City and the surrounding areas. It's massive; I need to show you a copy of my annual report. So the majority of my work tends to be project management, unless, for example, the elders want me to take the Wii over to the old peoples Home, I do little things like that too, and also school visits and things like that.

Corey: Ok great, now do you have information of provisions/venues that host physical activity opportunities that I haven't already mentioned?

Z: We've got quite a lot of stuff going on, though the majority of our stuff is based at GL1 and it's targeted.

Corey: That's ok, can you start by providing me with details of activities away from GL1 then we'll come back to GL1.

Z: Ok. Firstly baby bounce is a project we are developing, its gonna run in three children's centres, in the summer term. It's not aimed at children, it's aimed at parents to try and better engage with their children, not just go home and look at the TV but do a bit of interaction with the children. Things like learning how to chuck a ball into a bucket and really simple level things. 18 to 36 months old the kids will be but it's more about trying to get the parents to be a bit better engaged, to be a bit more in the know about what to do with their kids. So it's just teaching them how to play at home. So that's Baby Bounce. That is targeted at vulnerables, so the family support workers from the children's centres – they identify the families, the people we need to work with and then we do it that way. There's a Dads project, we've got it running in the children's centre on centre Finlay Road and Bathingate children's centre.

Corey: Have you got the contact details for the Children's Centres?

Z: Yeah, but the programmes aren't in place yet

Corey: That's ok i'll contact them and see if there is anything happening at the moment.

Z: Ok i'll get those details for you

Corey: Great anything else?

Z: Do you know about the Friendship Café?

Corey: Beefie's doing the Friendship Café for me, he's taken a questionnaire away with him. Imran's done everything for Gymnasium.

Z: Coz the Friendship Café, they have like, physical activity sessions for women as well.

Corey: OK

Z: Oh yeah, have you been to Chequers Bridge?

Corey: I've met and spoken to someone called Luke Bennett at Chequers Bridge, I've given him a questionnaire to complete about activities that are taking place there. That's on Painswick Road?

Z: Yep, they have a tea dance there on a regular basis on Wednesdays. Tuesdays or Wednesdays, hopefully that'll come back on Luke's thing. If you can't find, if Luke doesn't put that on the form, or if you want more information come back to me. The lady is called Agnes. I don't know if they teach people there, that's the thing, whether it's an opportunity for people to come and do some dancing.

Corey: It doesn't have to be teaching as long as they're up and active and someone's there to facilitate. Something I noticed while on Painswick Road, there's a mosque on a road just off Painswick. There's a building next to the mosque that had posters advertng some kind of kick boxing and fitness classess.

Z: That was Imran – I don't know whether that got off the ground or not.

Corey: Ok I'll check Imran's questionnaire and liase with him

Z: Anything else

Corey: Yeah, what information do you have about physical activity opportunities taking place in GL1

Z:

Ok, let me start going through... Saturday from 11:00 till 12:00 we run a project called Kick Start that's a partnership project between the NHS, Bartongate Children's Centre and ourselves with some involvement from the University.

Corey: Is that for 16 and over?

Z: Yeah, this is 16 and over. Kick Start is five-a-side football for Dad's or carers of children and what they do is they have a game of five a side. There are about five teams on there at the moment so they play a small league on a Saturday and at half time they do their health questionnaires.

We have women's netball here from 12:00 till 2:00, it's not just netball, it's on Saturday, so it's after the kick start. We've just recently started that, it's for anyone – they can just come in, anyone from the local area.

Corey: Women. Targeted at Women?

Z: Women only, because a lot of Muslim women want specific activities for women only, this place doesn't seem to understand that, but I just get big signs and put them on the doors and at the balcony at the top. So it's just physical activities for women, mainly netball, we've only just started doing that actually, for about three weeks. On the other side of that we're going to do self defence, badminton – just teach them how to do different sports. There's all kinds of people who are really basic beginners who do don't do any sort of physical activity.

Corey: And all of these you want to combine into one session, you're not going to do a netball session then do another session another day doing another activity?

Z: No all will be in the same session.

Corey: Anything else

Z: Yes, they are setting up a free drop-in physical activity sessions where people can just come in and play badminton – one side of the hall I have badminton, the other side is netball so they can swap in and out of that. And then more focussed physical activity like doing a class or yoga or self defence – they really want to do the self defence. So that's going to happen on Wednesdays between 5:00 and 6:00.

Corey: It's the formal activities I'm interested in, the drop-in activities are out of the research remit because one of the criteria for these activities to be relevant is they should be supervised with an activity leader, someone who's running it, so it's got to be formal

Z: Oh, well I was going to tell you about Bengali Women's swimming that happens in partnership with Positive Futures, so that's Beefie and the Friendship Café. They run a drop-in, it doesn't have a specialist delivery, I guess that's not relevant to your research?

Corey: No not really

Z: Ok what about. Fresh start, you've probably heard of Fresh Start.

Corey: I've heard of Fresh Start

Z: Fresh Start is the exercise and referral scheme which, we've got about five, we've got a lot of the doctors signed up but a lot of them don't always refer and some of them send millions of referrals. So they send a referral form into the Living and Learning Centre and then we contact the person whoever they've referred on. Now they need to meet a very specific criteria and what their problems are so they have to have risk factors of Osteoporosis, CHD, Smoking, Alcohol Abuse, Depression. Caroline is working on it. Then what they do is they meet Joe the fitness consultant – they meet me and if they are happy with the program they go and pay £6.50 which is the cost of a prescription, they get their card and they have ** activity, everything on that side of the building, the spa, sauna, steam room, the fitness studio and there's a gym. That's all £2.00, the badminton is £2.00, if they want to go swimming it's £1.25, it's a bit of a discounted rate but that's I think quite specialist because they see the contact person, fitness consultant, at week 1 week 6 and week 12

Corey: Ok

Z: Upstairs on Thursdays I'm doing something for 17 to 25 year olds, kick boxing – again that's in partnership with Positive Futures and Friendship Café. That's kick boxing and that's specifically done by a lady called Simone Hoskins, she's a world champion like 4, 5 times, she's amazing.

Corey: Alright.

Z: Literacy and Numeracy courses that's something else that we do, not really physical activity though....Black Weight Management Programme that was doing physical activity, it was a six week programme, again, taking it from a more Caribbean point of view, to have activities which are suited to their activity levels as well as teaching them about health and nutrition, food, what to change in their diet, that kind of stuff. So that's something we did last year. BME participation in the theatre that was something we did last year as well. Therapeutic Arts that's nothing to do with physical activity, back to basics that's physical activity but using gardening. Green Gyms is a project they had on the go before I was here, that kind of fizzled out but I'm going to try and get it up and running again coz at the moment with everything going down and food prices going up lots of people are coming to me telling me they want to learn how to grow vegetables and that kind of stuff. So, to bring in the physical activity side of it I'll get the person responsible for doing the Green Gym, where they've already got some kind of framework together for using gardening as part of the club.

Z: No all will be in the same session.

Corey: Anything else

Z: Yes, they are setting up a free drop-in physical activity sessions where people can just come in and play badminton – one side of the hall I have badminton, the other side is netball so they can swap in and out of that. And then more focussed physical activity like doing a class or yoga or self defence – they really want to do the self defence. So that's going to happen on Wednesdays between 5:00 and 6:00.

Corey: It's the formal activities I'm interested in, the drop-in activities are out of the research remit because one of the criteria for these activities to be relevant is they should be supervised with an activity leader, someone who's running it, so it's got to be formal

Z: Oh, well I was going to tell you about Bengali Women's swimming that happens in partnership with Positive Futures, so that's Beefie and the Friendship Café. They run a drop-in, it doesn't have a specialist delivery, I guess that's not relevant to your research?

Corey: No not really

Z: Ok what about. Fresh start, you've probably heard of Fresh Start.

Corey: I've heard of Fresh Start

Z: Fresh Start is the exercise and referral scheme which, we've got about five, we've got a lot of the doctors signed up but a lot of them don't always refer and some of them send millions of referrals. So they send a referral form into the Living and Learning Centre and then we contact the person whoever they've referred on. Now they need to meet a very specific criteria and what their problems are so they have to have risk factors of Osteoporosis, CHD, Smoking, Alcohol Abuse, Depression. Caroline is working on it. Then what they do is they meet Joe the fitness consultant – they meet me and if they are happy with the program they go and pay £6.50 which is the cost of a prescription, they get their card and they have ** activity, everything on that side of the building, the spa, sauna, steam room, the fitness studio and there's a gym. That's all £2.00, the badminton is £2.00, if they want to go swimming it's £1.25, it's a bit of a discounted rate but that's I think quite specialist because they see the contact person, fitness consultant, at week 1 week 6 and week 12

Corey: Ok

Z: Upstairs on Thursdays I'm doing something for 17 to 25 year olds, kick boxing – again that's in partnership with Positive Futures and Friendship Café. That's kick boxing and that's specifically done by a lady called Simone Hoskins, she's a world champion like 4, 5 times, she's amazing.

Corey: Alright.

Z: Literacy and Numeracy courses that's something else that we do, not really physical activity though....Black Weight Management Programme that was doing physical activity, it was a six week programme, again, taking it from a more Caribbean point of view, to have activities which are suited to their activity levels as well as teaching them about health and nutrition, food, what to change in their diet, that kind of stuff. So that's something we did last year. BME participation in the theatre that was something we did last year as well. Therapeutic Arts that's nothing to do with physical activity, back to basics that's physical activity but using gardening. Green Gyms is a project they had on the go before I was here, that kind of fizzled out but I'm going to try and get it up and running again coz at the moment with everything going down and food prices going up lots of people are coming to me telling me they want to learn how to grow vegetables and that kind of stuff. So, to bring in the physical activity side of it I'll get the person responsible for doing the Green Gym, where they've already got some kind of framework together for using gardening as part of the club.

Corey: That's brilliant, I think it's a really good idea.

Z: That's going to be delivered during the summer holidays, hopefully. It's about getting people in to deliver the activity, I'm not a specialist on growing vegetables and we need to get a specialist in. We're going to have things like honey farming, cheese making, little bits like that tagged along to the Green Gyms idea. Netball league – it's not turned into a league now because people can't be bothered to turn up every week, it's more of a drop-in and out session. Cycling as a City, that's something that we've started developing, I've kind of moved away from that because the City Council have loads of different strategies on cycling and nothing going on, on the ground, it's so annoying having all these strategies and nothing happening in reality. Really crazy but one of the ladies who does Community Development at the County Council and another lady – I'll forward you on the flyer actually – they are, because there's no specific female tutors in the city. Lots and lots of people, not just muslims but women that don't know how to ride a bike feel more comfortable being taught by a female person.

Corey: That's great Z, now do you have details of people, or contacts, who will have information of physical activity opportunities in Gloucester?

Z: Ok, erm, John, John Edmunds, he deals with sports, you've met John haven't you?

Corey: I met him once, yeah.

Z: John does sports development so everything apart from swimming, so it's his role to develop that. It's a lot of work for one guy, but he does it. And then Julie concentrates on the swimming, because it's one sport it's easier for her to get everyone else in but she's got a lot more details for her bit. And then Helen does the fitness centre, spa, and gym. If you want to ask other questions around the disability and that kind of stuff, it'll be Sally Barnes, she's the Operational Manager here. If it's stuff around marketing it'll be Ken Meakins. But With this sports development stuff, John will give you a lot more info of what's going on specialist wise, that's his cup of tea. Mine is co-ordinating people and putting them together – giving them the opportunity. I love to get people in to come and train them how to play netball and stuff like that.

Corey: that's great anything else

Z: Have you been in touch with Active Gloucestershire?

Corey: Active Gloucestershire, yeah.

Z: They should be able to give you a lot more information as well.

Corey: Brilliant, anything else?

Z: No that's that. Like I said my remit is both health and learning so, sorry I'm probably not helping you that much really.

Corey: No, no, you've given me loads of information and contacts, thank you for your time

Z: No problem anytime, I'll give you contact details of all i've mentioned now.

Corey: Great

Appendix 7

Interview with BW

Introduce self and research

Show information gathered so far

Corey: What is your role?

BW: I'm Project Manager of Positive Futures which is a Home Office funded project, which has been going for five years now, five and a half years, first started in 2003 initially had funding for 3 years and then we got an extension for 18 months. And then at the end of the 18 months we went back last year to the Government and they've sort of given us the funding until 2011.

Corey: Ok

BW: This year and next year is all quality assured funded, you've got to sort of like prove what your projects doing.

Corey: They set targets and all that.

BW: It's not targets as such, just sort of like prove the work that you're doing, like if I'm working with, doing work here with Gloucester City Council then I've got to prove to them through the young people that I'm working with, sort of like writing a testimony to put into the report just to backup

Corey: Show you're making a difference.

BW: Yeah, yeah

Corey: Ok. And you did say it's mainly this area that you cover? You're not really going out to places like Abbey, Tuffley, Quedgeley?

BW: No, no, yes – Barton and Tredworth are my main areas White City falls just outside of Tredworth area so it might come into Moorlands – it all depends on how they look at it. Predominantly most of my work is in the Barton and Tredworth because White City is pretty well facilitated by the Youth Service as in they've got quite a few bits of activity going on for young people. I don't get involved unless it's to sort of help organise some additional activities or to support them with a minibus or support them in that sort of way, they're pretty much sorted really.

Corey: Right ok

BW: So I kind of concentrate on the Barton, Tredworth area for me is like Parry Hall, which is like sort of in the heart of Tredworth, which is, the heart of it is a great big field, surrounded by houses. All the houses are facing this great big field, and this field has got a building on there which used to be owned by the council and the council and they kind of pulled out of the building and let anybody who wanted to take it over. They've only in the last year got office space back in there. They finished in March this year so the council are running it again, they've got a caretaker in there running coz they own it

Corey: Activities don't take place there they take place at the Friendship Café?

BW: No, activities take place in there as well

Corey: Right ok

BW: Mainly, again run by the Youth Service but I go in there and support, as in providing dance instructors, football coaches and stuff like that, helping them in that sense. The Youth Service workers only have a certain amount of funding and a certain amount of hours allocated to her for a week so I go in there and help, when I started I said I don't want to re-create the wheel, I just want to – if I can add anything to what's going on already, whether that's supporting it myself and supporting the stuff they're doing or much funding

Corey: So are these activities, do these youths normally have to pay for them or is it free or subsidised in some way?

BW: Yeah, normally, it's swings and roundabouts. What I try to do is – I wanted to take cost out of the equation because I was all for young people doing an activity because they want to do it not because they couldn't afford to do it.

Corey: Right Ok

BW: So things like the football was free just turn up and play, I mean we started that 4 years ago now and it was going strong. If it was raining people turn up for football. The basketball here (GL1), it costs to hire the hall but it was just an additional training for someone who was doing basketball, if they wanted to play a bit of street basketball, not the proper basketball, stuff like that was free. We were doing the dance lessons for free but it was sort of hit and miss. We needed to get regular occurrences so we started charging £1 a time, per person to come and take part and that goes back into the dance or pays for an additional volunteer to come and help out.

Corey: So invariably the people that are running these activities are volunteers really.

BW: Yeah, there's normally a paid person, either myself, or it could be Imran or at any other venue or we could have young people that normally been coming to the Friendship Café on a regular basis and volunteer to help out so in that sense it's ran by a qualified person and young people help out.

Corey: So these activities that take place in Parry Hall and The Friendship Café, would you, for the ones that are relevant i.e. ones that are 16 years old and have had some direction from some person running a session. Would you be able to get the information for the questionnaire?

BW: Yeah, if I could take this one away.

Corey: I've got this one on an Exel spreadsheet so I can email this to you – that would be easier for you.

BW: Yeah, I can collect it all on here and email it back.

Corey: Is there anything outside of that, or are there any people that you know of, who maybe not necessarily do the same thing as you, but do similar activities in Gloucestershire that you are aware of? I've got the Gymnation and Imran

BW: There's a colleague of mine called Jim Hart, he's based at Oxstalls Uni and he works onside football, he's more city wide and doing activities. Sort of football and **. Again you've got the Youth Service who do quite a lot of stuff, he used – Ivor Daniels used to be head of Youth Service but he's no longer doing that. I think they've just swapped over, I know his name's Terry but can't think of his full name. I just try to use people that do stuff in my area. Some of the young people come from the outskirts, because all the young people I work with there's no Secondary school in my catchment area, so normally young people are going to school in Tufley or in them secondary schools - they come from them ways.

Corey: Ok no worries. What's your email address?

BW: BW@fsmail.net

Corey: I'll run that off to you Thursday. And the thing is you can make as many copies of that as you want so if you've got more than 6 just do a copy

BW: At the moment I'm doing my annual report so I'm collating a lot of the information you'll probably need anyway.

Corey: Brilliant, and to tell the truth It's really straight forward, there's not a lot of stuff that we need to know. I just really want to find out what activities are there, types of activities taking place, and if there's really activities specifically for a certain group i.e. women

BW: Like the basketball here on a Tuesday is for 16+ and it's free of charge. Starting back up next week, I closed it down for Christmas and then it takes them a good few months before they get back into it. By the end of this month I'll start it back up again and that's for age 16+ – and that's on a Saturday and Sunday it's swimming here.

Corey: Is that managed?

BW: Yeah, single gender on a Saturday and Sunday, it's either all women session or all male session and that's for any age group.

Corey: That's great.

BW: Again, there's the gym that Imran told you about and that age groups from about 14 all the way up.

Corey: And they've got all the different groups, there was an Asian woman's night or something like that as well, got specific times and slots for specific groups.

BW: Yeah, on a Sunday at the Friendship Café one of my colleagues works with just strictly female Asian women, they do cooking, whatever activity, they done like a 10 week self defence course, things like that.

Corey: That's exactly what I need to know

BW: I should have brought - I've got a timetable in my office with all the activities going on, you've got the elderly ladies ** session things like that.

Corey: Right ok

BW: I've got that on my laptop so I can email that to you and that'll let you know what's going on and where.

Corey: Definitely

BW: Yeah, boxing.

Corey: Boxing's a really brilliant one for young people as well isn't it really?

BW: And it's all about the fitness, it's not actually about going in the ring and punching. It's all about the fitness training and discipline and a lot of the young people I'm coming across, especially sort of like 16 plus are all either all wanting to do boxing or martial arts or weight training. That are the three main – if it's not football it's them three, it's one of them three that they're into. Yeah and I used to take a group down to Bristol once a month just to do an extra couple of hours boxing. Once a month down there, coz they've got an academy down there just to push them into the boxing, the training is phenomenal.

Corey: The hardest training out of all the sports that I know of, there maybe something out there that I'm not aware of but I've done a bit of boxing training, I've done a bit of football and

boxing's a lot more intense coz it's three minutes of moving constantly. When you do football you can rest for a little bit.

BW: I admire boxers, super fit.

Corey: And super brave as well because it's someone who really wants to punch your head off standing right next to you. Fair play to them. Right that's brilliant, I think that's it. That was fairly painless wasn't it?

BW: Yeah that was wicked, it'd be great to see what the end results are. It's going to be phenomenal.

Corey: It's all about getting as many responses and replies from the questionnaires that I send out.

BW: You know when you email me the questionnaire can I email it to other colleagues?

Corey: Fine, yes, absolutely fine.

BW: And forward your details onto them.

Corey: I'll leave you my phone number on the email as well and if they want to contact me that's fine. Yeah, yeah you can do that, not a problem. One thing, this is like an idea from me really because I've just blasted out a lot of questionnaires to schools, I would think coz I'm from Birmingham, a lot of the schools, secondary schools especially, they give out their facilities of an evening time and then adults have activities at the schools, maybe in the school gymnasium or the halls, something like that. I've had a really poor response form the schools, none of the schools have sent it back. Do you know someone who I could contact centrally?

BW: Try what they call CTC, Central Technology College, it's just outside of White City area, they've just had a new multi-games area there which they done an opening just before Christmas.

Corey: Great, thanks for your time BW

Appendix 8

Appendix 8

Activities in North Gloucester region

Activities	Abbey	Barnwood	Hucclecote	Longlevens	Grand Total	Percentage
Aerobics		28	5		33	23%
Akido				1	1	1%
Aqua Aerobics		5			5	3%
Badminton	1				1	1%
Ballroom Dancing	1	1			2	1%
Basketball				2	2	1%
Body Combat		6			6	4%
Bowling				1	1	1%
Boxing		8	1		9	6%
Cheerleader				1	1	1%
Circuit training		6			6	4%
Cricket				3	3	2%
Dancing		2	1		3	2%
Drumming		1			1	1%
Fitball		2	2		4	3%
General exercise & movement		10	2	1	13	9%
Hockey				1	1	1%

<i>Karate</i>	1	1			2	1%
Kendo - Martial arts				1	1	1%
Line dancing		1			1	1%
Muay Thai	1				1	1%
Netball			1		1	1%
Pilates	1	4	2		7	5%
Rowing		2			2	1%
Rugby			2	1	3	2%
Running		1			1	1%
Salsa Dancing		3			3	2%
Spin		10	1		11	8%
Step		5			5	3%
Swimming		2			2	1%
Tae Kwon Do	1	1			2	1%
Tai Chi		1			1	1%
Tea Dancing		1			1	1%
Yoga		9	1		10	7%
Grand Total	6	110	18	12	146	100%

Appendix 9

Activities in Central Gloucester region

Activities	Kingsholm and Wotton	Westgate	Grand Total	Percentage
Aerobics		42	42	26%
Aqua Aerobics		14	14	9%
Body Combat		4	4	2%
Bowling		1	1	1%
Boxing		3	3	2%
Cheerleader		1	1	1%
Circuit training		12	12	7%
Cricket	1	1	2	1%
Dancing	1	1	2	1%
Fitball		1	1	1%
Football		2	2	1%
General exercise & movement		6	6	4%
Gymnastics		1	1	1%
Hockey		1	1	1%
Karate		1	1	1%
Muay Thai		3	3	2%
Pilates		12	12	7%
Roller Skating		1	1	1%
Rugby		2	2	1%
Running	1		1	1%
Skateboarding		1	1	1%
Spin		23	23	14%
Squash		1	1	1%
Step		7	7	4%
Swimming		3	3	2%
Tai Chi		2	2	1%
Tennis		1	1	1%
Yoga		11	11	7%
Grand Total	3	158	161	100%

Appendix 10

Activities in East Gloucester region

Activities	Barton and Tredworth	Matson and Robinswood	Grand Total	Percentage
Aerobics	5		5	12%
Archery	1		1	2%
Body Combat	1		1	2%
Boxing	1		1	2%
Canoeing	1		1	2%
Circuit training	1		1	2%
Dancing	4	3	7	16%
Diving	1		1	2%
Fitness & Diet club		1	1	2%
Football	1		1	2%
General exercise & movement	2		2	5%
Gymnastics	1		1	2%
Karate		1	1	2%
Kung Fu	3	1	4	9%
Pilates	2		2	5%
Spin	6		6	14%
Step	2		2	5%
Swimming	1		1	2%
Tai Chi		3	3	7%
Triathlon	1		1	2%
Grand Total	34	9	43	

Appendix 11

Activities in South Gloucester region

es	Grange	Podsmead	Quedgeley Fieldcourt	Quedgeley Severn Vale	Tuffley	Grand Total	Percentage
s				1		1	4%
s		1		1		2	8%
n Dancing					2	2	8%
raining					1	1	4%
					2	2	8%
g	1					1	4%
& Diet club	1					1	4%
					1	1	4%
l exercise & movement				1	1	3	13%
					1	1	4%
					1	1	4%
					1	1	4%
ncing	1				3	4	17%
	1					1	4%
		1				1	4%
					1	1	4%