‘MORE STUDENTS, MORE ACTIVE, MORE OFTEN’

THE OPPORTUNITIES FOR DEVELOPING AND PROMOTING
ACTIVE LIFESTYLES IN UK UNIVERSITIES

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of Glamorgan/Prifysgol Morgannwg for the degree of Doctor of Philosophy

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Abstract

The aim of this research is to develop an understanding of the influence of the university environment on exercise behaviour, and to increase research knowledge in physical activity in a young adult population. The research also examines the pre-university physical activity experiences of students.

Four separate studies were identified summarising the essential elements of the physical activity experiences of students in higher education. A variety of research methods were used including an observational case study, a longitudinal tracking survey, questionnaires and interviews. One study details research from the providers of sport and recreation in universities. Additional studies provide an analysis of the influence of specific university physical activity interventions on the exercise behaviour of students and recent graduates.

The results show that most students enjoy PE and sport in school. However, the activities followed in school (mainly team games) are not continued in university by the majority of undergraduates. The studies show that the undergraduates participate in high levels of exercise in activities they start at university. The most popular choice is for 'health and fitness' activities. The students' motives are the benefits of health, friendship and relaxation and not the desire for competition. The results also show that these activities are continued when the students leave university.

The results also show that the majority of providers of sport and recreation in universities see their roles as educating undergraduates towards the goal of regular exercise. The priority of the providers is for classes, recreational programmes and 'mass' facilities rather than elite teams. The research demonstrates the potential in higher education for influencing the exercise behaviour of undergraduates. The research also indicates that this new behaviour could be continued when students leave university. With the numbers of students in higher education increasing, this research emphasises the importance of universities in promoting the goal of lifelong participation in exercise.
Declaration

I hereby declare that this work has already been accepted in substance for a university degree and is currently not being submitted in candidature for any degree.

I further declare that this work is entirely the result of my own independent investigation except where otherwise stated.

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Chapter 1

Introduction
Introduction

Physical activity has substantial benefits for health and can provide a wide range of benefits which improve overall quality of life (Health Education Authority 1999). The US Surgeon General’s Report (1996) noted the many health benefits from regular physical activity, including; lower overall mortality, reduced risk of cardiovascular disease mortality, reduced levels and risk of high blood pressure, improved mood and reductions in symptoms of depression and anxiety, decrease risk of the cancer of the colon, lower risk of diabetes, reduction in obesity and improved health-related quality of life. The prevalence of physical activity suggests that it may be even more important for public health than attention to cholesterol, arterial blood pressure or smoking. The health benefits from regular exercise justify a national programme of physical activity promotion that will contribute to achieving a more active population (Welsh Assembly Government 2002).

The Health Education Authority (1992) reported that most men and women occasionally undertook activities which could be defined as moderate or vigorous. However, very few did so at a frequency and regularity which was likely to have health benefits. The study also reported that there was a decline in activity with age with very few elderly men and very few women of any age taking part in vigorous activity. The study estimated that for both men and women around 70% were below the accepted threshold that would confer significant health and functional benefits. The Health Development Agency (2002) estimated that 63% of men and 75% of women in England do not meet the minimum guidelines of moderate exercise. ‘Moderate exercise’ is defined as thirty minutes of brisk walking, heaving gardening or heavy housework five times per week. Sport England (2001) predicts that if participation rates in physical activity follow the same trends as they have over the last five to six years, by 2026 the number of sports participants will have fallen by 0.9m. In comparison with other parts of the UK and the majority of European countries, the health of people in Wales is poor. The low levels of physical activity
are linked to heart disease, hypertension, non-insulin dependent diabetes, obesity and osteoporosis. (Sports Council for Wales 2000a). It is estimated that only 28% of the Welsh adult population are active at the recommended levels for health and that inactivity and sedentary lifestyles make a significant contribution to the burden of disease in Wales (Welsh Assembly Government 2002).

Participation in physical activity declines with age and there is a steep decline during adolescence (15-18 years of age) and young adulthood (19-24 years of age) (Sports Council for Wales 1999a). The Sports Council for Wales (2001, 2002) reports that a decline in participation in all activities including indoor activities, outdoor games, and outdoor pursuits for the ages 15-49. The activities include walking, swimming, aerobics, running, cycling, rambling, dance, tennis, rugby, fishing, soccer and rugby. The Sports Council for Wales (1999a) has specifically targeted young people and has identified several goals to be achieved over five years. Among these goals is to increase sports participation by the 15-24 years olds to 85% by the year 2005. An additional aim is to increase sports club membership in the 15-24 age group from 19% to 24% by 2005. The aim of the programme is to increase participation in young adults so as to minimise the likely drop out in activity later in life. The Health Development Agency (2002) recommend that physical activity interventions should be tailored to the target audience and should:

- Provide opportunities for affordable, accessible physical activity (particularly for those least likely to take part).
- Address psycho-social needs.
- Be fun – and ideally, be sociable.
- Involve the target audience in the planning, implementation and evaluation of the programmes.
- Address the specific needs of different groups.
- Address the barriers (political, social, economic environmental and physiological) that discourage people from participating.
• Involve specialist advice where appropriate.

The Department for Culture, Media and Sport (2002:93) suggests that in order to develop a sport and physical activity culture different interventions are required;

'A more holistic approach is required to increase mass participation which recognises the importance not only of providing appropriate physical facilities, but also the need to train and support sports delivery workers and, importantly, the need to stimulate the demand for sport and physical activity'.

In order to achieve the targets outlined by the Sports Council for Wales, more research is needed to understand the determinants of participation in physical activity by young adults. More research is also needed to increase knowledge in physical activity interventions and exercise adherence to help prevent young people developing inactive lifestyles.

Physical activity defined

Physical activity need not be an organised activity or be strenuous to achieve health benefits. Physical activity can be defined 'as any bodily movement produced by skeletal muscles that results in energy expenditure', whereas exercise can be explained as 'planned, structured and repetitive bodily movement done to improve or maintain one or more components of physical fitness' (Biddle et al 1998:3). The Scottish Executive (2002) notes that there are many types of physical activity including exercise, sport, play, dance and active living such as walking, housework and gardening. Given the range of activities, there is no single department, agency, or organisation that delivers or promotes all areas of physical activity.

Physical activity and sport can vary in both intensity and frequency and this is important in understanding the health benefits that can be achieved from regular exercise. The World Health Organisation (1948) has defines 'health' as 'a state of
complete physical, mental and social well being and not merely the absence of disease and infirmity’. This definition has now been modified as ‘a resource for everyday life, not the objective for living, and a positive concept emphasising social and personal resources as well as physical capacities’ (World Health Organisation 1984). Health related exercise is physical activity associated with health enhancement and disease prevention. The teaching of health related exercise in schools would typically involve the teaching of knowledge, understanding and competence of motor skills, the creation of positive attitudes and confidence for lifelong participation in physical activity.

The Council of Europe (1993) provided a broad definition of sport in their European Sports Charter: ‘Sport means all forms of physical activity which, through casual or organised participation, aim at expressing or improving physical fitness and mental well being, forming social relations or obtaining results in competition at all levels’. The Sports Council for Wales (2000:1) has also adopted this definition and adds that the above definition ‘covers the whole spectrum of sport from recreational walking and fitness related activities to top level competitive sport’. The University and Colleges Sports (UCS) Association is the only UK body which represents the interests of higher and further education sport. UCS also embraces the previous definition of ‘sport’ by the Council of Europe (1993).

**Recommendations on physical activity**

The debate over minimum amounts and intensities of physical activity for health benefits are on-going but there are some general recommendations. The Health Education Authority (1999) recommends taking 30 minutes of at least moderate intensity activity on five or more days of the week. The American College of Sports Medicine (1995:4) recommends that ‘significant health benefits can be obtained by including a moderate amount of physical activity (e.g. 30 minutes of brisk walking or raking leaves, 15 minutes of running or 45 minutes of playing volleyball), on most, if not all, days of the week’. The Health Development Agency (2002) also
recommends that thirty minutes of moderate exercise – such as brisk walking, heavy gardening or heavy housework – at least five days a week to improve cardio-respiratory fitness and decrease the risk of coronary heart disease.

The challenge for health promoters and physical activity practitioners is to motivate and educate individuals to meet the minimum recommended guidelines. For example Finch and White’s (1998:2) qualitative research on physical activity among women aged 16-24 reported that there was a fairly high awareness that specific prescriptions existed regarding physical activity – notably the requirement for ‘three sessions of 20 minutes per week’ or to a lesser extent ‘five sessions of 30 minutes per week’. However, connotations of the term ‘physical activity’ and ‘exercise’ were: hard work, effort, strenuous activities, gyms and organised sports. Finch and White (1998) found that walking, dancing and more everyday living came less readily to mind. Similarly Franklin (1995:109) emphasises that there is confusion by many people about the intensity and frequency of exercise which will have health benefits. Consequently, ‘many people think of exercise only as strenuous activity like running or cross country skiing’. There is a need for additional research on the determinants and interventions which will encourage more regular physical activity. (Dishman and Sallis 1994).

Need for research
Research indicates that over 70% of Welsh adults are not participating in enough physical activity to benefit their health (Welsh Office 1998) and that over 50% of adults in Wales are overweight (Welsh Assembly Government 2002). Fairclough et al (2002:81) reported on the contribution of secondary school physical education programmes to lifetime physical activity. The research showed that although the promotion of lifetime participation in physical activity is a major goal of physical education, most schools surveyed placed a significant emphasis on team games, often at the expense of lifetime activities. The research indicated that the restricted nature of the national curriculum (PE), traditional biases to what activities boys and girls
should follow, teacher expertise and the influence of the media may conspire to affect the content and future relevance of curricular and extra curricular programmes. The research concludes 'in order to promote the PE goal of preparing students for lifetime participation in physical activity, physical educators must recognise which activities have the greatest carryover value into adult life'.

Research has indicated that interventions and the understanding of the determinants of physical activity are needed in specific populations (Dishman and Sallis 1994). Dishman (1994) reports that little progress has been made on the interactions of personal attributes and environments as they influence physical activities. Dishman (1994:233) suggests that 'this remains a priority for advancing the theory and for selecting effective interventions for different population segments and physical settings'. Sallis et al (1992) also emphasised that an understanding of the determinants of physical activity in young adulthood as a research priority. The Health Education Authority (1992) identified young women as a group who were particularly inactive when compared to other age groups. Hansbro (1997) also found that only 32% of women achieved the recommended amount of moderate physical activity and one fifth of women are sedentary. The Sports Council for Wales (1999a) indicated that increasing participation in regular activity for the 15-24 year olds was a priority between 2000-2005. However, no specific reference was made to the strategies that were to be used to increase this number or any reference to the role that higher education may contribute to achieving this goal. In comparison, the Scottish Executive (2002:31) does emphasise the important role of higher education in the strategy to increase physical activity in Scotland;

'68% of young people between the ages of 16 and 21 are in full time or part time education. This is a critical environment in which to support them to be more physically active'.
Additionally, the Welsh Assembly Government (2002:11) has identified priority target groups for increasing activity levels. Amongst the eight groups are;

- The sedentary population
- Socially disadvantaged people
- Children and young people
- Women

Again no reference is made to the opportunities within universities for increasing the activity levels of the specific target groups identified.

The environmental, cultural, behavioural and psychological determinants that potentially influence physical activity in young adults needs to be further researched. There is substantial research into the reasons why individuals participate in sport and recreation. A variety of different factors have traditionally been investigated and have been found to have an effect on an individual’s participation. For example, social class income, gender, education and the availability of facilities have been associated with participation rates (Torkildsen 1999).

However, research suggests that students in higher education are often not exposed to the usual factors which limit the participation of the general participation (Talbot 1997, Buckworth 2001). On many student campuses facilities are in abundance, are free of charge and the student has plenty of ‘non work’ time to participate. Therefore, the constraints of finance, facilities and lack of time which affect many ‘working’ individuals’ ability to participate may not apply. The Government has set a new target of 50% of young people to experience higher education by 2010. The Government’s initiative to increase the number of young people attending higher education indicates that a significant number of young people will experience physical activity opportunities at university which could influence their future exercise behaviour.
The Department of Media, Culture and Sport (2002:93) state that for young people 'providing the best possible introduction for sport is key to developing 'sport literacy' in individuals'. (The DCMS (2002) uses the Council for Europe'(1993) definition of 'sport' which includes 'all forms of physical activity').

The promotion of physical activity with young adults is challenging as it is one of the transitional periods in a person's life. This could involve going to university including moving away from home, new friends, new environment, new academic studies, less dependence on family members and a period of independence. Coggins and Foster (1997:5) summarise this transitional period;

"...There are likely to be significant changes in circumstances between a relatively enforced lifestyle and chosen lifestyle during the ages of 16-24 years".

Promotion of physical activity during this transitional stage is a significant challenge as physical activity becomes a choice rather than compulsory behaviour (Fox 1994). Similarly, another transitional phase will occur when the students leave university to start their first job, perhaps move away from family/friends to marriage and having children. This is an important area of research to establish the successful interventions that positively influence exercise behaviour in university and to investigate if this new behaviour is then continued post university.

The growth of higher education
The changes in higher education that have taken place in the UK in the third of a century between the Robbins and Dearing Reports have been profound. They have resulted in a transition of UK higher education from an 'elite' to a 'mass' form. The rapid expansion of HE has attracted new kinds of students, expanded access and increased the 'social demand' for higher education (Jary and Parker 1998). The number of applicants to higher education through UCAS has increased from 405,000 in 1994 to 442,000 in 2000. An increase of nearly 70,000 accepted applicants from
270,000 to almost 340,000 was seen in this period. The number of ‘home’ applicants have increased by 22.9% since 1994. (UCAS 2001).

In 1995/6 Higher Education Institutions (HEI’s) in Wales had over 82,000 students including 20,000 studying part time, and employed over 14,000 people. In 1998/1999 there were over 92,000 Welsh domiciled students studying for a higher education qualification in HE institutions and further education colleges in the UK. Nearly 54,000 of these students were in Welsh HEI and over 1600 in Welsh FEC. Over half of these (54%) were female and the majority were in the 18-24 age categories. (Higher Education Funding Council for Wales, 2000).

The National Assembly for Wales (2002:3) has set further challenges for Higher Education Institutions in Wales. The recommendations state that ‘HEI’s must do more to reach those in schools in economically poor communities who could benefit from HE. They must open up, and sustain, new access routes’

The strategic vision for Higher Education in Wales recommends:

- Each HE institutions should reflect the regional needs of Wales.
- Artificial barriers between HE/FE should be removed.
- Student numbers entering HE should be increased.
- Each HEI should adopt a more ‘learner centred approach...and should be the start of lifelong contacts with students’ (p.10).
- The proportion of young people accessing HE from low participation neighbourhoods to increase from about 30-35% to 40-50% by 2010.

The outcomes of the recommendations mean that universities in Wales have now been tasked with developing ‘mass’ education which will be attractive to local students, meet the needs of the economy and specifically to attract and recruit students from a lower socio economic background. The philosophy links to the
Dearing Report (1997:7) which suggests that higher education should directly address the 'lifelong learning' agenda;

"...The purpose of education is life-enhancing, it contributes to the whole quality of life. This recognition of the purpose of higher education in the development of our people, our society, and our economy is central to our vision. In the next century, the economically successful nations will be those which became learning societies where all are committed, through effective education and training, to lifelong learning"

Elliot (2001) comments that a key strategy to support lifelong learning has been a trend towards attracting home-based students to access local higher education institutions through a range of local initiatives and partnerships. This trend is seen to continue to the future as local institutions are in close touch with local people and local needs.

**Higher Education provision in the South Wales Valleys**

Three studies in this research have been carried out at the University of Glamorgan in the South Wales Valleys. An observational Case Study of the demographics and interventions at the university is included in Study One (page 133), data from undergraduates at the university in Study Two (page 152) and data from the same students twelve months after they have graduated from the university (Study Three, page 222). The University of Glamorgan is situated in Rhondda Cynon Taff at the gateway to the South Wales Valleys which were famous throughout the world for coal mining and other heavy industry. The decline of the heavy industries have meant that there are now no mines in the Rhondda Valleys and the university is in a designated Objective One area which is the highest European grade for economic aid.

The Welsh Office (1998:2) reports that there are major inequalities in health status within Wales and between Wales and other countries. Life expectancy in Wales is
amongst the worst in Europe with three to four years less than the best countries and life expectancy in the South Wales Valleys is about five year less than other parts of Europe. Heart disease is also a major cause of death in Wales and 'consistent poor health is seen in the South Wales Valleys'. Wales also has higher levels of people needing treatment for high blood pressure – the highest being in Merthyr Tydfil in the Head of the South Wales Valleys. The Sports Council for Wales (2002) reports that the highest participation rates in sport by children were in the 'rural north' region and the Valleys in South Wales had the lowest participation rates.

Metcalf (1997) states that only 8% of young people from lower social classes (semi-skilled and unskilled families) and 16% of those from middle social classes (skilled manual and junior non-manual families) enter Higher Education compared to 39% of young people from managerial and professional families. The lowest participation rates in Higher Education in Wales 1998/99 were in the lower social class valley areas of South Wales, Wrexham and Flintshire (Higher Education funding Council for Wales, 2000). Particularly low participation in HE was registered in Blaenau Gwent, Caerphilly and Merthyr Tydfil unitary areas, all of which are between 10-30 minutes drive from the University of Glamorgan.

This does have implications for the university if it is to achieve the targets set by the Welsh Assembly to increase participation by local students in 'lifelong learning'. The university is situated in an economically deprived area with a high percentage of the local population from the lower social classes. However, recent research indicates that the University of Glamorgan was performing above the Wales average in attracting young full time students from low participation neighbourhoods (National Assembly for Wales 2002).

The University of Glamorgan's new initiative to attract young local students to the university does initially appear to be successful. In 2001:
- Of people requesting publications from within the UK, 50% live in the HTV region.
- Of the people from within Wales requesting publications about the university's courses, 90% originated from South Wales.
- The percentage male/female split was 50/50.
- 88% of the applications in 2001 were from 18-21 age group.
- 72% of acceptances for 2001 were from Wales (in 1999 only 61% of acceptances were from Wales). (University of Glamorgan 2002).

The above figures are significant and suggests that the university could become a focal part of the ‘lifelong’ learning strategy of the National Assembly to encourage widening participation and the start of ‘lifelong contacts with students…and an active alumni service’ (National Assembly for Wales 2002:10). As such a high percentage of young people will be experiencing higher education, there is a need for additional research to evaluate if the non-academic ‘lifelong learning’ opportunities – such as physical activity interventions and strategies – offer genuine transferable skills when a young person leaves university. The new strategy of attracting local students to a community university such as the University of Glamorgan could result in the university being used as a ‘resource’ for many years for the local community.

Coalter (1999) emphasises that the impact of higher education on sports participation should not be underestimated and possession of a post-18 educational qualification is a strong predictor of higher levels of lifelong participation in physical activity.

Statement of Aims and Objectives
The aim of this research was to develop an understanding of the influence of the university environment on exercise behaviour, and to increase research knowledge in physical activity in a young adult population. Four research studies were identified which included an observational case study, a longitudinal tracking study,
quantitative studies and qualitative studies. The aims and objectives of each study are listed below.

**Study One**
The purpose of this study was to investigate the physical activity interventions and philosophy at the University of Glamorgan which were designed to positively influence exercise behaviour. The specific objectives were:

1. To investigate the higher education environment and culture at the University of Glamorgan.
2. To identify previous research into student physical activity at the university by the author of this research. (Williams 1993).
3. To identify the strategies and interventions that were promoted at the University of Glamorgan with the aim of changing exercise behaviour.
4. To identify the role of the researcher as Head of Department within the university and his influence on the physical activity programme at the University of Glamorgan.
5. To identify the success of the mass sport programme at the University of Glamorgan.

**Study Two**
The aims of this study were to investigate self-reported exercise behaviour of active third year undergraduate students. The specific objectives were:

1. To examine past and current exercise experiences to include family life, school physical education experiences and university influences on exercise behaviour.
2. To identify if the university environment had influenced current exercise behaviour.
3. To identify if the students had started new activities since starting at university and if these new activities were now part of their regular exercise behaviour.
4. To identify the aspirations of the students for future participation in active recreation once they had left university.
5. To establish if the university environment had been a positive or negative influence on their current exercise behaviour.
6. To track these students over a twelve month period and establish patterns of exercise behaviour change ten months after they had left university.

Study Three
The purpose of this self reported study was to track the students from Study Two ten months after they had graduated from university. The specific objectives were:

1. To establish the patterns of exercise behaviour of the graduates now that they had left University.
2. To investigate if the university environment had been a positive influence on their current exercise behaviour.
3. To identify possible barriers to exercise among young graduates.
4. To identify the graduates' future aspirations and their aims in terms of 'lifelong' participation in a physical activity.

Both Study Two and Study Three included self reported data and qualitative data.

Study Four
The purpose of this self reported study was to investigate the physical activity 'environment' in UK universities and how the university 'experience' might influence exercise behaviour. The specific objectives were:

1. To explore the aims, objectives and philosophies of Sport and Recreation Departments in UK universities. This included background information on the Heads of Department and structural models within specific universities.
2. To investigate the Sport and Recreation environment in universities and the balance in provision between 'mass' sport and 'elite' sport.

3. To identify if Sport and Recreation Departments in universities adopted the 'lifelong learning' philosophy to physical activity.

4. To identify if there were differences in the Sport and Recreation environments between 'old' and 'new' universities to include:
   I. Philosophy of provision
   II. Academic teaching commitments
   III. Provision for elite performers
   IV. Business planning
   V. Relationships with the Athletic Union.

5. To establish whether the Heads of Sport and Recreation in UK universities acknowledged that the encouragement of 'lifelong participation' in physical activity should be one of the aims of a university Sport and Recreation Department.

6. To compare the philosophy of provision and physical activity environments at other UK universities to the University of Glamorgan.

The particular benefits and advantages of this research over previous work on young adults include:

- The detailed assessments of the determinants of physical activity of active third year undergraduate students who had experienced a three year programme designed to encourage 'mass' participation in physical activity.
- The first study in a Welsh university which measures physical activity both during and post university. The study also includes a measure of participation in exercise before the students arrived at university.
- The ability to link the current new exercise behaviour of students/graduates with the influence of the university programme.
The first detailed assessment of the physical activity environment and philosophy of sport and recreation provision at other UK universities.

The first detailed analysis of the positive physical activity intervention strategies that have influenced the exercise behaviour of active undergraduate students in Wales.

Plan of the thesis

The second chapter of this thesis is the first chapter of the literature review. The chapter will examine the historical development of leisure in the United Kingdom and how this has influenced today's leisure orientated society. It will discuss the modern interpretations of both 'leisure' and 'recreation'. The section will examine in detail the specific factors which influence active participation, particularly amongst students. Research suggests that full time students are the most active members of their age group in most leisure activities (Roberts 1997). But the research will also suggest that 'managed' leisure is essential to influence students to participate regularly and to motivate them to continue participating once they have left university.

The chapter will also research the pre-university experiences of students and how these experiences have 'shaped' their current participation patterns. It will specifically examine the school influences and social backgrounds of the students. The research suggests that there is confusion and debate about the school PE programme particularly related to staffing expertise, activities offered, time allocation, the 'role' of PE in schools, facilities in schools and the links with the community. This can affect the motivation and basic knowledge of sport and recreation when students arrive in university. The review will also examine the effect of 'social class' in influencing participation in active recreation. Due to the widening recruitment particularly in 'new' universities, students will come from a range of backgrounds. The research will suggest that although the university 'stage' is positive with new opportunities available to all students, some students may be
‘disadvantaged’ by their lack of opportunities pre-university and this could relate to both their schooling and their social class background.

An additional section will examine in detail the factors that influence female participation in active recreation as many of the traditional ‘barriers’ to active participation are unique to females. 64% of the undergraduates at the University of Glamorgan were females at the time of the research and this compares to only 30% eight year previously. The research suggests that some gender sport arguments and ‘barriers’ to participation do not apply so much for female students or recent female graduates as is the case with older women often researched who are housewives.

The chapter will also specifically look at the university environment and the factors that influence participation. It will consider if there are unique factors which can have a positive influence on undergraduate participation rates. The review will also indicate that the participation levels of undergraduates in active recreation is high in comparison to the general population. But the research will indicate that some policies within some universities could act as barriers to regular participation.

Chapter Three will review models of exercise behaviour and how these theories are specific to student participation levels. The previous sections have concentrated on the various ‘social’ and organisational factors, which influence active participation by students. The author of this research believes that to achieve increased participation there must be a balance between the theoretical models and operational factors in the sports programmes. The research suggests that ‘having fun’ and ‘enjoyment’ are key motivators for students and a balance must be achieved to ensure that the ‘fun’ element is always present in any programme. The research will also suggest that ‘self confidence’ and ‘achievement’ are also essential motivators for students. Chapter Four will detail the research design and methodology.
Chapter Five outlines Study One – an observational case study of the physical activity interventions at University of Glamorgan which were designed to positively influence exercise behaviour. Chapter Six details Study Two; quantitative and qualitative studies of active third year undergraduate students. Chapter seven details Study Three; similar qualitative and quantitative studies of graduates twelve months offer they had completed the undergraduate survey. Chapter Eight outlines the aims, methods, results and discussions of Study Four which will examine the physical activity environments and philosophies of participation at other UK universities.

Chapter Nine presents a summary of the finding from all the studies and links the findings in providing the conclusions to this research.

The author of this research has presented three papers at different conferences which have been as a result of this research:

2. Scottish Universities Physical Education Association (SUPEA). Annual Conference, St. Andrews University, June 2000. ‘Motivating Students to Exercise’.

The thesis will be organised as per the diagram overleaf.
Chapter 2

Environmental and Social Factors which Influence Participation in Recreation and Physical Activity
Conceptualising 'leisure time' and 'recreation'

This section will examine research into the development of leisure in Britain and student participation in leisure activities. Whilst student leisure behaviours are inextricably linked to wider social and cultural process, there is a strong case to be made about the distinctiveness of student leisure experience. For example, the concepts of 'work' and 'leisure' in academic environments raise important conceptual issues. In addition, students are often located on campuses with up to 15,000 other students of similar age, educational attainment and aspirations where facilities are in abundance and free of charge. These students bring their prior experiences with them and these impact on their participation in active physical recreation. As indicated below, students' educational background, parental influence, socio-economic status, gender, peer influence, psychological factors, and the availability of facilities have varying levels of influence on behaviour.

The literature provides diverse approaches to the concepts of 'leisure' and 'recreation'. However, many commentators do seek to define 'leisure' in terms of 'time'. Shivers and DeLisle (1997), for example, offer a broad definition of 'leisure':

"...leisure is free time...whether leisure is used for personal indulgence, expression, creation, or indolence is immaterial; the point is that it is an element of discretionary time, limited only in terms of how it is used or allowed to pass". (Shivers and DeLisle 1997: 94)

Murphy (1987) provided additional characteristics to Shivers and DeLisle' definition. Firstly, he suggests that leisure exists as a state of mind or experiential perspective. Secondly, he offers a holistic definition of leisure and suggests that 'leisure' can be experienced in a wide variety of activities such as, work, play, education and religion. Murphy (1987) views leisure as "a state which is achieved whenever a person is in optimal interaction with the environment".
For Murphy (1987), this “optimal interaction” can happen when:

- the individual is **free from obligation**
- the activity is a **voluntary choice**
- the participation is **pleasurable**
- the activity pursued is **culturally recognised as leisure**.

The holistic approach suggests that the leisure state or experience resides in the individual and not in the activity. The concept of ‘individual experience’ is important to this study, particularly regarding the motivation of students to participate in regular physical activity. Research evidence indicates that the ‘enjoyment factor’ or ‘flow’ described by Murphy (1987) is essential to encourage habitual exercise. There is evidence, for example, that the provision of facilities for leisure opportunities is not sufficient to encourage regular participation. There is a need for highly managed programmes facilitated by experienced instructors to empower students to re-start their active lifestyles at university with new activities. Such programmes aim to make regular activity part of students’ lifestyles. Sivan and Ruskin (2000:1) suggest that “leisure is an important aspect of improving the quality of life and therefore not necessarily a specific ‘activity’”

The world of leisure and recreation has changed substantially in the last twenty years. Glyptis (1993:8) states that in the 1960’s and 1970’s there was optimism that we would experience an ‘age of leisure’ in the 1990’s. However, she does suggest that access to this new ‘age of leisure’ can be constrained for many reasons. For example, the retired may have an abundance of time but perhaps many have declining health, wealth or mobility. Additionally they may not be ‘educated’ to use time for certain types of leisure activities. With regard to young people, she argues that:

“...Demand may be constrained not only by barriers linked with age, gender, class and income but also lack of facilities and opportunities... Young people are eager to establish their independence and individuality, but they are
mainly on low incomes, have low mobility and are cut off from the ready-made recreation provisions and peer groups networks available in school” (Glyptis 1993:6).

This thesis will investigate the extent to which the issues raised by Glyptis (1993) resonate or contrast with student experience in higher education. At many British campuses students have access to excellent low-cost facilities and as such have considerable opportunities to develop active recreation interests.

The term ‘recreation’ has many definitions. Torkildsen (1999), amongst others, suggests that the most widespread and acceptable definition of recreation is that it comprises those activities in which people participate during their leisure time. The nomenclature used by facility providers exemplifies the need for clarification about ‘recreation’. For example, is there a distinction between a publicly owned ‘Recreation Centre’, ‘Leisure Centre’ or ‘Sports Hall’? Does the name indicate a distinctive ethos and atmosphere? Do privately owned facilities share ethos and atmosphere if they use the same descriptors? Recreation is a voluntary activity and it is very much up to the individual how he/she decides to recreate. Some activities many be passive and some may be active, but it is generally accepted that recreation is what an individual does when at leisure. Many factors affect an individual’s choice of recreational activity - for example, income, car ownership, education, sex, age and the amount of leisure time available will greatly affect an individual’s ability to choose their recreation activity. Haywood and Kew (1995) identify six major types of recreational leisure activities:

- Recreations (including sports, arts and countryside recreation).
- Hobbies, crafts and education.
- Tourism and holidays.
- Entertainments.
- Commodities and shopping.
- Gambling and gaming.
Haywood and Kew (1995) draw a distinction between active leisure activities (for example, sports participation, opera society, a pottery class) and passive activities (for example, spectating at a football match or the audience in the opera society). They suggest that the more an activity is characterised by 'active' production than 'passive' consumption, the greater the degree of control by the participants over its process and outcome. It is clear from Haywood and Kew's (1995) suggestion that leisure time can be highly managed and has both 'active' and 'passive' participants. This thesis is very much concerned with 'active' leisure in physical activity and subsequent chapters will examine the need to 'manage' undergraduate's leisure and recreation to encourage high levels of participation.

The 'age of leisure' that Glyptis (1993) argued had arrived in the early 1990's was a result of significant economic and social change. Torkildsen (1999) identified a number of these changes which included the growth of tourism, the growth of the commercial leisure industry and the growing expectations of people for healthier lifestyles, leisure facilities and choices.

This list is not exhaustive. Other factors have had an influence over the last twenty-five years of leisure choices. Changes in patterns of marriage and child-rearing, access to higher education, employment trends and standard of living impact on lifestyle choices. Spink (1994) suggests that the 'location' of leisure in the 1990's was influenced by two main factors; home ownership and access to private cars.

Spink (1994:8) reports that ninety-eight percent of all households own a television and it is perhaps not surprising therefore that 'watching television' dominates leisure time in the home. Spink (1994) notes that watching television averages about 27 hours per week and that there has been an increase of 'domestic leisure' around the home. He notes that spending on leisure accounted for 16% of household expenditure in 1994 and that the increase in wealth and car ownership has also increased leisure activities away from the home. Leisure activities away from home vary according to age. The most common leisure activity outside the
home among adults in 1996 was visiting the pub. For young people aged 16-24 visiting a night club and eating ‘fast food’ were also popular ‘out of home’ leisure activities. However, Roberts (1995) comments that there is a trend in trying to bring some of the ‘away from home’ activities back to the home:

“Participation has declined in most forms of out of home recreation which can be replicated by in-house entertainment...drink, film and sports producers have survived by gearing increasingly to home centred markets...for example live sports is now played to television audiences and commercially successful sports now depend on television coverage”.
(Roberts 1995:12).

**Trends in sports participation as a leisure choice in the 1980's and 1990's.**

The UK experienced a rapid expansion of sports facilities, particularly in indoor sport centres, in the 1970's and this was followed by a doubling of indoor sport participation between 1973 and 1977. Watt (1998) summarises recent trends in sports participation suggesting that analysis done by the GB Sports Council reveals that a number of sports such as snooker and darts are in decline while a significant number of sports such as walking, swimming, cycling and golf are increasing in popularity and participation levels. He also lists additional trends in UK sport:

- The participation levels of men rose from 70% to 73% in the period 1987-1990.
- In the same period participation levels of women rose from 52%-57%.
- There has been a significant increase in participation in fitness and health related areas and sports.
- Activities such as cycling, keep fit and aerobics and walking have seen increases. (It is interesting to note that these are ‘individual’ and not ‘team’ activities).
- There has been a decrease in interest in marathons and road running.
- Countryside and water recreation has seen a significant growth.
- There has been an increase in 'trendy' activities e.g. mountain biking.

What is interesting from these data is the growth in informal and casual sports rather than organised sports such as football, hockey and rugby. This concept of 'mass' participation in informal/casual sport as the popular choice is a central theme to this thesis. Torkildsen (1999) also highlighted the trends in participation in sports and reported a decline in the traditional pub related recreations and in the traditional sport centre activities such as badminton, squash and table tennis. Swimming has remained the most popular sport and it is notable that keep fit/yoga has also increased. Adult participation in sport and recreation has risen steadily over the last twenty-five years. But it is important to realise that sports participation is not the most popular form of recreational activity. Glyptis (1993:5) states;

"Nonetheless, despite the unquestionable scale and significance in social and economic terms, sport remains a minority activity. The leisure activities with mass appeal are still the more informal, social and passive".

The Sports Council for Wales (1998a) set new targets for increasing participation in Wales that included:

- Increasing sports participation by Welsh adults to 60% by 2005.
- Minimising the drop out by young people by increasing participation by 15-24 year olds to 85% by 2005.
- Half the gap between men and women’s participation by 2005.
- Half the gap in sports participation between the highest and lowest participation regions in Wales by 2005. (Participation is lowest in metro Wales and the Valleys).
- Increasing the Sports Club Membership amongst 15-24 year olds to 24%.
‘Leisure time’ and undergraduates

Thus far, this section has detailed the choices available for ‘leisure activities’ in contemporary society. However, on the higher education campus there is a range of activities competing for students’ attention. The challenge is to persuade the student to devote ‘leisure time’ to regular, active participation against the other attractive opportunities for leisure on campus such as the Students Union, library, coffee bars, Sky Sports, free newspapers, socialising with friends, shopping, joining a non-sports society, TV, theatre and so on. Active sport and recreation may not be a priority for students because of the large number of choices available in the typical university leisure environment.

Roberts (1997:153) observes of full-time undergraduates:

“(They) are not the richest, but they are the most active members of their age group in most leisure activities. This is possible partly on account of the free and subsidised recreational facilities that are available in educational establishments, but mainly through students’ capacity to do things cheaply. They not only have the highest levels of interest and rates of participation in politics and high culture which are traditionally associated with Britain’s educational social elites, but manage to equal or exceed contemporaries’ levels of interest and activity in playing sport and listening to music and visiting pubs and clubs”.

Students entering higher education access a distinctive cultural context. The vast majority of the students still come from the traditional route (under twenty years old having gained the relevant examination grades from either school or further education college). On entering university students are encouraged to manage their time and lives and may only need to attend eight or ten hours of lectures/seminars per week. They are also in university for only thirty weeks of the year. To the outsider it could be argued that the student has plenty of ‘leisure time’ if their only ‘work time’ is ten hours of teaching per week! However, the student must then self manage the remainder of his/her time to include, eating, sleeping, assignments, etc. Some students manage to plan their time in a very regimented
way and thus categorise their 'leisure' and 'work' time very accurately. Others tend to have a great deal of 'leisure time' and then cram all the work and assignments shortly before deadlines.

Roberts (1997:157) states that:

"Young people at leisure are constantly forming themselves into groups. Indeed much of their leisure can be construed as a search for a community. For today's young people group membership is not simply 'given' but needs to be sought or created, at sports events and raves, for example. In these milieux the participants can experience intense feelings of belonging".

This suggests the need for highly managed leisure and 'lifestyle' provision within universities. The concept of 'lifestyle' and managed leisure is an important aspect of this study. Entry into higher education can be a major change in a young person's life. For many of them this transition will be their first experience of leaving home, living in a new community with a group of individuals of similar age and education attainment. This new 'lifestyle' and exposure to new initiatives may encourage a more active approach to leisure (participating in fitness/sport) that may be transferred to the next stage of their lifestyle (employment after they have left university).

The Sports Council for Wales (2002:4) states that 'lack of time is more of a barrier to sport and physical recreation than 'cost' and that sport and recreation is competing for time in a fast evolving leisure world.

Trew and Scully (1998) suggest that young people are able to 'find time' for involvement in sport, but that their involvement should not be competing 'head to head' with other activities. They note that young people are able to accommodate 'many life domains simultaneously'.

"Young people both male and female demonstrate a willingness to
clear time for sport, and it is up to the managers of this time to ensure that this willingness is able to be translated into reality”.
Trew and Scully (1998:68)

Roberts (1997:156) also comments on the flexibility of young people’s lifestyles:

“Compared with all other age groups, young people’s leisure is distinguished by the wide range of activities in which they manage to participate. Some display high levels of time management skills”.

This emphasises the needs of the facilitators (Heads of Sport and Recreation in higher education) to promote a programme that is attractive to students and that will encourage lifelong participation. This area is discussed in detail in Chapters Six and Chapter Seven. Talbot (1988a) suggests that the many reasons for non-participation in sport such as lack of time, transport, money, facilities tend not apply at university. The unique lifestyle and ‘leisure’ interpretation means that the student often has enough time to participate in excellent facilities at little cost.

In summary it is clear that there are a variety of definitions for both ‘leisure’ and ‘recreation’ with some researchers suggesting that the leisure state or experience resides in the individual and not in the activity. Additionally, leisure has changed significantly from the 1960’s and 1970’s suggesting that we have now become a more leisure orientated society. In contemporary society there are huge choices for both ‘in home’ and ‘out of home’ leisure activities from both the public and private sectors. The review indicates that participation in active sport and recreation has increased significantly since the 1970’s. However, the realistic time commitment for exercise is relatively low in comparison to other leisure activities such as watching television.
Factors that impact upon active lifestyle choices

This section will examine factors that have the potential to shape decisions about and commitment to active lifestyles. Particular attention is paid to young people's experience before they arrive in higher education.

School influences

All students who enter higher education will have had some form of physical education at both primary and secondary level if they have been educated in the United Kingdom. This could either have been as part of the school programme (curricular) or as part of the after school programme (extra curricular). The introduction of the National Curriculum in England and Wales has formalised schemes of work and levels of attainment for physical education for state schools. The literature reports that pupils have positive and negative experiences of physical education whilst at school. Burton and Kirtley (1990), Reeves (1988), Bracewell and Hall (1983), and Scraton (1996), for example, found that pupils in general did not enjoy the physical education curricular content. Two of the major reasons cited by pupils were: the narrow choice available within the curriculum and the rigid, disciplinarian type delivery of the subject by many teachers. These experiences often discourage continued participation once a pupil has left school.

However, not all contact with physical education in school is aversive. In an earlier study, Williams (1993) found that seventy-five percent of the students surveyed at the University of Glamorgan enjoyed the physical education programme at school. The Sports Council for Wales (1998c) also indicated that most pupils in Wales enjoyed PE and sport in schools. However, the Sports Council for Wales' (1999b:19) survey of Physical Education provision in Primary Schools in Wales concluded that:

"Only 10% of teachers took PE as a specialist option in their initial
training. This is exacerbated by the fact that a large proportion have not received any in-service training. This results in a lack of specialists being available to teach PE. Only 20% (of primary schools) have access to changing rooms, which could affect pupils’ perceptions of PE, especially amongst girls. Overall, a quarter of facilities are rated as ‘fairly poor’ or ‘very poor’ by PE curriculum coordinators”.

The Sports Council for Wales’ (1999c) study on physical education provision in secondary schools highlighted several serious concerns including the reduction in the number of hours per week given to curricular PE and the trend to provide less PE for older pupils. Additionally, the study stressed the seemingly low priority given to PE in year 12 and the low uptake of PE in year 12 and the poor numbers of links between schools and external organisations. The report concludes:

“When one considers the importance of the physical aspects of PE, in terms of the benefits of physical activity, setting the trend for later life, overall health and so on, it would be a more encouraging picture if an increase in physical PE were observed. The current situation raises the question: ‘Is PE out of time and out of resources?’”

Sports Council for Wales (1999c:20)

In 1995, the Sports Council for Wales investigated pupils’ perceptions of sport and physical recreation as their transition from primary to secondary school. The transition from primary to secondary schooling is a huge developmental stage (both physically and emotionally) for young children. The Sports Council (1995) found that;

- The vast majority of children at 11 and 13 enjoyed their sport but that girls were systematically disadvantaged.
- The ethos of Physical Education changed from primary to secondary school. Primary school was ‘fun’ and secondary school was ‘serious’ with emphasis on skills, training and competition. Boys looked forward to this change.
• Winning was more important to teachers, parents and coaches than it was for the children.
• In secondary schools boys liked the idea of correct kit, whereas girls were more concerned about how it made them look.
• Girls perceptions of boys being ‘immature’ and the boys perception of the girls being ‘incompetent’ formed barriers for mixed sport.
• Girls sport is not taken as seriously in the family as in their brothers’.
• With the exception of ‘body maintenance’ activities such as aerobics, both boys and girls saw sport as playing little part in the lives of adult women.

These perceptions indicate that the provision of facilities alone may not encourage participation in a later life. School experiences are crucial and there is evidence to indicate a gender imbalance in the impact of such experiences. A number of commentators below have researched the role and availability of ‘extra curricular’ activities in schools. These activities usually take place on a voluntary basis at either lunchtimes, after school or at weekends. Some activities also take place during the vacations and could include school trips for skiing or outdoor pursuits. Sleap (1998) suggests that large number of pupils play sports outside lessons, but that the frequency of the participation is low.

As extra curricular activities are voluntary there is a need to discover what are the motivating factors for participation. The Sports Council for Wales (1998a) states that the majority of those taking part in extra curricular team sports do so in competitive sport. However, research by Williams (1993) suggested that the desire for competition is not the biggest motivator for students to participate in active recreation. The author reported that 58% of the students surveyed found that competition was either ‘not very important’ or ‘not at all important’ as a motivator. In England, the Sports England (2001a) states that football for boys and netball for girls tend to dominate extra curricular activities. However, when the individuals leave school such activities are not popular with as little as 10% of school leavers participating in traditional team games (Reeves 1988). The Sports Council for Wales (1997) also stated that selection for the team games amongst
primary schools is based on keenness and skill. Football dominates and many schools exclude, for space reasons, other informal sporting activities, particularly for girls and less sporty boys.

Daley and O’Gara (1998) researched the motivation for participation in extra curricular activities in secondary school adolescents. They found that boys and girls participate in extra curricular activities for a variety of intrinsic and extrinsic reasons.

"The issues regarding boys’ and girls’ motives for taking part in sport and exercise are clouded as existing literature appears contradictory. Consequently, physical educationalists may need to consider the type of sport and exercise environments children of differing ages are provided with so that their motives are fulfilled. When children become older, sport and exercise settings which cater for multiple motives perhaps need to be considered and integrated into the general programme of physical education".

Daley and O’Gara (1998:51)

Daley and O’Gara (1998:51) emphasise that meeting individual needs is essential. They suggest that the above strategies;

"...may help with the disappointing exercise and participation figures in children and ultimately contribute to the lifelong involvement of children in after school sport today, as well as after work in the future”.

Penny and Carlson (1999) researched the ‘multiple factors’ that influence the levels and types of participation in young people in Australia. The aim of their research was to provide an insight into young people’s thinking and to inform policy makers keen to attract more young people into sport. Penny and Carlson (1999) found that the main reason for continuing with sport in school (75%) and out of school (84%) was ‘enjoyment’. Additionally ‘staying fit and healthy’ were also key reasons for participation. This area of ‘enjoyment’ is crucial and is detailed later in this thesis in relation to the participation patterns of students in
higher education. Penny and Carlson (1999) conclude that policy makers need to understand what makes participation enjoyable for young people and suggest: a need to develop informality in provision; flexibility in membership and access to junior clubs; more opportunities; and the adoption of the slogan 'Exercise. You only have to take it regularly, not seriously'.

Bass and Cale (1999) surveyed forty-two secondary schools to find out the extent of extra curricular physical activity programmes in schools. They found that extra curricular activities continue to thrive in many schools. However, of concern was the range and focus of the activities offered which were heavily biased towards team sports. Bass and Cale (1999:63) argue that if extra curricular activities are to successfully promote physical activity:

".....then a broad and balanced programme of activities should be provided which caters for the needs and interests of all pupils...(this would entail offering)...not only games and competitive sports but also health enhancing physical activities which pupils are likely to pursue later in life....a broadening of extra-curricular provision requires attitudes to change, and for attitudes to change environments need to be created that will allow such a change”.

In Wales, the Sports Council for Wales (1998c:14) noted:

"There are a number of worrying trends that need to be addressed. The Council believes that a holistic approach to the development of sport and young people is required linking curricular, extra curricular and community activities. However, the focus of the work should be on community developments. It is only through the involvement of young people within clubs and leisure centres that a commitment to sport is likely to be achieved and that increases in participation will occur”.

This is a very important statement and suggests that the provision of school sport, (both as part of the curriculum and extra curricular activities), is not enough to
motivate pupils to continue to participate. It suggests that the activities and/or their delivery of sport within school does not encourage participation after the pupils have finished their schooling. This is an important consideration for the providers of sport and recreation in other sectors such as higher education. It would not be unreasonable to assume that after thirteen years of schooling, where physical education is a core subject on the National Curriculum, that students would have a good basic background in sport and physical activity by the age of eighteen.

Positive influences for influencing participation in physical activity

Williams (1993) asked undergraduates to identify those people who had the most positive influences on them whilst at schools. The data indicated that parents and PE teachers have a strong influence at an early age of sporting participation. The Sports Council for Wales (1997a) also found that parents’ involvement in sport is very important in influencing participation at a primary school age as is the ‘overall sportiness of the family’. In an earlier report the Sports Council for Wales (1988) confirmed that 59% of children who participated in sport had a mother (23%) or father (35%) who was also active in sports. Welsman and Armstrong (1998:145) state;

“It is generally believed that parents influence their children’s physical activity behaviour, with parental modelling seemingly more important, than parental attitudes where behaviours are concerned”.

Williams (1993) indicated that 73% of male and 60% of female HE students enjoyed their PE curriculum whilst at school. With almost 40% of females and a quarter of males disliking the PE programme, it is important to find out why this was so. If universities are to achieve the goal of contributing to ‘lifelong participation’ then it is essential to understand the motives of the participant. The reasons why undergraduates disliked their experience of physical education programmes at school can vary. Williams (1993) found that of those students who
disliked PE, 61% said that their decision was influenced by the poor facilities in their school, such as a very small gymnasium and limited playing fields. Consequently, the programme offered could be very limited, both on a curricular and extra curricular basis. Additionally, 37% of the respondents who disliked PE said that they personally disliked the PE teacher. The Department for Culture, Media and Sport (2002:93) suggests that there are many barriers to participation and new approaches are required to overcome specific issues;

‘Individuals can be discouraged from participation by problems with the supply of sporting opportunities, facilities or coaches’.

Waddington and Malcolm (1997:176) suggest that the National Curriculum is responsible for putting many young people off having an active lifestyle.

“The traditional emphasis which was placed on team games in British schools was never very effective in terms of encouraging the active involvement of more than a small minority of young people in playing sport after they left school”.

But it is also the delivery of the programme, which Waddington and Malcolm (1997:177) believes has a negative effect on pupil’s participation levels;

“The renewed prioritising of sport in the physical education curriculum, together with concern about the low level of physical activity that children experience in PE lessons, has led some teachers to adopt a ‘hard line approach’ which involves increasingly forcing pupils into hard exercise such as arduous cross-country running or fitness testing. If we are genuinely concerned about the health of young people, such an approach should be questioned”.

They comment that it is not surprising that children’s and young people’s perceptions of fitness and health are such that ‘fitness tends to be associated with high levels of performance and uncomfortable physical exertion’. Fitness is often
viewed in relation to sporting achievement rather than relative to everyday life activities. This is an important issue as the perception of ‘physical activity’ for new undergraduates could be as a direct result of their sport and physical education experiences at school. If these have been negative, then there is a role of universities to help students to re-start physical activity within a new environment. Hagger and Cale (1997:157) suggest that fostering positive attitudes towards physical activity in young children’ particularly towards the ‘social, health and personal enjoyment aspects’ is very important. They suggest that:

“The fostering of positive attitudes should be the goal for physical educators and the means by which this can be achieved should be given serious consideration. If this (positive attitude) is achieved, then children may be more encouraged to adopt an active lifestyle and participate in physical activities while young, which may lead to continued participation into adulthood”.

The challenge both at school and university is to make sport a positive and enjoyable pastime for young people. If this is achieved it could preference in a student’s choice of pastimes. Penny and Carlson (1999) researched sports participation patterns in Australian schools both within and outside the curriculum. Data from those students not participating in either curricular or extra curricular sport indicated that 70% of the pupils said they were doing other things they liked doing more than sport, that there was an absence of sports available and that they did not have the time. Penny and Carlson (1999:8) comment:

“The findings that many students were choosing to do other things rather than sports reflects their preferences, but also other demands on their time (such as homework) and shortcomings in present provision of sport provision in terms of accessibility and type of activity offered”.

The Sports Council for Wales (2002:4) comments that;
‘The growth in time spent on computers and the internet, particularly among young people, represents a threat to the time available for sport and physical activity’.

Crucially, Penny and Carlson (1999:7) also researched why other students chose to become involved in sport at school. The results showed that;

“Enjoyment emerged as a key attraction of sport participation. Staying fit and staying healthy were also identified by many young people as very important reasons for participation”.

The ‘enjoyment’ factor (the ‘feel good’ factor) is essential in positive attitudes towards active lifestyles at a young age. Therefore, it is essential that the children want to be involved as there are other demands on their time and the ‘enjoyment’ aspect must be of prime importance. The influence of the coaches/teachers cannot be underestimated and the influence of instructors on undergraduate exercise behaviour is researched in Study Two in Chapter Six.

Evidence of the lack of preparation by schools for pupils to continue active recreation post school is reported in Spaem and Ohmi (1998). The paper debates the standards and quality of physical education and sport in secondary education in Wales. The paper states that there are issues for attention and many schools need to:

- promote the importance of physical fitness and active lifestyles
- provide more opportunities for sixth form students to participate in sporting and recreational opportunities
- improve gender balance and participation rates in extra curricular activities.
Socio-economic factors that impact upon participation

This section will examine the impact of socio-economic factors on participation in active recreation. One of the aims of all educational establishments is to offer equal opportunities to all students to participate in active recreation. However, due to the cosmopolitan nature of universities, students will come from different backgrounds and their social background will initially have influenced their pre-university experiences.

**Social Class**

Jones and Armour (2000) argue that the concept of ‘social class’ represents for some social commentators a series of outdated working/middle/upper class labels that are virtually meaningless. However Adonis and Pollard (1997:68) strongly disagree and state:

"Britain cannot be understood apart from its class system, which separates its people as clinically today as it did half a century ago...barriers between the classes are the same as ever – education, family and occupation (or lack of them)."

Jones and Armour (2000) identify a number of indicators of class location. These include the traditional job-related criteria from Class I which represents professional workers to Class VII which represents unskilled manual workers. Another approach is the Cambridge Scale which aims to put occupations on a continuum of social stratification. Marketing agencies allocate people into 5 groups A-E depending on a wide range of income and lifestyles. The latest classification is the Socioeconomic Classification (SEC) which formed part of the National 2001 Census. It is interesting that even with the 2001 Census the classification of ‘social class’ and the criteria used were still mainly occupation and/or income. Dependent children are generally classified by way of their father’s occupation.
Featherstone (1996), amongst others, cautions against the use of class as an homogenous categorisation. He suggests that within each category of middle or lower class there are gender, ethnic background, and age differences. Thus to determine sports participation on social class is too simplistic. Roberts (1995) stated that ‘connoisseur’ leisure was most common among the middle classes, especially among young people in post-compulsory education and among individuals who are anticipating retirement. Torkildsen (1999:118) comments:

“It is the professional workers who tended to have the highest participation rates in leisure activities and the unskilled workers who had the lowest rates. Particularly striking are the differences in participation levels for outdoor sports over half of the professional workers, falling to under 20% for unskilled workers”.

Jones (1986) in his research found the following historical references to class and participation:

- People from the higher socio-economic background groups not only participated in more recreation activities but also in more active pursuits. (University of Keele data, 1967)
- Fifty four percent of professional workers participated in outdoor sports compared to 14% of unskilled workers. (The General Household survey of 1973, 1977 and 1986).
- Middle class people are much more likely to become members of clubs and associations than working class people. (Roberts, 1980).
- The higher the classes participated in, the wider the variety of leisure pursuits. (Burdge, 1969).
- The most active people in Britain in all major types of structured activity were the highest occupational prestige group. (Clarke, 1956).

This historical analysis is important as it suggests that even before the sports centre boom there was a definite pattern to sports participation related to social class. Torkildsen (1999) suggested that there are a variety of factors that influence
individual participation in active participation. The 'social' circumstances list is quite long and does not necessarily rely on occupation and income (Figure 2.1).

Figure 2.1
Influences on leisure participation

<table>
<thead>
<tr>
<th>Personal</th>
<th>Social and Circumstantial</th>
<th>Opportunity Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Occupation</td>
<td>Resources available</td>
</tr>
<tr>
<td>Stage in life</td>
<td>Income</td>
<td>Facilities</td>
</tr>
<tr>
<td>Gender</td>
<td>Disposable income</td>
<td>Awareness</td>
</tr>
<tr>
<td>Marital status</td>
<td>Material wealth</td>
<td>Reception of opportunities</td>
</tr>
<tr>
<td>Dependants</td>
<td>Car ownership</td>
<td>Recreation services</td>
</tr>
<tr>
<td>Personal obligations</td>
<td>Time available</td>
<td>Distribution of facilities</td>
</tr>
<tr>
<td>Resourcefulness</td>
<td>Duties/obligations</td>
<td>Access</td>
</tr>
<tr>
<td>Leisure receptions</td>
<td>Home/social environment</td>
<td>Transport</td>
</tr>
<tr>
<td>Attitudes and pre-occupations</td>
<td>Friends</td>
<td>Costs before/during/after</td>
</tr>
<tr>
<td>Personality/confidence</td>
<td>Peers</td>
<td>Management policy</td>
</tr>
<tr>
<td>Culture</td>
<td>Social roles</td>
<td>Marketing</td>
</tr>
<tr>
<td>Upbringing</td>
<td>Environmental factors</td>
<td>Programming</td>
</tr>
<tr>
<td>Background</td>
<td>Mass leisure</td>
<td>Social accessibility</td>
</tr>
<tr>
<td></td>
<td>Population factors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural factors</td>
<td></td>
</tr>
</tbody>
</table>

Torkildsen (1999:114)

The above figure will be used later in this research to indicate the different influences on the undergraduates at university and also once they have left university. Young people will inevitably go through different stages in their lives which will include influences at home, university and after they have left university. The above figure will illustrate later in this research that undergraduates are in a positive ‘stage’ in their lives to participate regularly in active recreation. The responses from the graduates who have recently left university will also indicate similar positive influences to encourage participation.
Before a student enters higher education through the traditional school/college route, it is likely that parental influence will have had a major impact on an individual's active participation (Sports Council for Wales 1997a). The social class of the parents is important as it is another pre-university 'experience' which the student will be bringing with them to university and, rather like the school experiences, will have a strong influence on their current and past participation rates in active sport and recreation.

The commitment to sport, in terms of active participation, is higher among non-manual workers than among manual workers Hargreaves (1993). Sleap (1998:97) points out that;

"Surveys of the users of local sports centres strongly confirm the pattern of participation shown in national surveys: statistically non-manual workers are over represented, skilled workers are adequately represented and semi-skilled and unskilled workers are grossly under represented".

It is assumed that the pre-university experiences of most young people would be at home with their parents and therefore the influence of a specific type of social grouping will again mould the lifestyles of the individual before he/she goes to university. A study over twenty years ago by the Sports Council (1981) compared activity levels by people in different social and personal circumstances. One area had more council housing and the other with a higher proportion of owner-occupiers and car owners. The study found that the middle classes were more active with a wider range of activities and also continued throughout their lives. Additionally, there was a difference between the participation of men and women with the latter always enjoying the lower level of participation. This was more prominent in the lower class area. As far as encouragement was concerned the lower class females received the least, and school sport was seen as vital preparation for post school participation. The middle class pupils also had a wider choice at school. Finally, the study indicated that the perceptions of opportunity
are related to all sorts of factors but one of the most important elements for change are the influences of friends and people within their social networks.

The implications of the research were that the social behavioural patterns of children could therefore be transferred to adult lives if their circumstances remain the same. Hargreaves (1995:98) suggests that this is the case as individuals tend to want to pursue their own leisure activities within their own class and that leisure groupings tend to vary. He says:

"There is little mixing between manual and non manual workers and their families...working class people either tend not to join formal organisations or if they do belong to a limited number of organisations of the same type with large memberships...such as the working men's clubs... ...this results in the segregation of working class people from other groups".

The Sports Council for Wales (2001a:12) stated in a major survey on sports participation in Wales:

"There are consistent higher levels of participation for higher levels of social class. This is consistent with the supposition that social deprivation plays an important role in participation. The most important difference to participation could be made by addressing social issues C2, D and E".

C2 – skilled manual workers
DE – semi skilled or unskilled manual workers, apprentices in skilled trades; casual or lowest grade workers; state pensioners or widows.

The Sports Council for Wales (2002:4) also states that ‘social class is a key discriminator of participation – the higher the social class, the higher the level of participation’.
The Welsh Assembly Government (2002:4) also noted that... ‘higher social classes are more active during leisure time than lower groups. The difference is more marked for participation in sport’.

Hargreaves (1995) suggests that school PE has been more suited to middle class pupils than working class pupils and that this is due to a clash of cultures. Working class pupils want to play more adult roles and they reject competition, supervision and the organisation of school sport. They also reject sport because it is associated with school values and school status.

He goes on to say:

“Physical Education and school sport is relatively popular with a section of working class pupils, that is those who, on the whole tend to do better academically and who comply with the achievement norms and values of the school...just as different modes of involvement in sport divide the adult working class, no physical education and school sport divides working class children”. (Hargreaves 1995:175).

This is an important consideration and it may suggest that one of the reasons for higher participation rates amongst students compared with other sections of the population of the same age is because of the preponderence of students with a middle class background together with higher achieving working class students. The participation of working class pupils may depend on their academic achievements, the better the academic achievements, then the better the participation rates. The suggestion is that bright working class pupils who have gained a place in higher education have a higher possibility of continued participation in sport than those working class individuals of the same age who do not enter university. In universities sport is not compulsory as it is in schools. The aim should therefore be to offer a broad range of activities for all students to participate at all levels. The process can still be educational.
Sleap (1998) comments that as schools now compete with one another to attract pupils, team games are once again becoming popular as they offer both good publicity for the schools and they are seen as reflecting the 'good old age and values'. Competitive team games not only are the minority participation sport once pupils leave schools but teams games are predominantly admired by the middle classes. Sleap (1998) states that working class participants are more likely to drop out from sport during youth and adolescence. The major factor was the lack of encouragement and support from their families to play different sports during childhood, while middle class adolescents maintained involvement in sporting activities by effective time management for study, work and leisure activities. This echoes the work of the Sports Council for Wales (1997, 1998) in showing the strong influence of the family in influencing regular participation.

It was suggested earlier in this section that students' social class is very much linked to their parents' social class. Additionally, pre-university students are most influenced by their schooling, peers and family backgrounds. It could also be suggested that students' social class could be suspended whilst they are in university as many are in transition between their parents and their occupations. In a similar way a student's concept of 'leisure time' is also suspended as they are temporarily in a new social group. Students are surrounded by individuals of the same age and similar educational attainment. It could be suggested that the social barriers are not evident within the student structure and this encourages participation as shown in student participation studies by Edie (1991) Williams (1993) and Pook (1995). The aim of the clubs is to integrate the student population by making entry to the clubs very easy and for a minimal amount of money.

However, there are two recent challenges to the possible participation in undergraduate programmes by different class groups. Access to higher education in the United Kingdom since the 1960's meant that any eighteen year old from any social background could attend university if they achieved the appropriate 'A' level grades. Tuition fees were free and a maintenance grant was given by local
authorities. This has now changed with the introduction of academic fees and the elimination of maintenance grants. This could result in only those who can afford it to go to university being able to continue their education. The exception to this might be those students who decide not to leave home but to travel daily to their university. These students will continue to live at home and are unlikely to have their lifestyle changed dramatically by their university experience. It is possible that these 'home based' students will not participate in the sport and recreation programme at university and will continue with their traditional home based leisure activities.

Summary
In the discussion of socio-economic factors and their influence on participation, it has been noted in this section that students' pre-experiences of sport can be influenced by their social background and specifically the 'social class' of their parents. Torkildsen (1999) suggested that there are 'social' influences on active participation and these can change depending on an individual 'stage' in life. Additionally, voluntary organisations tend to attract individuals from similar backgrounds, and that middle class people participate most in these activities. There is also a suggestion that the school PE programme is more suited to middle class pupils. The review concludes that although new sporting opportunities are now available to all students who enter university, some students may be 'disadvantaged' by their lack of opportunities pre-university and this could relate to their social class background.
Women, leisure and participation

Historically women have not had the same opportunities to participate in sport and recreation as men. Patterns of female participation in the United Kingdom have been investigated by a growing number of researchers. Talbot (1979, 1988, 1997), Fletcher (1984), McCrone (1988), Vertinsky (1990), Hargreaves (1994), amongst others, have established a tradition of critical enquiry into female leisure opportunities and choices.

Ferris (1981) countered some of the physiological myths about female participation. She argued that women respond to exercise in much the same way as men and that women gain the same benefits from exercise as men. The de-mythologising of female participation has encouraged involvement in elite sport. This is not to suggest that there are not differences in the human body between men and women and these do have an effect on sporting performance. The body composition, hormonal factors, cardio-respiratory fitness and flexibility of men and women differ. With appropriate training all areas can be developed to improve sporting performance. Researchers have identified a number of social factors to explain why female participation levels in sport and leisure are lower than male participation. Deem's (1986) work suggests that provision for 'leisure' and 'non work' time is unequal between men and women. A decade later, Talbot (1997) research into the participation patterns of hockey and badminton players suggested that it is possible for women to participate in sport with effective time management strategies. Polley (1998:100) suggests that, although great strides may have been made in women's sport, the optimistic signs can be misread:

"It is clear from the evidence that the situation (women's sport) is far from simple. It has not altered radically since 1983, when women claimed that authentic equality of opportunity for women in sport will only come with a genuinely non-sexist education system, an undermining of dominant inferior physical abilities of women, a greater responsibility taken for domestic labour,
more social provision for childcare and more women in positions of influence in sport organisation”.

Deem (1986:19) suggests that, for many women, leisure is a scarce resource and that the concept for women is hard to define but states that:

“It involves time, quality, choice within constraints, pleasure and enjoyment, is personally meaningful and is connected to lifestyles and well being”.

The majority of leisure time for women, as for men, can be categorised according to age, class, income, employment, friendship, lifecycle stages as well as in-home and out-of-home leisure. However Deem (1986) suggests that all the above are not equal and women are often disadvantaged from pursuing certain types of leisure pursuits. In her study of women in Milton Keynes, she found that leisure opportunities were constrained by: male definitions of ‘acceptable’ activities; the working hours of their partners; childcare responsibilities; housework and domestic obligations; disposable income; access to transport; and the availability of close friends to share leisure choices. Talbot (1997) surveyed forty women who regularly played either hockey or badminton every week. Time management was a vital part of most of the women’s planning. Most days were detailed to routines which included morning, afternoon and evening for specific tasks. The research also revealed that many women had some kind of dependency relationship e.g. domination by young children or domestic work. Time slots allocated to do housework by the women who were full time house-workers were different from the women in full time employment. The theme behind all those who played sport on a regular basis was the fact that they were highly organised in time management to cope with demands of home, work, family and leisure choices.

The demands of family, children, housework, employment and in-laws are still quite alien to many students. The typical undergraduate in university is young
(18-24), unmarried and usually does not have dependent children. Therefore it could be suggested that such leisure ‘choices’ as mentioned by Deem (1986) and Talbot (1997) are not that relevant to the young female student. Indeed, there is evidence to suggest that female students participate in more active recreation than males of the general population (Pook 1995, Edie 1991, Williams 1993).

The Women’s Sport Foundation (2001:35) suggests that, although opportunities and legislation may have paved the way for greater equality, in reality there is still some way to go for women to have equal status whether at home, work or leisure. The suggestion is that the roots of girls’ and women’s inequality in sport have been laid in the early years with the choices offered to them:

“They (girls) learn that if they participate in sport they risk being called ‘tomboys’ or being viewed as less feminine or less attractive than other young women”.

This is crucial and often comes from direct influences from teachers, families and other adults who subscribe to ‘gender appropriate behaviour’; and therefore discourages girls from being active. Coakley and White (1992:25) comment:

“Young women were more likely than young men to conclude that sport had little or nothing to do with adulthood for them...becoming a woman, according to the norms they had learned while growing up, usually meant that sport participation was given a low priority in their lives. More relevant to womanhood were activities and relationships through which femininity, in a traditional sense, could be reaffirmed”.

Additionally the religious backgrounds of girls may also prove to be a negative influence on participation. Zaman (1997:65) commented on the perceptions of young Muslim women of physical activity:
“It is clear that a major problem surrounding participation is the ways in which sport, physical activity and physical education are organised and made available and not necessarily the activities themselves”.

Hargreaves (1994) quotes the example of Newham Leisure Centre - a purpose built facility in a predominantly working class area of the East End of London. Three times a week the whole centre is turned over to female only use (including the male changing rooms) to ensure privacy and a variety of activities are specifically timetabled for women and there are regular crèche activities. The scheme has been a success in promoting more active leisure. Hargreaves (1994:223) comments that the most successful community programmes for women are those which make no artificial separation of the sporting and the social. In their surveys of student participation, Edie (1991), Williams (1993) and Pook (1995) also noted the importance of the ‘social’ aspects of participation in sport and leisure. Hargreaves (1994:224) also cites the huge success of the ‘Reebok Running Sisters’ which is a non-facility based jogging club which currently has 7,000 members in the UK. The aim of the group is to;

“Put women in touch with each other, a bit like computer dating, for fitness, fun, friendship and safety in numbers... those who have joined the scheme claim they have benefited in numerous ways - physically, psychologically and socially and the single most significant gain has been the acquisition of new friendships”.

The Sports Council for Wales (2002:8) notes that

‘Exercising in a less formal, less structured and less competitive environment is popular among women and suggests that a socialising need is being met by such and activity’.

The aspect of ‘friendship’ is a core reason for participation at university and will be discussed later in Chapters Five and Six.
Some researchers have found that the single sex teaching of physical education at schools is at the root of the problem of women's non-participation. Edie (1991:63) comments from her study of student participation at Sussex University:

"PT does not allow children to play side by side - it is the last bastion of single sex teaching".

The impact of school experiences on undergraduate patterns of participation are of importance to providers of sport and recreation at university level. Williams (1993) asked female students what they disliked about the physical education programme at school and the results indicated that the school programme, delivery, facilities and showering arrangements were major obstacles to the enjoyment factor of girls in their school physical education programme. There were noticeable differences with the responses of the male students in the same survey. Particular differences between male and female responses were with the shower facilities, programme offered, the influence of friends and dislike of the PE teacher. This links with Scraton's (1996:122) findings into the relationship between PE in secondary schools and young women's sub-cultures. Scraton (1996:122) suggests that the style which PE is delivered in schools can be a negative factor even withstanding the programme offered:

"PE continues to stress discipline, lining up in the changing rooms in silence, entering the gym quietly and responding without question to the rules and regulations of games are an essential part of contemporary PE lessons".

However, Scraton (1996) suggests that there are other cultural reasons why girls lose interest and a possible clash in expectations in a typical Physical Education lesson at secondary school. Physical Education for girls in most secondary schools remains dominated by team games.

"Young women are immersed in a culture of femininity and romance, reinforced through the magazines they read, the television they watch and their
everyday experiences. PE appears incompatible with their expected lifestyle. Sport is seen primarily as a male pursuit bound up with masculine values. Young women spectate support and admire; they do not expect to participate”. Scraton (1996:176).

What is important for the providers of university sport and recreation is that the environment and culture is motivating to the individuals and this usually means not only the physical environment but also the programme offered. This means offering a variety of classes with sympathetic instructors and plenty of enjoyment for the participant. It would be misguided, however, to assume that team games are not a female participation sport once girls have left school. Green (1993) showed that 45,000 women play football every week in Britain. But in different countries, where the cultures and attitudes towards female sport are not so constrained, many more women play regular football. For example, in Norway, a country with a population an eighth of the size of England there were 44,000 registered female players and, significantly, there are more female than male players. Also in Italy, there is a semi-professional league which regularly draw crowds of 20,000. The most impressive figures for female participation are in the USA where there are 3 to 4 million registered players and most of these are college players.

The British Universities Sports Association Handbook (2002/2003) lists 47 sports which are within the competitive structure of the Universities Championships. Sports are open to male and female teams and include team sports that are not normally covered in the national curriculum for girls’ PE such as rugby union football and cricket. However, the culture in such activities is already thriving within universities and due to the three-year cycle of degrees it is very much a ‘rolling’ programme. Therefore the culture of ‘masculine’ and ‘feminine’ gendered activities as discussed by Hargreaves (1994) is not so evident in universities. The fixtures are eagerly contested, the clubs are strong and train regularly and the teams are of good standard.
A study by the Sports Council for Wales (1998b:1) has highlighted and recognised that the style of PE in schools is often negative to many adolescent girls. The publication gives suggestions to PE teachers on how to ensure that the 'enjoyment' factor is emphasised and that this will hopefully result in less girls having a negative view of PE in schools.

"It is essential therefore to consider how PE is presented and delivered to both boys and girls so that attitudes to girls' participation can be changed, rather than enforced".

The study suggests specific areas to consider when planning and delivering activities for girls. These include: the PE environment; curriculum; and extra-curricular activities.

Five years earlier the Sports Council for Wales (1993:17) stated:

"There are important implications for providers of indoor facilities - the numbers of women participating in indoor sport clearly shows that they must be offered genuine programmes of activities for women. Women can no longer be regarded as merely a potential market for filling off-peak space".

This emphasises that 'mass sport' has female appeal particularly for health and fitness. This has been demonstrated in recent years in South Wales where there has been a huge increase in private health and fitness clubs with six major clubs being set up in and around Cardiff. The clubs have an average membership of 2,000 and over 60% of the membership is female. The clubs are specifically aimed at the 'mass sport' ideals and have large swimming pools (one of the biggest female participation activity), jacuzzis, spas, superior changing areas, huge conditioning rooms, quality instructors and a very large area offering beauty treatments.
Talbot (1988a:) suggested that higher education often provides the recreation facilities and opportunities that are not available outside higher education. However, she argued that cultural barriers are often very negative toward encouraging women to participate. Talbot (1988a) suggests that, although many of the constraints that affect non participation are not viable at university (time, transport, cost, facilities etc.), it is the 'social constraints' that are the main barrier for female participation that are often unique in a student culture. These personal constraints include a lack of confidence and skill. Talbot (1988a) argues that the cultural life in higher education can be heavily in favour of the male participant. She also states that historically and socially women can be disadvantaged before arriving at university with regard to sport and active recreation. More recent research and developments in higher education since 1988 suggests that the notion that the 'cultural life in higher education can be heavily in favour of the male participant' could now be questioned. In 1988 many of the structures of higher education were very traditional with only approximately 14% of the population in higher education. There were different institutions ranging from universities, polytechnics and colleges all with specific characteristics.

Wilson (1998) says that the characteristics of higher education are now very different and the university sector now employs 300,000 people (2% of the entire working population). Additionally, the number of 'new' universities now stands at 108 (out of a total number of 160 universities) and a typical student is now a new university student, doing a mixed degree in a vocation area. Finally, women students out number men students 921,000 to 834,000.

Williams (1993) found that 96% of female students responded positively when they were asked if they felt that there were equal opportunities for both male and female groups to participate in sport and recreation at the university. This positive response was also supported by the figures which showed that this 'opportunity' was used by the female participants to participate. Edie (1991) found that the student participation rates at Surrey University were actually higher than research of the general population. This is illustrated by the table overleaf;

55
Table 2.1

Participation rates at the University of Surrey

<table>
<thead>
<tr>
<th></th>
<th>% Male</th>
<th>% Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surrey University 1992</td>
<td>60</td>
<td>68</td>
</tr>
<tr>
<td>Sports Council Survey 1988</td>
<td>59.3</td>
<td>35</td>
</tr>
<tr>
<td>Scottish Lifestyle Survey 1989</td>
<td>57</td>
<td>34</td>
</tr>
<tr>
<td>Active Lifestyles 1991</td>
<td>47</td>
<td>31</td>
</tr>
<tr>
<td>Sports Council Participation</td>
<td>57</td>
<td>45</td>
</tr>
<tr>
<td>Target for 1993</td>
<td>63</td>
<td>45</td>
</tr>
</tbody>
</table>


Pook (1995) also found that although male student participation rates were higher than female student participation rates, the female rates were still high. Edie (1991) found that the female figures were linked to the type of activities which motivated the students. The table below details these activities;

Table 2.2

Types of exercise which motivated students at Surrey University

n=100

<table>
<thead>
<tr>
<th></th>
<th>Independent Exercise</th>
<th>Recreation Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>49%</td>
<td>64%</td>
</tr>
<tr>
<td>Male</td>
<td>59%</td>
<td>55%</td>
</tr>
<tr>
<td>Female</td>
<td>33%</td>
<td>71%</td>
</tr>
<tr>
<td>Overseas</td>
<td>12%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Edie, S. (1991:140)

The data in the above table suggests that females are more likely to participate in an organised programme taken by an instructor, whereas the males are happier to
exercise independently. This is a crucial point in the provision of a university recreation programme if more participation is to be encouraged. However a study by Harris (1993:112) commented on an of HE Institution where there was no formal sport and recreation provision beyond the successful competitive teams:

“Marketing initiatives should be taken to attract those members of the Institute Community who are heavily under represented - staff and students not based at the Cyncoed Centre, women, mature students, disabled and others who have little awareness of either the sport and recreational facilities available.....Customer care and service need attention. The overall impression gained of the existing Institute sport and recreation service is that they satisfy a fraction of the Institute’s population”.

Bracewell and Hall (1983) found that the participation rates of female undergraduates at Sheffield University changed after joining university from secondary schools. The study found that, whilst at university, the women had a voluntary obligation to participate and also had a choice of activities they would like to participate in. The most significant decline was in team games. Additionally, participation at university reflected activities undertaken in the sixth form rather than in the traditional programme up to sixth form. The survey also found that there was a decline in traditional competitive team games requiring a high degree of organisation in favour of participation of a more casual nature involving the minimum of organisation. The Sports Council for Wales (2001a) found that the percentage of men within Sports Club Membership was three times greater than women. This again echoes the findings by Bracewell and Hall (1983) that such a rigid structure of Club Membership is not attractive to potential female participants. Burton and Kirtley (1990) discovered a simple formula for attracting thirteen to sixteen year old girls to fitness activities. The simple formula was that the following criteria had to be met:

- Music
- Aerobics - simple classes
Instructors - who looked the part and also related to the girls.

Coalter (1999:31) suggests that the importance of the keep fit/yoga/ aerobics/dance exercise for women post school cannot be over-emphasised as it accounts for a large proportion of the increase in female participation. But, crucially, it also replaces other activities that are not as enjoyable.

"In terms of more traditional sport participation, it is likely that the rise in keep fit/aerobics has involved a displacement from other activities. For example, it has been paralleled by a decline in jogging, badminton, squash and outdoor sports".

Summary
This review has also demonstrated that there is a substantial amount of critical research into gendered sport and recreation demonstrating that social and cultural factors constrained leisure opportunities for women and girls. However, many of these constraints do not appear to apply to female students without children. Additionally, the provision of school sport is not very motivating for many pupils, particularly girls. The review suggests that the types of activities to motivate female students include health and fitness activities, which are instructor led, involve music and that are easy to follow. The Sports Council for Wales (2002:4) report that 'the more popular activities among females are those which promote general fitness and well-being in a less structured environment'. Team games are not popular with the majority of female undergraduates and the research indicates high participation rates for female undergraduates may be achieved if the programme offered is motivating and focussed towards the female market. Of course, there is substantial research that has investigated the sociology of the body (Scott and Smith 1993; Blake 1996; Grogan 1999; Featherstone 2000) though this is not directly relevant to this thesis.
Students' Environment

As discussed above students find themselves in a unique environment where 'time', 'work' and 'leisure' are often suspended whilst they are at university. This section will specifically look at the university environment and the factors that influence physical activity. Students are surrounded by a population of much the same age as themselves who have gained similar academic success to continue their studies. They will also be mixing in a different environment with new challenges (academic work, living away from home) as well as being exposed to different cultures if they have become resident in their new university. Their pre-university experiences may well have been dominated by parental/school influences. Additionally, most universities have an abundance of excellent sporting facilities which are often free or highly subsidised. Facilities are often sited on one Campus or free transport is provided. Talbot (1988a) suggested that students are therefore not exposed to many of the constraints of the usual factors which limit sports participation such as income, car ownership, availability of time, availability of facilities etc. Additionally the majority of students are young and do not have dependent families which also can be seen as a barrier to regular sports participation. (Sports Council for Wales 1991).

However, the concept of student lifestyles being 'suspended' whilst at university with regard to their concept of time, work and social class parallels (but does not cause) their absence from national policies regarding promotion of active participation in sport and recreation. Higher education now caters for over 40% of all 18-21 year olds and is set to increase. It was demonstrated by the Sports Council for Wales (2001a) that participation after leaving school is one of the major drop off areas in sport. The Sports Council for Wales' (1999a) report identified fifteen to twenty four year olds as the secondary strategic target group to increase participation. Most undergraduates are within this age group, but were not identified in the report. More recently Talbot (1997a) comments;
“The current Sports Council policy on young people and sport defines ‘young people’ as aged 5-18 and appears to ignore, even with this large ‘captive audience’ within Universities, the opportunities offered for performance planning and development......There appears to be a major opportunity lost here”.

Similarly the initial stance taken by the Lottery Sports Unit on capital funding does not prioritise university participation with schools offered the possibility of 80% grants and the universities 65%. Talbot (1997a:7) comments;

“Universities and Colleges seem again to be victims of their own success, since in increasing the percentage of young people in Higher Education, they have actually reduced their capacity to provide, and likelihood of providing, for young people who are not in Higher Education”.

Due to the fact that undergraduates have not specifically been targeted by national agencies such as the Sports Council for Wales, very little detailed research is available on student sport participation within the United Kingdom. With over 50% of young people targeted to experience higher education this is a growing population. The majority of the detailed research has been done as research degrees together with papers presented to national conferences. This review of current research will focus on the core theme of this research - does the ‘experience’ or ‘re-education’ of sport and recreation at University act as a catalyst for this young age group and do they continue with this new active lifestyle once they have left University? Pook (1995:19) comments on research at Cardiff University:

“The rationale for sport and physical education provision within Higher Education is clear; the effects of school physical education are limited and personal development (at University) must incorporate themes of health education and habitual physical activity”.

60
It is important to understand what motivates students to participate and the reasons why they do not participate. The programme offered must be attractive to the students and must be ‘customer led’. If the programme is to be customer led there needs to be a philosophy where by the needs of the customers (students) are met. The approach by the university in terms of catering for the elite performer to the beginner must concentrate on the current needs of the individual and not necessarily on their past experiences. Edie (1991) said that her research at Surrey University found that there was a change in emphasis from traditional organised competitive sport “toward independent pursuit for the benefit of health and fitness”.

Reeves (1988:3) is scathing of the school programme within the United Kingdom and states;

“...The health, exercise and fitness movement has not come through physical education. For years we have failed to proclaim our (Universities) special and unique role. Still today two thirds of secondary school Physical Education time is devoted to games, yet we know that over 80% of school leavers have stopped playing games within three years of leaving school. If our curriculum has been aimed at lifelong participation in physical activity, it has been a failure”.

University experiences need not be a continuation of the team led programmes in schools if lifelong participation is to be achieved. To re-establish active participation, a new approach is required as this stage in an individual’s ‘life time’ is crucial for potential future activity. Campbell (1988) suggested that the vast majority of youth and adult groups coming into sport later in life may require a radically different approach. The vast majority of people may not necessarily be motivated by the sports itself but rather by the chance to meet others, to relax, to get fit and to have fun.

Additionally, the Sports Council for Wales (2001b:4) comments;
“it is widely accepted...that if people are introduced to sport early in their lives, then they will continue to participate later in life.”

Provision of Sport and Recreation Within UK Higher Education

Most universities within the UK have a similar structure for the provision of sport and recreation and this structure is partly historical and could well have been in place for well over fifty years. The provision is usually divided between the university through a Sport and Recreation Department and also via a Students Union through the Athletic Union.

The Sport and Recreation Department in a university is not necessarily related to any Academic Department and the universities do not need to provide any sports related courses. The Sport and Recreation Department is usually led by a graduate in sport with experience of both teaching and management. A typical Department would have responsibilities for the management of University facilities, teaching and coaching in appropriate areas and the delivery of a physical recreation programme for students and staff. This is an all embracing role and in some universities it could include responsibility for fifty plus staff, five leisure centres, swimming pools, golf courses, sailing centres, mountain centres, athletic tracks as well as outdoor pitches of 50+ acres. The extensive physical recreation programme in universities may include forty or fifty classes per week, coaching courses, competitions, fitness testing and coaching awards for students. The structure could be summarised overleaf.
A University's Sport and Physical Recreation Department effectively controls the provision of the facilities and programmes. The financial turnover of a Sport and Recreation Department could be in excess of £1m per annum. All universities are grouped together under the professional body of UCS – University and Colleges Sport.

The Students Union, in most institutions of higher education, provides the focal point for all students both politically and socially. This includes the provision of clubs and societies within the university, one such area is the sporting clubs. This is usually grouped under the heading of ‘Athletic Union’ and organises competitive team games against rival universities. These fixtures usually take place on Wednesday afternoons and the student teams train during the week and in the evenings. In effect the Athletic Union is one of the ‘user groups’ of the university facilities and has to hire/book the facilities from the university to organise the teams. The Athletic Union is usually run by a Permanent Secretary and also a Sabbatical Officer - both of which are usually not P.E./Sports Graduates and the Sabbatical Officer will have very little or no experience of organising sport. Occasionally, staff from the university may be invited to coach the teams which results in better organisation and a professional approach, but on the whole the Athletic Unions are autonomous and organise their own coaches, referees and officials.
The lack of expertise by the Athletic Union often results in a poor structure and disorganisation. Hudson (1995:38) comments;

"...In this country the vast majority of student clubs are run by students for the benefit of recreational sportsmen and women and, although there are sound educational arguments for autonomous students clubs, they are frequently providing a service for high level performers. Such a system if continued is likely to result in a further reduction in standards of student sport".

The Athletic Unions are affiliated to a parent body British Universities Sports Association (BUSA) - and all competitive games are organised through the regional BUSA structure. Lemons (1998) questions whether the Students Unions under the BUSA organisation can actually cope with organising such fixtures which have grown significantly over the last four years. BUSA has become the top provider of competitive sport opportunities but the article comments;

"...such is the growth of the University sport that it is beginning to present problems for BUSA and more importantly the funding for the 43 sports which it represents". (Lemons 1998:16).

"The concept of BUSA is excellent, but the question being asked is whether they are the people to organise sport at the highest level". (Reeves 1998:16).

The competitive team format and the lack of expertise within the Athletic Union can often lead to a very poor service as mentioned by Hudson (1995). Llewelyn (1978) suggests that the problem is not new, but a recurring problem that will reappear within the current structure;

"There is a vast void existing on the sporting and recreational scene...the Students Union (Athletic Union) misguided and uninformed distribution of
financial assistance...complete apathy rules... communication is pathetic if not impossible, pigeon holes do no operate in anything under two weeks, the internal post is regularly inefficient and poster blindness is of epidemic proportions”.

In UWIC (University of Wales Institute Cardiff) - which is one of the United Kingdom’s top Physical Education Colleges, Harris (1993:113) indicated a problem:

“The major criticism is lack of management and co-ordination of sport and recreation services...the overall impression gained of the existing sport and recreation service is that they satisfy a fraction of the Institute population...the management demarcation lines between the Faculty of Education and Students Union appears confused.’’

Edie (1991) also found that ‘cliques’ were often apparent in many sports clubs, particularly among the competitive teams and this discouraged participation. The Athletic Union often has the monopoly of booking times of the sport prime time facilities and it is not unusual for all facilities to be booked out to the Athletic Union between 5:00pm-10:00pm each evening. The irony is that, although the teams are high profile, they only cater for those interested in competitive sport i.e. the minority of individuals. This balance between providing the majority of the facilities for the minority of individuals (the competitive teams) is an ongoing debate within most University Sport and Recreation Departments and Athletic Unions. Some universities allocate the majority of facilities to elite teams. (e.g. Bath, UWIC).

The Athletic Union is not the main providers of opportunities for sport and recreation at universities through their competitive structure, but they do enjoy the majority of the facilities. Edie (1991:167) commented;

“Despite the pressure from student bodies, the space and opportunities should be made available for those with no political voice (i.e. the casual
recreational user). The needs of the elite performer (Athletic Union teams) should be balanced with those who wish to exercise casually or who are just embarking on the stairway to life and fitness”.

This again does not appear to be an isolated area as Harris (1993:101) comments at UWIC;

“There is a well organised student structure that produces opportunities for team and individual participation, for example, rugby, football, badminton, hockey, netball and tennis. Whilst in others there is no such organisation, particularly for staff and students who do not belong to clubs and societies or who choose not to take part in sports”.

Those universities which have closer links in terms of university staff for coaching/organising/control of the Union teams have a better success rate of developing the competitive teams. This reduces the chances of the ‘ineffective and inefficient’ systems mentioned by Hudson (1995) ‘apathy’ Llewelyn (1978), ‘cliques’ Edie (1991) and ‘disorganisation’ Pook (1995) which seems inherent in many Athletic Unions. In reality it is absurd to think that a single non sports sabbatical officer from the Students Union (who was elected on their popularity not expertise) will be able to run a large competitive team structure without the help and expertise of professional staff. Pook (1995:44), comments:

“The author is concerned with the inherent authority of the annually elected Athletic Union Officer. The officer has no knowledge of sport and recreation provision, little or no expertise of operational management and once elected has a budget of £150,000”.

The assistance of the professional staff at a University Sport and Recreation Department could prove invaluable, but the autonomous nature of Student Unions often makes a difficult partnership. Probably the best ‘top down control’ by the universities is within university/colleges where physical education/sport is studied
as a curriculum subject. In such universities there is an abundance of professional staff who have traditionally coached the teams. The teams are well organised, successful and often ‘educational’ in that the students will improve throughout their time at the university.

Pook (1995) comments that the Athletic Union structure at Cardiff University - not necessarily of the personalities who are elected - can have a huge negative impact on sport at the university as it does not meet the needs of the student population.

"The Athletic Union structure forms an institutional barrier to exercise participation as they dominate the University sports facilities and pay little attention to beginners or intermediates. The facility allocation to the Athletic Union Clubs is biased towards the elite competitors who wish to use the facilities on a recreational basis. The needs of the University are not being met in terms of facility provision". (Pook 1995:129).

The growth in student numbers has not always been met with a proportionate increase in facilities. This does not provide more opportunities for students, but certainly does provide challenges for the providers of sport and recreation. Talbot (1997:3) comments;

"The challenges of devoting sufficient resources to protect and nurture excellence (Athletic Union teams) whilst continuing to meet the needs of many, is one which is shared by both Universities and sports organisations - they are in a sense victims of their own success in taking education and sport to a wider larger audience".

There is a demand for both competitive, elitist sport and recreational activities in all universities. Therefore, universities should have a philosophy that embraces a ‘sport for all’ policy which will act as a motivator for all groups to participate. However, it is important to realise that the high profile competitive teams are not the vehicles for promoting participation in ‘mass sport’ either during or post university. Bacon (1982) argued that many students in European countries
appeared to have lost interest in top competitive sport because of the ‘win at all costs’ philosophy and the changing lifestyles of the students.

‘Mass’ Sport

Bacon (1982) suggested that the new motivation was in ‘mass sport’. He stated that it was often very difficult specifically to point out the differences between ‘mass sport’ and top competitive sport. He suggested that in mass sport the basic elements of training, coaching, rules and results have different values than they do in competitive sport. The term ‘mass sport’ covers almost all levels of sport with varying degrees of importance attached to the element of competition. Vos and Verhoeven (1982) aimed to promote ‘mass sport’ in favour of the highly competitive student sport.

Figure 2.2

The play/sport continuum

Play | Recreation or Mass Sport | Games | Sport

University of Nijmegen, Netherlands (1982)

This is an important notion as it suggests that students may ‘drop out’ because the activities are too competitive (Reeves 1988) or that the curriculum is uninspiring (Bracewell and Hall 1983).
Biersteker (1982) found that there were a variety of reasons why female students participated in sport:

1. Enjoyment
2. Improve or maintain physical condition
3. Overweight
4. Better Health
5. Meet Others
6. Satisfaction from achievement
7. Excitement from competition

Again it can be seen that the competitive element of elitist sport is not the main incentive. Biersteker (1982) suggests that Dutch active participants can be divided up and illustrated by the diagram below;

**Figure 2.3**

**Active participants in Holland (1982)**

Biersteker (1982) found that Dutch students were found mostly in 'Recreational Sport'. This is a very important concept and would therefore be crucial in the programming of both facilities and schemes to encourage 'mass sport' within any higher education establishment.
Studies by Edie (1991) at Surrey University, Harris (1993) at UWIC, Williams (1993) at Glamorgan University and Pook (1995) at Cardiff University show that this balance between ‘mass’ provision and elite teams is a common theme. The elite teams often feel that although they currently have the majority of facilities at their disposal, they want even more facilities on a weekly basis. The dilemma is that the elite teams require even more space if they are to improve and if there are not additional facilities available this could again be at the expense of the recreational user. Which groups should have priority? Which has more value? Which encourages more participants? Which derives the most income? These questions are typical of the facility provider who must balance all needs and interested parties before making decisions.

**Student recreational planning**

Brown (1998) suggests that the provision of recreation programmes is now more important as students and their parents become more consumer orientated in their search for a undergraduate institution with the best facilities, programmes and services. This has been a reality in the USA for many years. As the United Kingdom has now introduced tuition fees, institutions are now competing for students and there have been huge improvements on campuses to offer attractive surroundings and opportunities for students. The table overleaf gives examples of growth and funding for sporting facilities in the last few years at a sample of universities.
Table 2.4

Funding of sports facilities at UK Universities (1997-2002)

<table>
<thead>
<tr>
<th>University</th>
<th>Facilities</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Bath</td>
<td>• 50m pool</td>
<td>£12m</td>
</tr>
<tr>
<td></td>
<td>• Athletics track</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Indoor tennis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• All weather surface</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Indoor tennis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• x 2 Athletics tracks</td>
<td></td>
</tr>
<tr>
<td>UWIC</td>
<td>• Indoor Athletics Facilities</td>
<td>£7m</td>
</tr>
<tr>
<td>University of Glamorgan</td>
<td>• Sports hall extension</td>
<td>£1m</td>
</tr>
<tr>
<td></td>
<td>• New all weather pitch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pitch drainage</td>
<td></td>
</tr>
<tr>
<td>University of Wales, Bangor</td>
<td>• Sports hall</td>
<td>£2m</td>
</tr>
<tr>
<td></td>
<td>• Indoor tennis</td>
<td></td>
</tr>
<tr>
<td>University of Wales, Swansea</td>
<td>• 50m National Pool</td>
<td>£10m</td>
</tr>
<tr>
<td>University of East Anglia</td>
<td>• New sports village</td>
<td>£14m</td>
</tr>
</tbody>
</table>

Some of the above initiatives have been developed in partnership with local authorities and the national lottery as ‘community’ facilities. It is now accepted that universities have to share their often extensive facilities with the community, if only to generate additional income for the university. Brown (1998) suggests that there will be dramatic change in education with ‘distance learning’ becoming far more popular. This could mean that students would not need to visit campuses. Additionally flexible working and study patterns are now becoming the norm and this could seriously affect the traditional recreational programmes within the university:

"To accommodate flexible work schedules predicted that by the year 2000, 24 hour campus recreation facilities may be common. Many campuses are using 16-17 hour operating schedules with ice-rinks pushing opening times into the early hours. Traditionally, students are taking more than the traditional four years to complete college due to the numerous part time jobs and having to pay for their rising costs. Campus recreation managers must understand these societal changes and plan their programs and facilities around the campus community. This will assist the University in attracting and retaining students, faculty, and staff because of the increased services offered". (Brown 1998:151).
This prediction does have similarities with the current situation in the United Kingdom. But the characteristics of ‘flexible work schemes’, ‘tuition costs’, ‘campus community’, ‘attracting and retaining students’ are buzz words in United Kingdom universities at present and new approaches are required to meet the challenges of huge student numbers and dwindling resources. Brown (1998:151) also states that in the USA:

"...Many campuses have seen a decrease in participation in traditional intramural programmes and have had difficulty in attracting female participants. In the 21st century campus recreation will have to compete for the students leisure time, and activities will have to be entertaining”.

This again is crucial to the understanding of the provision of student recreation. As discussed in the above section recreation is what individuals do in their leisure time. There is a huge demand for this ‘leisure time’, particularly with many students now having to work to pay for their fees through university. The programmes must meet the demands of the students - there must be consumer led programmes with quality programmes and facilities to attract return participants. Mull et al (1997:20) state that it is important that detailed analysis is considered before the design of a recreation programme and suggest that one of the ways of doing this is to look at the different stages of an individual’s life and this is done by categorising specific ages. He suggests that:

"...Each set of characteristics, describing the growth, development and behaviour....involve physical, mental, personality and social parameters....You can apply participant characteristics to program design and delivery”.

This is illustrated by the table overleaf.
Figure 2.5

Developmental Characteristics of the Five Age Groups

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Physical</th>
<th>Mental</th>
<th>Personality</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescence 13-19</td>
<td>Rapid growth, awkwardness Marked muscular growth Stocky appearance Lung capacity increases Onset of sexual maturity Sebaceous glands cause acne Vocal changes Improvement in strength, reaction, and coordination ability</td>
<td>Mental perspective in past, present and future Use of symbols, system coordination, factors in problem solving Meaning of words in ideals and absolutes Inductive and deductive reasoning Can explain phenomena They think they are unique</td>
<td>Re-examine old values and experiment Stable self-concept Flex in general behaviour What is right or moral, independent of expectations Possible premature acceptance of values in society</td>
<td>Peer group placement Social with both sexes Intimacy and norms Peer is testing ground Sharing of thoughts and feelings Compare values with popularity Look to adults for role models</td>
</tr>
</tbody>
</table>

Programming implications: Immense intensity of sport experiences and recognition of leadership development opportunities.

| Early Adulthood 20-39 | Full height 21 years. Peak muscles 25 to 30 Vision declines Reaction time stable Maximum physical potential Settling vertebrae Brain weight maximum Ageing not uniform | Intellectual skills stable Ability for concepts declining gradually Format reasoning improves. | Is more defined Secure self-concept Absorption in interests Realistic perspective Sex roles affect competence Integration of self with roles within society | Open and honest Less self-centred Occupied with career, family, community involvement Expand social relationships |

Programming implications: Increased attention to programming sport for safety and time considerations. New learning experiences can occur, and greater responsibility is assumed by the participants.

| Middle Adulthood 40-65 | Greying hair Gain weight Reaction time slows Sensory function loss Change in sensory functions Moving functions declines Menopause occurs Chronic illnesses prevalent | Brain physiology decreases Peek productively and creativity Intelligence and cognitive skills | Stable self-concept Renewed self-awareness Psychological conflict Focus on ego maturity | Peak time for involvement Position of leadership pursued Responsible for support of child and parents Time for rest and interests once child leaves home Becoming grandparents |

Programming implications: Ongoing fitness needs apparent. Greater care in the physiological aspects of programming as chance of injury increases.

Mull et al (1997:22)
This figure can be directly linked to this research. A typical ‘new’ university in the United Kingdom may have 10,000 + students and over 1,000 staff. The majority of the students would be in the 20-39 age group. It is also important that the pre-university ‘Development Characteristics’ are understood in the planning process. Typically in the UK this would mean school experiences prior to starting university. Mull et al (1997:20) suggest that it is a responsibility of the recreational sports specialist to take into account the impact of the sport experience on the participants and volunteers.

“...Recreation sport programmes need this insight to design programmes to fit a particular life stage and enhance its development. Using college students as an example, Bryant and Bradley (1993) refer to some key developmental tasks college students experience, such as adapting, coping and learning the new culture of a campus experience”

They add that the concept of developmental approach to recreational programming is not new:

“Since the beginning of organised Physical Education, recreation and intramural sport programs, practitioners and educators have claimed that participation in sport contributes to emotional, social, mental and physical development”. Mull et al (1997:20)

However, as discussed in an earlier section of this thesis some of the ‘development’ via Physical Education in schools (i.e. pre-university) can be negative. Therefore the aim of a University Recreation Department must be to promote more participation by offering wider opportunity and by making sure that there is a match between the expectations of the students and the programme offered.
University recreational sport models

One of the aims of this research highlighted in the Introduction has been to investigate whether the sport and recreation opportunities at university have had a positive or negative influence on the participation rates once students had left university. To achieve increased participation there must be a balance between the theoretical models and operational factors in the sports programme. If the sports programmes are attractive to students, the graduates are likely to continue with similar activities once they have left university. Mull et al (1997) suggest that there is a definite 'hierarchy of recreational sport' and that the participation numbers are dependent on the level of sport. The widest range of participation is in the recreational/educational area and participation decreases in magnitude as one proceeds up the hierarchy to professional sport. The following figure illustrates their theory:

Figure 2.6
Leisure Sport Management Model

![Leisure Sport Management Model](image)

Although the above model is similar to the earlier model by Biersteker (1982), Mull et al (1997) say that the above model can be further split to specifically illustrate recreational provision. They suggest that the ‘Recreational Sport’/‘Educational Sport’ sections in Figure 2.6 can be subdivided into five section illustrated in Figure 2.7.

Figure 2.7
Recreational Sport Spectrum

![Recreational Sport Spectrum Diagram]

Mull et al (1997:7)

Although relating to the American system Figure 2.7 is very similar to the recreational sport which is currently offered at many universities within the United Kingdom.

‘Instructional Sport’ provides learning opportunities to take a new sport/activity or further develop certain skills e.g. Beginners Climbing, Improvers Squash. ‘Informal Sport’ involves a process of self directed participation. This is usually for fun and with no particular predetermined goals., e.g. health and fitness classes, ‘pay as you play’ activities or casual squash. The ‘Intra Mural Sport’ consists of structured contests usually between Halls of Residence, Departments and is usually limited ‘in house’. Such activities are usually organised by the staff and are available at a variety of levels. There is usually minimum organisation required by the participant and all activities are located at convenient locations.
The 'Extra Mural Sport' is an extension of the above and may include competitions against other universities, but only on a casual basis. It may involve competitions over a particular weekend such as 5-a-side competition. Finally, 'Club Sport' at university level is usually run by the Students Union that may administer up to 40 sports clubs. Regular matches are played, usually on a league or knockout basis and most games are highly competitive.

However, Mull et al (1997) also suggests that different age groups will be motivated to participate in the different categories in their 'hierarchy of recreation sport'. This is an important point for the facilitators of sport and recreation within universities. This is illustrated by the following table:
Table 2.8

**Sport Participation by Age Groups**

<table>
<thead>
<tr>
<th>Participant Group</th>
<th>Age</th>
<th>Instructional</th>
<th>Informal</th>
<th>Intramural</th>
<th>Extramural</th>
<th>Club</th>
<th>Athletic</th>
<th>Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Junior varsity</td>
<td>Minor</td>
</tr>
<tr>
<td>Children</td>
<td>Birth-5</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Youth</td>
<td>6-7</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>8-10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>11-12</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Adolescents</td>
<td>13-14</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>15-17</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>18-19</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Adults</td>
<td>20-30</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>31-45</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>46-65</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Seniors</td>
<td>65-75</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>76+</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mull et al (1997:13)
Based on the preceding table, the majority of university undergraduates would either be in the 'adolescent' or 'adults' group. There are characteristics of each group which will affect their participation. For example, at university the adolescents will be experiencing a complex period of development including living in a new environment. Additionally any 'non athletes' in school may have been discriminated against because of their physical abilities or lack of interest in sport.

This area is crucial for the understanding of university recreational sport. As previously documented competitive team games are a minority sport once individuals have left school. The opportunity to 'new start' an active recreation in university is important and there is a huge demand for 'taster', beginner and induction programmes with first year students at university. Williams (1993) found that 58% of first year students had started a new activity whilst at university and Stephenson (1990) found that a new Recreational Programme at Aberystwyth University consisting of five selective activities attracted 300-400 students per week.

It is also important to understand the characteristics of the 'adults' (ages 20-30) in Table 2.4 Mull et al (1997) suggest that young adults have the most flexibility in choosing and evaluating their recreational experience. The degree of involvement is very much up to them and that sport interests can be well established within this age group. The above theoretical models are important as the 19+ age group still provides the bulk of the undergraduates in the United Kingdom. This age group can make up their own minds on participation and the philosophy of use must be correct to produce a balanced approach to the opportunities available. For example, some classes could be instructor led, whilst the competitive programmes could be an intra mural programme.

Mull et al (1997) suggest that there is also a 'Progression of Sport' which includes the 'School Model', 'Community Model' and 'Recreational Sport Model'. This is illustrated in Figure 2.8. The final progression of the 'Recreational Sport Model'
almost exactly matches the philosophy of most United Kingdom universities. It is important for facilitators of sport and recreation within universities to understand that the most participation is at the base of the triangle and the least numbers in the Club Sport section.

Figure 2.9
Progression of Sport

Mull et al (1997:15)

The unique culture within universities of usually having an abundance of 'facilities' and 'young people' together with the opportunities to be 'introduced to many sports' could produce a winning formula to result in more participation. Coalter (1999) emphasises that the impact of higher education on sports
participation should not be underestimated and states that if a wide range of recreational/sporting activities are provided then this will increase the number of pupils who will find some sport which they enjoy and to which they will develop a degree of competence.

- Possession of a post-18 educational qualification is a strong predictor of higher levels of life-long participation.
- Those with a degree/diploma have a higher participation rate in both hall/pitch sports. For individualised sports there is an even higher participation rate.
- The expansion and diversification of sports participation and increases in women's participation have been paralleled by similar shifts in access to higher education.
- The 'delaying of adulthood' and its associated work and family constraints (particularly for women) means they are more able to establish an active adult lifestyle.

(Coalter 1999:35)

In summary, the student experience in university can be a positive environment with the abundance of facilities, students of the same age, motivating programmes and the 'leisure' time available for participation. However, 'motivating programmes' are not similar programmes to the school experiences of most undergraduates. A new approach is often required with emphasis on opportunities to relax, meet other and have fun. The provision of sport and recreation in UK universities is usually divided between the University Sport and Recreation Department and the Students Union. The Students Union may not have sufficient expertise to deliver a motivating sports programme. Facility providers in universities often have to balance the programme to meet the needs of elite and 'mass' participation groups and this can cause conflict. To achieve increased participation there must be a balance between theoretical models and operational factors in the sports programme. However, the unique culture within universities of excellent facilities, young people and new physical activity opportunities should result in more participation.
CHAPTER 3

Theories and Models on Physical Activity Participation
Theories and models on physical activity participation

Much of what is known about exercise behaviour drives from social psychological quantitative studies. Psychological theories, in combination with an understanding of the epidemiology of physical activity, can assist in the development of effective interventions to increase participation in physical activity (King et al 1992).

There are many different theories and techniques for promoting physical activity behaviours but not one theory that thoroughly explains activity or exercise behaviour or the confirmation of how to intervene. Exercise psychology has borrowed theories of behaviour change from social cognitive and health psychology. These theories are then adapted to exercise application (Mutrie and Woods 2002). There has been progress regarding the understanding of exercise behaviour from a theoretical perspective and this assists physical activity promoters in the design of interventions (Dishman 1994). Godin (1994:132) states that although various different approaches have had some success in promoting exercise behaviour, the choice of an “optimal tactic must ultimately be based on an understanding of the factors underlying exercise behaviour in each situation”.

The purpose here is not to explain all the theories in depth, but to give an overview of the main behavioural theories related to physical activity and discuss how these theories relate to the philosophy of encouraging exercise behaviour amongst students.

Health Belief Model

This model was developed for medical research and is based on the individual’s perception of how real a threat is to their personal health (Godin 1994). For example, according to the Health Belief Model an individual would decide to exercise regularly if a sedentary lifestyle is perceived as a threat to some aspect of health and physical activity is seen as decreasing that risk. Woods (2000) states
that as the Health Belief Model was originally directed towards the avoidance of ill health rather than the attainment of positive health, the extent to which it can be transferred to exercise is unclear. King et al (1992) also suggest that as the model was designed for risk avoiding and not health promoting behaviours, it's use may be less for those who view physical activity as a health promoting behaviour than those who see it as an illness reducing behaviour.

The process of exercise adoption and adherence is likely to include several changes in the process and vary between individuals (Godin and Shephard 1990). For example, a student may decide to start going to an exercise class to lose weight, but this is unlikely to be the only motive. It is likely that the social environment of participating in a class with friends is a major factor in initiating their behaviour. Consequently, in a university environment where the population is mainly 18-23 year olds, specific marketing is required to encourage a change in exercise behaviour. Most undergraduates may know the health benefits of regular exercise, a good diet, a stress free environment and the dangers of smoking. Therefore, changing exercise behaviour and relying on the Health Belief Model alone may not be successful (King et al 1992).

Social Cognitive Models
This model focuses on specific areas that can positively influence health behaviour change by including specific interventions such as environmental and social support. The combination of a variety of factors working together would influence behaviour change. Bandura (1977) expressed a belief that self-efficacy played an important role in motivation. The theory implies that if a person is confident in their abilities to perform specific behaviour, then they are more likely to engage in that activity. In an exercise setting if an individual is confident at adopting and maintaining an exercise programme, then they are more likely to do it than a person who is not confident. Godin (1994) reported seven studies and King et al (1992) reported five studies that had found that the social cognitive approach had been successfully applied in explaining exercise behaviour.
Dzewaltowski (1994) agreed with the ‘self-efficacy’ concept of individual autonomy and suggested that this autonomy can be taught, learned and developed through experience. There was an important role for health professionals in developing the physical activity knowledge of students in areas such as a goal setting which would in turn develop confidence. Some universities in the United States have set up specific classes on a credit basis to increase activity intelligence with the specific goal of increasing physical activity (Adams and Brynsteson 1992, Sarkin et al 1998, Sallis et al 1999, Corbin and Laurie 1978). The results of the success of such programmes are discussed on pages 112-116.

**Theory of Reasoned Action**

This theory interprets social behaviour at a level of individual decision making. Behaviour is based on two factors – the personal attitude of the individual and the influence of social factors upon the adoption of this behaviour. For example, a person would participate in a new activity based on their evaluation of the outcome of adopting the new activity and their perception of what others would expect them to do. This does not take into account habitual behaviour and therefore is only useful in the prediction of new behaviours (Woods 2000). King et al (1992) cite three studies which show weak results with respect to the validity of intentions for predicting physical activity and conclude that physical activity history is probably a more reliable predictor of current and future physical activity levels rather than a statement of intention to be active. Godin (1994) reviewed twelve studies that have used the theory of reasoned action that investigated the relationship between intention to exercise and exercise behaviour and only 30% of the variance between the intention to exercise is explained by the individual’s attitudes. It shows that the intention to exercise is stronger for someone who is in the habit of exercising and it is easier to apply the Theory of Reasoned Action variables to further encourage regular exercise. But Godin (1994) also stresses that past behaviour and exercise habits are reliable predictors of exercise behaviour. Therefore, to conclude the above model may account for only a fraction of the total variance of exercise behaviour amongst students.
Theory of Protection Motivation

This is a similar theory to the Health Belief Model in that it is based on an individual's perception of what will happen if they decide to make a change. It was originally designed as a medical intervention to explain the effect of health threats on achieving change (Godin 1994). The Protection Motivation Theory is based on four factors: the perceived severity of the threat, the perceived probability of occurrence, the efficacy of the recommended preventative behaviour and the perceived self-efficacy. For example, in an ideal setting an individual would exercise regularly if they perceived that this would reduce the chance of coronary heart disease. But they would also need to have the confidence to ensure that the exercise level was at the correct levels. The model is an extension to the HBM in that it includes the role self-efficacy in exercise participation and adherence. Godin and Shephard (1990:17) state that the TPM has "limited usefulness for the study of exercise behaviour" as it again relies on intention and some studies have show that the severity of and perceived vulnerability of having additional medical illnesses exerted no influence on intention to exercise.

The Theory of Planned Behaviour

The Theory of Reasoned Action was based on the assumption that behavioural change was within an individual's control. However, the theory of Planned Behaviour extends this and suggests that behaviours are located at some point along a continuum that extends from total control to lack of control (Godin and Shephard 1990). For example, an individual may have total control when there are no barriers to the adoption of a given behaviour. In contrast there could be a complete lack of control if the adoption of a new behaviour requires resources, skills or opportunities which are not available to an individual (Godin and Shephard 1990). The theory does therefore build on the previous theory and Godin (1994) reviewed seven studies which used TBP and found that the studies provided partial support for the theory in explaining exercise behaviour. However, some of the studies indicated that the usefulness of the theory was to further understand the intention to exercise, not necessarily exercise behaviour.
The Theory of Interpersonal Behaviour

This theory specifies that the chance of performing that behaviour is a function of a) the habit of performing the behaviour, b) intention to perform the behaviour and c) conditions facilitating or discouraging performance of the behaviour (Triandis 1977). This suggests that the number of times a particular behaviour has been performed can be an important factor when predicting actual behaviour. Therefore, some behaviours can become more or less automatic and can be realised with little conscious intervention. The Triandis model states that intention is formed by four elements: a cognitive component, an effective component, a social component and personal normative beliefs. The ‘cognitive component’ is a function of perceived consequences of advantages and disadvantages of following a particular behaviour. The ‘effective component’ includes the individuals’ perception of the consequences of adoption of the behaviour. For example, will it be pleasant or unpleasant and it could be shaped by previous experience of the behaviour. (In a university environment a new undergraduate’s recent experiences could have been the experiences of physical education in school). The ‘social component’ reflects the relationships between the individual and other people towards performing that specific behaviour. Finally the ‘personal normative belief’ relates to an individual’s obligation to perform the behaviour independently of cultural norms.

Godin and Shepard (1990:114) reviewed four studies that used the Triandis model and concluded that “several publications in the exercise domain, although not designed to test the full Triandis Model, support the importance of considering certain of the variables into this model such as habit, affective dimension of attitude and personal normative beliefs”. Godin (1994) also states that the studies indicate that past behaviour is an important determinant of current exercise behaviour and that it is important that exercise programmes offer positive experiences.
Natural History Model
The maintenance (adherence) of physical activity is the goal of most interventions and health promoters. A typical pattern could be that an inactive individual may be encouraged to adopt a physically active lifestyle. The goal for the health promoter would then be to design interventions which would result in the maintenance of this new active lifestyle. However, for a variety of reasons individuals drop out of their active routines. Once they drop out they could then either re-start or remain sedentary. The Natural History Model of Exercise is summarised below:

Figure 3.1
Natural History of Exercise Model

Sallis and Hovell, (1990:320)

This model is important for providers of interventions in a university setting as there are a variety of ‘lifetime’ milestones which are specific to students and young graduates. These could include starting at university, living away from home, new social groups as well as eventually graduating from university. In addition it is important to consider that most undergraduate students are only at university for a maximum of thirty weeks per year. The aim of health promoters would be to design interventions that would specifically aim at ‘adoption’ and ‘maintenance’ issues of physical activity.
The Transtheoretical Model (TTM)

The Transtheoretical Model (TTM) is an integrated and comprehensive model of behaviour change. The TTM suggests that change is a dynamic process that occurs over a period of time and that there are four main dimensions of the TTM. According to the TTM, change can happen over a period of time and that individuals can progress through five stages of change. (Prochaska and Marcus 1994). This is illustrated below;

1. Precontemplation (Sedentary individuals who have no intention of changing their behaviour).
2. Contemplation (Sedentary individuals with intention to become more active).
3. Preparation (Irregularly active an intention to become regularly active).
4. Action (Regular physical activity for last six months).
5. Maintenance (Regularly physically active for longer than 6 months).

Individuals are thought to move through the stages at different rates and can also relapse depending on individual circumstances. (Prochaska and Narcross 1999).

The second dimension of TTM is the 'process of change' – how an individual changes their behaviour. These include behavioural, cognitive, evaluative and affective activities by which an individual can modify their behaviour. Prochaska and Marcus (1994) list the ten most studied processes as;

Conscious raising
Dramatic relief
Self-re-evaluation
Social re-evaluation
Social liberation
Environmental re-evaluation
Relationship fostering
Counter conditioning
Contingency management
Stimulus control.

The ten processes have been organised in a hierarchical manner. The top five are the experienced (thinking) constructs and the behavioural (doing) processes are the second five listed. Prochaska and Marcus (1994) argue that the first five processes (experiential) are far more important than behavioural processes for understanding and predicting early stages of change. Behavioural processes are much more important for predicting transitions from ‘preparation’ to ‘action’ and from ‘action’ to ‘maintenance’. Prochaska and Marcus (1994) state that once an individual’s stage has been assessed, physical activity promoters have a better idea of which process to emphasise to encourage progress to the next stage.

A central concept within TTM is self efficacy and involves people’s degree of confidence about their ability to perform a desired behaviour. Confidence is developed through past performance, verbal persuasion and physiological feedback (King et al 1992). Therefore, a student who is confident about participating in regular physical activity is more likely to become regularly active than a student who does not feel confident and does not accept physical activity as part of their regular behaviour. The next section reviews specific research which has used the TTM approach.

Marcus et al (1992) reported that the stage of change model provides an excellent framework for understanding the dynamic nature of health behaviour change in a study to increase the adoption of physical activity amongst 612 community participants. Plontikoff et al (2001) in a longitudinal study of adults (n = 1,602) found partial support for the internal validation of the TTM in promoting physical activity. Wyse et al (1995) concluded that on a study of 224 undergraduates the results appeared to confirm the validity of the Stages of Exercise Behaviour Change (SEBC) scale in terms of self-report of exercise behaviour. Specifically Wyse et al (1995:375) stated that the SEBC “may offer considerable potential as a
basis for aiding health and exercise specialists in the development and delivery of
the stage-by-sex specific exercise interventions strategies, particularly in
comparable samples of young adults”.

Naylor and McKenna (1995) reported on stages of change, self-efficacy and
behavioural preferences related to stage of 2622 undergraduate students. The
findings demonstrated that there was a distinct stage of change in exercise in
British students and also confirmed the relationship between the stages of change
and self-efficacy. Naylor and McKenna (1995) in a study on 673 students
reported partial support for the validity of the stage of change model in Britain
when assessing the stage of change on both decision balance for exercise and self
reported physical activity. Woods et al (2000) reported on a study of exercise
behaviour change in 16-24 year olds (n = 2943) using the TTM to design an
intervention. The results indicated that the experimental group showed significant
changes in stage-of-change and intention to exercise post intervention than the
control group. The study indicated that significantly more of the experimental
group were leading an active lifestyle 19 months after the baseline. The
intervention could therefore be seen to having long term effects.

Myers and Roth (1997) used the TTM model to investigate the perceived benefits
and barrier to exercise amongst US undergraduates (n = 432). The results
indicated that valid assessment of the benefits and barriers through assessments
will be of use when targeting specific population groups. Pinto and Marcus
(1995) used the TTM to examine the exercise behaviour on a college campus.
Pinto and Marcus (1995) concluded that the TTM may help tailored interventions
to promote and maintain self-directed activity amongst university students (n =
127).

A study by Woods (2000) specifically reported on the TTM to the understanding
of behaviour modification in physical activity among 2943 undergraduate
students. Woods (2000) concluded that the TTM may need modifications fully to
understand the complex process of adhering to a physically active lifestyle.
Woods (2000) argued that TTM could develop further by combining with a motivational theory to gain a greater understanding of how to promote physically active lifestyles amongst a young adult population. Woods (2000) suggests the following ‘additions’:

- Environmental influences (social cultural influences).
- Personal (how an individual thinks about physical e.g. their rationale being).
- Behavioural (type of activity).
- Practical (skills and knowledge necessary to take part in the activity).

Woods (2000:207) summarises the proposed development of TTM below:

Figure 3.2
The proposed development of the TTM for physical activity
Woods' (2000) research was a theory led deductive analysis of the applicability of the TTM to increasing knowledge about exercise behaviour modification in a young adult population. This research is not theory led, but is an observational case study to examine the exercise behaviours of a young adult population and the influence of the university interventions to influence exercise behaviour. The refinements suggested by Woods (2000) – environmental, personal, behavioural and practical – are an important part of the interventions used in this research to change exercise behaviour and encourage the goal of lifelong participation.

**Structural Model of Health Behaviour**

The Department for Culture, Media and Sport (2002:95) state that a holistic approach is required to develop a physical activity culture amongst adults;

‘Providing structured opportunities for participants to continue their involvement in sport is key to enabling as many people as possible to remain lifelong regular participants’.

Cohen and Scribner (2000) suggest that behaviour is not just influenced by individual attitudes, but also by the conditions under which people live. Altering policies, practices and conditions of life can directly or indirectly influence individual behaviour. Cohen and Scriber (2000) report that specific structural mechanisms can effect change in individual health behaviours. The four categories of structural factors are identified as the availability of harmful or protective products, physical structures, social structures/policies and media and cultural messages. The ‘structural model’ of a university as a positive encouraging physical activity is a central theme to this research. King et al (1992) report that physical and environmental factors have associated with exercise and physical activity in numerous surveys. Social support, education, travel, distance and safety have all been important potential environmental barriers.
Buckworth (2001) suggests that the environmental influences on a campus can be very positive. Human environmental influences include friends, family, instructors and employers. Physical environmental influences can include the size of the campus and geography of the campus, quality of the exercise facilities and access to the facilities. Buckworth (2001:345) says that:

"...Characteristics of college students and the environment influence leisure time activity, and enhancing exercise adherence in this population requires consideration of the unique developmental challenges they face and the variability in unstructured time imposed by academic demands and competing social opportunities. Social, constructed and natural environmental forces play important roles in college students’ lifestyle’

Sallis et al (1999a) suggest that environmental and policy interventions which are based on ecological models of behaviour are particularly applicable to physical activity because the behaviour must be done in specific physical settings. King et al (1992:229) also report that ‘worksite’ programmes can successfully increase employee participation by offering a variety of physical activities. They also report that at a ‘community level’ participation in regular physical activity depends on the availability and proximity of facilities and ‘conductive environments’.

Wallace et al (2000) in a study of undergraduates (n = 937) stress that a key factor related to regular physical activity and students was exercise self-efficacy. A key to boosting self-efficacy in students was to provide opportunities to exercise in attractive, non-threatening settings. Wallace et al (2000) report that the environment plays an important part suggests that “colleges need to remove the barriers to students being physically active. One example of a barrier may be old, outdated facilities that are not inviting to students, or not offering exercise opportunities at convenient times”. They suggest that another key to encourage students to be physically active was to target interventions to their level of interest and motivation.
King et al (1992) conclude that many dimensions of physical activity must be considered in developing appropriate interventions that include the three areas below:

<table>
<thead>
<tr>
<th>Population Characteristics</th>
<th>The Setting</th>
<th>Activity Itself</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Work Place</td>
<td>Type</td>
</tr>
<tr>
<td>Race</td>
<td>Home</td>
<td>Intensity</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Clinic</td>
<td>Frequency</td>
</tr>
<tr>
<td>Gender</td>
<td>Community</td>
<td>Degree or Mode of Supervision</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Economic Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Physical Activity Level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

King et al (1992:231) state that “understanding the psychological-cultural-environmental milieu of the individual along with the most appropriate behavioural approaches should further enhance the chances of success”. Furthermore, interventions spanning several levels of analysis from personal to policy levels are the most likely to achieve the goals of increasing physical activity – but few have been studied.

King (1994) reported that the majority of studies on exercise behaviour have focussed on personal and interpersonal interventions specifically to target the individual. To achieve an impact on the whole population strategies which target the environmental and social forces influencing exercise behaviour require greater attention. King (1994) provides a framework overleaf of four levels for developing physical activity interventions.
### Figure 3.3

**Four levels for developing physical activity interventions**

<table>
<thead>
<tr>
<th>Level of Intervention</th>
<th>Channel</th>
<th>Target</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal</strong></td>
<td>Face-to-face: physician's office, health clinic, health spas and clubs</td>
<td>Patients, clients</td>
<td>Information on risk and health benefits, counsellor support, personal monitoring and feedback, problem-solving (relapse prevention)</td>
</tr>
<tr>
<td></td>
<td>Mediated/Not face-to-face: telephone, mail (feedback systems, correspondence courses, self-help kits and booklets)</td>
<td></td>
<td>Same as above</td>
</tr>
<tr>
<td><strong>Interpersonal</strong></td>
<td>Classes, telephone/ mail systems, health spas and clubs, peer-led groups</td>
<td>Patients, healthy individuals, families, peers</td>
<td>Information: peer, family &amp; counsellor support; group affiliation; personal or public monitoring and feedback; group problem-solving</td>
</tr>
<tr>
<td><strong>Organisational/ Environmental</strong></td>
<td>Schools, worksites, neighbourhoods, community facilities, (e.g. par courses, walk/ bike paths), churches, community organisations, sites for activities of daily living (public stairs, shopping malls, parking lots)</td>
<td>Student body, all employees, local residents, social norms or milieu</td>
<td>Curricula, point-of-choice education and prompts, organisational support, public feedback, incentives</td>
</tr>
<tr>
<td><strong>Institutional/ Legislative</strong></td>
<td>Policies, laws, regulations</td>
<td>Broad spectrum of the community or population</td>
<td>Standardisation of exercise-related curricula, insurance incentives for regular exercisers, monetary incentives for the development of adequate public facilities for exercise, Surgeon General's report on physical activity and health</td>
</tr>
</tbody>
</table>

King (1994) in Dishman (1994:185)

The above was designed specifically for adults and can be transferred to a university setting to encourage regular physical activity. For example, Mutrie and Woods (2002) show that in level 3 (Organisational/ Environmental), higher education has a role to play in teaching students 'transferable skills' one of which may be encouraging learning about how to lead a physically active life. King' (1994) framework can be applied separately in a university environment either to
promote new exercise behaviour or to influence maintenance (‘adherence’) of current physical activity patterns.

This section has noted that much of what is known about exercise behaviour derives from quantitative studies that have been derived from theoretical models, especially those from social psychology. Psychological theories in combination with an understanding of the epidemiology of physical activity can assist in the development of interventions to increase physical activity. However, there is not one theory which thoroughly explains exercise behaviour or how to intervene. The Transtheoretical Model (TTM), Stages of Exercise Change, has been widely used in past research to design specific interventions. This review suggests that physical and environmental factors are very important in designing interventions for specific population and there is an opportunity on a university campus to positively influence environmental ‘structures’ to encourage regular physical activity. Models and theories on exercise behaviour are applicable to a university environment but it is important that the interventions are specific to the student population.
Review of research on university students’ exercise behaviour

There have been few studies in the United Kingdom using university students as a specific population to examine exercise behaviour. The most detailed analysis of environmental and physical determinants of students’ exercise behaviour has either been at Masters or Doctorate levels. This section will review studies from the UK, North America and Australia that have specifically investigated student exercise behaviour.

Studies on UK undergraduates

Edie (1991) investigated the exercise participation and behaviour of undergraduate students at the University of Surrey. The survey (n = 100) investigated factors which influence the “intent to be active, including family life, school experiences, current experiences and opportunities whilst at University which affect the psychological dimensions of exercise behaviour” (Edie1991:1). The undergraduates were residents on the university campus and completed self-fill questionnaires and seven students were selected for qualitative interviews. The group represented males and females with both a British and overseas school education. The main findings of the research noted that 65% of the students surveyed saw exercise as relevant to their lifestyle at university, and that the 35% who were currently not involved in an activity at university demonstrated that their past experiences, particularly from the family, had affected their desire to participate at university. Also the motivation of this group appeared to be affected by their attitudes involving personal competencies and their resulting lack of self-esteem. The research reported that those who did not exercise frequently (35%) wanted a programme away from the traditional sports, which they felt had ‘cliques’.

The common denominators in Edie’s research to encourage the less active students to become active were programmes which were ‘fun’ and also the influence of friends and ‘significant others’ such as coaches, teachers and lecturers. The survey also reported very high participation rates of 68% for females who exercised regularly. It was noted in the research that a specific
programme had been developed, 'Campusdance', specifically encourage female participation from 1990-1992. The research also indicated that 71% of females participated in the organised recreation programme whilst only 39% participated in independent exercise. In contrast 59% of males exercised independently and 41% in the recreational programme.

The small sample (n = 100) and the methodology of self fill questionnaires and a qualitative sample of only seven students can only provide an indication of the exercise behaviour of a few students. Additionally, the surveys were administered in the Autumn Term when participation rates would be higher due to the busy term and no examinations. Furthermore, the samples were all residents and did not include students who lived off campus. Therefore, practical consideration such as transport were not assessed. Finally, the research did not investigate exercise experiences before or after university, which would indicate details of any lasting exercise behaviour. However, the research did highlight that the environment of a university campus could influence exercise behaviour.

Pook (1995) investigated the exercise participation rates, attitudes to exercise and the perceived barriers to exercise in a postal survey to residential students (n = 450) at Cardiff University. This study found that 55% of male respondents exercised at least twice a week compared to 40% of female respondents. Additionally, medical/dental students exercised most frequently; 63% exercised 2/3 times per week as compared to 41% of Humanities/Business students. Pook also found that 31% of students said that they would exercise more often if they had better access to facilities, (the access included availability to use the facilities which were often booked up by student clubs). The most prevalent barriers to exercise in Pook’s research were time (63%), location of facilities (65%) and lack of motivation (63%). The research also revealed that 51% of students indicated that their families had encouraged them to participate regularly and 59% of respondents indicated that they would go to a class if more were available in the university. Pook (1995:129) suggested that the Athletic Union structure forms an 'institutional barrier to exercise participation as they dominate the university
sports facilities and pay little attention to beginners or intermediates'. Finally, the
data suggests that 86% of those students who did GCSE PE at school exercise at
least once per week compared to 67% who did not do GCSE PE.

An aim of the research was to make recommendations for promotional strategies
for the development of ‘mass’ participation at Cardiff University. Pook (1995)
suggested the following strategies to increase participation and influence exercise
behaviour.

- A major review of the promotional policy of the Sport and Recreation
  Department to include an information pack to all Freshers.
- A review of the Athletic Union recruitment policy as 69% of the respondents
  were not participating in an Athletic Union Club although they had paid
  membership.
- A review of the allocation of facilities to Athletic Union (AU) teams as the AU
  currently enjoys 75% of the peak-time availability.

To encourage more ‘mass’ sport the following strategies were recommended:
- A modern ‘Health and Fitness’ gym should be developed at Cardiff University
to meet the needs of the students.
- The opening hours of the facility should be extended as 32% of respondents
  indicated that the opening times were a barrier to regular exercise.
- The prices should be segregated to ‘peak’ and ‘off-peak’ use to encourage
  more use of facilities.
- First year students should become a target group for exercise participation
  strategies.
- Intra Mural sports should be developed to include more sports.
- Modules/electives in sport and recreation should be developed to support the
  concept of “lifelong participation through the education of the students”. (p.
  137).
- Taster classes should be offered to students in a range of new classes free of
  charge.
The limitation of the study relate to the sample in that it only included residential students. (It is important to note that Cardiff University is not a campus university as is the case in Surrey, and that residential accommodation are in different locations around the city). The distance and availability of time for students in Pook's (1995) research were major considerations for exercise behaviour. The research also identified limitations because the aims surveyed two main issues: participation and barriers to exercise. Pook (1995) recommended that future studies should perhaps examine one of these issues in depth. The study also had limitations in that it did not examine exercise behaviour post-university or research a sample of students throughout their university education.

Harris (1993) investigated the existing provision of sport and recreation facilities and current patterns of participation by staff and students at the erstwhile Cardiff Institute of Higher Education (now UWIC). Cardiff Institute of Higher Education has an excellent sporting profile within Wales and the United Kingdom as well as being the provider of educational courses in sport and recreation over the last thirty years. The research methods used were questionnaires and interviews to both students (n = 563) and staff (n = 60). Twelve percent of total student numbers and thirteen percent of all staff responded to the questionnaire.

The research indicated that levels of sports participation by staff and students demonstrated an overall dissatisfaction with the provision of sport and recreational opportunities. The emphasis on elite sport resulted in few facilities or programmes being offered for the 'mass' sport market. Specifically the research concludes that 'there is a well organised student structure that produces opportunities for team and individual participation. For example, rugby, football, badminton, hockey, netball and tennis, whilst others there is no such organisation, particularly for those staff or students who do not belong to clubs or societies or choose not to take part in team sports'. (Harris 1993:101).

The research reported that the college should adopt a new strategic approach to the provision of sport and recreation which would include provision for both the
‘elite’ performer and casual participants. Recommendations included the appointment of a Director of Sport to lead and coordinate the sport and recreation service. This would include written aims and objectives, targets and a ‘management by objectives’ approach. The service did not attract non-team users to the use the facilities due to ‘a lack of management and co-ordination’ (Harris 1993:112). This in turn ‘results in a narrow programme which does not attempt to identify or meet the needs of the ‘totality’ of the Institute Community’ (Harris 1993:114). The limitations of the above study include the availability and access to management information systems and the self-fill nature of the questionnaires.

The research by Edie (1991), Pook (1995) and Harris (1993) reported both descriptive and quantitative information which illustrated not only data of exercise behaviour but also perceptions by students into the university environment for factors which influences exercise participation.

Roper (1994) examined the rate of adherence to an individual exercise programme at the University of Glamorgan following physiological and psychological assessment. Three experimental groups were selected; active participants (n = 20), a sedentary group who wanted to start exercise (n = 20) and an inactive control group (n = 20). After initial assessment each group was given a twelve-week exercise programme and then re-tested at the end of the programme. The results indicated that the adherence rate was only 35% for beginners but 90% for the active group. Characteristics of self-motivation for health and fitness, weight concerns and past enjoyment of previous activity were also closely related to adherence. Recommendations from the study noted that past history of exercise involvement must be clearly examined to identify a potential non-adherer and males and females must be counselled in different way since their motives to exercise are different. The research also recommended preparing students for disappointments and discuss realistic goals as well as planning for relapses such as festive times and holiday breaks.
The limitations of this study include the specific demands on the student such as examinations and pressures of work and the fact that their attrition rates could be accelerated. However, it could also be argued that these 'limitations' are a crucial part of the learning process and 'time/life' management skills that an individual needs to achieve habitual exercise are an essential element to exercise adherence. Sallis and Hovell' (1990) Natural History Model (p.88) indicates that breaks will occur in a typical exercise pattern, but it is how the individual responds either to remain sedentary or re-start activity that is important.

Dunston-Lewis' (2000) 'action research' at Bristol University explored the experiences of elite student athletes (n = 10) and reported an insight into their needs and what the athletes feel would be the most appropriate. The research followed a cyclical process of in-depth interviews and focus groups to gather data, reflecting on that information and then planning a programme to meet the needs of the student athletes. The results indicated that students were having difficulties in time management, living arrangements, conflict of roles, relationships with academic tutors, socialising to excess and lack of support and understanding. The 'action research' implemented a support programme of time and stress management education, nutrition, fitness and psychology instruction, injury rehabilitation, academic and financial support and a programme co-ordinator. The aim of the research was to develop a framework which would identify improvements in time and stress management skills, increase in motivation and self-confidence and a sense of empowerment of the athletes.

Woods (2000) used the transtheoretical model of behaviour change (TTM) to understand the process of exercise behaviour in students at the University of Glasgow. Woods (2000) completed three separate studies. In the first study undergraduates (n=2943) completed a baseline questionnaire and 1058 completed a follow-up seven months later. The results indicated that there were significant differences in physical activity patterns from baseline to follow up and different motivational reasons underlying the 'stage' of behaviour change. The second study involved a pre-post randomised control design to investigate the
effectiveness of a self-instructional intervention for helping a sedentary undergraduate population become more active. Using the TTM of behaviour change, significantly more of the experimental group in comparison to the control group improved their 'stage of change' from baseline. Self-efficacy (confidence) was found to be a useful predictor of stage of improvement.

In the third study, Woods (2000) used a focus group method and individuals from the previous studies discussed their experiences of physical activity. The results indicated that the TTM did not offer a complete understanding of behaviour change in a young adult population. The main points to emerge were autonomy, motivational climate, social and cultural influences and structural opportunities. Woods' (2000) research indicated the importance of motivation, cultural influences and the physical environment to influence participation. This suggests that for a university experience positively to influence exercise behaviour then the university environment must be highly structured to meet the needs of a young population in a unique environment.

The majority of the focus group stated that exercising with friends was preferable to exercising alone. This supports the idea that physical activity is a social activity and programmes should encourage individuals to exercise in a 'social', 'fun' atmosphere. Additionally, encouragement by a teacher was an important element in helping an individual adhere to an exercise regime and a more relaxed atmosphere was beneficial to encouraging new exercisers to begin being active and to encourage them to maintain activity. Social and cultural issues were also important issues particularly regarding the transition from school to university. Key areas included confidence, the influence of friends, pressure 'not to make a fool of yourself' and encouragement were essential determinants of participation or non-participation in physical activity. The research also indicates that although the TTM advocates individual responsibility for change it did not account for four classes of determinants, which influence participation. These four determinants are environmental (i.e. social and cultural influences), personal (i.e. how an individual thinks about an activity), behavioural (i.e. type of activity) and practical
(i.e. skills and knowledge necessary to take part in the activity). Woods (2000:206) recommends that the addition of the four determinants to the TTM “will allow for a greater understanding of how to promote physically active lifestyles amongst a young adult population”

Carney et al (2000) assessed the impact on leaving university on physically active students (n = 1088) to assess barriers related to this transition period and to make recommendations on how to continue activity post-university. The sample represented 70% of the graduating population. The results indicated that 22% of the population relapsed from participating in regular physical activity after a six-month follow-up period. The barriers assessed (time, effort, limiting health, obstacles), were not perceived as being particularly important to the respondents. The research also reported ‘tips’ from the graduates (n = 88) for maintaining active post-university including getting into a weekly routine (12%), joining clubs (11%), active commuting (7%), exercising with friends (5%) and finding an activity which you enjoy (3%). Other findings of the research reported that 78% of the students were able to remain active after graduating from university. Pre-graduation 70% of the total respondents were members of the Sport and Recreation Service, where students pay nominal annual subscriptions for reduced rates.

This suggests that the transitional period may have had less impact if the activity patterns were already established. It suggests that students who are confident and have been educated about specific activities are able to cope well with the transition period of leaving university. Carney et al (2000) suggest that undergraduate physical activity is a transferable skill with potential long-term implications for the health of the community at large.
Buckworth (2001) stresses that any studies involving exercise behaviour of college students needs special attention due to the unique characteristics of the population and the university environment. The population characteristics are likely to influence all behaviour including exercise behaviour. Buckworth (2001) also stresses that environmental influences are a very important consideration in promoting physical activity in a university. These include the size of the campus, quality of exercise facilities and human environmental influences including friends, family, classmates and instructors. Buckworth (2001) also notes that the weather and season in the US studies has effects on exercise adherence related to aerobic exercise but not strength training.

Wallace et al (2000) investigated the influence of social support in exercise behaviour among students (n = 937) in Ohio University. The research indicated that college students are more likely to exercise if they have social support for being active, but the type of social support differs between men and women. Women appear more likely to exercise if they have social support of family, while the support of friends is more important to men. Wallace et al (2000) suggests that it may be easier for male students to find social support than it would for females because students are surrounded by friends, while family may be far away. The research also found that exercise self-efficacy was related to regular physical activity. For example, students high in exercise self efficacy would be motivated to exercise in cold weather or even find an alternative activity if the weather was bad. Wallace et al (2000) concluded that interventions to increase physical activity must offer 'settings' which remove barriers to students becoming physically active. These included providing opportunities for exercise in attractive non-threatening settings and removing old, outdated facilities that are not inviting to students. Additionally, offering exercise opportunities at convenient times and targeting interventions to the students' level of interest and motivations would increase participating levels. (For example, doing different
activities for a student who is not exercising at all, to a student who is exercising randomly but not in a routine).

Myers and Roth (1997) researched the perceived benefits and barriers to exercise in college students (n = 432). Using the TTM a large sample of college students completed questionnaires assessing their current participation, their intention to become more active in the next month, the benefits they receive from exercising and the barriers which interfere with exercise. The results indicated that a model containing four benefit factors (social, psychological, body image and health) and four barrier factors (time/effort, social, physical effects and specific obstacles) were important in understanding student exercise behaviour. The results confirmed the multidimensional nature of the perceived benefits of and barriers to exercise. The research indicated that the perceived barriers and benefits were different depending on the 'stage of exercise' of the individual. For example undergraduates in pre-contemplation stage perceived fewer benefits than those in the contemplation stage and participants in the pre-contemplation stage reported fewer psychological, body image and health benefits than those in the maintenance stage.

The research indicated that, in general, as salient benefits and barriers to exercise are identified for particular individuals or groups, then interventions can be more effectively designed to promote regular physical exercise. This is an important consideration in universities because of the unique environment and any interventions in higher education must consider both previous exercise experiences and the physical/social settings.

Rosen (2000) combined the Transtheoretical Model (TTM) and the Theory of Planned Behaviour to arrive at a better understanding of 'readiness' for exercise amongst sedentary college students (n = 147). Specifically, the research investigated whether recipients' readiness influenced their processing of exercise – promoting communications and how baseline behaviour and intent influenced non-exercising college students' adoption of vigorous exercise. Sedentary college
students were assessed using questionnaires for exercise attitude, intent, behaviour and stage of change. Students also listed their thoughts after reading messages with either strong or weak arguments for exercise.

The results suggested some practical considerations for tailoring exercise promotion interventions in readiness for change; students with a neutral or mildly negative attitude processed exercise-promoting messages less thoroughly than did students with a positive attitude. One barrier to exercise promotion efforts may be that exercise related messages are processed poorly by people who are not already favourable to exercise. The research found positive intent was most likely to lead to regular exercise when students were already exercising occasionally at baseline. Students who are exercising occasionally need to learn fewer new behaviours to adopt regular exercise. Rosen (2000) suggests that occasional exercise at baseline may be a marker for ecological factors that facilitate exercise in university, such as living near a campus and having easy access to facilities. The limitations of the study include the self-administered format of the data collection.

Pinto and Marcus (1995) examined activity behaviour among college students (n = 217) to examine both the ‘stage of change’ and the relationship between demographic variables and activity behaviour. The aim in applying a ‘stage of change’ approach to exercise behaviour was to understand the process of behaviour change so as to be more successful in designing an appropriate intervention. The data were obtained from a 7 page questionnaire, which assessed students’ interest in a variety of health topics including weight control, sports nutrition, physical activity and dietary intake. The main findings were that 18% of students were in the ‘pre-contemplation/contemplation’ stage and 28% were in the ‘preparation’ stage. Activities which were most frequently endorsed included jogging/running (29%), weight training (24%), cycling (16%), swimming (15%) and aerobics (11%); there were no significant differences between males and females or year group.
The limitations of the study includes the self-reported nature of the data. Additionally the response rate was quite low (27%) and the results were limited because they did not include cardiovascular measures of fitness. The study did highlight that 42% of the men and 50% of the women reported being inactive. This suggests a sedentary lifestyle for a significant proportion of young adults on the campus. The study did not specify the programmes at the university which might encourage more activity. However, the study did highlight that specific interventions would be needed for the sedentary group which would differ from those who were already exercising.

Pinto and Marcus (1995:30) suggest that;

“...Assessment of exercise behaviour, using stages of change approach, may help tailored interventions to promote adopting and maintaining self-directed activity prior to the transition from college, which has been associate with a decline in activity levels”.

This is an important issue and suggests that habitual physical activity behaviours can be learnt at college and continued post-graduation from college.

Dinger (1999) researched the physical activity and dietary intake of residential college students living in residence halls and fraternity housing (n = 743). Questionnaires were used to obtain the data and students were asked to recall their physical activity during the previous 7 days. The results indicated that the average student in the study failed to meet the national US physical activity recommendations and that significant differences were found for gender, residence and those who received information regarding physical activity or who had Wellness Centre Membership. Males also participated more frequently than females in vigorous physical activity and students living in fraternity housing participated more frequently in vigorous activity than those in halls of residence. This could have been due to the many intra-mural activities between fraternity houses. Additionally, students living the in Halls of Residence reported more
frequent ‘moderate’ physical activity than those in fraternity houses. This could be linked to the organised ‘intra mural’ activities which tend to be more vigorous competitions. Limitations of the study include the self reported nature of the data and the voluntary nature to reply to the survey.

Dinger and Vesely (2001) examined the relationship between physical activity and other health-related behaviours in US college students (n = 2638). Crude associations between physical activity and health behaviour were reported and the results indicated that college students who smoked were more likely to be ‘low active’. Additionally, students who reported binge drinking one or more times in the past thirty dates were less likely to be ‘low active’. There was also a strong association between fruit and vegetable consumption and physical activity. Student who failed to meet the 5-a-day fruit and vegetable recommendation were four times more likely to be ‘low active’. The study indicated that students who never wore a seatbelt were slightly more than one and a half times likely to be ‘low active’ than students who usually or always wore a seatbelt.

The research by Dinger and Vesely (2001) suggest changing one behaviour (e.g. physical activity) may lead to change in another behaviour (e.g. consumption of fruit and vegetables). Therefore, each behaviour may not require its own intervention. An example of this could be designing an intervention that targets both behaviours such as a Lifestyle Consultation which would include advice on exercise as well as diet.

Calfas et al (1994) investigated the environmental influences on physical activity between college students (n = 194) recent graduates (n = 204) and collected data to guide the design of interventions that would be acceptable to the same populations. The survey instrument was a five page questionnaire that included information on demographics, physical activity participation, potential determinants of physical activity and preferences regarding physical activity interventions. Information was also obtained on the barriers and motivations to exercise. The results indicated that students reported doing more strengthening
exercises than alumni. However, almost half the alumni reported that they were less active now than they were in college, and subjects in both groups perceived becoming less active over time. The most highly rated interventions included paid participation, free instruction and reduced membership for health clubs.

The limitations of the study included the self-reported nature of data collection and possible selection bias. However, the research has a similarity to this current project in that it was an exploratory study that was not testing formal hypothesis. Additionally, the results interpret an overall pattern of results rather than a single test.

Leslie et al (1999) investigated the preferred activities, sources of assistance and perceived motivators for activity in a sample of inactive college students (n=2788). The most preferred physical activities amongst those who were inactive were racquet sports. The next five most popular were swimming, aerobics, team sports, weight training and walking. Additionally, more males than females tended to select weight training and team sports and more females than males selected aerobics, walking, yoga and dance. The research also showed that more females than males wanted a group to exercise with, but the differences were small. Males were more likely to choose no form of assistance and females were more likely to choose a video to exercise with and males were more motivated by muscle gain and females are more likely to be concerned with weight loss, looking better.

The results indicated the clear gender differences in preferred activities and perceived motivators to exercise but that the 'sources of assistance' are similar. This suggests that any intervention on a campus would need different activities for males and females but the levels of assistance could be similar to motivate inactive students to exercise.
Specific 'academic' interventions with studies designed to increase physical activity

A few studies have reported intervention programmes that were designed specifically to increase physical activity amongst college students. Corbin and Laurie (1978) suggested that many ailments of modern times such as coronary heart disease, obesity, back pain, hypertension and diabetes are strongly related to inactive lifestyles and are therefore 'hypo kinetic' diseases. Possible approaches to solving the problems of hypo kinetic diseases are to provide treatment for the diseases and also to encourage more regular exercise habits to help prevent such diseases. Corbin and Laurie (1978) suggested that the physical education programme at schools had weaknesses as 63% of adults felt that the school activities were not applicable for use as adults. They developed a programme at Kansas State University to promote 'exercise for a lifetime' called Concepts in Physical Education. The programme was based on a lecture/laboratory/individual prescription programme based on the following objectives:

- Why should I exercise?
- What are my own personal needs?
- How do I exercise to meet my needs?

Students learnt the WHY of exercise from text books, lectures and discussions. Corbin and Laurie (1978) argue that too many adults have participated in physical education without learning why exercise is important to them. The lecture setting provides the opportunity to use slides, films and other effective instructional techniques. Students learnt the HOW of exercise in the gymnasium and were exposed to different types of activities. Each person was taught how to exercise within their own individual threshold of training for each important aspect of fitness. The culmination was the development of an individual programme for each student. The final objective was to teach the student WHAT his/her physical needs were. The programme involved a series of self-testing procedures to learn which techniques can be used for a lifetime.
The Concepts Physical Education Course involved a seven week programme including lectures, gym sessions and exercise testing.

No follow up on the results of the programme are available but the researchers reported that the student response had been very good and more than 300 junior and senior colleges had implemented similar programmes. The researchers also highlight that it would be unrealistic to think that everyone who participates would be free from disease and would be turned on to exercise for a lifetime. However, the researchers suggest that the individualised approach to physical activity provides the necessary information for making effective decisions about exercise for a lifetime.

A critique of the above programme is that it is a credit based programme and students may join the programme for academic reasons and without a follow up study it is difficult to gauge the success of the programme. Additionally, the number of students on each programme could be very small in relation to the whole university and therefore as an intervention programme it's use in 'hypo kinetic disease prevention' could be limited. For example, other interventions such as free recreational activities may increase physical activity by a larger number of students and therefore potentially have more of an impact on reducing hypo kinetic diseases.

Leslie et al (2000) researched physical activity behaviours, preferences and related attributes to design a campus based physical activity programme to compare pre and post-programme physical activity relative to that reported on a comparison campus. The physical activity programme, 'Active Recreation in Tertiary Education' (ARTEC), was designed and carried out for eight weeks following details supplied by students on the pre-survey data. The programme included opportunities for walking, classes in health and fitness, jogging, tai chi and all classes reflected the preferences of students. In addition taster classes were arranged in karate, boxercise and rock climbing. All activities were free to
students and additional enhancements were made including a gym instructor to offer advice and offer free fitness tests.

The results indicated that students at the ARTEC Campus were significantly more likely to be sufficiently active for long term health benefits than those on a comparison campus. Additionally the awareness of the programme by students increased by 29% and an increase of 33% of students indicated that they were aware of the need to increase levels of physical activity in order to gain substantial health benefits. The most popular activities were aerobics, yoga and circuit training. The least popular were jogging, introductory weights and walking. The research demonstrated the success of a promotional campaign on a campus environment. However, there are limitations including the short time of the programme and the special concessions such as free use of facilities. An additional limitation was the self-report nature of the questionnaires and there is no follow-up to indicate exercise behaviour post study. In the context of this project, Leslie et al (2000) demonstrated that significant changes in undergraduate exercise behaviour can be achieved by changing environmental conditions, raising awareness and providing a programme which is customer focused.

Sallis et al (1999) reported on 'Project GRAD' (Graduate Ready for Activity) which was a randomised trial conducted on 339 senior US classroom students in a credit based classroom setting. Those in the intervention group were taught behaviour change skills to help them to adopt and maintain physical activity. Those in the control group were taught general health knowledge information only. The courses were delivered on a 15 week course by physical education staff and peer-led laboratory sessions. The ultimate goal of GRAD was to promote physical activity during the transition from university graduation to full time work. Students were encouraged to plan for structured moderate activity; to increase and maintain their 'lifestyle' activity and to incorporate muscle strengthening and flexibility exercises. Physical activity was assessed with 7-Day Physical Activity Recall Interviews. The results indicated that the intervention had no significant effects on men and only had modest effects among women, with increases in total
leisure-time physical activity, strengthening and flexibility exercises. Only the initially active women increased activity, whilst the initially inactive women did not change. The intervention group received a telephone call and mail follow-up 18 months after the course completion, however, there were no significant intervention effects on physical activity outcomes at a two year follow-up for men or women (Calfas et al 2000).

Adams and Brynteson (1992) investigated the attitudes of alumni (n = 3169) about their college physical education activity (PEA) programme and current exercise habits from four different colleges. The study investigated the current exercise habits of the alumni who had graduated between 1970-1984. Three of the four colleges had required PEA programmes for graduation. One college had an eight credit/hour requirement, another college had a four credit/hour requirement and a third college two credits. The results indicated a significant difference among the alumni about the perceived benefits of the PEA programme in terms of their knowledge in fitness, attitude towards fitness and current exercise habits. Students graduating from colleges with higher PEA requirements demonstrated more positive exercise attitudes and behaviours. The conclusion of the study was that the attitudes and exercise behaviours of alumni were related to the type of college PEA requirements.

Brynteson and Adams (1993) also investigated the exercise habits and knowledge's of alumni which had varying degrees of a conceptually based physical education programme based on ‘Why, What and How’ of exercise (Corbin and Laurie 1978). The results indicated that the colleges that had required the conceptually based physical education programme were also found to exercise more frequently and to place more value on exercise than alumni who did not experience this programme. The conclusions of the research indicate that a ‘concepts’ approach to physical activity appear to relate to how alumni perceive the contribution of the college PEA programme and the nature and type of activity alumni choose to participate in after graduation. The results suggest that the exposure to a motivating programme could lead to habitual exercise.
The research into campus based physical activity intervention is still in its early stages. The success of the programmes and the number of students it can affect positively is not yet clear, particularly the lasting impact on activity patterns (Leslie et al. 2001).

**Summary**

The review indicates that there have been successes in influencing the exercise behaviour of undergraduates and alumni. Some of the projects have relied on theoretical models to influence sedentary students, some have relied on credit based models and others have stressed the importance of environmental and social interventions. The research provides valuable information for the individuals responsible for university physical recreation programmes. Edie (1991), Harris (1993) and Pook (1995) provide valuable ‘operational’ tips and recommendations for influencing undergraduate exercise behaviour. Buckworth (2001) and Leslie (2000) stress that changes in undergraduate exercise can be achieved by changing environmental conditions, raising awareness and providing a motivating programme.
CHAPTER 4

Research Design
Research Design

The research in this project was designed to be both descriptive and explanatory in that it aimed to help explain basic patterns of exercise behaviour. It included investigating the motivation and attitude for participation in physical activity by undergraduates and recent graduates. It also included investigating the philosophy of provision and the physical activity ‘environment’ at other universities in the UK. It was important that descriptive research was used on a study of higher education and exercise behaviour. Higher Education has undergone a tremendous amount of expansion since 1992 with the development of ‘mass’ post 18 education. (Jary and Parker 1998). Veal (1997:3) states that descriptive research is essential in leisure research as the phenomena are subject to change and as leisure research is a relatively new field of study there is a need to ‘map the territory’. Additionally, research effort in leisure must be devoted to monitoring basic patterns of behaviour and the providers of leisure services must respond to the changing market conditions whether or not they can be explained or understood.

Veal (1997) suggests that the social world within which leisure exists has five main elements:

- People.
- Organisations.
- Services/facilities.
- The linkages between the above.
- The physical environment within which everything takes place.

This is summarised by the diagram overleaf.
Veal (1997:17)

Veal (1997) suggests that research into leisure would need to look at all the linkages above which would include psychology, political science, history, economics, sociology, marketing and geography to research the wide range of contributions to the leisure environment.

Four research studies were identified and a range of different methods were used in addition to an extensive review of current literature. Creswell (1994) states that the review of literature should not stand alone and should be an integral part of the research process. This is particularly the case with this project since higher education has changed dramatically in the last decade and the fact that 'health', 'fitness' and 'leisure' are still relatively new areas of research. The review of literature included integrative work that investigated past research as well as theoretical reviews where the focus was on the theory of a specific topic drawing from both sociology and psychology (Creswell 1994). In the four research studies comprising this project different methods were used as part of the research strategy. The four research studies included an observational case study, a longitudinal tracking study, qualitative
studies and quantitative studies. An explanation of the specific methods will be discussed later in this chapter.

This research project was also highly influenced by the author who had previously completed research at the same university and is employed as a full time member of staff in the Sport and Recreation Department (Williams 1993). The influence of the author in the philosophy of the Department is detailed in Study One (see page 146). It is therefore important to highlight that the research design did involve the techniques of 'action research' to the study.

Denscombe (1998) suggests that action research could be seen as research which is specifically geared to changing matters and not just to be seen to gain a better understanding of everyday practice. Tinning (1992:188) refers to action research as 'a cycle of movements which include planning, acting, monitoring and reflecting'. One of the motives of the author of this research was to be reflexive and by using qualitative and quantitative techniques to 'monitor and reflect' on the possible success of the physical activity interventions since 1996 (see page 149). In the author's previous research seventeen recommendations were made at the end of the project positively to influence physical activity participation of young people in university (Williams 1993).

Denscombe (1998) states that action research must involve the practitioner very closely and summarises the situation by the diagram overleaf.
The advantages of an action research approach was that it would address problems in a practical way and that it would result in a continuous cycle of development. However, there are also disadvantages of action research in that it can affect the representativeness of the findings and the fact that the researcher is unlikely to be completely detached or independent. (Denscombe 1998). Due to the position of the author in relation to this research, the ethical issues were a consideration. Access and agreement was obtained from the University’s Research Committee. The covering letters stressed the role and position of the researcher and the possible influence that the research may have on future development of sport and recreation at the university. The letters and questionnaires also gave a firm undertaking about the confidentiality of the replies. (See Appendices A, B and C). Additionally, the interviews and ‘follow up’ questionnaires were voluntary and there was no compulsion for students or graduates to complete the questionnaires. (McNiff et al 1996).

Dishman and Sallis (1994) recommended that future research into physical activity determinants should not rely wholly on psychological theories as psychological
models alone are inadequate to explain participation in physical activity. It was recommended that future research on physical activity would need to incorporate psychological, environmental and physical activity variables. This thesis is concerned about finding out the current/past physical activity behaviours of students and explaining any reasons for changes in exercise behaviour since being at university. The research also investigated why such changes may have taken place and what were the possible causes of the changes. Due to the nature of the research an inductive rather than deductive strategy was adopted (Veal 1997).

Veal (1997) uses the diagram below to explain the different strategies;

Figure 4.3 Circular Model of the Research Process


The ‘Inductive’ process would begin at point A, proceed to point B and arrive at point C. The ‘Deductive’ process would start at point C, proceed to point A to gather data to test the hypothesis and then proceed to point B to test one hypothesis against the data. Gilbert (2001:20) summaries these different approaches as follows: ‘induction is the technique for generating theories and deduction is the technique for applying them’. Therefore, induction is primarily about theory building through inferring from
a set of observations, whilst deductive research is centrally concerned with the testing of a hypothesis. This research was ‘inductive’ research and was not testing a particular theory. However, Gilbert (2001:20) points out that whilst it is true that induction and deduction are each characterised by distinct features;

‘ in the course of doing research often get intertwined. First, one has an idea for a theory, perhaps by contemplating the common features of a set of cases and inducing a theory. Then one checks it out against some data, using deduction. If the theory doesn’t quite fit the facts, induction is used to construct a slightly more complicated, but better theory, and so on.’

Bouma and Atkinson (1995) suggest that case studies are ideal for explanatory studies when no hypothesis is tested. The observational case study in this research could help to formulate a hypothesis for future studies on the influence of higher education ‘experience’ on the exercise behaviour patterns of students and graduates.

Research Methods
The case study approach was adopted since it can use a variety of methods including personal observation, the use of participants for current data, interviewing and tracing relevant historical information that can be valuable to the overall study. (Blaxter et al 1996, Hakim 1997). As the research was small scale taking place at the researcher’s place of work with limited resources, the case study approach was ideal. The case study is generally recognised as a strategic approach to research rather than just representing a method of research (Hammersley 1992, Robson 1993, Yin 1994, Denscombe 1998). Yin (1994:6) identifies that the prime conditions for a case study approach is when the research question is concerned with the how and why of a phenomenon ‘as opposed to a primary interest in the what, the where, how much or how many’. In essence the case study investigates a particular instance of the phenomenon whilst also recognising and exploring the significance of its context.
Bryman (2001:49) states; ‘What matters is that the ‘case’ is the focus in its own right’.

By definition a case study will involve detailed exploration of particular instances. Denscombe (1998:30) states; ‘The aim is to illuminate the general by looking at the particular’. A central characteristic of a case study is the interest in the processes, relationships and other influences which interplay within a specific case. Denscombe (1998:31) states that, ‘the real value of a case study is that it offers the opportunity to explain why certain outcomes might happen – more than just find out what those outcomes are’. What this means is that this research could reasonably hope to ascertain whether the physical activity interventions at university had influenced the current exercise behaviour of undergraduates and recent graduates. The case study approach followed the five recommendations suggested by Yin (1994). The research design allowed for specific data to be collected as indicated by (a) the study’s questions, (b) the study’s propositions and (c) its units of analysis. The design also allowed for linking of data to propositions and criteria for interpreting the findings.

The researcher also had to contact the students once they had left university and it was felt that the respondents were more likely to respond as ‘alumni’ of the university. The samples in Study Two (undergraduates) and Study Three (graduates) were small. The case study approach involving both qualitative and quantitative information did allow the opportunity to look at the issues in depth. This included analysing the social settings and environments which would influence exercise behaviour and therefore allowed for a more ‘holistic’ approach. (Denscombe 1998). Yin (1994:41-42) suggests that a holistic case design is used when the case study examines the global nature of a program or an organisation. However, de Vaus (2001:221) summaries that there needs to be a relationship between embedded and holistic levels of analysis;

‘A well designed case study will avoid examining just some of the constituent elements. It will build up a picture of the case by taking into
account information gained from many levels. The final case study will tell us more than, and something qualitatively different from, that which any constituent element of the case study will tell us'.

Yin (1994:79-80) identifies five key - or more common - sources of evidence that may be drawn upon within a case study: documentation, archival records, interviews, direct observations and physical artefacts. His point is that a good case study will derive from as a wide variety of sources as possible. The methods in this study included a longitudinal tracking study using both qualitative and quantitative methods. This approach enhanced the validity of the data in that the findings were not too closely tied up with a particular method used. The triangulation method allowed the first method (questionnaires) to be used sequentially to help inform the second method (interviews) (Denscombe 1998). The integration of quantitative and qualitative methods also enhanced the validity of the conclusions. (Bryman 1993). Details of the ‘operational’ issues of the research methods are included at the beginning of each study.

Quantitative Research
Questionnaire based surveys are probably the most commonly used technique in leisure research (Veal 1997). Dishman and Sallis (1994:225) in a review of 33 major surveys into physical activity, reported that 'virtually every study has relied on self-reports of physical activity'. This method also allowed for the researcher to return to the subjects to compare data twelve months after the original questionnaire. The questionnaires also allowed for practical information to be available to the researcher on the respondents behaviour, attitude and intentions. The questionnaires were designed to allow direct comparisons with other recent surveys on undergraduate physical activity in the UK. (Pook 1995, Harris 1993 and Edie 1991). The questionnaire was also designed to link to the author’s previous research at the same university (Williams 1993)
Ainsworth et al (1994) states that the main advantage of recall questionnaires compared to survey methods are that they provide information about specific types of physical activity performed, are easy to complete and allow quantification of physical activity during the period assessed. They add that although recall questionnaires are the most common type of assessment tools in epidemiological research, there are some limitations. An important limitation could be that physical activity recalled from a previous week or month may not accurately represent an individual's true year round activity. (For this reason some specific questions were included to gather information during vacation periods for the undergraduate survey – see page 199). Ainsworth et al (1994:154) conclude:

‘..There is no ‘gold’ standard measurement technique [to measure physical activity]...since questionnaires are used most often to characterise physical activity habits, questions need to be identified that can measure various types of physical activity and will generalise to all socio-economic, ethnic, gender and age strata of the population.’

The questionnaires were all designed to be clear and simple to answer and were divided into different sections. In the questionnaires some barrier scales were used and the questions were designed according to the specific objectives of each of the Study

Examples of the questionnaires are given in Appendices A, B, and C.

Qualitative Research
As discussed earlier a combination of methods was used to allow the strengths of each approach to balance against any biases and limitations of a particular method. Qualitative research, in the form of one-to-one interviews, allowed for a deeper insight into the exercise behaviour of both undergraduates and graduates. Quantitative studies tend to be objective and explained by a number of variables (Hakim 1997). In qualitative studies reality is viewed holistically and an
understanding can be gained as to what activity means to the individuals concerned and how experiences have influenced their behaviour (Woods 2000).

"...Qualitative research offers insight into emotional and experiential phenomena in health care to determine what, how and why....qualitative studies offer an alternative when insight into the research is not well established”. (Giacomini and Cook 2000a:257).

The strategy included interviewing a sample of students who had answered the questionnaire. The students were asked in the questionnaire if they were willing to be interviewed. Twelve interviews formed part of the research with both undergraduates and graduates. The students were therefore not randomly selected for interview as they had volunteered. It was hoped that by volunteering to be interviewed that this would produce a good response. Giacomini and Cook (2000b) state that qualitative research is a process of summarising and interpreting data that help explain social phenomena such as interactions, experiences, roles, relationships and organisations. The social environment of the influences on the exercise behaviour of young adults was a key purpose of this study and the qualitative research was an important aspect of the studies. The undergraduate questionnaires were distributed in April at the start of the Easter Vacation and the interviews were held in May on students’ return to university. The interviews were conducted by the researcher on a one-to-one basis. As indicated earlier the project did use techniques from ‘action research’ with the practical ‘hands on’ approach to the project and the fact that the research was taking place at the researcher’s work place. All the undergraduates and graduates who were interviewed were unknown to the researcher prior to the interviews and the researcher did not teach on any academic courses in the university and therefore there was ‘distance’ between the researcher and those researched. (Mays and Pope 2000).

Mays and Pope (2000) state that there are no mechanical solutions to limit the likelihood of errors in qualitative research but certain guidelines are recommended.
The following techniques were used to improve validity, each of which required the exercise of judgement on the part of the researcher and reader.

- Triangulation – comparing the results of the interviews with the questionnaires.
- Respondent validation – researcher’s results were compared with those of the research subjects to establish a level of correspondence between the two set of data.
- Reflexivity – the role of the researcher was made plain in the research process.
- Attention to negative cases – it was also important to offer alternative explanations for the data collected as such ‘deviant case analysis’ helped to refine the analysis until it could explain all or the vast majority of cases.
- Relevance – it was important that the qualitative data added to the existing knowledge.

Interview Strategy

The interviews of the undergraduates were conducted face to face with the researcher at a pre-scheduled time. The interviews were semi-structured to probe the attitudes/ideas of the students. The semi-structured interviews were an important part of the strategy in Study Two and Study Three. The semi-structured format would reveal some excellent information about the attitudes towards motivation and participation in physical activity. The advantages of semi-structured interviews allowed the respondents to express themselves in their own terms and the data collected are central to the respondent. (Denscombe 1998, Bryman 1993, Giacomini and Cook 2000a).

Each interview, with the interviewees consent, was audiotaped and field notes were also used during the interviews. The original replies from the questionnaires were used as a guide for the semi-structured format. The respondents were informed that their answers to the questionnaires would be used as a basis for further discussion. The audiotape transcribing was a substantial part of the methodology and along with
The interview notes provided valuable information for the 'triangulation' aspect of this project. The semi-structured interviews also compensated for the closed questions in the questionnaires and therefore the research methods were used to compensate for the shortcoming of the other. The transcriptions were also used to cross reference any specific information from the questionnaires or review of literature.

The interviews with the graduates (Study Three) followed a similar format in that they were asked on the questionnaires if they would like to opt for an interview as part of the follow up. Due to the fact that the students had left the university and were likely to be away from the area, telephone interviews were used. The interviews were more structured and as it was not possible to record the interviews notes were taken. The interviews were at a pre-scheduled time which was convenient for the respondents.

The aim of the studies with both the undergraduates and graduates was to gain further understanding of the influence of university environment on exercise behaviour. Whilst the quantitative methods established a general picture of exercise behaviour and attitudes towards physical activity, the qualitative methods were used to gain more specific insights to exercise behaviour and attitudes towards physical activity.

Sample
It is important to have a specific population in mind when deciding on a sample (Thomas and Nelson 1996). Study Two was centred on active full time students who were in their third year and were members of the university sport centre. As they were members of the sport centre – which had an annual membership fee and benefits for users – it was assumed that the students were currently active. Commitment to the scheme did not suggest that they had always been 'sporty' and one aim of the study was to research if student exercise behaviour had changed since coming to university. They were to be surveyed before they returned for their final term (May)
and would have completed eight full terms at the university. This was assumed to be sufficient time for the students to have been ‘influenced’ by the sport and recreation programme at university and therefore their participation patterns (or non participation) would have been developed by this stage. It also left a gap between the follow up questionnaires twelve months later when the students had left university. It was easier to ‘track’ the students and the survey would be fresh in their minds. The administration of the research by the author (who had a full time post at the university) was also a consideration in the timing of the questionnaires and interviews.

The sample size was an important consideration. The first three studies in this research were part of a case study at a particular university and therefore a small sample was chosen. This allowed the researcher to focus on the specific interventions and influences of exercise behaviour at the University of Glamorgan and allowed for in-depth studies using a variety of research methods. It also allowed for relationships and processes within social settings to be interconnected (Denscombe 1998). The ‘university experience’ or ‘environment’ as an influence on exercise behaviour was a key purpose of the research. Denscombe (1998) states that whatever the theoretical issues small scale research usually involves samples between 30-250. Denscombe (1998) also notes three characteristics of a small sample. Firstly, extra attention needs to be given to how representative the sample is (e.g. male/female). Provided that the limitations are acknowledged and taken into account, the linked size of the sample need not invalidate the findings. Secondly, the smaller the sample the simpler the analysis must be. Finally, a small sample size is quite in keeping with the nature of any qualitative data.

Denscombe (1998) notes that there are a variety of statistical formula explained by many authors to ensure that the sample is accurate. However, Denscombe (1998) takes a different view and suggests that the competing factors of resources and accuracy means that a decision on sampling size tends to be based on experience and
good judgement rather than relying on strict mathematical formula. Veal (1997:286) notes that most leisure research, even of a quantitative nature, is conducted without statistical analysis. This is a reflection of the descriptive nature of much research in the field, the nature of the data involved and the needs of the audience. Veal adds;

"...Often in leisure research the need is for 'broad brush' research findings: accuracy is required but a high level of precision is not. To some extent the level of use of statistical techniques is related to disciplinary traditions. Thus, for example, the use of statistical techniques in the 'American Journal of Leisure' research is quite common, as a result of the heavy involvement of psychologists in American Leisure research, whereas in the British Journal 'Leisure Studies' statistical techniques are rarely deployed".

For the above reasons, and the small size of the sample, there was no statistical evaluation of the data and the results are discussed at the level of percentages. However, SPSS was used in the research to assess percentages, cross tabulation and means of the data. The sample size and methodology was approved by the University's Research Committee.

Based on the success of the mail questionnaire in the author's previous research (Williams 1993) with a 68% response rate, and the fact that the sample provided accurate information, a similar size, 165 was used for this survey. The smaller sample was also chosen because the questionnaires were designed to gather significant detail with 144 answers from each student. The questionnaire was designed to gather information on exercise behaviour, knowledge, motivation and attitude. The questionnaire would give detailed information on both the current activity patterns of students as well as their past experience, behaviour and aspirations for future participation levels.
Questionnaires were also used to gain data in Study Four – to investigate the physical activity ‘environment’ in other UK universities. A total of 95 questionnaires were sent out to the Heads of Sport and Recreation in universities in Scotland, England, Wales and Northern Ireland. The sample was chosen from a total list of UK ‘Universities and Colleges’ in the Letts Academic Diary 1998. Only universities were chosen and not colleges or Institutions of Higher Education.

The practical issues of pilot studies, mailing technique and response rates are discussed at the beginning of each of the studies.

Delimitations of the Study
The use of self reported instruments as measures of physical activity are a limitation of this study. Although questionnaires are the most widely used technique to measure physical activity, the self-report nature does mean that there are issues regarding the reliability of the results. (Dishman and Sallis 1994). Another limitation was that there was no measure of the level of exercise of the individuals who answered the questionnaires. Therefore the health benefits of the activity could be limited as there was no measure of intensity. An aim of the research was to investigate the exercise behaviour of active graduates who were currently members of the Sport Centre. There was no measure of inactive students who were not motivated by the programme. Future studies may consider including a measure of inactive third year students. Additionally, the data from the first three studies were from the case study of student/graduate exercise behaviour from a specific university. The studies investigated third year undergraduates and graduates who had experienced specific interventions designed to encourage ‘mass’ sport. This specific sample limits the generalisability of the findings.
CHAPTER 5

Study One. Observational Case Study of the environmental physical activity interventions at the University of Glamorgan.
Introduction

The University of Glamorgan celebrated its tenth anniversary as a new university in April 2002. In 2002 the university had nearly 19,000 students and there had been a tremendous period of development and change at the university between 1992-2002. This chapter will detail an observational case study of the University of Glamorgan. This section will highlight:

- The specific higher educational ‘landscape’ at the University of Glamorgan and the development since early 20th Century.
- The author’s previous research of student exercise behaviour at the University of Glamorgan.
- The environmental interventions at the university since 1996 designed to positively encourage active student exercise behaviour.
- The personal involvement and influence of the author of this research to the programmes and development of sport and physical recreation at the university.

The purpose of this section is to explain the tremendous period of change in philosophy at the university towards the encouragement of physical activity amongst students. Central to this philosophy was the author’s previous research into exercise behaviour at the university (Williams 1993). Study Two (page 152) includes an analysis of the influence of the university on exercise behaviour of third year undergraduates who are now exercising regularly.

History of the University of Glamorgan

The University of Glamorgan is a single campus university ten miles north of Cardiff. It is situated in the village of Treforest, near the market town of Pontypridd at the end of the Rhondda Valleys. The University of Glamorgan’s foundations were established in 1913 as the South Wales and Monmouthshire School of Mines to offer
educational courses for men who worked in the mining industry. But there have been many changes in the last eighty years which have significantly impacted on the culture of the institution. In 1928 the college became known as the Treforest School of Mines and in 1949, as a result of ever increasing diversification of subjects taught at the institution, the college was renamed The Glamorgan Technical College. This period saw the continued expansion in numbers of students together with the physical buildings on campus. This period was the beginning of another cultural development within the 'polytechnic' system. Between 1955-56 there were 1,183 full time students and 2,055 part time students at the college. This 'part time' student phenomenon had been associated with Technical Colleges and Polytechnics for many years and was a distinction between traditional universities. This also resulted in many local students being attracted to the college (Crouch 1982).

In 1958 the college was re-named the Glamorgan College of Technology and a new academic award, entitled the Diploma in Technology, was introduced in Treforest. This vocational course was to be regarded as a university degree standard but with a technological emphasis and awarded after a four-year course. This was the beginning of a new academic phase which would see the college re-named Glamorgan Polytechnic in 1970 and the Polytechnic of Wales in 1975. One of the characteristics of the Polytechnic system was that the courses were technical/vocational courses and often at the relative exclusion of other academic areas of study such as the arts and social sciences.

The first Vice-Chancellor of the University of Glamorgan, Professor Sir Adrian Webb stated:

"...There is evidence that the Government respects the 'polytechnic' approach - the emphasis on vocational education, teaching, access, effective management, rigorous quality control systems and cost effective delivery on quality". (Webb 1993).
However, the implications of this culture was a large influx of male students on four year sandwich courses and also a large number of male part time students. These students were also taught mainly by male staff. The male/female student ratio in the Polytechnic was 70% in favour of males. (Polytechnic of Wales 1991).

The Polytechnic of Wales in 1990 had 5,000 students and continued to mainly offer vocational courses. But it was probably one of the most significant periods in sport and recreation development. Prior to 1989 there were no sports facilities on the 70-acre campus at Treforest. One large room could accommodate two ‘roll out’ badminton courts and there was a very old ‘multi gym’ housed in a basement underneath the drama studio. Additionally, thirty acres of playing fields were available three miles from campus with its own changing pavilion. However, the area was undrained and only four of the twelve pitches were available in the winter. There was also a full size floodlit ‘red gravel’ area and changing pavilion. The changing pavilion had ten male changing rooms and only three female changing rooms. This reflected the gender balance in the university and the sporting preferences when the pavilion was constructed in 1970. (In 2001 the University of Glamorgan had two women’s football teams, two women’s rugby teams and two women’s hockey teams).

Between 1975-1989 a Physical Recreation Officer co-ordinated the sports programme which was dominated by male team sports and other activities were accommodated by hiring five local sport centres weekly and transporting students to those venues every evening for club nights and on Wednesdays for matches. There was no weekend programme in the Polytechnic. The facilities at the Polytechnic were greatly enhanced in 1989 by the opening of a £2.5m multi-purpose sports hall on the campus.
The three storey building arguably promoted the Polytechnic to the best sporting facilities within the UK polytechnic sector. The new facility was built to very high specifications and included:

- A large main hall 37m-24m which could accommodate most types of indoor sport.
- A small conditioning room (x2 bikes, x2 jogging machines, x1 rower, x1 multi-gym, x4 electric resistance machines).
- A ladies only trimnasium (x1 bike, x1 rower, x1 jogging machine, x1 small multi-gym).
- Four squash courts.
- Sauna/Solarium.
- Sports Lounge.
- Aerobics Studio (15m x 10m).

The facility was also located next to the Students Union and the university’s halls of residence. Operationally, the new building was run in a similar way to a traditional sport centre with the facility being open for 85 hours per week. The philosophy of the building was detailed in an internal document which stated:

“...The multi purpose Hall is not to be seen as a building in which the Polytechnic family, and others, are simply seen to be playing. It will be an educational building in which the programmes of progression and perfection will occur within a structural framework of tuition, encouragement and friendliness”.

(Llewelyn, 1988).

The staffing structure was also increased to include a Head of Sport and Recreation, two Assistant Heads, receptionists and sport stewards. One of the Assistant Heads appointed was the author of this research (male) who had specific responsibilities for the operational issues of the facility plus coaching student teams and outdoor
The other Assistant Head (female) had specific responsibilities for coaching student teams and fitness testing. The programmes within the Centre were also developed to include seven 'health and fitness' classes per week and four/five 'instructional classes' per week where students could learn a new activity such as trampolining or self defence. In the evenings the majority of the facilities were booked by the Athletic Union (Students Union) to cater for the team sports within the university. These included badminton, squash, karate, archery, table tennis and basketball. Other characteristics of the Centre prior to 1996:

- Student membership £10 per year.
- Student cost was 50p/75p per visit depending on membership status.
- Centre staff were involved in coaching student teams (10 hours per week each).
- There was not capital income available to develop the facilities.

The most radical change in the history of the institution happened in 1992 following the Further and Higher Education Bill in England and Wales in Parliament on 6th March 1992. In effect funding would come from a single Higher Education Council and the Polytechnic of Wales was to become a 'new' university. The university’s funding was now directly related to the number of students. The University of Glamorgan now had to market itself successfully and aggressively to recruit a large number of students to ensure that the new university grew quickly and that funding arrangements would reflect this growth. Apart from the development of the sports facilities there had been little development of the campus during the Polytechnic phase. However, from 1993-1996 saw a tremendous expansion of student numbers and environmental development on campus:

- £10m student accommodation with 730 en-suite rooms. (200m from the Sport Centre).
- New teaching facilities.
- Extension to Students Union.
• New 500 space car park.
• New corporate image of university.

However, probably the most radical change was in the academic programmes within the university. Traditional polytechnic sandwich courses such as chemical engineering were closed and new courses within business, social sciences, humanities, nursing, computing and sport science were developed and were very popular amongst students. The more traditional polytechnic sandwich courses were now not the main courses available at the university. The new courses attracted more female students to the university and by 1999 the male/female ratio was 64% in favour of females. This was a major shift from the male dominated campus during the Polytechnic era.

The latest figures for the University of Glamorgan (2002) indicate the following demographic characteristics.

• Between 1995/96-2000/01 the overall percentage change in enrolments by level of study at the university was:
  • Undergraduate — increase 25.1%
  • Postgraduate (taught) — increase 48%
  • Postgraduate (research) — increase 88%
  • All levels of study — increase of 28.4%

• Favoured subject areas were as follows in 2001/2002:
  • Business School 20%
  • Humanities and Social Sciences 19%
  • Applied Sciences (includes Sports Science) 14%
  • Technology 13%
  • Computing 10%
  • Electronics 7%
- Law School 7%
- Care Sciences 6%
- Combined Studies 4%
- Engineering and Environmental 0%

(University of Glamorgan 2002:4).

Additionally;

- Over 17,000 student enrolled in the University in 2000/2001.
- 52% female, 48% male (degree).
- 65% male, 35% female (HND).
- 88% of Glamorgan’s 2001 UCAS applications were in the 18-21 year age group, 5% in the 22-25 age range whilst only 7% were 25 years old and over.
- The ‘home’ applications who accepted the university’s offer were from the following regions.

Table 5.1
‘Home’ applications for the University of Glamorgan

<table>
<thead>
<tr>
<th>Region</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wales</td>
<td>61%</td>
<td>66%</td>
<td>72%</td>
</tr>
<tr>
<td>South West</td>
<td>11%</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>South East</td>
<td>9%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>West Midlands</td>
<td>5%</td>
<td>5%</td>
<td>3%</td>
</tr>
</tbody>
</table>

University of Glamorgan (2002:45)

The above figures indicate an increased percentage of acceptances from applicants resident in Wales when compared to 1999 entry. Suggested reasons for this include the marketing approach of the university to attract local students as well as the
financial burdens on students resulting in the necessity to live at home and study at a local university.

The table below gives information on the ethnic origin of the students.

Table 5.2
Ethnic Origin of students at the University of Glamorgan (2002)

<table>
<thead>
<tr>
<th>Ethnic Origin</th>
<th>University of Glamorgan</th>
<th>UCAS National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>White British</td>
<td>82%</td>
<td>73%</td>
</tr>
<tr>
<td>Unknown Ethnic Origin</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Indian</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Pakistani</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Chinese</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>White Irish</td>
<td>-</td>
<td>2%</td>
</tr>
<tr>
<td>White Other</td>
<td>-</td>
<td>2%</td>
</tr>
<tr>
<td>Black African</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Asian Other</td>
<td>-</td>
<td>1%</td>
</tr>
</tbody>
</table>

University of Glamorgan (2002:45).

The above figures do indicate that the majority of students at the University of Glamorgan in 2002 were white British ethnic origin, originate from Wales, are between 18-21 years old and the most popular courses are in business, social sciences and applied sciences. There is little difference between male/female numbers on degree courses, but more male students do participate in the HND programmes. But the most striking statistic is the growth in number of students (72%) who come from Wales to study at the university on degree/HND schemes. The geographical breakdown of requests for literature from potential students for 2002 entry revealed that over 90% of the requests originated from South Wales. Taking Wales as a whole, there is a much higher concentration of people who live in South Wales and therefore this might be expected. However, it does indicate the ‘Welshness’ of the University of Glamorgan in that over 72% of the ‘home’ 2001 entry were from Wales and the
future indicates that this is likely to continue, particularly with students from South Wales. This mirrors the initial philosophy of the institution in 1919 when it was set up to educate local students to support the mining industry.

It could be assumed that since the majority of students are 18 at the age of entry to the university and they come from Wales (with the majority from South Wales) that their physical activity backgrounds/experiences could be very similar. Chapters Two has used many references from the Sports Council for Wales specifically to support the 'Welshness' of this study and the fact that the majority of students originate from Wales. The review indicates the experiences of male/female school children in Wales, the facilities available, the dominance of 'team' games within the curriculum and the enjoyment levels of school children in Wales together with the influences on their physical activity experiences.

Research into student exercise behaviour at the University of Glamorgan

An earlier study at Masters level in 1993 by the author highlighted many of the characteristics of student exercise participation at the University of Glamorgan (Williams 1993). The research used self-fill questionnaires to assess the participation patterns in active recreation of undergraduate students (n = 102). The survey was designed to assess the factors that influenced active participation in sport and recreation at the university and also to offer guidelines for improving the recreation service at the university to encourage more active participation. The survey included a split of all year groups in the university; 1st year students 40%, 2nd year students 30%, 3rd year students 20%, 4th year students 10%. The questionnaire used mainly 'closed' questions. The research did have limitations including the self-fill nature of the questionnaire and the research did not include a qualitative study or do a follow up after the students had completed their studies at university.

Specific findings from Williams (1993) found that:
75% of the students surveyed enjoyed the Physical Education programme at school.

The most positive influences on their reasons to participate were friends (41%), PE teachers (27%) and parents (18%).

Of those who disliked the PE programme (n = 26) 86% disliked the programme offered and 37% disliked the PE teacher.

96% of students participated for 'enjoyment' and 58% said that competition was either 'not very important' or 'not at all important' as a motivator.

73% of the students surveyed had members of their family who regularly participated in sport.

74% of the students rated the facilities at the university as either 'excellent' or 'very good', with the majority agreeing that improving of the facilities would motivate participation.

48% had increased their participation in more sport and recreation since joining the University.

58% were aware of the programmes, facilities and pricing structure.

79% of the respondents indicated that they would participate in more sport and recreation if it was free.

35% of the respondents indicated that their participation in sport and physical recreation dropped during the vacations.

72% felt that sport and recreation positively influenced the quality of their student life.

66% of the students exercised between 1-4 times per week.

96% of students indicated that 'good' health was either 'very important' or 'quite important' reasons to participate.

65% of respondents said that 'meeting friends' was an important part of regularly exercising.

72% of students said that 'personal achievement' was an important motivator to exercise.

The respondents indicated the following exercise preferences:
- Team sports 16%
- Individual activities 30%
- Mixture of both 54%

- 46% of respondents indicated that the publicity was either 'poor' or 'fair'.

One of the aims of the research in 1993 was to give recommendations both for future research into student exercise behaviour and also specific recommendations for the development of the sport and recreation service at the University of Glamorgan to influence student participation in active recreation. There were over twenty recommendations/conclusions in the final chapter and included the following:

- Surveys should be designed so that recommendations/conclusions could be realistically achieved within long/short term planning strategies.
- A major overhaul of the marketing of the Recreation Centre was suggested. A major concern was the image, publicity and promotion of the Centre. This was to include:
  - Department staff/student representatives throughout the university to co-ordinate publicity.
  - A specific 'housestyle'.
  - Purchase of prominent noticeboards throughout the campus.
  - Re-introduction of a monthly newsletter.
  - Updated computer system in the Centre.

- Additional funding to improve the facilities to include a new 'astroturf', new playing fields and new equipment for the Sport Centre.
- A balanced programme had to be achieved to ensure that teams did not monopolise the bookings, “although excellence in teams should be supported it should not be at the total expense of the casual user”.
- Review of the pricing structure and possibly offer free sport to encourage more use.
• Review the 'multi-purpose' nature of the Sport Centre as the pressure to generate income was effecting the time available for sports use.

• New marketing required to influence the 'home based' students to use the facilities.

• Review of the membership scheme to offer more benefits.

• Regular surveys are needed to gauge the customer 'focus' and satisfaction of the service.

• Review to increase competitive sports at the weekends.

• A new computerised booking system was suggested to provide a better service and provide better MIS.

• Sport and Recreation academic courses should be started at the University.

• Opening hours needed to be extended at the weekends.

• The shared delivery of sport within the university between the Students Union (teams), the university (facilities) and programmes should be reviewed so that both areas are under one organisation.

• A Sports Scholarship system was suggested to support talented sports individuals.

• Staff within the Sport Centre should be encouraged to attend customer care courses as students indicated that they were not always happy with the service they received.

(Williams 1993:168-174)

Additionally, it was suggested that one of the main aims of a university programme should be to encourage 'lifelong participation'. Therefore, it was recommended that a survey of ex-students to gauge the influence of the university programme would be very interesting.
The author's position in the context of this research in the University of Glamorgan

It is important to clarify the position of the author in relation to this research to offer a more reflexive approach to the study. The position of the author within the University did mean that he was able to instigate changes and this Study will detail the changes that have taken place since the original research in 1993. The author qualified as a physical education teacher and taught in physical education in a further education college in England and in secondary schools in South Wales. He was appointed Assistant Head of Sport and Recreation at the Polytechnic of Wales in 1989 to work in the Sport Centre. In 1993 the author completed a masters degree in Sport and Leisure Studies which included a case study at the Sport and Recreation Department at the University of Glamorgan (Williams 1993). Between 1994-1996 the author taught on the new degree scheme in Applied Sport Science in addition to his post as Assistant Head of Sport and Physical Recreation.

In April 1996 the original Head of Sport and Recreation at the university retired and the Assistant Head (Female) also left to take up a new post of Head of Sport at a neighbouring college. The author was appointed Acting Head of Sport and Recreation in May 1996. The Directorate at the University of Glamorgan instigated a review of the Sport and Recreation Service and the author was tasked with writing a strategic five year business plan to 'develop the Sport and Recreation Service'. A forty-seven page Business Plan was accepted by the Directorate in August 1996 and the author was appointed to the full-time position as Head of Sport and Recreation in October 1996 and was given the support and approval to deliver the agreed business plan at the university.

The details of the business plan are important to this research and are detailed in the next section. The position of the author having previously completed a detailed dissertation with recommendations for increasing physical activity was a benefit in writing the business plan in that many of the strengths/weaknesses of the service had
been identified. For the purpose of this case study it did mean that the author had background knowledge of the university environment/culture and that he now had authority to instigate many of the changes. Although the changes from 1996 onward were never designed to be 'research' based, it did allow the author to become involved in the planning and delivery of the service on an annual/daily basis. This allowed for a very fluid programme of events which could be directly influenced by the author.

**Sport and Recreation Centre Business Plan 1996.**

The aim of the Business Plan in 1996 was to:

a. Deliver a high quality standard of facility provision for:
   - Casual recreational sport.
   - Taught classes in a range of sports.
   - Student Union teams, fixtures and coaching assistance.
   - Academic teaching.
   - Conference bookings.
   - University use.

b. Operating on a commercial basis throughout the year:
   - Reducing the operating deficit.

The above aims and objectives were accepted by the university but on the condition that the university students had priority term time use of the facilities for sport. Section B in the above aims and objectives were a major policy shift within the university. It meant that the Centre had to increase its income and reduce the annual operating deficit of £½m. The university also wanted to raise the profile of the university by using sport and recreation as a marketing tool to attract new potential students. The business plan was designed to increase the 'mass' sport programme of the service by offering programmes which would be attractive to high numbers of
young people, but also balancing the traditional team sports culture within the university. Specific interventions were designed to increase the participation by undergraduates. The new Department also had an agreed Mission Statement which was designed to embrace the philosophy of the Centre:

'The Mission of the Centre is to provide the widest range of quality facilities which will allow participants the opportunities for safe active participation in physical activity at all levels of skill and interest. The Centre will provide a wide range of instruction recreation and competitive programmes for those who wish to participate'.

The business plan estimated that it would take three years for the plan to be fully operational/successful due to the traditional nature of university 'customers'. For example, it was assumed that in the first year of the new programme in 1996 that many third year students may not be influenced by the new programme and therefore it was aimed at first/second year students. Therefore, in 1999 the students in the third year would have been the first cohort to experience the full programme over 3 years and hence the timing of this research. The specific interventions are detailed overleaf.
Table 5.3
Environmental physical activity interventions at the University of Glamorgan since 1996

<table>
<thead>
<tr>
<th>Physical activity Interventions</th>
<th>Pre 1996</th>
<th>Sept 1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed Saturday and Sunday morning</td>
<td>X30 more hours per week available for ‘health and fitness’ related activities</td>
<td>Opening hours increased to open on a Saturday/Sunday morning.</td>
</tr>
<tr>
<td>Academic Teaching in sports facilities at peak times including lunchtimes and early evenings.</td>
<td>Academic teaching now restricted to off-peak times 9-11am and 2-4pm. (Service level agreements).</td>
<td></td>
</tr>
<tr>
<td>No investment in facilities since 1989.</td>
<td>£1.5m investment in facilities to include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 60 station Conditioning Room</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Coloured Squash Courts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New all weather pitch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sky Sports Lounge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New Aerobics studio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New floodlights on pitch (4 areas – only 2 in 1995)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New management information system including bookings, tills, membership scheme</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• x3 new grass pitches</td>
<td></td>
</tr>
<tr>
<td>No market research apart from author’s research (Williams 1993).</td>
<td>Regular detailed surveys to develop a ‘customer focus’ culture within the Centre.</td>
<td></td>
</tr>
<tr>
<td>Basic advertising.</td>
<td>Re-branding of the service to be re-named ‘Centre for Sport and Physical Recreation’ to include a new ‘housestyle’ and a 24 page colour brochure which was given to each new student. Introduce web pages for the Centre. Development of distribution trails for booklets and information. Establish a named contact in each Department and advertise through electronic mailing system. Regular displays and workshops around the Campus to raise awareness of scheme.</td>
<td></td>
</tr>
</tbody>
</table>
### Physical activity Interventions

<table>
<thead>
<tr>
<th>Pre 1996</th>
<th>Sept 1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>No sales culture</td>
<td>Introduce a sales culture to the Department with ‘sales targets’ and continual evaluation of the products available.</td>
</tr>
</tbody>
</table>
| x1 Head of Sports and Recreation (Author) | x1 Health and Fitness Manager (new)  
x1 Operations Manager (new)  
Plus major review of existing staff with new roles as Duty Officers, Sports Stewards and an increase in Reception staff. |
| 7 health and fitness classes per week. | 30 classes per week. |
| 5 instructional (new activity) classes | 15 classes per week. |
| 2 coaching awards per year | 10 awards per year. |
| 7 Instructors employed | 30+ Instructors employed. |
| No cover for cancellation. | Policy of ‘no cancellations’ |
| No Intra Mural Programme | Intra Mural 8-week competitive leagues involving up to 500 male students per week. |
| No ‘Inductions’ to the Conditioning Equipment | Compulsory Induction to all users of Conditioning equipment – even previous users. |
| No Health and Fitness Consultation (fitness test) service. | Full Health and Fitness Test service. |
| Centre staff coaching student competitive teams. | Centre staff now teaching on Health and Fitness programme and not on competitive teams. |
The introduction of a new staffing culture and new posts was a crucial part of the re-branding of the Centre. The Health and Fitness Manager’s role indicated in the advertisement that one of the roles would be specifically to encourage female participation in health and fitness activities. All existing staff were re-trained in customer care and sales activities. The prices were increased from 50p/75p to 80p/£1.00 per activity. The market analysis indicated that the students would pay the increase because of the new products on offer.

The new programmes available were a crucial part of the review of the old service. In line with the new facilities, new staffing, staff re-training and new branding of the Centre the business plan suggested that there needed to be a huge increase in the number of instructor led programmes and programmes which had a high level of staff organisation. Additionally, the author’s experience indicated that the activities would need to be at a low level (i.e. beginner/intermediate), have good instructors who were aware of the motivations/background of the students, no membership and a ‘drop in’ option with an attractive price structure.

The changes outlined resulted in a major culture change in the university for both the staff of the Centre and the university community. The Centre pre-1996 had been operating on a similar usage pattern to that of 1999, i.e. 94-96% capacity use during term time. However, the Centre was dominated by team sports/academic teaching, much of which was poorly supported. The re-branding, investment and ‘mass’ sport ideals were supported to increase the marketing and income of the Centre.

This research will demonstrate that the specific interventions in Study One have increased active participation and influenced exercise behaviour of a sample of students since they arrived at university. The interventions in Study One were designed with ‘lifelong’ participation as a goal and Study Three (page 222) indicates that the university interventions have influenced post-university exercise behaviour.
CHAPTER 6

Study Two – Physical Activity Experiences and Exercise Behaviour of Active Third Year Undergraduates
Introduction

The aim of this study was to investigate self-reported exercise behaviour of active third year undergraduate students. The specific objectives were:

1. To examine past and current exercise experiences to include family life, school physical education experiences and university influences on exercise behaviour.
2. To identify if the university environment had influenced current exercise behaviour.
3. To identify if the students had started new activities since starting at university and if these new activities were now part of their regular exercise behaviour.
4. To identify the aspirations of the students for future participation in active recreation once they had left university.
5. To establish if the university environment had been a positive or negative influence on their current exercise behaviour.
6. To track these students over a twelve month period and establish patterns of exercise behaviour change ten months after they had left university.

Procedure

A sample of third year undergraduate students who were members of the Sport Centre at the University of Glamorgan were asked to complete a questionnaire. This was the first of a two part longitudinal study into exercise behaviour of young adults. The second part would be follow up questionnaires and interviews to the same samples in twelve months time after they had left university. No prior warning about the questionnaire was given to the students and the students were informed that it was part of a larger project which would include voluntary interviews and a follow up questionnaire once students had left the university. Completion of the questionnaire was also voluntary and no reward was given. The students were informed of the role of the researcher and the positive impacts in the sports facilities since 1996. The students were informed that their responses...
would be confidential. The research procedure was approved by the University of Glamorgan’s Research Committee.

Measures

The questionnaire was designed to be completed in 15 minutes and consisted of mainly closed questions. The format and design of the questionnaire included 144 items (see Appendix A). Although Denscombe (1998) suggests that e-mail surveys can have many advantages over postal questionnaires, it was decided not to offer the e-mail method as an option following advice from the University’s Information Technology Centre (ITC). ITC suggested that there could be many problems associated with such a questionnaire, including:

- The size of the questionnaire meant that ‘scrolling’ (reading) such a document was not ‘user friendly’. Consequently many students were unlikely to print it out anyway.
- The size of the questionnaire may cause problems on some students’ computers. It could not be assumed that all computers would be able to cope with such a document.
- Electronic Mail was not universally available to many students and most questionnaires are still completed in the standard paper format.

A peer review was also included in the questionnaire design. A copy of the questionnaire and covering letter was sent to a senior manager in a local authority leisure services and to senior lecturer in Sports Development at another university. The tutor for this project had also completed contract research for the Sports Council for Wales. Relevant constructive changes were made as a consequence. The questionnaire was also designed in such a way that a transfer of the responses to a computer would be efficient. Confidentiality and anonymity were guaranteed through the use of codes rather than individual names and addresses (See Appendix A). The questionnaire design also included exercise barrier scales which were used in research by Pook (1995) and Edie (1991) who also investigated exercise behaviour and attitude of university students.
Distribution and Collection of the Questionnaire

The questionnaires were sent out to the students' vacation addresses. The addresses were obtained from the Sport Centre membership database. Hoinville and Jowell (1978) suggest that there is slight evidence that a Thursday mail out results in a quicker (if not higher) response rate than mailing on any other day. The questionnaire included a Freepost envelope for returns. The researcher followed the advice from Hoinville and Jowell (1978) who also suggested that a first reminder should be sent after ten days of initial mail-shot and a second reminder after eighteen days. The following procedure was used:

- Initial mailing of 165, covering letter, x1 questionnaire, x1 Freepost return envelope.
- First reminder to non-respondents, new covering letter, x1 questionnaire, x1 Freepost envelope.
- Second reminder, third covering letter, x1 questionnaire, x1 Freepost envelope.

Sample

Details of the specific population sample for this case study are detailed in the Research Design on page 129. A total of 165 full-time, third year students were randomly selected from the Sport Centre membership database at the University of Glamorgan. The students were selected using a random table.

Data Analysis

The questionnaires were checked and entered on a computer for analysis using the Statistical Package for Social Science (SPSS). The package allowed for cross tabulation between dependent and independent variables and allowed for the data to be collated and compared with previous findings of other relevant research studies. Discussions of the findings are also included in this Chapter as well as in the final Chapter.
Interviews

The research design outlined in Chapter Four also included a qualitative study of selected undergraduates who replied to the questionnaire. The respondents were asked if they wished to be interviewed on their return in the Summer Term which was approximately six weeks after they had replied to the questionnaire. The qualitative research was intended to further explore the attitudes, beliefs, perceptions and behaviours of undergraduates towards physical activity. Twelve undergraduate students were selected for interview at a convenient time to themselves. The students were asked in the questionnaire if they were willing to be interviewed. The students were therefore not randomly selected for interview as they had volunteered. It was hoped that by volunteering to be interviewed that this would produce a good response. They were interviewed by the researcher in the Sport Centre at the university. The interviews were audio taped with the interviewee’s permission and were semi-structured. Interview notes were also taken by the researcher and these were written up within 24 hours by the researcher.

Response Rate and Sample Demography

The response rate from the students was 73% (129 responses) which is a good rate from a postal survey. 70% of the student respondents were female, full time students who studied at the university for three years. Although the returns were 70/30 in favour of female responders, the gender split in sending out the questionnaires was only 58/42 in the favour of females. Only 2% of the respondents were part-time students. Due to the high number of female responses, there are implications for generaliability of the findings. In 1991 the male/female split in the university’s student population was a 66% male and 34% female. The split in 1999 was male 36% female 64%. This is a significant change and confirms the reference in the review of literature to Wilson (1998) who stated of the profile of university students in the late 1990's ‘women students out number men students by approximately 10%’. Therefore, although this research will include more responses from female students, it is representative of the University
of Glamorgan population as there are significantly more females at university than in the early 1990's. These figures below also show that over 80% of the students who responded were under 23 years of age.

**Completion of Secondary Education**

In this undergraduate survey 75% of students completed their secondary education to the age of 17/18 and followed the traditional routes to higher education. The following figures show the grouped ages of the students surveyed;

Table 6.1

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-20</td>
<td>20%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>21-23</td>
<td>62%</td>
<td>54%</td>
<td>65%</td>
</tr>
<tr>
<td>24-25</td>
<td>10%</td>
<td>17%</td>
<td>7%</td>
</tr>
<tr>
<td>26+</td>
<td>8%</td>
<td>12%</td>
<td>6%</td>
</tr>
</tbody>
</table>

The data shows that 29% of males are in the 24+ age group and only 13% of females. This suggests that some males started higher education at a later age and 12% will be over 26 years old when they graduate. The majority of females surveyed (76%) completed their secondary education at the 17/18 age group. This suggests that the female students were exposed to some form of physical education/recreation within a school/sixth form college until they were eighteen years of age. However, it is not evident if this was compulsory.

**Marital status**

The vast majority of students (94% male, 99% female) were single with a slightly higher percentage of males being married. Being married could have been a factor in influencing the participation rates in active recreation by adults (Torkildsen 1999).
Accommodation

The majority of the third year students surveyed (89% males, 87% female) lived in rented accommodation and only 5% lived at home with their parents. Additionally, only 3% of the males and 4% of the females lived in the Halls of Residence. These characteristics are not unusual for third year students who tend to live in rented accommodation with other students. The majority of the students (83% male, 88% female) also walk to the university and only 8% own a car.

Student profile

The above characteristics help to complete the profile of the third year student at the University of Glamorgan for this case study. The majority of students were still within what could be seen as the 'traditional' profile of a third year student where the majority are; full time, studying for 3 years, between the ages of 18-23, not married, living in rented accommodation close to the university and walking to the university. The majority also left full time school education at 16-18 years old. This does give crucial information to the researcher. Research in Chapter Two suggests that the students were not exposed to many of the factors, which tend to limit participation amongst adults. For example, if the majority of students (83-88%) walk to the campus it suggests that they live close by. The accessibility and availability of the sports facilities on campus is excellent. (The Sport Centre is within a maximum of three minutes walk from any of the boundaries on campus). Therefore, it could be assumed that the proximity of the facilities could not be a deterrent to participation.

It could also be assumed that the lack of a car would not be detrimental to participation rates amongst students due to the proximity of the facilities. Another area of interest was the low number of third year students (5%) living with their parents. The low percentage of students living at home in this study (5%) suggests that the majority had experienced social change. This experience of the new 'culture' of university in influencing exercise change, as seen in Chapter Two, is important if patterns of behaviour are to change.
Pre University experiences of physical activity and sport

Enjoyment of the School PE Curriculum

77% of male students and 61% of female students indicated that they enjoyed the curriculum based PE programme in school. These are quite high in relation to some evidence from the literature review but the high percentage - almost 40% - of the girls who disliked the curriculum does tend to suggest that the curriculum is not an enjoyable/motivating experience for a high percentage of female pupils.

Negative responses by undergraduates to the PE programme at school

The comments below are from purposively selected interviews with two male students to reflect the negative experiences of the PE programme. One student was educated in the 1950’s and 60’s in Scotland and one who was educated in the 1990’s in England. Both state that ‘team games’ were the staple diet of the PE programme even in the sixth form.

Student (No. 16): “It was based around sport during the season, Football in Winter, Rugby in the Spring and Cricket in the Summer. It was not a ‘fitness thing, it was a ‘sports thing’”.

This was also true of extra curricular sport:

Student (No. 16): “Well there were obviously the school teams, but it was mainly only training for the school teams, but apart from that it was a case of going outside the school and joining the sports clubs”.

Another male student speaking of the PE programme said:

Student (No. 143): “It was very much the same throughout
the time there and it was pretty dire. They just let people go off and play football and you may play a bit of cricket or athletics, but on the whole it was very poor”.

Interviewer: “So it was traditional team games really?”

Student (No. 143): “Yes the traditional format that was laid down in the late 50’s and early 60’s”.

Interviewer: What about the guys who did not enjoy the team sports, was there anything for them?”

Student (No. 143): “Zero. Occasionally they would send you off on a cross country run which was a punishment and people just walked it. There was really nothing on conditioning or fitness”.

Some of the interviews probed some of the perceptions of the students of the ‘style’ of the PE teacher and the ‘positive’ or ‘negative’ effect it had on them.

Interviewer: “...You mention that you did not have good PE teachers. Was it a personal dislike of them or what was it?”

Student (No. 152): “They weren’t very good at certain subjects. They tended to do the things they liked rather than what was in the curriculum. They were not very friendly”.

Interviewer: “PE teachers often have the ‘tag’ of being in charge of discipline and pupils are often sent to ‘see the PE
teacher' and they often shout. Was it that style or were they just not approachable?"

**Student (No. 152):** "I think the men were too friendly and the women were very nasty. I don't ever remember going to see them about anything except how to get out of the showers".

These interviews agree with the 'unenjoyable' aspects of the PE programme and the delivery of that programme as perceived by some pupils. Similar findings were discussed in the review of literature.

In the interviews three students who did enjoy the PE curriculum were conscious of the fact that there was little to motivate pupils from the 'style' and delivery of the PE teachers if the pupils did not fit in with the programme offered. In reply to the question 'What 'style' of PE teacher did you have?’, the following remarks were made:

**Student (No. 63):** "They weren't strict. But at the same time they were only interested in the people who wanted to do sport and had self-motivation. If people did not want to play sport, they were not encouraged to take part. They would just do running around the field and they would hang back at the cross country and no effort was made to encourage them".

**Student (No. 19):** "Well, I think they had their favourites. But I did get on with them. But they were pretty strict I suppose".

**Student (No. 95):** "Yes it was a friendly approach. In fact (name
(Male) supplied) the International (Rugby) Referee was my schoolmaster and because of that was very good for the youngsters. It was unfortunate for the lads who were not very focussed on rugby as they would not encourage them to take part in it”.

Student (No. 16): There are some friends I know who do a lot of sport now but they did not like the approach of the teachers and they did not get involved in school.

Clearly, changes in the PE delivery and programme may be needed if lifelong participation is to be a goal of the PE national curriculum.
Additional negative factors regarding the PE programme at school

Table 6.2
% Negative factors which influenced the dislike of the PE programme in school (n = 44)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Facilities</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Personal dislike of PE teacher</td>
<td>25</td>
<td>-</td>
<td>62</td>
<td>38</td>
<td>-</td>
</tr>
<tr>
<td>Dislike the programme offered</td>
<td>25</td>
<td>18</td>
<td>13</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Low personal achievement in sport</td>
<td>25</td>
<td>12</td>
<td>13</td>
<td>42</td>
<td>25</td>
</tr>
<tr>
<td>Friends/peers not interested in sport</td>
<td>13</td>
<td>3</td>
<td>12</td>
<td>36</td>
<td>50</td>
</tr>
<tr>
<td>Disliked PE kit</td>
<td>13</td>
<td>21</td>
<td>12</td>
<td>30</td>
<td>62</td>
</tr>
<tr>
<td>Disliked PE rules</td>
<td>13</td>
<td>15</td>
<td>37</td>
<td>21</td>
<td>50</td>
</tr>
<tr>
<td>Disliked changing showering facilities</td>
<td>13</td>
<td>31</td>
<td>25</td>
<td>27</td>
<td>50</td>
</tr>
</tbody>
</table>

Of those who disliked the PE programme 87% males and 38% females ‘agreed’ or ‘strongly agreed’ that the lack of good facilities was one of the reasons for their lack of enjoyment. Males associated higher importance to this fact. Some of the interviews indicated the specific reasons why the students disliked the programme.

**Student (No. 152):** “There were not a lot of facilities. I mean we did
not ever do swimming or anything like that. The only time we did tennis was very late in the school year and that was because they accidentally came across some tennis equipment. Even the badminton equipment was not very good, you just had to make do with what they had. The rackets were awful so unless you brought your own you were limited as to what you could do”.

Student (No. 63): (Female) (We had)...basic facilities but it was old and needed replacing. A lot needed repairing. The hurdles for example, you could not adjust them, you just has to wrap sellotape around them”.

Student (No. 143): (Male) “It was very much the same throughout my time and it was (the facilities) pretty dire. They (PE Teachers) just let people off and play football and you may play a bit of cricket or athletics but on the whole it was very poor”.

Student (No. 58): (Male) “...we had a gym, no weights rooms, an Astroturf pitch to share with our sister school and four sports facilities. It was not bad, but it was not great either”.

The style and delivery by the PE teacher will have an influence on the enjoyment - and therefore future participation patterns - of school pupils. 38% of males and 58% of females indicated that they had a personal dislike of the PE teacher. This suggests that for those who did not like the programme, the PE teacher had a significant negative impact. Insight into this style is also mentioned in the interviews;
Student (No., 63): “(the PE teachers)...were only interested in the people who wanted to do sport and had self motivation. If people did not want to play sport, they were not encouraged to take part”.

Interviewer: “What about the pupils who did not like PE - were they put off by the approaches of the PE staff?”

Student (No. 19): “Yes I think so because they were not encouraged. It was up to them to make the effort”.

Additionally, 87% of males and 82% of females who disliked their school physical education programme blamed the curriculum. Some students when interviewed gave specific reasons why they disliked the programme.

Student (No. 19): “There was a lot of emphasis on team games – Netball and Lacrosse. We did not do much hockey unlike other schools – sort of fun sports such as Basketball and Volleyball were only introduced occasionally”.

Student (No. 143): “Occasionally they would send you off on a cross country run which was a punishment and people just walked it. There was really nothing on conditioning and fitness”.

Student (No. 152): “It was once every other week that we did PE. They squashed what they could into that which was not a lot. They did not have good facilities, they were not nice to you, they did what they could get away with. In aerobics they did not know what they were
doing, they need to know what they are doing to sell it to the kids”.

If the aim is lifelong participation - which must include a significant element of ‘enjoyment’ - then the programme was not motivating to some pupils. This supports some of the findings in Chapter Two.

The review of literature documented the fact that a sense of achievement is essential to foster continued participation and is crucial to the motivation of an individual to continue with sport. 38% of males and 54% of females stated that ‘low personal achievement’ was the reason why they disliked the Physical Education programme at school. The review of literature suggests that this could be linked to both the activities offered and the style of delivery by the PE teachers. It is essential to an individual’s self esteem that success, at whatever level, is achieved to ensure continued participation. 25% of males and 39% percent of females indicated that they disliked the school PE curriculum because their friends were not interested.

24% of males and 51% of females indicated that they disliked the PE programme offered due to the compulsory PE kit that they had to wear. This was highlighted in the following selected answer.

**Interviewer:** "You say that you disliked the PE kit - was that quite strict in your school?"

**Student (No. 19):** (Female) “Yeah, little things like they would do kit checks and there was a lot of emphasis on wearing the right things and that was just to look good. I don’t think you needed to wear a silly skirt. I would have preferred just to have worn leggings".
The data showed that 50% of males and 36% of females said that they disliked the PE programme at school because of the 'rules'. The regimented delivery of many PE programmes, highlighted earlier with the almost military/team games philosophy, is off-putting to many individuals as indicated by the earlier quotations on page 37.

The survey also showed that 38% of males and 58% of females disliked the physical education programme due to the changing/showering facilities. The feelings of low self esteem particularly when the body is going through rapid changes, can be affected by the showering/changing arrangements at school. This suggests that the showering arrangements in university need to be different if they are to encourage participation. The University of Glamorgan has segregated showering cubicles in the female changing rooms.

Factors which influenced enjoyment of the PE programme in school
The previous responses showed that the majority of male (77%) and female (61%) students enjoyed the PE programme in school. As discussed in the review of literature the 'enjoyment' factor is crucial to ensure that the individual remains motivated to participate in active recreation. The students indicated that the 'enjoyment' factor is influenced by the elements listed in the table overleaf.
Table 6.3
% Factors which influenced the enjoyment of the PE programme in schools (n = 121)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Excellent Facilities</td>
<td>50</td>
<td>44</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Good PE Teacher</td>
<td>11</td>
<td>17</td>
<td>64</td>
<td>56</td>
</tr>
<tr>
<td>Enjoyed Programme</td>
<td>4</td>
<td>17</td>
<td>64</td>
<td>77</td>
</tr>
<tr>
<td>Good success at activities</td>
<td>25</td>
<td>23</td>
<td>57</td>
<td>56</td>
</tr>
<tr>
<td>Friends enjoyed sports</td>
<td>29</td>
<td>29</td>
<td>50</td>
<td>44</td>
</tr>
<tr>
<td>Plenty of opportunity for extra curricular</td>
<td>21</td>
<td>25</td>
<td>39</td>
<td>29</td>
</tr>
<tr>
<td>Enjoyed team sports</td>
<td>43</td>
<td>42</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Plenty of opportunities for competitions matches</td>
<td>25</td>
<td>25</td>
<td>39</td>
<td>42</td>
</tr>
</tbody>
</table>

The data shows that, apart from the enjoyment of the curriculum, there is very little difference between the male and female responses. The above factors were highlighted earlier in both the theoretical aspects of motivation and the reviews of other research. The opportunity for extra curricular activities was not one of the highest ranking areas of ‘enjoyment’ of the students. This is surprising but it may also reflect that there may not be much of an opportunity for extra curricular activities at present and therefore it is not part of the present culture in schools.

The results indicate that there were mixed responses about the facilities available for the PE programme. Additionally, the programme was enjoyable for most pupils and four in five had friends who also enjoyed sports. Nine in ten enjoyed team sports, but the results do not indicate if other choices were available.

Of interest are the very high rates from the female respondents to the enjoyment of the curriculum. This suggests that those females who enjoyed sport at school, found the curriculum very enjoyable. This does not agree with some of the literature that was reviewed in the earlier chapters, but the interviews conducted in
this study revealed some of the reasons why the students found the PE programme enjoyable.

**Student (No. 20):** (Female)  
"I did very much enjoy the PE programme, but did not like the outside team games. The PE staff were very friendly and supportive. In school I did extra curricular activities such as trampolining and athletics".

**Student (No. 152):** (Female)  
"The bit we did I enjoyed a lot. Sometimes we were split up but mostly it was mixed. I preferred it to be mixed because with just the girls you tend to do just rounders, netball. But with the boys you got basketball and a wider range of activities instead of being sectioned into feminine and male sports".

**Student (No. 65):** (Female)  
"I very much enjoyed the PE programme at school particularly hockey, netball, tennis and dance….I got on with my PE teacher who was very approachable. Most of my friends were also interested in sport and I also played hockey outside school. My hockey coach outside school was also very supportive".

The examples above show that the PE teacher and the content of the curriculum are very important for the enjoyment of the pupils. The positive experiences seem to be very much related to both the choice of activities and delivery. Some of the female students interviewed in this research seem to have had different opportunities which influenced their enjoyment including mixed PE, traditional team games and individual activities such as trampolining and athletics.
Positive influences on undergraduates to participate in sport whilst still in school

Chapter Two highlighted the importance of certain groups of people who would be highly influential in motivating individuals to participate in regular exercise. These individuals were usually very close to the participants and as discussed can either be a positive or negative motivational factor in regular participation. The table below indicates the most positive influences for both males and females.

Table 6.4
Positive influences on students to participate in sport whilst in school (n = 113)

<table>
<thead>
<tr>
<th></th>
<th>Male Rank</th>
<th>Female Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Friend</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PE Teacher</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Coach (Outside School)</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Girlfriend/Boyfriend</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Sporting Heroes</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

PE teachers for the females had a particularly positive influence whereas for the males this was not ranked highly. ‘Friends’ (i.e. peer acceptance) are also a positive influence at school age for both sexes. Chapter Two suggests that ‘meeting friends’ is still a crucial reason for participation patterns even through adult life. Edie (1991) found that a similar situation was apparent at Surrey University in the late 1980’s.

The interviews revealed some specific positive influences on undergraduates to participate in sport whilst still in school.

Student (No. 143) (Male): “Probably the main (positive influence) one was my cousin who was not a famous athlete, but
was a great influence. Obviously watching the rugby greats from the seventies and the track and field athletes from the Olympics”.

Student (No. 19):  
(Female)  
“(My parents encouraged me)... because they were paying for it as it was a fee paying school. My mum encouraged me to do gymnastics outside school. My dad is still pretty active”.

Student (No. 16):  
(Male)  
“...in my tutor group in school almost everyone in it was really good in sport, so I got involved in that because my friends were good in sport”.

Student (No. 20):  
(Female)  
“My parents both used to be very active, but it was mainly my father. They were very supportive of me to do all types of sport. I got on well with my PE teacher who was very approachable. Most of my friends were also interested in sport and I also played hockey outside the school. My hockey coach outside school was also very supportive”.

The influence of GCSE PE  
Only 26% of males and 16% of females opted for GCSE PE whilst in school, somewhat surprising figures given that GCSE PE was now widely available in schools. However, the interviews revealed that many students did not do GCSE because it was not an option at their school. Therefore, the question does not accurately reflect the possible total figure of students who would have opted for GCSE PE had it been an option at their school.
Participation patterns in exercise at the age of 16

Table 6.5
Participation patterns at the age of 16 (not including school college lessons) (n = 129)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyday</td>
<td>22%</td>
<td>6%</td>
</tr>
<tr>
<td>2-3 Times Per Week</td>
<td>56%</td>
<td>55%</td>
</tr>
<tr>
<td>Once/Twice Per Week</td>
<td>22%</td>
<td>31%</td>
</tr>
<tr>
<td>Never</td>
<td>-</td>
<td>8%</td>
</tr>
</tbody>
</table>

The results indicated that students in the survey participated in regular exercise at the age of sixteen. These results are quite high (which could be expected amongst members of the Sport Centre), and 78% of males exercised a minimum of twice per week as did 61% of females. The male participation rates are higher and correlates with Chapter Two that at school the games programme tends to favour boys rather than girls. However, what was not researched is this question was the intensity and type of activity. For example, it could have been for less than an hour each time or each session lasting a whole afternoon.

Factors which would have encouraged more participation whilst at school
There were some differences in the responses between the males and females as shown in the Table 6.6.
Table 6.6

Factors which have encouraged more participation whilst at school
(n = 125)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better range of activities</td>
<td>21%</td>
<td>35%</td>
</tr>
<tr>
<td>Better facilities</td>
<td>35%</td>
<td>14%</td>
</tr>
<tr>
<td>Less emphasis on team games and more emphasis on Health and Fitness Activities</td>
<td>21%</td>
<td>31%</td>
</tr>
<tr>
<td>Less strict approach by PE staff</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>More team games</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
<td>4%</td>
</tr>
</tbody>
</table>

The answers above show again that certainly for females, the PE curriculum, dominated with team games, is a de-motivator for participation. A better range of activities and more emphasis on health and fitness activities may have motivated up to 66% of pupils to exercise more regularly. Better facilities for the males are most important, but over 42% also state that a better range of activities and less emphasis on team games would make them want to participate more often.

The interviews revealed some specific areas which would have encouraged more participation.

Student (No. 143): (Male) “When I was at school it was before any of the leisure activities e.g. conditioning, aerobics, boxercise) this come out and there was absolutely zero choice. If they did anything it was soccer training. The way it was conducted was to get you knackered within the first forty seconds and then they would scream at you to do more”.

173
Student (No. 152): (Female) “There was not a lot of tennis. I would have preferred to do more tennis. More volleyball and different sports. I mean we only did the basics netball and hockey. We never did football”.

Student (No. 20): (Female) “I did enjoy the school programme, but I did not like the outside team games”.

Student (No. 63): (Female) “Whilst I was at school, I’m only 5’ 2” myself, and I was actually discouraged from playing netball because of my height and so now I sit here and I know nothing about netball because I was told I was too small. So from that point of view I was not given a chance”.

Student (No. 16): (Male) “I think it was a good programme, but it was not too varied as it was such a small school. We did not really play cricket or rugby, it was just a football school”.

Members of the family who participate in sport
72% of the male undergraduates and 65% of the female undergraduates indicated that members of their family participated in sport. There was a strong indication that males were the most active with 30% of fathers and 65% of brothers (male students) being the most active. For female students 44% of their fathers were active and 47% of their brothers. The sisters of both the male undergraduates (28%) and female undergraduates (36%) were the least active in the family unit. Although females ranked ‘parents’ as their fourth most positive influence to participate, their mother’s rates of participation (50%) were high. It could have been assumed that the females may have ranked their mothers higher as there is a strong correlation between the activity levels of the mothers and daughters. For male undergraduates only 21% of their mothers were ‘active’.
The interviews revealed the nature of this involvement.

Student (No. 152): (Female)

"I used to go running and walking with my Dad. My mum is into swimming and used to ferry me about with Volleyball".

Student (No. 63): (Female)

"My parents are very active people. My mum has run several London Marathons and my Dad goes to the gym everyday, so from an early age I had been encouraged by them when I was in school. My mum encouraged me to take part in the Great Women’s London run which if it was not for her I would not have done. At the end of the day they were my main motivation".
Participation rates as third year undergraduates

The previous sections have investigated the 'characteristics' of the students as well as their exercise habits before coming to university. This section looks in detail at the exercise levels of third year undergraduates.

As third year students they would have had two and a half years exposure to the sport and recreation environment at the university to include all facilities, programmes and opportunities. It was assumed that they were likely to be more independent and therefore make their own informed choices regarding their possible exercise habits. Secondly, the students were in their final three months as undergraduates and this allowed for an analysis of their hoped exercise levels once they had left the university.

Frequency and Patterns of Exercise

Table 6.7
Frequency of exercise amongst undergraduate third year students
(n = 129)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyday</td>
<td>37%</td>
<td>12%</td>
</tr>
<tr>
<td>2-3 Times Per Week</td>
<td>51%</td>
<td>68%</td>
</tr>
<tr>
<td>Once a Fortnight</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>Less Often</td>
<td>6%</td>
<td>7%</td>
</tr>
</tbody>
</table>

The figures demonstrate that males participate more often than females. The overall figures show that 64% of the students participate at least twice a week and a further 18% participate everyday. After the interventions in 1996 highlighted on page 149 there was a radical change in emphasis to encourage more participation particularly amongst the female students. These figures confirm that a higher rate
has been achieved with a different group of students. The interviews revealed some of the reasons for high participation rates:

**Student (No. 152):** (Female) "When I come here I go to Yoga, Badminton, Aerobics and a couple of Exerthighs classes – a lot more than I did in school".

**Student (No. 63):** (Female) "I think it is because I have become more independent, because before you would have people saying ‘you must do this’ or ‘you must not do that’...I use the gym now about twice a week. I like going swimming once a week”.

**Student (No. 95):** (Male) "I think it is because the health and fitness classes are far more accessible. When I was a youngster I would have to travel to my local leisure centre and so on”.

The next table compares the data with other surveys into participation rates.

**Table 6.8**

**Participation patterns of at least once per week**

<table>
<thead>
<tr>
<th>Survey</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied Dunbar Fitness Survey (1995) Ages 16-24</td>
<td>57%</td>
</tr>
<tr>
<td>University of Glamorgan (Williams 1993)</td>
<td>66%</td>
</tr>
<tr>
<td>Surrey University (Edie 1991)</td>
<td>65%</td>
</tr>
<tr>
<td>Cardiff University (Pook 1995)</td>
<td>68%</td>
</tr>
</tbody>
</table>
The figures below clearly demonstrate the increase in participation since the students came to University.

Table 6.9
Increase or decrease in participation since coming to University
(n = 129)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>69%</td>
<td>74%</td>
</tr>
<tr>
<td>Decrease</td>
<td>31%</td>
<td>26%</td>
</tr>
</tbody>
</table>

The results indicate that the majority of the students in the survey - who now regularly participate in sport and recreation - have participated more actively since coming to university. It is also relevant that the 82% of the students in this survey are under the age of 23 and therefore the majority came straight from school. Their previous experiences would therefore have been the school curriculum. The interviews indicated that many students were regularly participating in exercise before they came to university and participating in ‘more’ exercise would have been difficult if they were already regular participants. Therefore, the ‘decrease’ answers in this question do not necessarily mean that the students were non participants.
Reasons for participating in more sport and recreation since coming to the University compared to school days

Table 6.10
Reasons why 72% of students have participated in more sport and recreation since coming to University (n = 93)

<table>
<thead>
<tr>
<th>Reasons</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent facilities</td>
<td>36</td>
<td>16</td>
<td>36</td>
<td>70</td>
<td>16</td>
<td>12</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Different/new activities</td>
<td>28</td>
<td>33</td>
<td>44</td>
<td>59</td>
<td>20</td>
<td>3</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Good staff who motivate</td>
<td>16</td>
<td>6</td>
<td>36</td>
<td>41</td>
<td>36</td>
<td>45</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Excellent friendly atmosphere</td>
<td>20</td>
<td>8</td>
<td>52</td>
<td>70</td>
<td>24</td>
<td>20</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Plenty of opportunities to try a variety of activities</td>
<td>32</td>
<td>25</td>
<td>56</td>
<td>66</td>
<td>8</td>
<td>9</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Good friends who also regularly participate</td>
<td>12</td>
<td>13</td>
<td>44</td>
<td>47</td>
<td>28</td>
<td>12</td>
<td>12</td>
<td>20</td>
</tr>
</tbody>
</table>

The majority of males and females see the university’s excellent facilities as a positive motivator for regular participation whereas the lack of good facilities during the school experience was seen as de-motivating for many students. The majority of students also came directly from school and 72% of males and 92% of females stated that they now participate in more sport and recreation because of the different/new activities. Over 40 hours of Instructor led classes are available every week and this specifically appeals to the female students whilst 20% of males have ‘no opinion’ and therefore do not necessarily need such programmes.
The data revealed that 52% of males and 47% of females said that they were motivated by ‘good staff’. More females than males go to the instructor-led classes. The data illustrates that a cumulative figure of over 50% of students are specifically motivated by ‘good staff’ and that ‘secondary motivation’ is a very important area to encourage mass participation. The data also indicates that an ‘excellent friendly atmosphere’ is a crucial aspect of the marketing and delivery of the service, particularly for 78% of the female users. Earlier results in this survey showed that some students had disliked the way in which PE was delivered in school but most had liked it. The data also revealed that 92% of females and 86% of males indicated that they had participated in more sport and recreation due to the opportunities available. This suggests that the programme at university is motivating for students.

As seen in Chapter Two sport and recreation is one choice which students can pursue in their ‘leisure time’. The results show that meeting/making friends is important to over 60% of females and 46% of males. (Only 16% of males and 28% of females gave a negative answer to this question). ‘Making friends’ is more important to females and as earlier documented in the interviews many females come with friends to classes and to use the facilities.

**Reasons for participating less in sport and recreation since coming to University compared to school days**

28% of students in the survey indicated that they now participate in less sport and recreation since they came to university. The table overleaf details the results of the survey;
Table 6.11

Reasons why 28% of students have participated in less sport and recreation since coming to University (n = 35)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>I do not like sport</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Not enough time</td>
<td>2</td>
<td>14</td>
<td>18</td>
<td>52</td>
<td>18</td>
</tr>
<tr>
<td>Too busy studying</td>
<td>1</td>
<td>14</td>
<td>46</td>
<td>48</td>
<td>9</td>
</tr>
<tr>
<td>My friends are not interested</td>
<td>-</td>
<td>5</td>
<td>9</td>
<td>14</td>
<td>37</td>
</tr>
<tr>
<td>No sure about the programme/facilities on offer</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Play sport/recreation outside the University i.e. at home/local club</td>
<td>9</td>
<td>10</td>
<td>55</td>
<td>33</td>
<td>18</td>
</tr>
</tbody>
</table>

66% of females and 45% of males indicated that their participation had dropped due to lack of time. As adults students are encouraged to manage their own time and it could be that ‘not enough time’ could be translated to poor time management. The facilities at the university are open for 96 hours per week. However, it equally could be a genuine concern relating to the pressures of academic work or perhaps part time employment that the student needs to pursue to finance their studies. It is also interesting to note that the fact that ‘friends were not interested’ was not a reason why students indicated they participated in less sport and recreation. Over 82% of males and 85% of females were aware of the
programmes in the university and therefore, the awareness is excellent and cannot be viewed as a reason why students are participating in less sport and recreation.

64% of males and 43% of females did participate in regular activities away from the university. The university does lack certain core facilities such as a swimming pool and therefore it is necessary for students to use local facilities to participate in certain activities. Additionally the interviews revealed that some students were not happy with the Club sports offered by the Students Union and continued with club sport outside the university. This may explain why more males agreed with this statement as opposed to females as more males participate in team sports/club activities than females. It also suggests that males are more motivated to actively seek out a club of their choice outside the university, whereas for females if the activity is not available they may not bother with trying to find an activity outside the campus. This is emphasised by 48% of female students answering negatively to the question in comparison to 18% of males.

Main motivation for current participation
This very important and relates very much to one of the main aims of the research - what is the main motivation for undergraduate students to participate in active sport and recreation? The areas in Table 6.12 (overleaf) were highlighted in Chapters Two and Three as the most influential areas for regular participation.
### Table 6.12
Main motivation for current participation (n = 129)

<table>
<thead>
<tr>
<th></th>
<th>Very Important</th>
<th>Quite Important</th>
<th>Not Very Important</th>
<th>Not At All Important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  F</td>
<td>M  F</td>
<td>M  F</td>
<td>M  F</td>
</tr>
<tr>
<td>Desire for competition</td>
<td>22% 2%</td>
<td>29% 14%</td>
<td>30% 34%</td>
<td>19% 50%</td>
</tr>
<tr>
<td>Meet friends</td>
<td>3% 6%</td>
<td>51% 41%</td>
<td>29% 38%</td>
<td>17% 15%</td>
</tr>
<tr>
<td>Relaxation</td>
<td>31% 44%</td>
<td>44% 41%</td>
<td>17% 14%</td>
<td>8% 1%</td>
</tr>
<tr>
<td>Health Related</td>
<td>69% 78%</td>
<td>25% 19%</td>
<td>6% 2%</td>
<td>- 1%</td>
</tr>
<tr>
<td>Enjoyment/Fun</td>
<td>61% 55%</td>
<td>36% 38%</td>
<td>3% 7%</td>
<td>- -</td>
</tr>
<tr>
<td>Achievement</td>
<td>53% 31%</td>
<td>36% 40%</td>
<td>11% 25%</td>
<td>- 4%</td>
</tr>
</tbody>
</table>

The ‘desire for competition’ is clearly strong for males as 51% said it was ‘very important’ or ‘quite important’ in comparison to 16% of females. 50% of females said that it was ‘not at all important’. This is consistent with the literature finding that competitive games are more popular with males. The data again show that the school curriculum, that is based on competitive games, does not motivate up to 84% of females. In response to this demand the Sport Centre at the University of Glamorgan organises a very popular Intra Mural competitive sports programme which is aimed at the male students. Activities include 5-a-side and 7-a-side football, basketball, touch rugby and squash. The programme offers eight week leagues in the above sports and attracts over 500 male students per week.

Males have a slightly higher percentage, (54% compared to 47% females), who are motivated to meet friends. (This could be related to the previous ‘desire for competition’ result which may suggest the social/team organisation of competitive teams). ‘Meeting friends’ for females is not a priority and suggests that they may go with friends or alone to an activity whereas many males join an activity specifically to make friends. The data also showed that the need for ‘relaxation’ was seen as ‘very important’ (31% male, 44% female) or ‘quite important’ (44%
male, 40% female) by the students. It follows that the facilitators of the programmes need to provide a variety of programmes and understand that relaxation for some students may mean 'high energy' activities whilst for other students it may relate to traditional low impact courses such as Yoga.

A very high percentage of males and females currently participate in activities for 'health related' reasons (97% males and 93% females). As discussed in detail in Study One (page 149) the marketing of the university has tried specifically to encourage this by including over 40 classes per week and new conditioning rooms. Additionally, the data showed that 'achievement' was 'very important' to 53% of males and 31% of females. (89% of males and 71% of females said it was either 'very' or 'quite' important).

In the interviews the students indicated their motivation for current participation.

**Student (No. 143):** (Male)

"...middle age's creeping on and I have seen some dramatic physiological changes in terms of muscle loss and put on some considerable body fat which I would like to reverse. Because of my age I will not be competing in anything. Another important area would be social interaction".

**Student (No. 65):** (Female)

"I am captain of the Hockey Club at the University and it was the first club I joined. I have also done a lot of classes, which I enjoy. But to be honest most of my time is taken up with the Hockey Club".

**Student (No. 63):** (Female)

"It is not anything to do with health as I see myself as a healthy person. I am a vegan and I watch my food intake. It is more for fitness, just to keep fit".

**Student (No. 20):**

"I have tried a variety of classes, but mainly
Boxercise, Aerobics, Windsurfing and Circuit Training. I have enjoyed these activities...the new activities previously mentioned have now given me confidence to visit the local Centre at home. I have always participated 2-3 times per week – now it will continue but not with athletics but with health and fitness classes”.

Student (No. 58): “At school you just had to do the compulsory amount (of sport) then when you come here you just get into it – a nice release from lectures”.

Choice of activities by undergraduates

The table below indicates the choices of both male and female undergraduates.

Table 6.13

Current activity choices by undergraduates (n = 124)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Games</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Health &amp; Fitness Classes (taken by an Instructor)</td>
<td>3%</td>
<td>25%</td>
</tr>
<tr>
<td>Using the Conditioning Room/ Trimnasium (no Instructor)</td>
<td>28%</td>
<td>18%</td>
</tr>
<tr>
<td>Individual Small Group Activities (e.g. Squash, Climbing, Archery)</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>A mixture of the above but mainly Health and Fitness Classes and or Conditioning Room/Trimnasium</td>
<td>41%</td>
<td>44%</td>
</tr>
<tr>
<td>A mixture of the above but mainly team games.</td>
<td>9%</td>
<td>2%</td>
</tr>
</tbody>
</table>

The data indicates the unpopularity of the team games for both sexes. Although the majority of students would have completed a minimum of five years at school of the team based national curriculum programme very few now participate regularly in team games. The ages of the students with over 88% of males and
94% of females being under 25, means that they are within what would be seen as the ‘acceptable’ age to play competitive team games. A higher percentage of females (25% as opposed to the male 3%) participate in the health and fitness classes only which are taken by an Instructor. One of the reasons for this could be the high percentage of classes specifically aimed at the female market with ‘Exerthighs’, ‘Legs, Bums and Tums’, ‘Killer Butt and Thighs’ being examples of regular classes. The influence of an instructor as a motivator is important and the research indicates that such instructor led motivation is more appropriate for females than males.

A good example of this is shown with the following interview:

Interviewer: “How did you find the new sporting activities and classes at the University? If you think back to your first time, were you apprehensive about going there? And how do you feel now?”

Student (No. 152): “I was very, very nervous. I felt a complete fool the first time I went as everyone seemed to know what they were doing, but now I really enjoy it. At first I felt ‘Oh god this is going to be hard’, but now I feel ‘let’s do the next level I can do this!’”.

A higher percentage of males (28% as compared to the female 18%) used the Conditioning Room independently of an instructor. This again suggests a link between the confidence of males to use such equipment - much of which is based on strength and fitness. The interviews also probed some additional information regarding the use of Conditioning Rooms/Trimnasium.

Interviewer: “You mention the gym...did you have experience of this before you came to University or was it something you picked up at University?”
Student (No. 16): “I think I went once before I came to University.
(Male)

Student (No. 95): “We did general Health and Fitness within the PE lessons, we did all the basic things, press ups, sit ups and we had quite a reasonable level of instruction within a gym level, because we had a very basic multi gym there and I learnt how to use it”.
(Male)

Student (No. 152): “Everyone asks me to go to the gym. I do not like going to the gym because I prefer the instructor led situation. I know that I am doing it properly and I know that I am doing all the exercises to get maximum effect. I prefer instructor led classes”.
(Female)

Student (No. 19): “When I was in Halls I was not that enthusiastic about going to the gym, but then one of my friends went running with me and I got quite into running. And then we started going to the gym together. But then I started going on my own”.
(Female)

The results suggest that more motivation for females seems to be required and the result from this study indicates that an induction scheme is necessary particularly for female users. A small percentage of males and females (13% and 9% respectively) do individual games such as squash, climbing etc. This could be related to the earlier responses which discussed the main motivation for participation. 54% of males and 47% of females stated that they were motivated to ‘meet friends’ and therefore individual small group activities, by their nature would not be an opportunity to ‘meet friends’. For example, participation in a squash ladder on a regular basis would often mean playing a total stranger for a competition match with little opportunity to ‘meet friends’ as part of the activity.
The figures suggest that this would not be appealing to many students. Again, the ages and the fact that many students are single suggests that the social side of the activities is very important.

The most popular activities as defined from Table 6.13 for both males and females were a mixture of the instructor led classes and using the Conditioning Rooms and the Trimnasium. These are significant and added with those who either use the instructor classes only or Conditioning Rooms/Trimnasium only, result in 72% males and 86% females participating in what could be described as 'Health and Fitness' activities. The current intervention model (Table 5.3) does attempt to provide excellent opportunities for both the team and health and fitness groups and since 1996 the participation rates have increased dramatically. The most popular type of activity which students participate in is a mixture of health and fitness whilst mainly team games have low participation rates with males recording 9% and females 2%.

The importance of quality facilities
Chapters Two and Three indicated that the quality and range of facilities is an important motivating factor in encouraging regular participation. Although the facilities at Glamorgan are impressive, in comparison with some other universities who offer free sport and have extensive facilities including swimming pools, athletics tracks, tennis centres, outdoor pursuit centres and golf courses, the perception of the users might have been negative. However, 83% of males and 96% of females were very positive about the facilities. The research also investigated what the perceptions of sport and recreation by the students were of university sport before they actually came to university. The following responses give some insight to this;

Student (No. 63): (Female)  
“I thought there would be more of a lean towards team sports such as football. I did not really think of the cost at the time.”
Student (No. 20): (Female)
“It was what I expected. I remember looking round and I was really impressed by the women’s gym. I am not sure if I thought I would use it and there was a whole range of activities”.

Student (No. 143): (Male)
“I really did not know what to expect. I knew there would be some sport facilities. But I was absolutely amazed at the Centre, the Climbing Wall and the equipment. Great activities to learn - I was surprised how comprehensive they were.”

Student (No. 58): (Male)
“A lot better than I had back in Jersey, because we did not have the facilities as it was such a small community...It did not disappoint that is for sure”.

Since 1993 many universities have upgraded their facilities extensively as universities now compete for students and use sporting facilities as a marketing initiative. However, it could also be that student expectations are now greater as universities move towards a customer focussed approach to the provision of both academic and non academic services.

The survey indicated that 69% of male undergraduates and 74% of female undergraduates have tried new sporting activities since coming to university. Some students when interviewed gave details of the new activities they had started since coming to university.

Student (No. 63): (Male)
“(I have tried)...Yoga and things like that. I’m not sure if it is classed as a sport. I tried Boxercise but then I had back problems and I have tried ‘Abs 2000’”.
Student (No. 19): "(I have started) Yoga. Yoga was not an option at
(Female) school...and the gym and I also went Climbing”.

Student (No. 58): “The Conditioning Room was new to me in University.
(Male) I have now got a lot of confidence to use gyms”.

These data show that the opportunities and facilities at the university have
motivated a very high percentage of males and females to participate in new
activities since coming to university. Previous responses show that the students
are now participating more regularly than they did prior to university and their
choice of activity is also different. It also suggests that sufficient opportunities
were not available prior to coming to university. The students who answered ‘no’
to this question either suggests that they were not interested in any new activities
or that they were already experienced in the activities and therefore it was not
‘new’ to them. The overall figures overleaf for males/females show a significant
increase in participation from the research by Williams (1993). (No male/female
split is available from the 1993 figures).

Table 6.14
New activities since starting University.

<table>
<thead>
<tr>
<th></th>
<th>UoG 1993</th>
<th>UoG 1999</th>
<th>UoG 1999 Male/Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=102</td>
<td>n=122</td>
<td>n=36 Male</td>
</tr>
<tr>
<td>Yes</td>
<td>47%</td>
<td>72%</td>
<td>69% Male</td>
</tr>
<tr>
<td>No</td>
<td>53%</td>
<td>28%</td>
<td>31% Male</td>
</tr>
</tbody>
</table>

These figures clearly show that the new programmes and facilities highlighted in
Study One appear to be linked to increasing participation in student activity levels.
This is further highlighted by the number of students (94% of male students and
91% of female students) who stated that their ‘quality of life’ was enhanced by the
sport and recreation opportunities on campus. This demonstrates the value which
students who use the Sport Centre give to opportunities regularly to participate in recreation. This was important to the researcher as it gave an indication of the need for such facilities on campus and the importance the students attached to such opportunities. The data demonstrates that students value sport and recreation as part of the higher education ‘experience’ that extends beyond the achievement of a degree. The figures make interesting comparisons to the same question asked by Williams (1993) when only 70% of male and 68% of female students said that the sport and recreation facilities enhanced their ‘quality of life’ on campus.

**Athletic Union (competitive) or recreational activities?**

Chapter Two highlighted the sport and recreation organisational structures, which are common to most universities. The table overleaf indicates that the majority of students surveyed chose to participate in recreational activities rather than Athletic Union activities.
Table 6.15
Choice of activities by Undergraduates (n=128)

<table>
<thead>
<tr>
<th>Activities run by the Athletic Union (i.e. clubs)</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities run by the Sport Centre (classes/Conditioning Rooms)</td>
<td>51%</td>
<td>72%</td>
</tr>
<tr>
<td>None of the above</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>A mixture of both</td>
<td>29%</td>
<td>17%</td>
</tr>
</tbody>
</table>

The figures above regarding the Athletic Union (teams) and Sport Centre activities (classes/conditioning rooms) correlate with earlier data showing that although team games are unpopular with both sexes, they are slightly more popular with males. The data show the success and popularity of the classes which are specifically aimed at female participation. The figures also show that males tend to have a more flexible pattern of participation whilst females are predominantly motivated by health and fitness classes and facilities. The figures overleaf show different results to the same question. The sample was again drawn randomly from the sport centre membership.
Table 6.16
Choice of activities by undergraduates at Glamorgan in 1993 (n = 101)

<table>
<thead>
<tr>
<th>Activities run by the Athletic Union</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities run by the Sport Centre</td>
<td>32%</td>
<td>49%</td>
</tr>
<tr>
<td>None of the above</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>A mixture of both</td>
<td>25%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Williams (1993:157)

These figures are interesting in comparison to the present research. Again they show the low figures of those whom were attracted towards the team sports. The activities organised by the Centre are targeted toward the females and the lower percentage of males and females can be attributed to the fact that fewer opportunities were available in 1993 than 1999. The other high figure in the 1993 research was that 40% of males and 30% of females did not participate in any activities either provided by the university (classes/facilities) or Athletic Union (clubs). This again could be associated with the lack of opportunities as mentioned above. However, it is also relevant that 33% of the students in 1993 either lived with their parents, spouse etc. compared to 9% in this study. Therefore in the 1993 research it could be assumed that the student profile was different and many students may have participated in active recreation away from the University of Glamorgan. The current research also indicates that only 25% of females and 36% of males belonged to an Athletic Union club. The figures again demonstrate that competitive team games are more popular with males.

Satisfaction with Athletic Union Club structure

Of those students who belonged to an Athletic Union Club 69% of males and 56% of females were satisfied with the programme. The table overleaf illustrates the gradings to specific areas.
Table 6.17

Opinions of students who were satisfied with their Athletic Union Club
(n = 23)

<table>
<thead>
<tr>
<th></th>
<th>True</th>
<th>Sometimes True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Excellent organisation</td>
<td>33%</td>
<td>17%</td>
<td>67%</td>
</tr>
<tr>
<td>Regular fixtures</td>
<td>89%</td>
<td>58%</td>
<td>-</td>
</tr>
<tr>
<td>Excellent value for money</td>
<td>100%</td>
<td>68%</td>
<td>-</td>
</tr>
<tr>
<td>Few cancellations</td>
<td>78%</td>
<td>75%</td>
<td>11%</td>
</tr>
<tr>
<td>Excellent standard of competition</td>
<td>67%</td>
<td>36%</td>
<td>22%</td>
</tr>
<tr>
<td>Excellent student led club</td>
<td>78%</td>
<td>50%</td>
<td>11%</td>
</tr>
<tr>
<td>Excellent equipment</td>
<td>56%</td>
<td>17%</td>
<td>33%</td>
</tr>
<tr>
<td>Excellent facilities</td>
<td>89%</td>
<td>42%</td>
<td>11%</td>
</tr>
<tr>
<td>Excellent help from AU office</td>
<td>11%</td>
<td>50%</td>
<td>78%</td>
</tr>
</tbody>
</table>

It is important to note that only 23 respondents out of 129 were satisfied with their Athletic Union club. Therefore, although the number is small it is important to find out their levels of satisfaction. The evidence from the research indicates a number of 'sometimes true' answers. For example, 67% of males and 83% of students stated that 'excellent organisation' was only 'sometimes true'. The results are from individuals who are satisfied with their club, but in reality most of the answers suggest that the organisation 'could do better'. Although both sexes see the clubs as excellent value for money - clubs cost about £25.00 per year - the females clearly are disappointed with the number of fixtures available and the males are disappointed with the overall organisation. Both state that the 'Help from the Athletic Union office' was disappointing. These comments link in with Pook (1995), Hudson (1995) and Reeves (1988) who questioned the
experience/qualifications of the Athletic Union staff to be able to deliver a programme to the satisfaction of the students.

However, the results indicated that the AU club structure does give the excellent service to some students as the interviews illustrated.

Student (No. 143): “Yes. The instruction was very good. Occasionally there would be some top people from Cardiff at the Club”.

Student (No. 20): “I belong to the Windsurfing Club which I very much enjoyed. The Club was friendly and not a clique Club. The Club did not compete against other Universities and it was good fun. I was happy with the organisation of the Club and would recommend it to others”.

(It is interesting from the interviews above that the enjoyment of the first student was enhanced by the quality of instruction, whilst the second student found the non competitive element of the club enjoyable).

Student (No. 65): “I think (the Hockey Club) works really well particularly the fixtures. But it is difficult in your third year and it is often up to the committee to actually coach the team. But on the whole I think it works well, although it is difficult to motivate the team when we start losing”.

The final student quoted was the captain of the university hockey team for the 1998/99 season. Even though the full interview stated that she thoroughly enjoyed the competitive club, the interview does show the pressures which students are under to coach the teams. Many students do not have formal qualifications or the coaching experience and therefore this can be quite stressful.
Reasons for dissatisfaction with Athletic Union Clubs

39% undergraduates who were de-motivated by the club structure gave specific reasons why they were dissatisfied with their clubs. The following table illustrates their frustrations.

Table 6.18
Opinions of students who were dissatisfied with the Athletic Union Clubs (n = 15)

<table>
<thead>
<tr>
<th>Reason</th>
<th>True M</th>
<th>True F</th>
<th>Sometimes True M</th>
<th>Sometimes True F</th>
<th>False M</th>
<th>False F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor organisation</td>
<td>75%</td>
<td>40%</td>
<td>-</td>
<td>50%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>Very clique atmosphere</td>
<td>25%</td>
<td>10%</td>
<td>50%</td>
<td>50%</td>
<td>25%</td>
<td>40%</td>
</tr>
<tr>
<td>Poor value for money</td>
<td>50%</td>
<td>30%</td>
<td>25%</td>
<td>30%</td>
<td>25%</td>
<td>40%</td>
</tr>
<tr>
<td>Coaching poor/non existent</td>
<td>75%</td>
<td>70%</td>
<td>25%</td>
<td>20%</td>
<td>-</td>
<td>10%</td>
</tr>
<tr>
<td>Few fixtures</td>
<td>75%</td>
<td>60%</td>
<td>25%</td>
<td>20%</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>Too many cancellations</td>
<td>75%</td>
<td>11%</td>
<td>-</td>
<td>22%</td>
<td>25%</td>
<td>67%</td>
</tr>
<tr>
<td>Club organised by students who tend to pick their friends</td>
<td>50%</td>
<td>22%</td>
<td>25%</td>
<td>-</td>
<td>25%</td>
<td>78%</td>
</tr>
<tr>
<td>Kit/equipment is poor</td>
<td>75%</td>
<td>50%</td>
<td>25%</td>
<td>40%</td>
<td>-</td>
<td>10%</td>
</tr>
<tr>
<td>Poor facilities</td>
<td>25%</td>
<td>10%</td>
<td>-</td>
<td>50%</td>
<td>75%</td>
<td>40%</td>
</tr>
<tr>
<td>Little positive help from the Athletic Union</td>
<td>75%</td>
<td>20%</td>
<td>-</td>
<td>40%</td>
<td>25%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Only 15 respondents replied to this question and therefore this must be taken into account with the attached comments. Over half the dissatisfied students felt that there was a 'very clique atmosphere' in many clubs and this was off-putting. But it is also important to note that the absolute numbers are very small. The data show that 70% of males and 75% of females found the coaching 'poor' or 'non existent'. This links to earlier data which show the need for high quality coaches/instructors to provide the motivation which students require. A very high percentage of males were also disappointed with the organisation cancellations,
equipment and little positive help from the Athletic Union office (75% for all areas). Another disappointing area for females was that 60% of those dissatisfied said it was ‘true’ that there were few fixtures for them to play and 20% stated that this was ‘sometimes true’. This is of concern as the purpose of being in a competitive team is to play fixtures against other teams.

The interviews also illustrated the dissatisfaction of students with the clubs.

Student (No. 95):  “In my first year I did try out for the University and even though we had a reasonable side I was not happy with the skill and success of the team...the organisation itself was fine but maybe some of the selection of the team was slightly biased...it can be rugby for my home side.”

Student (No. 58):  “I joined the rugby society in the first year but it was just ‘clique’ and I never got on with it because it was totally different as well from the rugby I played”.

Interviewer:  “Presumably the Rugby Club was run by students, for students...do you feel that was a negative?”

Student (No. 58):  “Yes. If someone had been there just to say “do this, do that”’. It was the selection of the teams as well. People I have spoken to who joined the Rugby Club in the last two years - this year it has been better by all accounts - they have been picking their friends. People just lost interest really”.

The statement from the last student is important as it clearly links with the theoretical evidence regarding motivation (Pook 1995, Edie 1991). The last student had joined the club voluntarily due to his pre university experiences. However, since joining the club the organisation had resulted in ‘negative’
motivation and consequently he had ‘just lost interest’. This clearly demonstrates how the lack of organisation/coaching can de-motivate an individual.

**Equality of provision**

The question was asked to discover if the students felt that the facilities/programmes were motivating for both sexes.

Table 6.19

Undergraduates views on equality of sport and recreational opportunities in university. (n= 127)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>83%</td>
<td>92%</td>
</tr>
<tr>
<td>No</td>
<td>17%</td>
<td>8%</td>
</tr>
</tbody>
</table>

As discussed in Study One, one of the main aims was to encourage more female users through the health and fitness initiatives. Also the university does have two conditioning rooms, one is unisex and one (Trimnasium) is specifically for females only. This irritates some male users particularly when females are using the mixed room when they (males) also want to use the equipment. One of the male students interviewed commented:

**Student:** “The women have got their own gym downstairs and they do not like the gym downstairs because there is nothing there and when you are trying to use the upstairs gym when there are women in there, it is a pain in the backside for us”.

However, the data suggests that the vast majority of students do feel that the university provides equal opportunities for male and female students to participate in sport and recreation.
Student participation patterns in the vacations

As students were only ‘exposed’ to university facilities for about 30 weeks of the year, a question was asked to see if their participation rates dropped in the vacations. 55% of females and 39% of males indicated that this was so. The figures show that males are more likely to continue with active lifestyles in the vacations than females. The table below illustrates the reasons for the drop in participation.

Table 6.20
Reasons why participation dropped in the vacations (n = 62)

<table>
<thead>
<tr>
<th>Reason</th>
<th>True M</th>
<th>True F</th>
<th>False M</th>
<th>False F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time (e.g. job)</td>
<td>50%</td>
<td>55%</td>
<td>50%</td>
<td>45%</td>
</tr>
<tr>
<td>Poor facilities</td>
<td>62%</td>
<td>43%</td>
<td>38%</td>
<td>57%</td>
</tr>
<tr>
<td>No transport to facilities</td>
<td>46%</td>
<td>38%</td>
<td>54%</td>
<td>62%</td>
</tr>
<tr>
<td>Too expensive at home</td>
<td>54%</td>
<td>72%</td>
<td>46%</td>
<td>28%</td>
</tr>
<tr>
<td>No clubs nearby (e.g. rugby, netball)</td>
<td>50%</td>
<td>39%</td>
<td>50%</td>
<td>61%</td>
</tr>
<tr>
<td>Nobody to go with</td>
<td>50%</td>
<td>51%</td>
<td>50%</td>
<td>49%</td>
</tr>
</tbody>
</table>

The results indicate that the above reasons are either not the central vacation barrier or that no central barriers exist. The data from both male and female students were very similar with approximately 50% indicating that time was a factor. This may relate to earlier research (Talbot 1997, Glyptis 1993, Roberts 1997) suggesting that often it is not the lack of ‘time’ with students, but ‘time management’. Alternatively, it could be that students genuinely do not have time due to holiday/vacation jobs.
Slightly more male students indicated (62%) that ‘poor facilities’ was a factor which influenced their decline in participation in comparison to the females (43%). Male students participate in more competitive team games and this could be related to specific team sport facilities. The vast majority of students (86%) walk to the campus and therefore it could be assumed that they are not car owners. Consequently 46% of males and 38% of females cite the lack of transport during the vacation as a factor limiting their participation. Car ownership and the availability of transport is cited as crucial for regular participation in sport and recreation (Torkildsen 1999). Therefore, when students leave university car ownership/access could become a very dominant factor.

54% of males and 72% of females indicated that the expense of participation was limiting performance in the vacation. The standard of facilities within the University of Glamorgan is very high and the cost is only approximately 30% of the market rate for similar facilities. A higher percentage of females regard the expense as a negative factor. This could be related to the type of activities that females participate in as female students are motivated by health and fitness classes, many of which are instructor led. These classes can be quite expensive and often only available at private health clubs or local authority centres.

Male and female students find the prices a motivating factor as for health and fitness participation during term time.

**Student (No. 58):**
(Male)  
“Well back home my uncle has joined the gym and it is £100 to join and then another £50 per month and so this place is unbelievable. You can’t go wrong”.

**Student (No. 152):**
(Female)  
“I mean it is very cheap here compared with everywhere else. That is one of the reasons why I take up so many classes in the week...The recreational facilities by me are hugely expensive in
50% of males and 39% of females indicated that having no club nearby was a negative factor. The higher percentage of males could be attributed to the fact that they are more likely to participate in club/team sports. The lack of transport also would be a factor if there are no clubs near to a student's vacation address. Additionally, half the students surveyed stated that their participation drops because there is 'nobody to go with'. The social side of participation - i.e. meeting or being with friends - is a strong motivating factor for regular participation. At university students are surrounded by people of a similar age, academic attainment and profile. During vacations this may not be the case and could be quite a lonely existence in comparison to campus life.

Student aspirations and choices for participation in sport and recreation once they had left University

100% of males and 92% of females indicated they would continue with active sport and recreation once they had left university. These are very high figures and give an indication of students' expectations of participation once they have left university. It was particularly encouraging as more students now participate regularly than they did pre-university and they are participating in different activities. The table overleaf illustrates the reasons why students felt they would continue with participation post university.
Table 6.21

Why undergraduates indicated that they would continue with any active sport and recreation once they had left University. (n= 128)

<table>
<thead>
<tr>
<th>Statement</th>
<th>True Male</th>
<th>True Female</th>
<th>False Male</th>
<th>False Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have always enjoyed sport and recreation</td>
<td>92</td>
<td>70</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Sport and recreation is now a regular part of my lifestyle and I will continue</td>
<td>94</td>
<td>85</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Most of my friends tend to also be active - this could include any new friends I make once I leave University.</td>
<td>54</td>
<td>40</td>
<td>46</td>
<td>60</td>
</tr>
<tr>
<td>My social life will include sport and recreation</td>
<td>83</td>
<td>62</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td>I should be able to afford participating in sport and recreation</td>
<td>86</td>
<td>85</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Sport and recreation will provide an excellent change from the pressures of work</td>
<td>91</td>
<td>97</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>I will prioritise time in my new lifestyle after University to enable me to participate regularly</td>
<td>83</td>
<td>88</td>
<td>17</td>
<td>12</td>
</tr>
</tbody>
</table>

A large number of males (92%) stated that they always enjoyed sport and recreation in comparison to 70% of the females and a slightly higher percentage of males (94%) stated that they now viewed sport and recreation as ‘part of their lifestyle’. This compares to 85% of females who also regard sport and recreation a part of their ‘lifestyle’. There is a 20% difference from their schooldays when only 65% of females enjoyed the curriculum at school. The new activities and opportunities seemed to be a motivating factor for proposed ‘lifelong’ participation. 40% of females indicated that their friends also participated in
comparison to 54% of males. Male participation rates on the whole are slightly higher in the general population and these figures may reflect this trend. Also males playing more team sports, may attract larger groups of friends to a specific activity rather than the individual activities such as aerobics. Additionally, 83% of males indicated that their social lives would also include sport and recreation in comparison to 62% of females. The social side of team sports is often linked to the participation in that specific sport. For example, rugby and soccer clubs (male dominated) within and outside universities often have formal structures including membership, regular matches and social functions. This is unlikely in a ‘drop in’ activity such as a health and fitness class (female dominated).

The responses to ‘affordability’, ‘pressure release’ and ‘time management for sport’ all produced similar high results of over 80% for males and females. The ‘pressure release’ aspects of participation links with the high number of students stated that ‘relaxation’ was a major motivator for current participation. 85% of females and 86% of males indicated that they hoped to be able to afford to participate once they have left university. This should be seen against 54% of males and 72% of females who could not afford to participate regularly in the vacations due to the cost of participation. There is also a high commitment from both males (83%) and females (88%) to prioritise time post university to enable them to exercise regularly. This suggests that students perceived the need for ‘time management’ to enable them to participate regularly.

**Choice of activities post-university**

The students indicated that they would participate in the following activities overleaf:
Table 6.22
Choice of activities post University (n = 124)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and fitness activities</td>
<td>44%</td>
<td>74%</td>
</tr>
<tr>
<td>Team games</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>A mixture of both the above</td>
<td>53%</td>
<td>24%</td>
</tr>
</tbody>
</table>

The above figures associate with other data regarding the popularity of team games favoured by males and the females preferences health and fitness activities. Again very few of either sex will participate in team games alone although 53% of males will participate in both team games and health and fitness activities. This new ‘breed’ of activity is known as ‘cross training’ where individuals do a variety of different activities. Students also indicated in the interviews that they would continue with active lifestyles once they left university.

Student (No. 95): (Male)  “It is probably going to be more with the health and fitness classes as that is going to be more of an individual basis. Wherever I end up in the UK, the first thing I will do is check out the local gyms and so on and beyond that I will involve myself in the team sports”.

Interviewer:  “Do you feel you have the confidence now wherever you may end up in the UK to actually go to a gym and say that you want to join a class or whatever?”

Student (No. 95):  “Oh without a doubt yes. Now that I have the experience and confidence”.

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Interviewer: “What do you think you will do once you have left? Will you pick up rugby “(Student dropped out due to poor organisation by the Athletic Union)”. 

Student (No. 58): “Yes. Definitely. Also staying in the fitness regime idea, it is so easy to fall out, just keep going”.

Interviewer: How successful do you think the University is at motivating students with the programme and facilities we have to offer?”

Student (No. 152): “Very. There is such a wide range of activities, I had never done anything like Yoga before and would never really have considered it and I will now carry on doing it. I am going to carry on doing Aerobics as long as I can find a place as cheap as this! It has completely changed. When I thought of sport I thought of ‘badminton’ and ‘keeping fit’, I enjoy Aerobics now just as much. I would not have considered going into a gym or anything usually, but since coming here it is not so bad. I may even go all the time”.

The above student is an excellent example of a student who is now motivated to continue with a different style of activity once she has left university.

Student (No. 19): “Yeah, you have definitely influenced me. I had never really stepped in a gym before as I thought they were really vain places to go”.

Interviewer: “What is your reason for going to the gym now?”
Student (No. 19): “Well to keep up the running. I really enjoy that. Also general Health and Fitness plus there is a lot of good equipment”.

The above responses do provide clues to the ‘participation motivation’ of the students. Clearly the student is able to jog anywhere but chooses to do so in the Conditioning Room. This is due to the equipment including the MTV music channel and the safe environment. The interview shows that the student’s confidence and experience has increased and that she is now motivated to continue with an active lifestyle.

Aspirations of participation frequency once graduates have secured a job
The figures below indicate their preferred exercise patterns for the future.

Table 6.23
Aspirations of participation once graduates had secured a job. (n = 128)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyday</td>
<td>19%</td>
<td>7%</td>
</tr>
<tr>
<td>2-3 times per week</td>
<td>81%</td>
<td>87%</td>
</tr>
<tr>
<td>Once/twice per month</td>
<td>-</td>
<td>6%</td>
</tr>
<tr>
<td>Never</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The figures above are similar to the majority of students stating that they hope to participate two or three times per week. They are lower than the current male figures in Table 6.7 where 37% of males and 12% of females said that they currently participated everyday.
The influence of the opportunities at university for motivating ex-students to continue with regular participation

The figures below show that the programme has been popular with the students and that they intend to continue participating in active recreation as a direct result of the programme.

Table 6.24
Students who felt that the opportunities at university had been a motivating factor to continue with regular participation (n=129)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>86%</td>
<td>92%</td>
</tr>
<tr>
<td>No</td>
<td>14%</td>
<td>8%</td>
</tr>
</tbody>
</table>

The slightly higher percentage of male students (14%) who said the programme did not motivate them may be related to the fact that the male students were already motivated and the experiences at the university were not 'new' to them, although this is not revealed by the data. For example, earlier research showed that the confidence in males to participate in active recreation is higher than females and they often do not need 'secondary' motivation from instructors (Coalter 1999, Edie 1991, Williams 1993). The interviews also allowed the opportunity for students to give opinions on how the programme at the university could be even further enhanced to encourage more participation amongst students. The quotes below give some of the replies.

Student (No. 63): (Female)  
"...I feel that you are doing a pretty good job at the moment. The only think I would say would be more advertising in Halls so that students know what is going on. Also every single person I speak to says the first thing you need is a swimming pool".
Student (No. 95): (Male)  
“…beginners classes are great but we do need to focus more on the intermediate and talented players and involve them. Now that is quite tricky as we are talking about bringing in a higher level of coaching skill. But we have to keep bringing on the beginners classes, because they are very well attended”.

Student (No. 58): (Male)  
“The programmes are fine. I think you supply enough. When it comes to facilities if you got rid of the downstairs gym and put in free weights and knocked through to make the main gym bigger I think it will encourage more people to come”.

Student (No. 143): (Male)  
“Possibly for students who have been shy at school sport – they could have a booklet in their room so that they know what was going on. They could perhaps tailor an individual programme for them and do something different, but achieve the same goals”.

Attitudinal findings to exercise participation

A series of statements was used, similar to that used by Pook (1995), designed to gauge what motivates students to participate. Although similar topics were asked in the main questionnaire, these questions towards the end gave the students an opportunity to rank the questions in order of importance.
School Sport

Table 6.25
Attitudinal findings to exercise participation – school sport (n=129)

<table>
<thead>
<tr>
<th></th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>I enjoyed PE at school</td>
<td>19</td>
<td>26</td>
<td>56</td>
<td>36</td>
<td>8</td>
</tr>
<tr>
<td>I disliked my PE teacher at school</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>My parents never encouraged me to participate in sport</td>
<td>3</td>
<td>5</td>
<td>11</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>

Although the majority of students enjoyed the programme at school only 19% of males and 26% of females said that they ‘agreed strongly’ with the statement. A high percentage of females (38%) answered negatively to the ‘enjoyment’ factor. This may be one of the reasons why female participation is low post school due to the direct result of the negative reaction to school physical activity programmes. Over 28% of females either ‘agreed strongly’ or ‘agreed’ to this question. Clearly the students experienced ‘secondary negative’ motivation from the very person who was employed to encourage active participation. A further 24% of females offered ‘no opinion’ which is a rather negative response to the person who is one of the main influences at an early age. Males tended to like their PE teachers more, but this may relate to the fact that the team games influenced by the curriculum may have been more appealing to boys in school.

78% of males and 59% of females disagreed with the statement ‘My parents never encouraged me to participate in sport.’ Additionally more males (31%) than females (15%) strongly disagreed with this statement. As seen earlier in Chapter Two males tend to receive more encouragement - particularly from their fathers.
Overall, from the data it was clear that parents did positively encourage participation.
Current attitude to participation

Table 6.26
Attitudinal findings to exercise participation – current attitude to participation
(n=129)

<table>
<thead>
<tr>
<th></th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy sport and exercise</td>
<td>M  F</td>
<td>M  F</td>
<td>M  F</td>
<td>M  F</td>
<td>M  F</td>
</tr>
<tr>
<td></td>
<td>53  36</td>
<td>47  56</td>
<td>7</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>My main reason for participation is to compete</td>
<td>11  -</td>
<td>31  7</td>
<td>11  11</td>
<td>39  52</td>
<td>8  30</td>
</tr>
<tr>
<td>I never have enough time to participate regularly</td>
<td>3  2</td>
<td>11  15</td>
<td>5  10</td>
<td>53  62</td>
<td>28  11</td>
</tr>
<tr>
<td>A lot of my friends participate regularly in sport and recreation</td>
<td>17  7</td>
<td>50  39</td>
<td>20  19</td>
<td>8  30</td>
<td>5  5</td>
</tr>
<tr>
<td>I really enjoy to go to classes which are taken by an instructor</td>
<td>11  28</td>
<td>45  52</td>
<td>36  9</td>
<td>8  11</td>
<td>-</td>
</tr>
<tr>
<td>Regular exercise is now part of my lifestyle</td>
<td>50  22</td>
<td>42  57</td>
<td>8  12</td>
<td>-  9</td>
<td>-</td>
</tr>
<tr>
<td>I feel a ‘bit down’ if I do not exercise regularly</td>
<td>39  32</td>
<td>44  52</td>
<td>11  10</td>
<td>6  6</td>
<td>-</td>
</tr>
<tr>
<td>My lectures and coursework commitments mean that I find it difficult to regularly exercise</td>
<td>8  9</td>
<td>28  29</td>
<td>14  9</td>
<td>50  46</td>
<td>-  7</td>
</tr>
<tr>
<td>I would like to participate more but do not have the confidence to go to the gym or join a class</td>
<td>3  1</td>
<td>3  12</td>
<td>8  4</td>
<td>47  59</td>
<td>39  24</td>
</tr>
<tr>
<td>Exercise is part of my normal weekly routine</td>
<td>50  28</td>
<td>47  55</td>
<td>4  8</td>
<td>-  9</td>
<td>-</td>
</tr>
<tr>
<td>I tend to go to exercise with friends rather than alone</td>
<td>8  16</td>
<td>19  28</td>
<td>31  11</td>
<td>39  40</td>
<td>3  5</td>
</tr>
</tbody>
</table>

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In direct comparison to the school programme all males (100%) and the vast majority of females (96%) now say that they enjoy sport and exercise. The earlier evidence shows that they are now participating in different activities and on a regular basis. The results also show that males still 'agree strongly' (11%) or 'agree' (31%) that the main reason for participation is to compete. This is probably related to the team games that males are likely to participate in as discussed earlier. Any form of competition, however, is negative to 82% of females and this is crucial to any marketing of future programmes. Additionally, it suggests it is important not to encourage a competitive atmosphere within recreational programmes as this could also be negative. For example, each member of a class must be encouraged to work at their own pace and the instructor should be giving individual positive comments and not encouraging competition for the greatest number of exercises.

The majority of students (81% male, 73% female) did find time regularly participate suggesting that the students who now belong to the Sport Centre are able to 'time manage' their lifestyles to include active participation. There were also a higher number of males who participate regularly with their friends. This is to be expected as more males participate in the large team games such as rugby, football, hockey and basketball. Many of the such clubs have three teams and therefore it is likely that a large number of friendships are made within the social 'culture' of the clubs. 35% of females disagreed with the statement and this is to be expected with the singular, 'drop in' nature of health and fitness classes which attract individuals rather than large team numbers (although females will go with friends the statement says 'a lot of my friends').

A higher percentage of females (80%) compared to males (56%) enjoyed going to a class taken by an instructor. This relates to earlier responses in the questionnaire and to earlier research (Edie 1991, Bracewell and Hall 1983, Harris 1993, Williams 1993) that an instructor led programme is essential to encourage female participation. 70% of females indicated that they 'agreed strongly' or 'agreed' with the statement. This makes a direct comparison with the 47% of females who
either 'agreed strongly' or 'agreed' that they disliked their PE teacher at school. It indicates the influence which instructors/teachers can have with different approaches. 36% of males had 'no opinion' and this links with the earlier data that shows that instructor led programmes are not essential for encouraging male participation.

50% of males and 22% of females 'agreed strongly' that regular exercise was now part of their lifestyle males indicated a higher priority on regular exercise. This is consistent with other research (Pook 1995, Williams 1993, Edie 1991) where males are more likely to participate regularly. 57% of females indicated that they 'agreed' with the statement which is encouraging for post university expectations and only 9% of females disagreed with the statement. Over 83% of males and 84% of females either 'agree strongly' or 'agree' that they 'felt a bit down' if they did not exercise. This is related to the above statement and 39% of males as opposed to 32% of females 'agreed strongly' to the statement which links with the previous statement and the importance they attribute to exercise in their lifestyle.

The results also indicate that lectures and coursework commitments do interrupt regular exercise for both males and females. Although students in the survey indicated in Statement 3 that they did have enough time to exercise, the indications are that the pressures of student coursework and lectures make it difficult at times to exercise regularly. This could be related to the fact that these are third year students and the research was done in their final year.

86% of males and 83% of females felt confident enough to go to the gym or class with more males indicating that they 'strongly' disagreed with the statement. The transcripts from the earlier interviews show that the university 'experience' of sport and recreation has enabled a renewed confidence in students and many now have the 'primary' motivation to participate in regular exercise. 13% of females and 6% of males who belonged to the Sport Centre still lacked confidence to go to the gym or join a class even after three years at university. Confidence and self
esteem is an important element of 'participation motivation' and may suggest that some students will not participate regularly post university because of this.

More females (44%) as opposed to males (27%) tend to go to exercise with friends rather than alone. Additionally 31% of males offered 'no opinion' as opposed to 12% of females suggesting that males have more confidence to go alone to activities whereas females often need the 'secondary motivation' of a friend to participate regularly. A similar number of males and females (39%/40%) disagreed with the statement. The interviews suggested that this was not always the case and that 'going alone' has developed over the three years. Some of the females interviewed specifically stated that the first experience took a lot of confidence and that it took time to be motivated to participate alone.
### Views on university provision

#### Table 6.27

Attitudinal findings to exercise participation – views on University provision 
(n=129)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>I will continue with active sport and recreation once I have left University</td>
<td>61</td>
<td>42</td>
<td>39</td>
<td>57</td>
<td>1</td>
</tr>
<tr>
<td>Sport and recreation is expensive at University</td>
<td>5</td>
<td>-</td>
<td>14</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>The student clubs at the University are excellent and very friendly</td>
<td>11</td>
<td>6</td>
<td>25</td>
<td>30</td>
<td>44</td>
</tr>
<tr>
<td>The opening times and access to the facilities at the University are very poor</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>The programme offered at University does not appeal to me</td>
<td>-</td>
<td>-</td>
<td>14</td>
<td>7</td>
<td>22</td>
</tr>
<tr>
<td>I am not sure about what sport and recreation is on offer at the University. The publicity is poor</td>
<td>3</td>
<td>-</td>
<td>8</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>I would participate more regularly if it was all free</td>
<td>47</td>
<td>42</td>
<td>19</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>Sport and recreation at the University is excellent and acts as a positive motivator to regularly exercise</td>
<td>19</td>
<td>9</td>
<td>56</td>
<td>65</td>
<td>16</td>
</tr>
</tbody>
</table>

215
Both male (100%) and female (99%) gave strong intentions that they will continue with active sport and recreation once they have left university.

The majority of students (70% male, 79% female) either ‘disagreed’ or ‘strongly disagree’ that sport and recreation is expensive at university. The aim was to encourage regular motivation (2-3 times per week) and therefore the students’ perception of the cost was important. 19% of males either ‘agree strongly’ or ‘agree’ to the statement and this may be related to the fact that more males indicated that they participated ‘everyday’ and therefore this could be seen as being more expensive. However, both males and females indicated in Statement 7 that they would participate more if it was free.

The previous results indicate that most students do not belong to the clubs and the highest numbers (male 44%, female 53%) offered ‘no opinion’ to the views of student clubs. The data also showed that the students regard the access to the facilities as excellent. The facilities are open for over 96 hours per week and could have been a de-motivating factor if the opening times were shorter.

More males (61%) as compared to females (39%) ‘agree strongly’ that they will continue with active sport and recreation once they have left university. This may be related to the fact that males participate more regularly and are more motivated to do so. However, 100% of males and 99% of females responded positively to this question. Earlier responses indicated that the majority were likely to participate 2-3 times per week.

Only 14% of males and 7% stated that the programme offered at the university did not appeal to them. Additionally, 34% of females ‘disagreed strongly’ and 51% ‘disagreed’ with the statement in comparison to 47% and 17% of males respectively. The programme does therefore appeal to the majority of students surveyed. It is evident that the programme offered - i.e. a Health and Fitness dominated programme - is a motivating factor particularly for females. 22% of
males offered 'no opinion', but many of the programmes are not specifically aimed at male participation.

76% of males and 85% of females were aware of the facilities and programmes on offer at the university. The current publicity includes an up to date Web site, publicity brochures, mailshots and an information desk within the Sport Centre. The campus location makes it ideal for students to access any additional information. Again the publicity is a motivating factor and the Centre has a 'house style' and lively publicity specifically aimed at the student market. The marketing is a positive motivating factor for most students. However, the data shows that for regular participation the cost element is a consideration for 66% of males and 64% of females. At other universities where sport and recreation is free such as Cardiff University and Surrey, there is no marked increase in participation rates in comparison with Glamorgan. However, it is difficult to compare the figures with other universities unless the programmes and student profiles are very similar.

The majority of students (75% male, 74% female) stated that sport and recreation at the university is excellent and acts as a positive motivator to regularly exercise. This suggests that the programme offered which is not dominated by 'team games' is the correct balance to motivate students to participate regularly. Study Three will indicate if the participation as graduates has been as a result of the university programme.
Participation aspirations having left university

Table 6.28
Attitudinal findings to exercise participation – participation aspirations having left university. (n=129)

<table>
<thead>
<tr>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>M F</td>
<td>M F</td>
<td>M F</td>
<td>M F</td>
<td>M F</td>
</tr>
<tr>
<td>% %</td>
<td>% %</td>
<td>% %</td>
<td>% %</td>
<td>% %</td>
</tr>
</tbody>
</table>

I would hope to continue with regular exercise when I leave University 58 44 42 56 - - - - -

All students answered positively to this question - the only statement where there were no negative responses. The males placed a higher emphasis on this statement, which may relate to the fact that more males participate more regularly and therefore allocate more importance to regular exercise. This table links with the Tables 6.23 and 6.24, where 86% of males and 92% of females indicated that the opportunities at university will be a motivating factor to continue with regular participation.

Summary of Main Findings

The data show that the majority of students were participating regularly in new activities which they had started in university. 69% of males and 74% of females had increased participation since coming to university. The high participation rates were similar to other studies of student exercise behaviour reviewed in Chapter Two (Edie 1991, Williams 1993, Harris 1993, Pook 1995). The high participation rates suggest that the undergraduates had excellent time management skills as discussed by some commentators in Chapter Two (Roberts 1997, Trew and Scully 1998). This is in contrast to the views of Glyptis (1993:8) quoted in Chapter Two
who suggested that due to lack of facilities, low incomes, and low mobility young adults were 'cut off ready made recreation provision and peer group networks available in school'. This research indicates that the university environment could be very positive for encouraging active participation in leisure and recreation.

The data show that the majority of males (77%) and females (61%) enjoyed the school PE programme. Similar findings were discussed in Chapter Two (Williams 1993, Pook 1995, Sports Council for Wales 1998b, Sports Council for Wales 1998c, Sport England 2001a). This data reveals that better facilities and a different range of activities would have encouraged even more participation whilst in school. The data also showed the additional negative influences towards the school PE curriculum including; a dislike of the PE teacher, the style of the PE delivery, the PE kit (females) and a low personal achievement in sport. This agrees with some of the literature reviewed in Chapter Two which indicated that the teaching style of PE and a 'team games' curriculum was off putting for many pupils (Bracewell and Hall 1983, Burton and Kirtley 1990, Scraton 1996, Hagger and Cale 1997 and Waddington and Malcolm 1997). The data in this research supports the recommendations from Fairclough et al (2002), Sports Council for Wales (1998c) and Spaem and Ohmni (1998) detailed in Chapter Two which reported that different activities and styles of delivery could be required to influence post school participation.

The data also revealed the high levels of participation by female students. This was contrary to some of the literature reviewed in Chapter Two which suggested that leisure time/opportunities were not equal between the sexes and leisure opportunities were heavily in favour of males (Deem 1986, Coakley and White 1992, Scraton 1996, Polley 1998 and The Women's Sport Foundation 2001). However, the above commentators did not specifically research female students and the new data in this research suggests many of the 'traditional' studies on female participation does not deal with female undergraduates. Chapter Three also reviewed other undergraduate studies in the UK which had also indicated high levels of female participation (Edie 1991, Williams 1993, Pook 1995). The data in
this research also shows that both male (83%) and female (92%) undergraduates felt that there were equal opportunities at University for both males and females to participate.

The majority of students participated in health and fitness activities rather than team games. This links to the literature in Chapter Two which emphasised that 'mass' sport programmes were likely to appeal to students (Bracewell and Hall 1993, Reeves 1998, Williams 1993, Harris 1993, Pook 1995, Mull et al 1997, Coalter 1999). This also parallels the growth of health and fitness activities as a popular choice in the UK since the 1990's reviewed in Chapter Two (Sports Council for Wales 1993, Watt 1998, Leslie et al 1999, Carney et al 2000).

The data also revealed that students' participation does drop during the vacations although no central barrier was evident. This suggests that the university environment is very positive in encouraging high participation rates, but that lapses can occur which supports the Natural History of Exercise Model (Sallis and Hovell 1990) as discussed in Chapter Three.

The main motives for participation were for 'achievement', 'fun', and 'health related' reasons. The 'desire for competition' was particularly unpopular with females. This links to the reviews in Chapter Two and Three which suggested that a 'mass' sport programme of recreational activities was most likely to be successful for encouraging high levels of undergraduate participation. (Pinto and Marcus 1995, Mull et al 1997, Leslie et al 1999, Woods 2000, Wallace et al 2000). The data also had similar results to Edie (1991), Williams (1995) and Pook (1995) who reported that more females than males preferred to go to a teacher-led classes.

The data also shows some levels of dissatisfaction with the Athletic Union Clubs. The data links to research by Llewelyn (1978), Reeves (1988), Pook (1995) and Hudson 1995) in Chapter Two who also questioned the expertise of the Students Union to deliver a recreational sports programme.
100% of males and 92% of females indicated that they would continue with active sport and recreation once they had left university. The students indicated that their participation would be in health and fitness activities. 86% of males and 92% of females indicated that the opportunities at university had been a motivating factor to continue with regular participation. This is an important finding and suggests that the university environment had influenced the exercise behaviour of the students and that this could now be transferred to a new environment when they had left university.
CHAPTER 7

Study Three – Exercise Behaviour of Recent Graduates
Introduction

The purpose of this self reported study was to track the students from Study Two ten months after they had graduated from university, which was a year since they completed the questionnaire as undergraduates. The specific objectives were:

1. To establish the patterns of exercise behaviour of the graduates now that they had left university.

2. To investigate if the university environment had been a positive influence on their current exercise behaviour.

3. To identify possible barriers to exercise among young graduates.

4. To identify the graduates’ future aspirations and their aims in terms of ‘lifelong’ participation in a physical activity.

Procedure

This Study was the second part longitudinal study into exercise behaviour of undergraduates and recent graduates. The undergraduates who replied to the questionnaire were informed that they would receive a follow up questionnaire in twelve months time and were asked to supply a forwarding address. The information stated that the follow up questionnaire would arrive at their specified address over the Easter weekend. The covering letter to the graduates included a reward that all respondents would be entered into a draw for £25 in ‘Next’ vouchers. The covering letter again stressed the importance of the research in the future development of the sport and recreation at the University of Glamorgan. The students were informed that their responses would be anonymised and confidential.
Measures
The questionnaire was designed to be completed in 15 minutes and again consisted of mainly closed questions. The style was very similar to that used for the undergraduates which had proved very successful. Many of the questions had been designed specifically to compare with the undergraduates responses. Some questions were also designed to gather data from graduates who now either participated in more active recreation, less active recreation or were participating at about the same levels as in university (see Appendix B).

Distribution and Collection of the Questionnaires
The questionnaires were sent out in early March to coincide with the Easter Vacation. It was assumed that the questionnaires may need to have been forwarded from the addresses the graduates indicated twelve months earlier. A similar follow up procedure was adopted as for the undergraduate questionnaire with a first reminder after ten days and a second reminder after eighteen days. All correspondence included a Freepost envelope and covering letter. (The questionnaires were also sent out on ‘branded’ university envelopes. It was felt that this may prompt the graduates to reply as alumni of the university).

Sample
The questionnaires were sent out to all 129 respondents who replied to the undergraduate questionnaire.

Data Analysis
The questionnaires were checked and entered on a computer for analysis using the Statistical Package for Social Sciences (SSPS). The package allowed for cross tabulation between dependent and independent variables and allowed for the data to be collated and compared with the undergraduate findings. Discussions of the findings are included in this Chapter and in the final Chapter.

Interviews
The respondents were asked in the questionnaire if they were willing to be interviewed by telephone as part of the research (see Appendix B). They were
informed that the interviews would take about ten minutes and were asked to specify a date and time when they would like to be contacted. The qualitative interviews were designed to explore further the attitudes, beliefs, perceptions and exercise behaviour of the new graduates. Twelve graduates were selected for interview at a convenient time to themselves. The interviews were semi-structured and the researcher had gathered specific information from the individual questionnaires prior to interview. In reality each interview lasted between 15-20 minutes. The telephone interviews were not taped but detailed notes were written up by the researcher immediately after the interview.

Response Rate and Sample Demography

The response rate from the graduates to the postal survey was 67% (84 responses). The response rate was very pleasing from a postal survey and compares favourably with the initial questionnaire when the graduates were undergraduates when the response rate was 73%. The response rate for males was 32% and females was 68% which is also similar to the original undergraduate questionnaire response rate where the split was 30/70 in favour of female responses. The similar 'split' in gender responses allow for accurate comparison with the undergraduate questionnaire.

Age/Marital Status/Children

The majority of the graduates (75%) were in the 21-23 age group and again the figures have a similar ratio to the students who responded to the undergraduate questionnaire. 15% were in the 24-25 age group and 10% were 26+. 96% of the graduates were still single (male 93%, female 98%) and only 7% of male graduates and 2% of female graduates had children.

The fact that a high percentage of the females were single, had no children and had been exposed to programme in a university with specific interventions to influence exercise behaviour suggests that this would be a positive influence on encouraging post university active participation.
Accommodation

The majority of graduates (70%) do not own their own property which suggests that they are not constrained by mortgage payments. The majority live in rented accommodation (male 70%, female 67%) which could allow for more disposable income as they do not have the burden of being house owners. The majority of graduates also have either gone back home to live with their parents (overall 42%) or are living in rented/shared accommodation (overall 36%). This would support the concept that the graduates would have additional income and also a close network of either family (living with parents) or friends (shared accommodation) which support the domestic arrangements as well as social/recreational opportunities.

The negative constraints detailed by Deem (1986) do not seem apparent to the majority of female graduates at this stage in their lives. The constraints were also not a barrier during their time as undergraduates. However, one of the female graduates interviewed had got married since leaving university and also had a twelve week old baby. The graduate was living with her parents and did not have access to a car. The female graduate found it very difficult to participate regularly and now participated less than she did at university.

Graduate (No. 155): "...very difficult (to exercise) with the baby who is now four months old and to get in a routine. I do walk a lot with the baby, but I can’t go to the classes I want as my husband has also joined the RAF and is away on basic training”.

This shows that certain ‘personal factors’ as defined by Deem (1986) could very quickly and dramatically change an individual’s options to make choices regarding her use/availability of leisure time. However, the majority of the undergraduates were single, childless, educated, employed, were either living with family or friends and also had a good ‘background’ in active participation
Employment

The survey showed that 76% (overall) of the graduates had secured full time employment and 12% (overall) had secured part time employment. This again would suggest that income may not be a limiting factor, although the survey did not specifically ask for levels of earning. If income is low and possibly debt high, and the sport and recreation facilities in the locality are expensive, then this could be a barrier to regular participation and is detailed later in this survey. All the graduates studied a degree at the university and 76% had now gained full time employment. Although the type of employment was not surveyed, Torkildsen (1999) in Chapter Two suggested that graduates in employment were more likely to participate in regular physical activity.

Chapter Two indicated that university graduates will have more opportunities, particularly in the ‘sport centre’ type of activities. In addition, the fact that 76% of the graduates have found full time employment and 12% have found part time employment suggests that they are now able to categorise their time to ‘work’ and ‘non work’ time. This distinct split between their ‘work’ and ‘leisure’ time means young people are more able to make informed choices on how to spend that leisure time unlike some groups of unemployed young adults of the same age (Trew et al 1998).

Transport

The research also indicated that 70% of the graduates now have the availability of a car. The Sports Council for Wales (1998) estimates that over 90% of regular users of sport centres are car users. This is now crucial as the graduates are no longer in a campus environment where they could walk to the sports facilities.

To summarise the first few responses from the survey, the graduates could be in an excellent ‘position’ to continue with an active lifestyle based on the following factors;

* The majority are 21-25, not married, no dependent children and live either with their parents or in shared rented accommodation.
• All have achieved a high level of education with a three-year degree.
• The majority have access to a car.
• The majority have full time employment and therefore have ability to categorise their lives into ‘work’ and ‘leisure’ and also have income from their employment to make leisure choices.
• As they all studied a three-year degree programme they have also been exposed to the ‘educational’ sport and recreation programme at university.

Positive ‘Opportunities’ to Influence Participation as Graduates

Study Two indicated that 72% of the students surveyed had participated in more sport and recreation since coming to university and that 89% of students indicated that the opportunities for sport and recreation at university had increased their participation rates. Therefore it would appear that the graduates surveyed were in an almost ideal environment to continue with active participation. Torkildsen (1999) in Chapter Two suggested that there were three categories of factors that influenced active participation in recreation – ‘Personal’, ‘Social/Circumstantial’ and ‘Opportunity’ factors. The initial responses from the graduates suggest that many of the ‘Personal’ and ‘Social/Circumstantial’ factors do encourage active participation as discussed in earlier Chapters. Although the graduates have now left university the earlier research from the undergraduate responses suggested that students were also in a ‘positive’ environment for active recreation. Additionally, although the ‘Social/Circumstantial’ were different regarding factors such as employment/car ownership and material wealth, the ‘Personal’ and ‘Opportunity Factors’ were positive with the abundance of time, facilities and programmes to encourage an active lifestyle. Consequently the data showed a high level of student participation.

Crucial areas for post-university participation are the ‘Opportunity’ Factors which included availability of facilities, local marketing, access, programming, costs etc. The data show that 42% of the graduates now live with their parents. In the undergraduate survey 39% of male students and 55% of female students indicated
that their participation dropped in the vacations when they went home (see page 199).

The majority of graduates have now secured employment and therefore may be able to afford to pay the non university prices. The majority of graduates also have access to a car and are able to categorise their time to ‘work’ and ‘leisure’ time as they have full time jobs with specific hours. Students may be returning to an area where there are poor facilities and there are fewer opportunities (e.g. no clubs). Torkildsen (1999) suggested under ‘Opportunity Factors’ that ‘availability of facilities and programmes’ is essential for continued participation. Clearly the undergraduates in vacation time did not feel that the opportunities in their area were positive to encourage more participation. The students were asked to rate the sport and recreation facilities at university and also in their local area twelve months after they had left the university. The results below suggest that females – who tend to favour health and fitness activities – were better off in university.

Table 7.1
Description of sport and recreation facilities in local area/university

<table>
<thead>
<tr>
<th>Description of sport and recreation facilities in local area (Graduates) (n = 84)</th>
<th>Description of sport and recreation facilities in University (Undergraduates) (n = 129)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (n = 84)</td>
<td>Female (n = 84)</td>
</tr>
<tr>
<td>Excellent</td>
<td>11%</td>
</tr>
<tr>
<td>Very Good</td>
<td>37%</td>
</tr>
<tr>
<td>Good</td>
<td>30%</td>
</tr>
<tr>
<td>Poor</td>
<td>22%</td>
</tr>
<tr>
<td>Very Poor</td>
<td>-</td>
</tr>
</tbody>
</table>

The results indicate that the ‘opportunities’ in university – including facilities and programmes – were rated higher in university than in their home areas. Again this supports the evidence reviewed earlier of the ‘abundance’ of opportunities at universities, but also suggests that the opportunities outside campuses are not as highly rated. However, it was not a negative situation once the students have left
university since 78% of graduates rated the opportunities as either Excellent/Very Good/Good and only 21% stating they were Poor/Very Poor.

Comparison of Participation Rates with Undergraduate Responses

Many of the next series of responses were specifically designed to compare the graduate responses with the undergraduate responses. This comparison is important since the graduates had moved into a new phase of their lives. Their exercise behaviour and motives may now be different from their university patterns of participation.

Participation Rates

The graduate figures demonstrate that males still participate slightly more than females, but this also shows a slight decrease in participation rates in the 'everyday' responses for males but an increase for females. It also shows a decrease of 12% in the number of females that participate 2-3 times per week.

Table 7.2

Comparison of participation rates as graduates/ undergraduates

<table>
<thead>
<tr>
<th></th>
<th>Graduate (n = 84)</th>
<th>Undergraduate (n = 129)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Everyday</td>
<td>30%</td>
<td>19%</td>
</tr>
<tr>
<td>2-3 times per week</td>
<td>52%</td>
<td>56%</td>
</tr>
<tr>
<td>Once per fortnight</td>
<td>11%</td>
<td>16%</td>
</tr>
<tr>
<td>Less often</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Never</td>
<td>-</td>
<td>2%</td>
</tr>
</tbody>
</table>

Although the figures have decreased, the participation rates are high and show that 82% of males and 75% of females are participating in active recreation at least 2-3 times or more per week. This suggests that activity rates of recent graduates are exceptionally high although slightly lower than their undergraduate activity levels (88% males, 80% females). The above figures are very favourable
in comparison within other research that shows the activity level of at least once per week (page 177). The encouraging figures for this research and the fact that over 50% of young people have been targeted to experience higher education suggests that the rates could be higher in future if the university programmes specifically aim to encourage 'mass' participation as discussed earlier.

The graduates had been asked the previous year how often they thought they would participate once they had left university and secured employment. Clearly the students had over estimated the amount they would participate. However, far more graduates (males 11%, females 12%) are now participating ‘everyday’ than they estimated as undergraduates. It is also clear from the undergraduate responses that there was tremendous desire to continue with active recreation, but the reality of a new environment, (including a new job for the majority of graduates) meant that some graduates are unable to meet their original expectations. When interviewed the graduates expanded on the reasons why they now participated in less active recreation than they estimated as undergraduates.

Graduate (No. 94): (Male) “There is a major culture change from being a student at University. I would like to swim more but it is a case of time. Also the facilities are expensive and with all the debts. I probably have the same amount of money left as when I was a student”.

Graduate (No. 59): (Female) “Evenings are not so free now that I work shifts. I tend to go swimming in the mornings, but most of the exercise classes are in the evenings”.

Graduate (No. 49): (Female) “Money reasons. I currently live in Treforest and am now not a student. I did not realise that you could still use the Centre as an ex-student”.

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Motivation to Participate

As discussed in Chapters Two and Three the desire for competition is not the main motivation for participation active recreation. This is illustrated in the table below;

Table 7.3
Motivation for participation (n = 84)

<table>
<thead>
<tr>
<th></th>
<th>Very Important</th>
<th></th>
<th>Quite Important</th>
<th></th>
<th>Not Very Important</th>
<th></th>
<th>Not at all Important</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Desire for</td>
<td>23%</td>
<td>-</td>
<td>23%</td>
<td>11%</td>
<td>31%</td>
<td>43%</td>
<td>23%</td>
<td>46%</td>
</tr>
<tr>
<td>competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet friends</td>
<td>4%</td>
<td>9%</td>
<td>31%</td>
<td>40%</td>
<td>38%</td>
<td>39%</td>
<td>27%</td>
<td>12%</td>
</tr>
<tr>
<td>Relaxation</td>
<td>50%</td>
<td>44%</td>
<td>42%</td>
<td>43%</td>
<td>8%</td>
<td>11%</td>
<td>-</td>
<td>2%</td>
</tr>
<tr>
<td>Enjoyment/Fun</td>
<td>42%</td>
<td>54%</td>
<td>54%</td>
<td>41%</td>
<td>3%</td>
<td>4%</td>
<td>-</td>
<td>2%</td>
</tr>
<tr>
<td>Achievement</td>
<td>48%</td>
<td>32%</td>
<td>26%</td>
<td>46%</td>
<td>19%</td>
<td>20%</td>
<td>7%</td>
<td>2%</td>
</tr>
</tbody>
</table>

The above figures compare favourably with the responses the students gave as undergraduates on page 183.

This suggests the limitations of the National Curriculum, which is based on competitive team games, for encouragement of lifelong participation. 'Meeting friends' is slightly lower motivation for active participation for males than females. The figure has dropped by 19% for males who said this was 'important/quite important' in comparison to their undergraduate days. The female figure is the same as their undergraduate replies. This may suggest that males are more confident to participate alone and this was also supported in Chapter Three where the less confident females would often combine their choice of exercise with the social aspects and would choose to go with a friend.
One of the graduates supported this view when interviewed;

Graduate (No. 49):  
(Female)  
"I did a lot of classes and squash (at university) with my friends. I did not join the clubs really. I don’t know why, but I suppose it was a confidence thing. But I did like going with my friends. I mainly used the Trimnasium (ladies gym) where you could use the machines".

A very high (92%) proportion of males now said that ‘relaxation’ is very/quite important for their motivation to participate. This compares to 75% response when they were undergraduates. This indicates that the stressful demands of a first job having left university means that the individual needs to relax and taking exercise is one way to achieve this. It also suggests that there are new pressures on young graduates and the concept of the ‘work’ and ‘leisure’ in their lives is now more apparent than in their university days. The figures for female ‘relaxation’ are very similar for both undergraduates/graduates.

One female graduate who now participates in more active recreation since university when interviewed commented:

Graduate (No. 136):  
(Female)  
"I am at a desk all day and at the end I feel I need to do something. There is no problem with the activities if I go straight from work, as I am now in a routine. But if I come home first and sit down, it is difficult to go out again”.

Another female student who currently participates at about the same level as she did in university stated in her interview:

Graduate (No. 59):  
(Female)  
"I work shifts so I can go (swimming) early in the morning. It is not a problem as I get in a routine. I do enjoy it and get stressed if I have missed it or have not been".

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The overall figures for 'enjoyment/fun' are very similar for both genders although males put more emphasis (61% in comparison to 42%) on the 'very important' motivating factor at university for enjoyment/fun. This may suggest that the team games, which traditionally are male dominated, also included a varied social programme which is part of their motivation as undergraduates. It is interesting that 74% of males and 78% of females are still motivated to participate in active sport and recreation for 'achievement'. This figure has dropped for males from their university days (89%) but has slightly increased for females (71%). This is an important area for all facilitators of sport and recreation to provide opportunities for 'achievement' in the design of programmes and facilities. This is linked to the importance of 'self efficacy' discussed earlier as one of the main influences of regular physical activity adoption and maintenance.

**Choices of activities**

The activities that the graduates are motivated to participate in are very similar to the activities they did as undergraduates. Team games are still very unpopular and health and fitness activities including conditioning rooms and activities taken by an instructor are still the most popular.
Table 7.4
Choices of activities as graduates compared to undergraduates

<table>
<thead>
<tr>
<th>Type of activities</th>
<th>Graduates (n = 84)</th>
<th>Undergraduate Survey (n = 124)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Team Games</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Health &amp; Fitness Classes (taken by an instructor)</td>
<td>4%</td>
<td>16%</td>
</tr>
<tr>
<td>Using a Conditioning Room/Gym (No instructor)</td>
<td>33%</td>
<td>20%</td>
</tr>
<tr>
<td>Individual Small Group Activities (e.g. swimming, squash, badminton, martial arts)</td>
<td>15%</td>
<td>25%</td>
</tr>
<tr>
<td>A Mixture of the above but mainly Health and Fitness Classes and Conditioning Room</td>
<td>30%</td>
<td>35%</td>
</tr>
<tr>
<td>A mixture of the above but mainly team games</td>
<td>11%</td>
<td>-</td>
</tr>
<tr>
<td>Do not currently participate</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

There has been a slight drop of 9% in the female responses for those who go to an instructors led class and an increase of 16% in those who participate in ‘individual/small group’ activities. This section included swimming and as there was no pool at the university it suggests that graduates could now be participating in swimming in their local area. One of the possible reasons for the decline in instructor led programmes is that there may not be a choice of programmes available locally. Additionally, the university programme had ten lunchtime classes per week for students to participate in. Now that the majority of graduates are working it is unlikely that they would have the flexibility to join such classes.

The reasons overleaf were given in interviews as to why graduates are participating in less health and fitness classes since leaving university;
Graduate (No. 49):  
(Female)  
"My work commitments mean that I cannot go more often".

Graduate (No. 155):  
(Female)  
"I would like to go to classes but they are not really convenient as far as time is concerned. They are also expensive".

Graduate (No. 46):  
(Female)  
"...travel to work for one hour. This is a real problem. By the time I get home from work I am very tired...Also there is a great gym locally, but it is very expensive".

Graduate (No. 16):  
(Male)  
"I work roughly between 9:00am-5:00pm at the moment and could go more often. But I am only in Wales for a short time and do not want to join the local gym as there is an annual fee".

Graduate (No. 17):  
(Male)  
"It is £3.00 per hour for the gym, but when I get back from work I do not really feel like going out because I travel".

Graduate (No. 113):  
(Male)  
"...yes, I would like to participate more. I work irregular hours at the moment, but once I join a gym I will keep it going. Once I get back into going regularly it will be OK. It is just a case of fitting everything in".

However, the results show that the majority of graduates are now participating in similar activities to the university programme. The programme was designed to motivate students to continue participation post university and this evidence suggests that it has been successful. This compares, with the earlier evidence relating to the school national curriculum which did not inspire pupils to continue
with similar activities (team games) once they had left school. This is also supported by the undergraduate responses where 81% of students indicated that they had started new activities since coming to the university.

**Fitness Levels**

Although the concept of 'fitness' can cover a variety of factors, the study sought to investigate how the graduates rated themselves. It was apparent that the graduates surveyed had very high participation rates and this might suggest that they felt they were very fit. It was also interesting to see how they gauged their fitness in comparison to their undergraduate days.

Table 7.5
Graduate descriptions of their current fitness levels (n = 84)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Fit</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>Quite Fit</td>
<td>67%</td>
<td>70%</td>
</tr>
<tr>
<td>Not Very Fit</td>
<td>18%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Table 7.6
Graduate descriptions of fitness levels in comparison to University (n = 84)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitter now than when at University</td>
<td>26%</td>
<td>11%</td>
</tr>
<tr>
<td>Fitter when at University</td>
<td>59%</td>
<td>49%</td>
</tr>
<tr>
<td>About the same</td>
<td>15%</td>
<td>40%</td>
</tr>
</tbody>
</table>

82% of males and 75% of females indicate that they feel they are 'very fit' or 'quite fit' and suggests that they associate their high participation levels with 'fitness'. However, 'fitness' is specific and requires certain types of exercise levels. It could be that the individuals may not be as fit as they think they were if they are not following a programme specifically to increase their fitness levels.
Both males (59%) and females (49%) state that they felt that they were ‘fitter at university’ and this again suggests that the graduates, not unreasonably, link increased participation with increased fitness. Their participation rates were higher in university and therefore they assume that they were ‘fitter in university’. The earlier statistic where 82% of males and 75% of females indicated that they were ‘very fit’ or ‘quite fit’ also links with their choice of activity. As earlier discussed ‘health and fitness’ (gyms/classes) are by far the most popular activities and therefore the ‘achievement’ factor for the graduates is a fitter/healthier option.

One female graduate was asked at interview why she rated herself as ‘not very fit’ when her participation levels were 2-3 times every week. Such regular participation rates would suggest that the student would have a good level of fitness. Her response is detailed below:

**Graduate (No. 101):**
(Female)

“Well, it’s probably a female thing. I really enjoy participating, but we (females) are never really happy with our bodies. But I am fitter now than I was at University, but never really happy with the way I look”.

This again illustrated the motivation of the female graduate, but also showed less confidence in her personal appearance.
Participation levels

Table 7.7
Participation rates as graduates compared to undergraduate days (n = 84)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participate more now than in University</td>
<td>22%</td>
<td>12%</td>
</tr>
<tr>
<td>Participate less now than in University</td>
<td>44%</td>
<td>54%</td>
</tr>
<tr>
<td>Participate about the same as in University</td>
<td>34%</td>
<td>34%</td>
</tr>
</tbody>
</table>

The majority of males and females indicated that they now participate in less active sport and recreation than they did at university. However, it is important to realise that the participation rates are still very high in comparison to other surveys that had not specifically targeted ex-students. For example, if a student participated whilst in university everyday of the week, but is now doing less by only participating four times per week, it is still much higher than the average participation rates.

Reasons for participating less since university

Very few students indicated that they had either ‘retired’ from active recreation or that ‘did not like sport’ as reasons for them to participate less. However, finding ‘time’ and ‘pressure of work’ were strong reasons why individuals now participated less.
<table>
<thead>
<tr>
<th>Reasons graduates participate less since university (n = 43)</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>Not enough time</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>'Retired' from active lifestyle</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td>Do not enjoy ‘sport’</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>Friends do not participate</td>
<td>42%</td>
<td>58%</td>
</tr>
<tr>
<td>Pressure of work</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>No facilities available</td>
<td>33%</td>
<td>67%</td>
</tr>
<tr>
<td>Cannot afford to participate</td>
<td>58%</td>
<td>42%</td>
</tr>
</tbody>
</table>

Some graduates were specifically asked in the interviews why they now participated less and they gave the following replies.

**Graduate (No. 117):**  
(Male)  
"I travel a fair way to work and I do get tired".

**Graduate (No. 46):**  
(Female)  
"(The main reason for participating less)...is mainly the travelling with my job. I would go more often if I lived nearer. I do get up early to jog sometimes, but by the time I get up and get sorted it is usually too late!"

**Graduate (No. 49):**  
(Female)  
"(I play) squash court once per fortnight. My work commitments mean I cannot go more often".

Some graduates found that their shift patterns actually resulted in them participating in more active recreation than they did at university;

**Graduate (No. 59):**  
"You must get in a routine and part of your
(Female) everyday life. Once it is part of your routine it is ok... (I) work shifts so I can go early in the morning or afternoon – it is not a problem”.

Graduate (No. 143): “(I have) more time at the moment because I work shifts and have no other commitments such as a wife”.

It was encouraging to see that the desire to participate was still strong by the fact that only 3% of females had ‘retired’ from active participation. Additionally, the lack of local relevant facilities (33% male, 29% female) was also a reason why graduates participated less. The cost of facilities when available was also a reason why 58% of males and 54% of females now participated less. The cost of joining a health club may be prohibitive for graduates within a year of leaving university who may have debts to clear. When interviewed about the cost of local facilities some graduates gave the following responses:

Graduate (No. 16): “I have bought my own weights as the others in the area are quite expensive”.

Graduate (No. 136): “I felt that the £1.00 (to use the facilities in the University) was ok but now I pay £27.00 per month. Some clubs are more expensive”.

Graduate (No. 59): “The cost and time are a real challenge when it includes travelling”.

Graduate (No. 94): “...it is very expensive in Surrey... with all the debts I probably have the same amount of money left as when I was a student”.

The social aspect of participation is important and 42% of males and 35% of females now participate less because their friends did not participate. However,
now that they have left university their friends/colleagues may be from a wider age band and therefore may not have similar motivations and may not want to participate as regularly. The responses below are from male and female graduates who now participate less than they did in university. They specifically indicate that the access to friends on the university campus was a real motivating factor for them to participate regularly. Now that they were outside such an environment, they do not participate as often.

**Graduate (No. 49):**
(Female)

"I did a lot of classes and squash with my friends. I did not join the clubs (at university) really. I don’t know why, but I suppose it was a confidence thing. But I did like going with my friends. I mainly used the Trimnasium (female only gym) as you could get on the machines."

**Graduate (No. 16):**
(Male)

"Well, I played a lot of 7-a-side and 5-a-side intra mural matches with my mates, but now I don’t. It was easier in University because you played with your friends."

**Reasons for participating in more sport and recreation since university**

Only 22% of males and 12% of females now participate in ‘more’ sport and recreation than they did at University. It is important to note that the figures relate to all levels of participation. For example, a student may have participated ‘more’ if they increased from once a week to twice a week, or from five times a week to everyday. The exact increase was not specific. But it is also important to note that this is a very small sample of only 13.
Table 7.9
Reasons why graduates stated they participated in more sport and recreation since leaving university (n = 13)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>More time available</td>
<td>83%</td>
<td>14%</td>
</tr>
<tr>
<td>Better facilities available</td>
<td>33%</td>
<td>43%</td>
</tr>
<tr>
<td>Excellent value for money</td>
<td>67%</td>
<td>43%</td>
</tr>
<tr>
<td>Active lifestyle part of weekly routine</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Friends also participate regularly</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>Activity is relaxing</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Feel confident about exercising regularly</td>
<td>100%</td>
<td>85%</td>
</tr>
</tbody>
</table>

A very high percentage of males (83%) indicated that they had more time available. Better facilities were also a motivating factor for both males (33%) and females (43%) and as suggested earlier this could be facilities which were not available at university such as a swimming pool. 100% of both males and females now exercise more regularly because 'it is part of my weekly routine' and because they 'find regular exercise relaxing'. This is important and suggests that the seeds of the goal of 'lifelong participation' may already be apparent. Additionally 100% of males and 85% of females now 'feel confident about exercising regularly'. This is very encouraging and suggests that the educational elements of the programmes at university where 71% of students started new activities, has resulted in graduates being confident to continue participation. 33% of males and 37% of females also participate more often because their friends also go, and 67% of males and 43% of females now participate more often due to the excellent value for money of local facilities. This indicates that the social aspect of participation and cost are important to encourage regular exercise habits.
When interviewed some graduates gave more details of why they now participate in more sport and recreation since leaving university.

**Graduate (No. 136):** (Female)

"I am sat at a desk all day and I feel I need to do something...I go straight from work and am now in a routine".

**Graduate (No. 16):** (Male)

"I now have more time as I am now unemployed. Also I now use 'free weights' which you did not have at University".

**Graduate (No. 143):** (Male)

(I have) more time at the moment because I work shifts. It was a bit hectic towards the end of my studies. I also had an injury at University”.

**Graduate (No. 101):** (Female)

"In University I had better things to do (than exercise). I would rather go for a cup of tea with my mates. I also lived quite far from the University. I have (now) joined a local gym which costs £28 per month...I try to go 2-3 times per week...I hope to continue, but I am also playing football tonight”.

**Reasons for ‘same’ levels of participation since undergraduate days.**

Some graduates indicate that they were participating at similar level that they were in their university days. The ‘same levels’ could relate to once per week or everyday and the graduates were only asked to reflect to compare their current levels to their university levels.
Table 7.10
Reasons why graduates participated at the 'same' levels as university
(n = 28)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently content with participation levels</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Would like to participate more</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Facilities are not very good</td>
<td>22%</td>
<td>78%</td>
</tr>
<tr>
<td>Current lifestyle (work, family etc.) means that I am unable to participate regularly</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>Facilities are expensive locally</td>
<td>33%</td>
<td>67%</td>
</tr>
<tr>
<td>I currently go with friends and we are all happy with our levels of participation</td>
<td>11%</td>
<td>89%</td>
</tr>
</tbody>
</table>

The data show that 67% of males and 68% of females indicate that due to their 'current lifestyles' they are unable to participate more regularly. The average participation figures are very high and therefore the graduates should be commended on keeping up their participation rates. A total of 44% males and 63% of females indicated they would like to participate more. It is evident that it is the pressures of work rather than the availability or cost of facilities which restricts their current participation. This is also highlighted earlier in some of the quotes from the interviews.

Graduate (No. 46): (Female) “I travel to work for over an hour. This is a real problem. By the time I get home from work I am tired”.

245
Graduate (No. 49): (Male)

"The facilities (locally) are ok, but they do not have a climbing wall like in the university. It is very expensive in Surrey...I would like to go to the gym again and perhaps climbing...I am not as fit now as in university".

Equality of provision in the community for males/females to participate

Graduates were asked to comment on whether they felt there were equal opportunities in their local area for males and females to participate in active recreation. The aim of the question was to compare with their university experiences when the programme was specifically designed to encourage mass participation by females and males by offering an extensive range of activities. The results below are compared to the responses as undergraduates.

Table 7.11

<table>
<thead>
<tr>
<th>Equal opportunities for males/females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Responses</td>
</tr>
<tr>
<td>(n = 84)</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

The data show that there is a slight drop in the perception of equal opportunities for males/females. More males feel that there are fewer opportunities and this is similar to the results as undergraduates.

Changes in exercise habits since leaving University

New activities

Only 22% of males and 26% of females indicated that they had tried new sporting activities since they left university. This was significantly less than the 72% who started ‘new’ activities as undergraduates. Examples were given of new sporting
activities included gym, hill walking, kick boxing, 'Mambo' dancing, scuba diving, track sprinting, 'Kickercise' and skiing/snowboarding.

The majority of graduates have not tried new sporting activities since they left university. Additionally, the high participation rates documented earlier indicates the graduates have continued with similar programmes post university. The majority of 'new' activities tried by the students are not available on the programme at university, but it is noted that the students are now motivated to begin new exercise. This suggests that they have 'intrinsic' motivation and this motivation is a key area for the concept of the goal of lifelong participation in physical activity.

Activities which graduates had dropped
48% of males and 52% of females indicated that they had dropped certain activities since leaving university. Examples of such activities include yoga, gym, boxercise, squash, hockey, windsurfing, 5-a-side football (Intra - Mural), badminton, trampolining, aerobics, walking and keep fit classes. The programme at university covered many activities that may not be covered in a typical sport centre/health club so the graduates may have dropped activities not through choice but due to lack of opportunity. Earlier data and interviews support the fact that the majority of students are still participating regularly, but the choices have now been reduced often due to the lack of facilities, cost, time or constraints of employment.
Influence of University sport and recreation opportunities to encourage post-University participation

The graduates were asked if the opportunities at university (including all the clubs, new activities offered) were a positive learning experience for the graduates to continue participating in sport once they had left university.

Table 7.12
Influence of university sport and recreation opportunities to encourage post university participation.

<table>
<thead>
<tr>
<th></th>
<th>Graduate Responses (n=84)</th>
<th>Undergraduate Responses (n=127)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Yes</td>
<td>85%</td>
<td>91%</td>
</tr>
<tr>
<td>No</td>
<td>15%</td>
<td>9%</td>
</tr>
</tbody>
</table>

The results are almost identical, are very positive and strongly support the view that the customer focussed, health and fitness orientated programme at university has motivated graduates to continue with participation, post university. The above data are supported earlier in this section by the continued high participation rates for both males and females and the fact that they are participating regularly in similar activities that they were introduced to in university. This is evidence that modern, ‘mass’ sport programmes will result in continued participation and possibly the start of lifelong participation in physical activity. Further evidence of the success of the university programme to motivate students to continue with exercise post university was evident in the interviews;

Graduate (No. 101): (Female) 
“Yes it was (motivating), but it was me really. I don’t think the facilities could have been better...it was really a self motivating thing and it is down to the individual”.

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Graduate (No. 136): (Female)  
I think it was good because you had the outdoor stuff as well. The Trimnasium (ladies only gym) was really good, but also the other gym was good when you were confident”.

Graduate (No. 46): (Female)  
“I really liked the social aspect of the netball in college and going to the gym. I will continue with the gym since starting in university”.

Graduate (No. 113): (Male)  
“Since coming from school I started the keep fit side of things. I still play a lot of football but it made me see other things which I will now continue with”.

Graduate (No. 94): (Male)  
“It was really good at uni’. It would have been nice to have a pool. The prices were also good...you also had a climbing wall and not many centres had those. I would like to continue to go to the gym again and perhaps climbing”.

Graduate (No. 59): (Female)  
“I thought (the opportunities) were good and gave everybody a chance...now you must get in a routine as part of your everyday life...I enjoy it and miss it when I have not been”.

Goals for ‘Lifelong’ Participation  
Graduates were asked to comment on their goals for lifelong participation in regular exercise. The aim was to find out if the graduates were motivated to continue with an active lifestyle having been at university for almost three years and having completed their first year out of university.
Table 7.13
Do you hope to continue with regular exercise throughout your life?
(n = 84)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>74%</td>
<td>26%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Female</td>
<td>60%</td>
<td>39%</td>
<td>1%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The results are overwhelming in favour of continued exercise. (The question was carefully constructed to use the phrase ‘regular exercise’ and did not specify an activity or sport).

Choice activities and reasons for continued participation

The graduates were asked to comment in the questionnaires on the type of activities and the reasons why they hoped to continue with active participation throughout their lives. (This was an ‘open’ question). It was very noticeable from the comments that the words ‘fitness’, ‘health’, ‘enjoyment’ and ‘relaxation’ appeared in most of the replies. Examples below are selected interviews from graduates who either participate less often, more often or at about the same levels as they did in University.

Graduates currently participating less than they did at university

Graduate: “Want to exercise to just remain healthy and active, no major goal”.
(Female)

Graduate: “Trampolining, riding, gym and aerobics as it keeps you healthy and gives you health, enjoyment and achievement. Keeps me fit”.
(Female)

Graduate: “Gym and swimming – for better health, fitness and feeling of well being”.
(Female)
Graduate: "...swimming and squash. To keep fit and healthy. Hopefully increase in times per week. As I increase my fitness I hope to get more energy".

Graduates currently participating at the same levels as at university

Graduate: "To maintain current fitness I will continue to use the gym, go swimming etc. and keep a healthy lifestyle".

Graduate: "Exercise is such an important part of my life that I would never wish to be without it. I am happiest when I am participating in competitive sports".

Graduate: "Football and golf as a way to relax".

Graduate: "I wish to stay fit and add a little more muscle mass. I ride a bike ten miles everyday and do cardio vascular work".

Graduates who currently participate in more active recreation since leaving university


Graduate: "Because I participate in individual sports (weights, archery, mountain biking) I am not tied down to when others want to do it as in team events. Reasons for participating – boredom, achievement, relaxation and part of lifestyle".

251
Graduate: "Healthy lifestyle is important, helps me concentrate at work, feel confident".
(Female)

Graduate: "Going to the gym, to improve general fitness".
(Female)

It is noticeable that all the comments are quite similar and again indicate that 'health' and 'fitness' are important to graduates both in terms of activity and general well being. This supports the earlier data indicating that 'health and fitness programmes' are important motivators for young adults to participate regularly. In summary, the research documented in Chapters Two and Three indicates that individuals will experience many 'stages' in their lives including marriage, children, new jobs and friendships which affects their opportunities for active leisure. This research indicates that instilling motivation to exercise regularly in undergraduates is most likely to result in continued participation post university. The data reveals that the motives of both males and females are very positive in this stage of their lives and strongly suggests that they aim to continue with regular participation.

Attitudinal findings for graduate exercise participation

The next section of research was designed in a similar format to the undergraduate questionnaire to gauge what motivates graduates to participate. Many of the questions were 'value judgements' and there were no right or wrong answers. The aim was to find out if the graduates were now intrinsically motivated to exercise and how important participation was to graduates now they had left university.
Current Participation

Table 7.14
Current participation as graduates (n = 84)

<table>
<thead>
<tr>
<th></th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M %</td>
<td>F %</td>
<td>M %</td>
<td>F %</td>
<td>M %</td>
</tr>
<tr>
<td>I enjoy sport and exercise now</td>
<td>52</td>
<td>38</td>
<td>41</td>
<td>53</td>
<td>4</td>
</tr>
<tr>
<td>My main reason for participation now is to</td>
<td>11</td>
<td>-</td>
<td>19</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>compete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I never have enough time to exercise regularly</td>
<td>3</td>
<td>9</td>
<td>15</td>
<td>30</td>
<td>26</td>
</tr>
<tr>
<td>I have continued with active sport and</td>
<td>15</td>
<td>5</td>
<td>30</td>
<td>39</td>
<td>3</td>
</tr>
<tr>
<td>recreation since I left University at a similar level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport and recreation is expensive in my local area</td>
<td>8</td>
<td>21</td>
<td>48</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>A lot of my friends participate regularly in</td>
<td>8</td>
<td>7</td>
<td>19</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td>sport and recreation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As the previous data implied, the majority of graduates surveyed (93%) enjoyed sport and exercise. There was also a very high response from the undergraduates to a similar question (100% males, 96% females) and as the graduates are still participating in similar activities as they did in university this figure could be expected. Additionally, 92% of females’ main reason for participation was not ‘to compete’. This is an increase of 10% to the same question as undergraduates. Clearly competitive team games are not a motivator for either female undergraduates or graduates. As discussed in Chapters Two and Three competition can encourage low esteem for those who are not particularly good at team games. The majority of male graduates (55%) also disagreed with this statement and only 30% stated that their main reason for participation is to compete. This is a decrease of 11% from their university days and again supports the view that competitive team games are not popular post university.
18% of males and 39% of females stated that they did not have enough time to participate regularly. Earlier data showed that participation rates for males and females had dropped since their university days and the fact that the majority of graduates wanted to exercise more often. However, it is important again to note that the participation rates are already high in comparison with national figures, and perhaps the goal of even more exercise is unrealistic for working individuals. It is interesting that as undergraduates 15% of males and 17% of females also said that they could not find enough time to exercise.

The availability and cost of facilities influences participation rates and 56% of males and 65% of females stated that sport and recreation is expensive in their local area. The high costs can be a barrier to regular participation as earlier interviews have demonstrated. One possible reason for more females indicating that they felt it was more expensive is due to the activities they choose to participate in. Private health and fitness clubs, which provide the programmes that motivate most females, are very expensive and therefore if females cannot afford the membership there could be no alternatives available. In comparison, as undergraduates the majority of students (70% male, 79% female) did not think that sport and recreation was expensive at university. However, they may now have to pay huge increases to participate in similar programmes. Therefore, the cost can be de-motivating for continued participation post university.

For 27% of male and 40% of female graduates, friends participate regularly in sport and recreation. This is lower than the responses as undergraduates where 67% of males and 47% of females agreed with this statement. Earlier data show that the majority of males have now dropped ‘team games’ activities which could explain this reduction. Also now that the students have left the university community it is likely that their friends/colleagues may not be the same age. Additionally, popular male activities such as Intra Mural football which attracted 500 players every week in university are now not available to working graduates. This may help explain why the male figure has reduced. It was also interesting to note that the female figure is much the same as in university. This could be due to
the activities which tended not to include large numbers such as the university (male) intra mural programme.

**Exercise and lifestyle**

Table 7.15

<table>
<thead>
<tr>
<th>Exercise and lifestyle as graduates (n = 84)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M %</td>
<td>F %</td>
<td>M %</td>
<td>F %</td>
<td>M %</td>
</tr>
<tr>
<td>I really enjoy to go to a class which is taken by an instructor</td>
<td>3</td>
<td>21</td>
<td>30 39</td>
<td>37 25</td>
<td>19 8</td>
</tr>
<tr>
<td>Regular exercise is now part of my lifestyle</td>
<td>33 18</td>
<td>33 49</td>
<td>11 14</td>
<td>18 14</td>
<td>5 5</td>
</tr>
<tr>
<td>I feel a ‘bit down’ if I do not exercise regularly</td>
<td>30 35</td>
<td>68 44</td>
<td>2 10</td>
<td>- 11</td>
<td>- -</td>
</tr>
<tr>
<td>The local clubs are excellent and very friendly</td>
<td>11 4</td>
<td>26 33</td>
<td>44 47</td>
<td>19 16</td>
<td>- -</td>
</tr>
<tr>
<td>The opening times and access to local facilities is very poor</td>
<td>4</td>
<td>5</td>
<td>19 12</td>
<td>22 18</td>
<td>48 53</td>
</tr>
<tr>
<td>My work commitments now means that I find it difficult to regularly exercise</td>
<td>-</td>
<td>16</td>
<td>40 40</td>
<td>19 7</td>
<td>37 33</td>
</tr>
<tr>
<td>Exercise is now part of my weekly routine</td>
<td>26 19</td>
<td>44 49</td>
<td>11 9</td>
<td>15 16</td>
<td>4 7</td>
</tr>
<tr>
<td>I tend to go to exercise with friends then go alone</td>
<td>-</td>
<td>12</td>
<td>26 25</td>
<td>19 16</td>
<td></td>
</tr>
</tbody>
</table>

The majority of females (60%) and 33% of males enjoy going to a class which is taken by an instructor. This is not surprising with the females as their predominant chosen activity – health and fitness – tends to have a culture of instructor led programmes. However, it is noticeable that there is a decline from their experiences at university where 55% of males and 80% of females agreed with this statement.
66% of males and 67% of females state that regular exercise is now 'part of their lifestyles'. This is very encouraging particularly as 76% of the graduates now have jobs and therefore have to 'find time' to exercise regularly. It suggests that they are highly motivated to continue with 'lifelong' participation. This is a drop from their undergraduate experiences where 92% of males and 79% of females answered positively to this statement. However, as indicated, the majority of graduates are now working and there are more demands on their time and therefore this drop is to be expected.

The majority of graduates (98% male, 79% female) did feel a 'bit down' if they did not exercise regularly. This suggests that habitual exercise is now very important to the graduates and that they were intrinsically motivated to participate regularly. Many of the graduates now exercise to 'relax' as a change from their working lives. The responses as undergraduates are similar for females with 73% agreeing with the statement. But as undergraduates a lower number (83%) of males agreed with the statement. The responses indicate the value and importance the graduates associate with regular exercise to their well being.

The majority of graduates (44% male and 47% female) did not offer an opinion if local clubs were excellent/friendly in their local areas. This may support the fact that the majority of graduates did not belong to traditional sports 'clubs' as they were now more likely to participate in health and fitness activities that can take place in a local sport centre or independently. 37% of both males and females agree with the statement and this suggests that those who attend clubs are happy with the clubs and this is a motivating factor to continue participation. The majority of students (55% male, 65% female) thought that the opening times and access to local facilities were good. This is important as the 'opportunities' which includes access to facilities mentioned by Torkildsen (1999) in Chapter Two were important to motivate graduates to exercise. Clearly the access is good for most graduates, the majority of whom are now working. Earlier evidence indicated that graduates see regular exercise as 'part of their lives' and they were 'a bit down' if they do not exercise regularly. Access to facilities on a regular basis is therefore essential. This compared with the responses as undergraduates when 83% of
males and 83% of females disagreed with the above statement as far as university access/opening times were concerned. University physical activity environments can therefore be more beneficial than the working environment outside university campuses.

The majority of females (56%) and 40% of male graduates stated that their work commitments meant that they found it difficult to exercise regularly. When the undergraduates were asked a similar question regarding their lecture commitments in university, 35% of males and 38% of females agreed with the statement. It suggests that females are disadvantaged and this could be linked to the lack of specialist opportunities (e.g. health and fitness classes) in their area. Alternatively it may suggest that the specific employment of female students does genuinely affect their ability regularly to exercise due to the nature of the work which may include travel and working patterns.

There is evidence that the graduates are starting to become 'habitual' exercisers with 70% of males and 68% of females agreeing that exercise was now part of their weekly routine. These are high figures for individuals who are working. However, the earlier 'social factors' (age, dependent children, gender etc) all support the fact that these young graduates are in an ideal 'stage' in life to exercise regularly. There is a drop in their responses to the same question as undergraduates where 97% of males and 83% of females responded positively to the question. However, the reasons for the change can be explained as due to pressures of work, costs, availability of facilities and the new 'lifestyle' environment which meant that they are no longer living on a campus surrounded by peers of a similar age group.

Only 26% of males and 37% of females tend to exercise with friends rather than going alone. 55% of males and 47% of females disagreed with this statement. This supports the view that males have more confidence to exercise alone, but also shows that both genders will exercise independently. This also supports the earlier evidence that the graduates are now committed to regular exercise in this stage of their lives.
Factors influencing participation

Table 7.16
Factors which influence participation as graduates (n = 84)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>The programmes offered locally do not appeal to me</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>16</td>
<td>37</td>
</tr>
<tr>
<td>I would like to participate more now but do not have the confidence to go to the gym or join a class</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>I am not sure about what sport and recreation is on offer locally. The publicity is poor</td>
<td>4</td>
<td>3</td>
<td>22</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>I would participate more regularly if it was cheaper</td>
<td>26</td>
<td>23</td>
<td>26</td>
<td>39</td>
<td>19</td>
</tr>
</tbody>
</table>

The majority of males (44%) and females (58%) disagreed with the statement that the programmes offered locally did not appeal to them. This contrasts with the undergraduate responses where 64% of males and 85% of females disagreed with the statement. This suggests that facilitators of sport and recreation need to respond to the users' demands if they are to deliver programmes which are popular. It could also be argued that non-university facilitators have to provide a programme which is appealing to all age-groups and interests. Providing a health and fitness led programme (popular with graduates) may not appeal to all groups within specific communities.

The majority of students (85% male, 74% female) indicated that they did have the confidence to go to the gym/class. This indicates that the goal of re-educating students to new activities which they can continue post university has been a success. Over 80% of the students in the undergraduate survey indicated that they
had started a new activity at university and 86% of males and 92% of females stated that the university experience was a positive experience to continue exercising after they had graduated. The data suggest that the graduates are now confident and motivated to join a local class which differs from their first experiences in university. The figures are very similar to their responses as third year undergraduates when 86% of males and 83% of females stated that they were confident to join a gym/class. There is a 9% drop in females which indicates that males are more confident.

The majority of males and females (male 52%, female 58%) are aware of the sport and recreation programmes in their local area. Earlier evidence showed that the programmes locally are not that appealing. Combined with the above answer it suggests that the publicity is acceptable, but more emphasis is needed on providing a programme which is attractive to the users. Market research could therefore help to understand the needs of the users locally.

The majority of graduates (52% male, 62% female) stated that they would participate more regularly if it was cheaper. Again earlier evidence suggested that the health and fitness clubs/activities could be expensive, particularly the private clubs. The aim could be to exercise 2/3/4 times per week and for that reason it would be expensive to participate regularly. The ‘opportunities’ for regular participation are limited if individuals only like certain activities and those choices are expensive.

Summary of Main Findings

The majority of graduates live in rented accommodation, are in full time jobs and single, have no children and have access to a car. The participation rates of the graduates, although slightly lower than as undergraduates, is still very high with 82% of males and 75% of females participating at least 2-3 times per week. This suggests that they are still highly motivated to exercise regularly and are in a very positive environment to regularly participate in physical activity as discussed in Chapter Two (Torkildsen 1999). The majority of graduates are also participating
in similar health and fitness activities they had started as undergraduates. Team games are still unpopular with both sexes and the main motivation for current participation was 'enjoyment/ fun', 'meeting friends' and 'relaxation'. The 'desire for competition' is still not a priority for females, but is more important to males. The data suggest that the students have learnt a 'transferable skill' (i.e. new exercise behaviour) at university and this links to Carney et al' (2000) research detailed in Chapter Three which suggested that undergraduate physical activity is a transferable skill with potential long term implications. Leslie et al (2000) in the same chapter demonstrated that significant changes in undergraduate exercise behaviour were possible by changing environmental conditions, raising awareness and providing a programme which was customer focused. The findings in this study also link to Mutrie and Woods' (2002) research discussed in Chapter Three which showed that physical activity interventions at university were important in teaching students transferable skills which included learning about how to lead a physically active life.

The concept of the university environment as a catalyst restarting active lifestyles is a central theme to this project. The educational successes demonstrated in this study link to Carney et al' (2000) research detailed in Chapter Three which suggested that the transitional period from university may have less impact if the activity patterns are already established. It therefore suggests that students who are confident and have been educated about specific activities are able to cope well with the transitional period from university. The results of this study suggest that the physical activity interventions at the University of Glamorgan outlined in Chapter Five were successful in influencing undergraduates and graduates to exercise regularly. The results from the graduates also suggest that the 'mass' sport philosophy advocated by Mull et al (1997) and the specific environmental/structural interventions suggested by King et al (1994), discussed in Chapters Two and Three, had been successful. This also links to Pook' (1995:19) research discussed in Chapter Two who commented that 'sport and physical education in University must incorporate themes of health education and habitual physical activity'.

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100% of males and 85% of females now ‘feel confident about exercising regularly’. As 71% of undergraduates started the activities at university it suggests that the university ‘experience’ has been positive in encouraging ‘self esteem’ to participate both in university and as young graduates. The importance of ‘self esteem’ and confidence to participate regularly was discussed in Chapter Three and the data in this study supports earlier research that confidence is key to encouraging regular physical activity (King et al 1992, Naylor and McKenna 1995, Wallace et al 2000).

There were some differences from the undergraduate data in that ‘time’ and ‘pressure from work’ were identified as two of the reasons why some graduates indicated that they participated in less activity. Additionally, ‘relaxation’ is given a higher rating by graduates as one of their motives for participation.

It is also evident that the participation levels of female graduates is still high and this was contrary to many of the traditional studies on female participation discussed in Chapter Two (Deem 1986, Coakley and White 1992, Scraton 1996, Polley 1998 and the Women’s Sport Foundation 2001). This suggests that if the females remain in a similar personal/social environment—employed, no children, access to transport and facilities—their participation could continue at the current high levels. This suggests that some of the current research into female participation discussed in Chapter Two may need to be updated to include young, single women who have no children.

Only about a quarter of the graduates have started new activities since leaving university and this is because the facilities or programmes were not available at university. This again stresses the importance of policy/environmental interventions to encourage physical activity as discussed in Chapters Two and Three (King et al 1992, King et al 1994, Sallis et al 1999, Mutrie and Woods 2002).

The research in Chapter Two indicated that individuals would experience many transitional periods in their lives including marriage, children, new jobs and
friendships which would affect their opportunities for active leisure (Torkildsen 1999, Wallace and Buckworth 2000, Buckworth 2001). The data in this research indicates that instilling motivation to exercise regularly as undergraduates could result in continued exercise post university. The data reveals that the motives of both males and females are very positive at this stage in their lives. The data also indicates that the graduates aim to continue regular participation in physical activity as a direct result of their university experiences.
CHAPTER 8
Study Four – Physical Activity Environments in UK Universities
Introduction

The purpose of this self reported study was to investigate the physical activity 'environment' in UK universities and how the university 'experience' might influence exercise behaviour. The specific objectives were:

1. To explore the aims, objectives and philosophies of Sport and Recreation Departments in UK universities. This included background information on the Heads of Department and structural models within specific universities.

2. To investigate the Sport and Recreation environment in universities and the balance in provision between 'mass' sport and 'elite' sport.

3. To identify if Sport and Recreation Departments in universities adopted the 'lifelong learning' philosophy to physical activity.

4. To identify if there were differences in the Sport and Recreation environments between 'old' and 'new' universities to include:
   I. Philosophy of provision
   II. Academic teaching commitments
   III. Provision for elite performers
   IV. Business planning
   V. Relationships with the Athletic Union.

5. To establish whether the Head of Sport and Recreation in UK universities acknowledged that the encouragement of 'lifelong participation' in physical activity should be one of the aims of a university Sport and Recreation Department.

6. To compare the philosophy of provision and physical activity environments at other UK universities to the University of Glamorgan.
Procedure

A sample of Heads of Sport and Recreation at UK universities were asked to complete a questionnaire. There is now no named divide between ‘old’ and ‘new’ universities. However, the tradition and infrastructure of such institutions differed greatly at the point of merger and an additional aim was to gauge if there are any differences in opportunities, provision and philosophy of use between the ‘old’ and ‘new’ universities.

Measures

The questionnaire was designed to be completed in 15 minutes and consisted of mainly closed questions. The style was very similar in style to the undergraduate/graduate questionnaires. The questionnaire was designed to gather data about the individuals in charge of the sport and recreation provision as well as the philosophy and physical activity ‘environment’ at particular universities (See Appendix C).

Distribution and Collection of the Questionnaires

The questionnaires were sent to Heads of Sport and Recreation in UK universities in England, Wales, Scotland and Northern Ireland. The questionnaires were sent out at the end of August and a reply was requested by the end of September. The researcher felt that this was the best time of year as most Heads of Department would return from vacation at the beginning of September. The questions had been designed after the replies had been received from the undergraduate questionnaires and the interviews had been completed with the selected undergraduates. This allowed the researcher to ask specific questions which related to the undergraduate responses. The covering letter was addressed ‘Dear Colleague’ and a full briefing was included in the letter. It was hoped that this would result in a better response. A first reminder was sent after ten days and a second after eighteen days. All correspondence included a Freepost envelope and covering letter.

Sample

The questionnaire was sent out to 95 Heads of Sport and Recreation.
**Data Analysis**

The questionnaires were checked and entered on a computer for analysis using the Statistical Package for Social Sciences (SPSS). The package allowed for cross tabulation between male/female responses as well as old/new universities. Discussions of the findings are included in this Chapter and the final Chapter.

**Response Rate and Sample Demography**

The returns totalled 63 (66%). Replies were received from 43% of ‘new’ universities and 57% of ‘old’ Universities. Replies were received from universities in Scotland, Northern Ireland, Wales and England.

**Titles for individuals responsible for sport and recreation in universities**

Table 8.1

<table>
<thead>
<tr>
<th>Title</th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Sport &amp; Physical Recreation</td>
<td>26%</td>
<td>47%</td>
</tr>
<tr>
<td>Director of Sport and Physical Education</td>
<td>4%</td>
<td>11%</td>
</tr>
<tr>
<td>Head of Sport and Physical Recreation</td>
<td>26%</td>
<td>3%</td>
</tr>
<tr>
<td>Sport and Recreation Manager</td>
<td>22%</td>
<td>20%</td>
</tr>
<tr>
<td>Other</td>
<td>22%</td>
<td>19%</td>
</tr>
</tbody>
</table>

58% of ‘old’ universities having a ‘Director’ in charge of their sport provision. This may suggest a high level of ‘autonomy’ which would influence philosophy of use as well as managerial/operational responsibilities. Only 30% of ‘new’ universities have a ‘Director’ in charge of the sport and recreation provision. Additionally, in ‘new’ universities 48% are either Head of Sport and Recreation or Sport and Recreation Manager in comparison to 23% in ‘old’ universities. This may suggest less autonomy with more operational management rather than strategic planning which could be the reserve of the ‘Directors’ at older universities.
Gender

The vast majority of the Heads of Departments in UK universities are male with 85% in 'new' and 83% in 'old' Universities being males. However, the above statistics are not unique to Sport and Recreation Departments within universities. The Bett (1999:23) report into higher education stated:

"...Whilst women account for 51% of all H E staff, they feature disproportionate among well paid groups......only 25% of senior staff and 35% of academic staff are women. With all staff groups (in universities) proportionately more men than women are on higher grades and...within each staff group (Academic/Technical/Support) men have a higher average salary".

In mixed schools, physical education is still taught as a single sex subject (Scraton 1996). The curriculum is also taught to boys by male physical education staff and to girls by female physical education staff. Therefore in most mixed schools there is an even balance between male and female staff at similar grades. This section will later show that the majority of 'leaders' in sport and recreation at UK universities have initially trained as physical education teachers in schools and have then changed careers to the university sector. However, the above replies do indicate that the top post in sport and recreation in the university sector has been more appealing or successful for males than females.
Length of Employment

Table 8.2

Length of employment in UK Universities by Heads of Department
(n = 63)

<table>
<thead>
<tr>
<th></th>
<th>Less Than 1 Year</th>
<th>1-2 Years</th>
<th>3-5 Years</th>
<th>6-10 Years</th>
<th>11-15 Years</th>
<th>16+ Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New</strong></td>
<td>19%</td>
<td>22%</td>
<td>11%</td>
<td>26%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Old</strong></td>
<td>8%</td>
<td>17%</td>
<td>22%</td>
<td>14%</td>
<td>14%</td>
<td>25%</td>
</tr>
</tbody>
</table>

41% of the ‘Heads’ at ‘new’ universities have only been in post for less than two years, compared to 25% of ‘old’ universities. Additionally 39% of ‘old’ universities have had the same person ‘in charge’ for 11+ years and 25% have had the same person for over 16 years. This compares with 22% (11+ years) and 11% (16+ years) for ‘new’ universities. This also suggests that ‘old’ universities may have some advantages in stability of leadership. Additionally, ‘new’ universities with 41% of the ‘leaders’ only being in post for less than two years, suggests that the philosophy of provision and participation is still in a developmental phase. This may suggest that initially a new ‘leader’ in a sport and recreation at university may not have a real impact on the first year students and it may take three years for the new philosophy of provision to impact on the undergraduates. Along the developmental strategic route the ‘leader’ may need to make many changes until he/she finally finds the correct ‘solution’ which meets the needs/expectations of the students.

Previous Employment

The majority of current ‘leaders’ in sport and recreation in universities were previously employed in a university either in academic teaching (11% ‘new’ universities, 20% ‘old’ universities) or with a university Sport and Recreation Department as Assistant Director (44% ‘new; and 47% in ‘old’ universities).
Table 8.3

*Previous employment of the Heads of Sport and Recreation (n = 63)*

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Academic</td>
<td>11%</td>
<td>20%</td>
</tr>
<tr>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sport &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Schools)</td>
<td>11%</td>
<td>20%</td>
</tr>
<tr>
<td>Lecturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(F.E.)</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Leisure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authority)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leisure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Private)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Council</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Governing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bodies of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>8%</td>
</tr>
</tbody>
</table>

There is also a pattern with previous employment particularly for the ‘old’ universities. The previous question highlighted the fact that 25% of the current ‘Heads’/Directors/ Managers of Sport and Recreation had been in post over 16 years. This question shows that 47% had, previous to their current roles, been employed as Assistant Directors at a university. This would suggest that there is considerable experience particularly in ‘old’ universities in provision of sport and recreation. There is also a difference between ‘old’ (11%) and ‘new’ (26%) universities who have employed individuals whose previous employment was in local leisure management. This may suggest a different approach by the ‘new’ universities who want recreational ‘managers’ rather than sport and recreation ‘Directors’ as preferred by the ‘old’ universities.

**Educational training**

The data shows that very few current ‘leaders’ in sport and recreation have completed a full time course in sport, recreation and leisure in the last ten years. 44% of ‘leaders’ in the ‘new’ and 53% of ‘leaders’ in ‘old’ universities completed their courses over twenty years ago.
Table 8.4
Last full-time course in Sport, Recreation or Physical Education (n=63)

<table>
<thead>
<tr>
<th></th>
<th>More than 20</th>
<th>11-20</th>
<th>6-10</th>
<th>3-5</th>
<th>1-2</th>
<th>Less</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>44%</td>
<td>41%</td>
<td>11%</td>
<td>4%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Old</td>
<td>53%</td>
<td>25%</td>
<td>16%</td>
<td>3%</td>
<td>3%</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 8.5
Type of last full time course (n=63)

<table>
<thead>
<tr>
<th></th>
<th>Degree (BA/BSc F/T)</th>
<th>Teaching Degree (Bed 4 years F/T))</th>
<th>Teaching Certificate (Cert Ed)</th>
<th>Masters</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>37%</td>
<td>22%</td>
<td>33%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Old</td>
<td>20%</td>
<td>25%</td>
<td>36%</td>
<td>14%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Only 20% of those employed at ‘old’ universities have a non-teaching degree in a sport-related subject. This does not suggest an inferior qualification, but reflects the fact that degrees in sport, leisure and recreation only began in about 1980. The only sport qualifications available prior to this time were the BEd and Cert Ed Physical Education Training courses. However, it is also interesting to note that a higher percentage of leaders in ‘old’ universities (14%) than in ‘new’ universities (4%) have decided to take a Masters Degree in a sport-related subject. This could be to update their original qualification which was either a Cert Ed (non-degree) or specialist teaching degree. The academic status of physical education has expanded since the 1980’s to include GCSE PE, ‘A’ Level PE and degrees in sport-related subjects are now amongst the most popular in universities. Therefore, expansion to masters level would be a natural progression for the ‘leaders’ in sport and recreation at universities. The research illustrates that many of the current ‘leaders’ in UK universities originally qualified as PE teachers and many of their qualifications were obtained over 20
years ago. Additionally, many have been employed in universities for most of their working lives.

A high percentage of both the ‘new’ and ‘old’ universities Heads of Sport and Recreation stated a full range of types of courses they had studied. Examples of these were:

- Degree and Diploma in PE
- Diploma in PE
- Diplomas in PE and PGCE
- BA Physical Education
- BEd in Movement Studies
- MSc Physical Education
- MA in Physical Education
- PGCE in Biology and PE
- BA Sport Science
- BA Sport in the community
- BA Social Science
- MSc Sport and Sociology
- MSc Sports Management
- BA Leisure Management
- City and Guilds in Recreation Management.

Of interest is the number of courses which include ‘Physical Education’ or ‘Education’ (BEd) as part of the Award. This is significant and suggests that the vast majority of ‘leaders’ regard themselves as ‘educators’ and have specifically chosen to follow this route rather than the ‘management’ qualifications such as a BA (Hons) Leisure Management. This suggests a fundamental philosophical approach to ‘educate’ rather than ‘manage’ in their roles as ‘leaders’ in sport and recreation in United Kingdom universities. The data in Table 8.6 indicates that 30% of ‘new’ and 25% of ‘old’ universities see their main role as facility management. This indicates a distinct shift from their original qualification as physical educators in either schools or universities.
Table 8.6
Education role or Facility Management? (n=63)

<table>
<thead>
<tr>
<th></th>
<th>Educational Role</th>
<th>Facility Management</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>59%</td>
<td>30%</td>
<td>11%</td>
</tr>
<tr>
<td>Old</td>
<td>64%</td>
<td>25%</td>
<td>11%</td>
</tr>
</tbody>
</table>

The slightly higher percentage of ‘old’ universities who state that they have an ‘educational role’ may reflect the fact that more staff in ‘old’ universities (50% compared with only 14% in ‘new’ universities) are teaching academic courses and therefore have a specific ‘educational role’. However, the majority of the respondents saw themselves in an ‘educational role’ and this tends to support the views in the review of literature where a need for a professional knowledge of sport and recreation was stressed. Kremer and Scully (1995:166) stated:

“...There is a need for leaders of youth sport to recognise individual differences in motivational patterns, their level of perceived competence, their level of trait anxiety and their ability to cope with stress. Once this is achieved it is proposed that leaders should be responsible for structuring the environment so that motives are fulfilled and confidence remains high, the costs and benefits should be openly discussed and the reasons for departing also discussed”.

It is therefore suggested that such ‘leaders’ would need to have a physical education/sports background as well as strategic management skills. This suggests that there is a role for physical educators as Directors/Head of Sport and Recreation. The examples of the Mission Statements, detailed later in this section, also give an indication of the strong educational aims of the Sport Departments within universities.

Recent educational or professional training
The research showed that 39% of ‘new’ 61% of ‘old’ universities’ Heads/Directors have undertaken a part-time course in a sport related subject over the last ten years. Of note is the fact that 28% of ‘old’ universities and 27%
of ‘new’ university staff have undertaken a course within the last two years. The need to remain competitive to attract new students has meant that many Sport and Recreation Departments are now run along business ideals. The data showed that 70% of the ‘new’ and 83% of the ‘old’ universities stated that their latest part-time course was ‘Effective’, ‘Quite Effective’ or ‘Very Effective’ in meeting their needs at the workplace. This is particularly evident with the staff of ‘old’ universities where the Institute of Leisure and Amenity Management and Institute of Sport and Recreation Management courses have been undertaken. This suggests that not only are the courses relevant to the needs of a modern financially driven Sports Department within a university, but also that the ‘leaders’ are flexible and adaptable to extend their roles beyond that of ‘educators’. Morgan (1993) reported that 58% of managerial staff in local authority sport centres had not studied any full time leisure related qualifications. Morgan (1993) also commented that only 8% of managers in leisure centres in West Glamorgan were educated to degree level. Additionally, the research reported that the vast majority of local authority managers completed a full time or part time course over twenty years previously, and suggested that they may be operating an outdated information. This contrast to the ‘leaders’ of sport and recreation at universities where the majority are educated to degree level and many continue with post-entry training.

Business Planning

Financially driven business plans with specific income targets are now essential since the expansion days of the university sector. Such business skills of budgeting, forecasting, staffing and ‘bottom line’ financial targets would not be common modules in many physical education courses. The research also showed that 67% of ‘old’ universities and 72% of ‘new’ universities now work to financially driven business plans. Additionally these have been developed in 78% of ‘new’ and 65% of ‘old’ universities over the last 5/7 years. Previous data showed that the majority of the current Heads/Directors had originally followed an ‘educational/teaching’ course which may not be appropriate for a ‘financially driven’, ‘business plan’ and ‘income target’ style of operation.

Institute of Leisure and Amenity Management/Institute of Sport and Recreation
Management (ILAM/ISRM) courses are specifically set up to help managers in local authority centres manage sport and recreational facilities. They are the core courses of the industry and are offered at below degree level, but are highly vocational to the Leisure Industry. It is also evident that the Directors/Heads of Sport and Recreation at 'new' universities have not decided to follow the ILAM/ISRM route of part-time study. The reason for this could be reflected in the fact that many of the staff in 'new' universities have been in post for a shorter period of time, more have come directly from local authorities (26% as opposed to 11% from 'old' universities), and the fact that the sports courses (e.g. Human Movement, Sport Studies) are now available include many of the subjects in the ILAM/ISRM modules.

100% of 'new' universities responded 'positively' to the question about 'business plan' style philosophy as compared to only 71% of 'old' universities. The 'bottom line'/income/cost analysis style of operation has been a characteristic since the expansion of the university sector in the early 1990's with 78% of 'new' and 65% of 'old' universities experiencing a change in the last five/seven years. The responses show that 29% of 'old' universities do not feel that the business plan approach is a positive experience. This could be related to the fact that 'old' universities see this 'change' as 'conflict' and that many are threatened by the 'business' approach to the provision of sport and leisure. The 'new' universities have a higher percentage of Directors/Leaders/Managers who have a leisure/business degree (37% as opposed to 19% in 'old' universities) and also 41% do not have physical education qualifications to teach in secondary schools. It could be that the 'new' universities have 'new' staff who feel more comfortable with this approach, unlike the 'old' universities whose staff may not have the flexibility of background for the 'business plan' approach to sport and recreation provision.
Administrative Location of Sport and Recreation in Departments in Universities

The main evidence in the research is that more Sport and Recreation 'Departments' in 'new' universities are located in 'Student Services' which could include careers, counselling, accommodation, conferencing etc. This could suggest that sport in 'old' universities may enjoy more independence as was shown earlier with the title of 'Director' being used more widely in 'old' universities than in the 'new' universities. This is also supported by the fact that more 'old' universities (50%) are completely independent either as a Department or Centre as compared to 29% of 'new' universities. This independence may suggest that, central to the philosophy of provision in 'old' universities, the key person would be the Director of Sport and Recreation. The Director would then report to a senior member of university Staff. In comparison only 29% of 'new' universities have this benefit as over 50% are within a larger 'service' Department. This would suggest that the Head of Student Services with responsibilities for possibly 5/6 separate 'units' (accommodation, catering, careers etc.) would have collective responsibility for all services and this could be viewed as a disadvantage for sport.

Student numbers

The responses on the student numbers shows that the growth at both 'new' and 'old' universities has been tremendous since the early 1990's. 53% of 'new' universities saw an increase of between 6-10,000 students, in comparison to 27% of 'old universities'. This could suggest that additional planning and resourcing was required in 'new' universities and consequently the need for a 'business plan' approach as discussed in an earlier question. The figures show that there appears to have been less emphasis on increasing numbers in 'old' universities with an addition of between 2-4,000 students in 64% of universities, whereas the numbers for new universities was between 4-8,000 students (74%). However, what the figures show is a huge increase in numbers with many universities doubling in size.
Philosophy of the Department

The results indicated that 82% of ‘new’ and 83% of ‘old’ universities were responsible for their own philosophy regarding sport and recreation provision. The research specifically asked the Heads/ Directors/Managers to rank what they felt were the most important users of the facilities and the results are detailed below:

Table 8.7
Philosophies of Sport and Recreation Departments (n=63)

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Priority on SU teams to compete. Emphasis on elite sport.</td>
<td>Priority for casual sport and recreation. Emphasis on facilities for non-elite sport.</td>
<td>A mixture of A &amp; B but emphasis for elite teams.</td>
<td>A mixture of A &amp; B but emphasis on classes, facilities and programmes.</td>
<td>Other</td>
</tr>
<tr>
<td>New</td>
<td>4%</td>
<td>18%</td>
<td>22%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Old</td>
<td>3%</td>
<td>8%</td>
<td>31%</td>
<td>47%</td>
<td>11%</td>
</tr>
</tbody>
</table>


The results indicate that there is more emphasis on elite teams in the older universities (31% as compared to 22% in ‘new’ universities). This may be a direct result of the physical education background of the Head Director/Manager of Sport and Recreation. The Directors/Heads/Managers have specifically put the highest emphasis on ‘recreational’ classes, facilities and programmes which involve instructors and coaches. The majority of universities (96% old/new) also feel that they can encourage ‘lifelong participation’ and change the ‘activity habits’ of students. The review of literature suggests that it is unlikely to happen if team sports are to be the main priority of the department. However, most universities have indicated that team sports are not their priority. Earlier responses revealed that a higher percentage of Directors/ Heads/Managers at ‘old’ universities had a qualification to teach physical education at secondary schools (75% as compared to 50% in ‘new’ universities) and this may influence
their response to rank ‘teamsports’ slightly higher than the individuals in charge at ‘new’ universities.

**Main users of university sport and recreation facilities**

There was little difference between the ‘old’ and ‘new’ universities in relation to the ‘user’ groups apart from the higher number of community users in ‘new’ universities (Table 8.8). This could be as a direct strategic decision from ‘new’ universities who have targeted local part-time students to higher education.

**Table 8.8**

Main users of university Sport and Recreation facilities (n=63)

<table>
<thead>
<tr>
<th></th>
<th>Athletic Union Teams</th>
<th>Casual Sport and Recreation Users</th>
<th>Health and Fitness Classes</th>
<th>Even balance between students and local community</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>26%</td>
<td>26%</td>
<td>22%</td>
<td>22%</td>
<td>4%</td>
</tr>
<tr>
<td>Old</td>
<td>34%</td>
<td>22%</td>
<td>28%</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

**Academic Teaching on sports courses**

The data showed that sport and recreation academic courses are more popular in ‘new’ universities, but that only 14% of Directors/ Heads/ Managers in the ‘new’ universities teach the courses. There is a significant difference from the ‘old’ universities where 50% of the Heads/ Manager/Directors teach the sport related academic courses. Additionally the amount of time spent teaching is significantly less in the ‘new’ universities with no staff spending more than 20% of their time teaching the programmes. In comparison over a quarter of the Directors/Heads/Managers in ‘old’ universities spend at least 50% of their time teaching and 9% spend 60% more of their time. The high commitment to the academic teaching by the ‘old’ universities may suggest a reason why 30% of the Directors/Heads/managers felt that the business plan approach to the delivery of their service was ‘negative’. Business plan approaches often require a lot of additional preparation and monitoring to ensure that specific targets are set and achieved. There is often an increase in administration and pressure on all staff.
Relationships with the Athletic Union

In the vast majority of universities (93% ‘new’, 86% ‘old’) the Athletic Union is a separate organisation with similar results for both ‘old’ and ‘new’ universities. As both the ‘old’ and ‘new’ universities play in the same competition (British Universities Sports Association) this is to be expected. The ‘old’ universities stated that they had a better relationship with the Athletic Union with 75% stating that the relationship was either ‘excellent’ or ‘very good’ in comparison to only 59% of ‘new’ universities.

Table 8.9

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>N/A (controlled by S &amp; R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>33%</td>
<td>26%</td>
<td>15%</td>
<td>15%</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Old</td>
<td>39%</td>
<td>36%</td>
<td>9%</td>
<td>8%</td>
<td>-</td>
<td>8%</td>
</tr>
</tbody>
</table>

One reason for this could be that the recent expansion since 1990 in the university sector had a less dramatic effect on ‘old’ than ‘new’ universities. Additionally it was the ‘new’ universities who joined the ‘old’ universities in a sporting environment and there was little need for change and adaptation by the older universities. The earlier statistic which shows that over 25% of Directors/Heads/Managers at ‘old’ universities have been in post for 16+ years would also suggest that this has encouraged positive relations with the Athletic Union over the years.

Universities’ opinions of the organisation of the Athletic Union

There were significant differences between the ‘old’ and ‘new’ universities perceptions of the Students Union. 56% of ‘old’ universities perceive the organisation to be ‘Excellent/Very Good’ compared to only 33% of ‘new’ universities. Additionally 22% of ‘new’ universities specifically state that the
organisation is 'poor' compared to only 8% of 'old' universities. No specific reasons were asked for this, but there could be legitimate reasons for these differences. For example, 'old' universities may be able to resource the Athletic Union with 3 or 4 experienced full-time staff, whilst some 'new' universities may only be able to provide one part-time member of staff. However, it is clear that 'new' universities do not feel that the organisation within the Athletic Union is as strong as their colleagues in the 'old' universities. 87% of 'old' universities stated that the Athletic Union gives a 'good' service compared to only 56% in the 'new' universities. This may relate to the funding, organisation, experience and sporting culture differences between the 'old' and 'new' Universities. It could be suggested that Sports Directors/Heads of Sport/Managers may feel sporting opportunities for students in 'new' universities could be disadvantaged due to the organisation of the Athletic Union. This was also the conclusion of Pook's (1995) study at Cardiff University.

Coaching

A high percentage of both 'old' and 'new' university staff coach on Athletic Union teams. A slightly higher percentage (65% compared to 55%) in 'new' universities perform this task 'within their role'. The earlier statistics show that the majority of the staff in both old and new universities have considerable experience of teaching games/teams having trained as physical education teachers. Therefore it is not surprising that they continue to use this expertise. However, it is interesting that 45% of 'old' universities do this as a voluntary role in comparison to 35% in 'new' universities. The structure within the 'old' universities seems similar to the 'old' extra curricular situation in schools where traditionally PE teachers voluntarily coached/refereed teams on a Saturday morning or after school. It was an unofficial extension of their jobs. However, the 'new' university staff contribute to the coaching within their contracts. This could be a reflection of the new move in education where few extra curricular activities are now done on a voluntary basis on Saturday mornings or after school by PE teachers.
Income generation or student provision?

There was a difference in the data where 36% of ‘old’ universities were under more pressure to generate income at the expense of student provision as compared to 15% ‘new’ universities. This was a surprising result to the author who works in a ‘new’ university. The ‘new’ universities and old Polytechnics always seemed to have more pressure to generate income, (not necessarily at the expense of student provision), whereas the ‘old’ universities seemed to have better resources and assets (i.e. facilities, number of staff and research funding). One possible reason for this imbalance could be the tremendous success of ‘old’ universities in attracting lottery funding and other National Governing Body grants. All lottery grants must include a community benefit and therefore include community access to facilities. This may often be at the same time when students may have traditionally enjoyed ‘free’ use of the facilities. Lottery facilities often do not cover the revenue (i.e. running cost) implications of a facility, but just provide the capital (building costs). Therefore ‘income generation’ implications could be a new initiative for the ‘old’ universities who have successfully attracted substantial lottery grants.

Marketing techniques

Detailed surveys were carried out in 63% of ‘new’ and 69% of ‘old’ universities. However, it was surprising that 37% of ‘old’ and 31% of ‘new’ universities do not carry out surveys, particularly as the earlier replies indicated that 100% of ‘new’ and 70% of ‘old’ universities now run a ‘business plan’ style of delivery. Crucial to all ‘business plan’ approaches is market analysis and attempting to continually improve the services offered to meet the demands of the users. This includes asking the users what they think of the service and what would motivate them to use the service more regularly. There seems to be an element of prescription to any service if the users are not consulted about their expectations. This can lead to a highly negative response from the users if their expectations are not provided for. The research in the review of literature showed that the highly prescriptive content in schools (i.e. team games) and delivery of the National Curriculum has put many pupils off sport and physical activity. It could be suggested that a highly prescriptive programme in higher education (i.e.
by not asking the users of their expectations) could also have similar results in putting students off physical activity by providing activities which were not popular. Only 15% of 'new' and 17% of 'old' universities did any survey relating to the pre-experiences of the students. The results were surprising and suggest that the planning of the programme is based on the experience of the university sport and recreation staff rather than any specific needs/demands of the student.

**HOD'S Perceptions of Students, Pre-experiences of Physical Activity and the Influence of the University Programme on the Exercise Behaviour of students.**

The table overleaf details the HOD's perceptions of the pre-university physical activity experiences of undergraduates.
Table 8.10

Heads’ perceptions of the pre-University sport/physical activity experiences of students. (n=63)

<table>
<thead>
<tr>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Not Agree</th>
<th>Strongly Not Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most students probably enjoyed the school P.E. programme</td>
<td>-</td>
<td>3%</td>
<td>41%</td>
<td>37%</td>
</tr>
<tr>
<td>Most students seem to have a good background in a lot of activities and there is little need for beginner classes</td>
<td>-</td>
<td>-</td>
<td>11%</td>
<td>17%</td>
</tr>
<tr>
<td>Most students have a good background and understanding of Health and Fitness and exercise</td>
<td>-</td>
<td>-</td>
<td>14%</td>
<td>25%</td>
</tr>
</tbody>
</table>

It is interesting to note from the above table that the answers were similar from both the ‘old’ and ‘new’ universities. The only major difference (10%+) was that 25% of ‘old’ universities thought that students had a good background and understanding of health, fitness and exercise in comparison to 14% of new universities. The table also shows that 41% of ‘new’ universities and 37% of ‘old’ universities ‘agreed’ that ‘students probably enjoyed that school PE programme’. A similar score 44% (new) and 34% (old) said that they ‘did not agree’ with that statement and therefore the students probably did not enjoy the PE programme.

However, results in this study suggest that the Directors/Heads/Managers have the wrong perceptions. Statistics in the undergraduate survey of this study (a
'new' university) show that 77% of male and 61% of female students enjoyed the PE programme. Additionally, research from the Sports Council of Wales (1999b, 1999c, 2000) also indicated that on the whole pupils enjoyed the PE curriculum. This discrepancy between the 'perceptions' of the Directors/Managers/ Heads of Sport (i.e. 39% of pupils liked school PE) and the findings of the current survey, (i.e. 77% actually enjoyed school PE), stresses the need for more research by Sport and Recreation Directors/Heads/ Managers. Only 16% currently do any detailed surveys to find out what the school experiences of students were like. Earlier statistics show that 75% of the Heads of Sport and Recreation in 'old' universities and 59% in the 'new' universities do have a qualification to teach secondary physical education. The fact that such a high percentage gauge the students not 'enjoying' the school based PE programme must be a concern amongst the profession.

Changing the participation habits of students
100% of 'new' and 96% of 'old' universities felt that new participation habits could be achieved by the programmes offered at universities. This supports the views expressed in the review of literature which suggests that young people's exercise habits can be changed through the university experience. Such an approach was emphasised by the undergraduate responses in the study and other studies of student participation by Edie (1991), Williams (1993), Harris (1993) and Pook (1995). It does appear that the students 'needs' are being met by emphasising on 'health and fitness' and 'enjoyment' rather than team games. It is also evident that these 'needs' are being scientifically researched by the facilitators by the use of detailed questionnaires (70% 'new', 63% 'old') to find out what the student require. The positive answers given to the encouragement of 'lifelong participation' and 'changing of exercise habits' suggests that it is possible if the 'needs' of the students are assessed and delivered through a sympathetic programme which meets the needs of the majority. The data suggests that by providing emphasis on 'classes' rather than elite teams these goals can be achieved.
Mission Statements

70% of ‘new’ universities and 67% of ‘old’ universities have a Mission Statement for the Sport and Recreation Department. The Mission Statements varied in length and detail and examples are given below from both the ‘new’ and ‘old’ universities.

Mission Statement from ‘new’ universities

“To provide the maximum number of opportunities and experiences for members of the University to develop their potential and to achieve enjoyment and satisfaction in the field of Physical Education, Sport and Recreation.”

“To pursue a basic network of revenue producing facilities in order to accommodate the eventual provision of large scale, more cost effective facilities”.

“The University Sport and Recreation Department is committed to providing a wide range of quality sport and leisure opportunities to the various facility and service user groups”.

“To provide Sport for All”

“We are committed to increasing access to activities which can improve levels of Health and Fitness particularly for those who stand to gain most from participation. We will enable people to develop their full potential and overcome personal barriers to physical activity participation by providing an approachable, safe and comfortable environment in which every individual can feel relaxed and welcome and by taking care to ensure that our staff are sensitive and responsive to the differing needs of individual users”.

“To assist the University to achieve its strategic aims though the provision of an accessible, dynamic, responsive and customer orientated Sport and Recreation service”.

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Examples of Mission Statements from ‘old’ universities

“To provide the highest quality sporting provisions to all members of the University”.

“To provide the best possible provision for all to play sport and to be ranked in the top five nationally”

“To provide, promote and develop sport, health and exercise related opportunities for the benefit of the University students, staff and the local community”.

“To encourage all users to take part in ‘activity for life!’”.

“To be one of the top ten Universities for sport in terms of performance of Athletic Union teams, facility provision and Quality of Service in full consideration of the sport continuum, sports equity and sport for all”.

It was interesting that the ‘Mission Statements’ of the ‘old’ universities had much shorter statements which seemed to be far more specific. This was true of almost all replies not just the examples given above. However, it was apparent from nearly all the examples given, (with the exception of Example 5 in the ‘old’ universities) that the emphasis was not on team sports but on providing opportunities for health, fitness and participation. This would suggest that most universities still see the Athletic Union (Students Union) as the main providers of the elite team games and views it as a separate organisation. (This was supported by earlier data where 92% of ‘new’ and 86% of ‘old’ universities stated that the Athletic Union was separate).
Summary of main findings

There were some differences between the backgrounds of the ‘leaders’ of sport and recreation in ‘old’ and ‘new’ universities. The Heads of Sport/Directors in ‘old’ universities came from a teaching/physical education background whilst in ‘new’ universities the background was more often from leisure management. Also 39% of the Heads of Sport/Directors in ‘old’ universities had been in post for 11+ years in comparison to 22% of ‘new’ universities. The majority of Heads of Departments in UK universities (84%) were also males. In addition, there also appeared to be more autonomy in ‘old’ universities with more Heads being separate Departments or being a ‘Director’.

There is some similarity in that both ‘old’ and ‘new’ Heads of Sport saw their main role as ‘educational’ rather than in facility management. This links to the research by Pook (1995:19) in Chapter Two who stated that ‘sport and physical education in university must incorporate themes of health education and habitual physical activity’. The physical education background of the ‘leaders’ of university sport and recreation together with their educational philosophy suggests a positive, planned physical activity environment should be available for young adults in UK universities. Additionally, the majority of both ‘new’ and ‘old’ universities agreed on some important philosophical issues. For example, they have Mission Statements which promote ‘lifelong participation’ by the promotion of health and fitness activities and recreational programmes and there is a culture of using detailed surveys to find out the ‘needs’ of the students. ‘Lifelong participation’ is encouraged in most universities by putting the main emphasis on ‘classes, facilities and programmes’ rather than elite teams.

did not have a good background in many activities and that there was a need for beginner classes for new undergraduates. This data also links to the interventions outlined in Chapter Five of this research where the majority of interventions were aimed at a beginner/intermediate level. This suggests that there is a poor knowledge of physical activity amongst a high number of undergraduates and the emphasis in universities must be on strategies to encourage the introduction to new activities. This research suggests that this could already happening in the majority of UK universities.

The data also show that almost 70% of Sport and Recreation Departments now work along the lines of income driven 'business plans'. The 'business plan/income led' philosophy could actually also be beneficial in dictating a programme in which high numbers of students would be encouraged to participate regularly. The research in Chapter Two suggested that a 'mass'sport programme with specific interventions would appeal to high numbers of participants and therefore this could generate additional income within the Sport Department. (Edie 1991, Williams 1993, Harris 1993, Pook 1995, Mull et al 1997).

In addition the vast majority of universities were confident that they could change the exercise habits of the students by encouraging participation with a relaxed, customer focused and friendly approach which did not include a programme dominated by team sports. This links to the literature in Chapter Two which documented that changes in undergraduate exercise behaviour were possible in universities by changing environmental conditions, raising awareness and providing a programme which was customer focused (Pinto and Marcus 1995, Mull et al 1997, Carney et al 2000, Leslie et al 2000, Wallace and Buckworth 2000, Buckworth 2001, Woods and Mutrie 2002). The new data in this research indicates that the philosophy and physical activity environment at UK universities is very positive for influencing the exercise behaviour of students to encourage regular habitual activity.
Chapter 9

Discussion/Conclusion
Summary of Main Findings

The aim of this research was to develop an understanding of the influence of the university environment on exercise behaviour and to increase research knowledge about physical activity in a young adult population. Four research studies were identified and the first three studies concentrated on a case study at the University of Glamorgan. The fourth study aimed to assess the physical activity 'environment' in other UK universities (in comparison to Glamorgan) and how the university 'experience' might influence exercise behaviour. This theme of the university 'experience' is central to the thesis.

Universities in the United Kingdom have undergone tremendous change in the last ten years with the move towards 'mass' higher education as a response to the Government's aim of attracting up to 50% of 18-30 year olds to experience HE by 2010. The Government's agenda also includes widening access to students who would not have traditionally entered university. There have also been major changes in Wales in the last five years following the National Assembly for Wales assuming responsibility for higher education in Wales. The strategic vision for higher education in Wales recommends that each institution should reflect the regional needs of Wales. The strategy states that HE institutions in Wales should increase participation from low participation neighbourhoods and adopt a 'learner centred approach...and should start lifelong contacts with students' (National Assembly for Wales 2002:10). The University of Glamorgan has committed to become a regional/community university and now attracts over 70% of its students from Wales. There is a strong Welsh connection to this research and any potential future benefits could be associated with the South Wales region where the majority of students originate.

In comparison with other parts of the UK and the majority of European countries, the health of the people of Wales is poor. It is estimated that only 28% of the Welsh adult population take enough exercise to benefit their health (Welsh Assembly Government 2002). One of the objectives of this thesis was to explore if the environmental, cultural and physical activity interventions introduced at
university had influenced undergraduates and recent graduates to change their exercise behaviour. Additionally, if there were any changes in exercise behaviour as a result of the university ‘experience’, had this also motivated the young adults towards the goal of ‘lifelong participation’? The Welsh Assembly Government (2002:10) suggests that to achieve a healthy and active lifestyles there is a need to ‘create living, working and social environments which support and encourage people to become more active in their daily lives’. Since a higher proportion of young people are now entering higher education one of the central aims was to investigate if such non academic ‘lifelong learning’ opportunities – such as physical activity interventions and strategies – would offer genuine transferable skills for a young person when they leave university.

The influence of the author as Head of Sport and Recreation in a ‘new’ university was also important in the design of this study. Study One outlined the specific interventions which were designed to influence students to become physically active. The interventions were designed after research and recommendations into successful physical activity programmes at other UK universities (Stephenson 1990, Edie 1991, Harris 1993, Williams 1993, Roper 1994 and Pook 1995). In addition, a detailed review of additional academic research into exercise behaviour was discussed in Chapters Two and Three.

In this research it was evident that ‘leisure’ does not have the same meaning for undergraduates as for working individuals who are able to categorise their lives into specific ‘work’ and ‘leisure’ time. The research demonstrated that to motivate students to participate regularly their ‘leisure time’ needed to be highly ‘managed’ with an emphasis on ‘mass sport’ and ‘enjoyment’. This included the development of facilities, programmes, correct price levels and an understanding of what motivated students to participate regularly. This research agrees with Burton and Kirtley (1990), Haywood and Kew (1995), Coalter (1999), Carney and Mutrie (2000), Leslie et al (2000) and Buckworth (2001) quoted in the earlier chapters who also found that structural/environmental influences can positively influence undergraduate exercise behaviour. This research also found that some students had a willingness to ‘clear’ time for physical activity, particularly as
many of the reasons for non participation in society such as the lack of time, transport, money and facilities often did not apply in the same way on a university campus. This is a very important finding, particularly as such a high number of young people have been targeted to enter higher education. It suggests that some of the traditional 'barriers' are not appropriate for university students and different strategies are required to influence participation.

The study also found that the pre-university experiences of the undergraduates’ active participation were dominated by school and family life. The majority of students enjoyed the national curriculum, but did not carry on with the same activities once they had left school. This data confirmed the arguments in the earlier chapters which documented recent evidence from the Sports Council of Wales (1999b, 1999c) indicating that most pupils in secondary and primary schools in Wales enjoyed PE and sport in school. This study found that more males enjoyed the school programme, which is dominated by competitive team games, both within the curriculum and in extra curricular activities. However, poor facilities, personal dislike of the PE teacher, the content of the curriculum, changing facilities, PE ‘rules’ and low personal achievement were highlighted as the main reasons why 34% of the students disliked the PE programme in schools. This research has demonstrated that it is important that such areas are addressed in university if students are to be motivated to re-start active participation in university. This is an important finding and specific interventions were designed to successfully re-motivate the students.

The research of literature also highlighted the concern regarding the possible negative delivery/style of PE in some schools and the activities offered (Scraton 1996, Hagger and Cale 1997, Waddington et al 1997, Sports Council for Wales 1998b). The data in this research confirmed some of the arguments in the earlier chapters which suggested that a new approach could be required if one of the aims of a school physical education is to encourage 'lifelong participation'. This research has demonstrated that active undergraduates are not continuing with similar activities that they did at school, but 'new/starting' different activities. This is an important finding and illustrates that physical activity strategies in
university can influence exercise behaviour. The 'enjoyment' of the 'new experience' was central to the design of the interventions in Study One and research in the review of literature also highlighted that a positive environment is required to influence young adults to be physically active. (Coalter 1999, Mull et al 1997, Stephenson 1990, Edie 1991, Pook 1995, Penny and Carlson 1999 and Hagger and Cale 1997). Chapter Two documented that many interventions and strategies are aimed at school groups under the age of eighteen and few studies have researched the influence of UK universities as an environment for influencing a change in exercise behaviour. This study has revealed exciting new data which details the opportunities which have influenced young adults to start new activities and then continue with these activities post university.

It was evident that the influence of the family, friends and PE teacher were crucial in encouraging active participation whilst in school. This has also been highlighted by the Sports Council for Wales which is now channelling resources into ‘people’ rather than facilities alone. The importance of ‘people’ (e.g. coaches, friends, instructors) in encouraging high undergraduate participation levels was also evident in this research. Chapter Two highlighted that the undergraduates’ pre-university experiences could be influenced by their social background and specifically the ‘social class’ of their parents. This research confirmed that to motivate students a high level of ‘secondary’ motivation was required and that the activities had to be at a low (beginner) level so that the undergraduates could feel ‘achievement’ in a short period of time. Activities of an ‘intermediate’ or ‘advanced’ level were unlikely to be successful as the pre-experiences of many undergraduates were limited. This is an important finding as it would not be unreasonable to expect most students to have a good background in sport and recreational activities when they entered university at the age of eighteen. Therefore, it could also be assumed that the demand would be for intermediate and advanced classes and activities. However, this research has demonstrated that undergraduate knowledge of physical activity is poor and there is a need to re-educate the undergraduates at a basic level if they are to continue with an activity. Future programmes at university level must emphasise this re
education at a low level if the aim is for high numbers of students to participate in physical activity.

Students in the case study regularly participated in active recreation well above the national average. This was also illustrated in other studies on student participation rates at other universities (Edie 1991, Harris 1993, Williams 1993, Pook 1995). 71% of students had tried new sporting activities since coming to university and 92% of students indicated that regular participation had a positive influence on their “quality of life” as a student. This is evidence of the influence of the university ‘experience’ on re-starting/changing the exercise habits of students. The detailed analysis revealed that although the majority of students surveyed enjoyed the PE programme in schools, they were now choosing to do completely different activities. They also continued with these activities once they had left university. This is an important finding and demonstrates that the new exercise behaviour (learnt at university) has been transferred to a new environment when the students left the university. The above results agree with other research on students reviewed in Chapter Three which stated that specific tailored interventions in university may help in continued participation post university (Pinto and Marcus 1995, Carney and Mutrie 2000, Mutrie and Woods 2002).

37% of students indicated that their participation rates dropped during the vacations suggesting that it is important for all facilitators to consider that the university year is short and the exercise habits of students could change for only approximately 30 weeks of the year. However, if the current trend of attracting local students continues, it is feasible that students could continue to use the university programmes and facilities during the vacations. This would demonstrate an excellent example of the ‘lifelong contacts’ with local students as advocated by the National Assembly for Wales (2002) and could be an exciting area for the future research. Any possible interventions could link to the Natural History Model (Sallis and Hovell 1990) as discussed in Chapter Three.
It was also evident that the main motivation for students to participate differed by gender. It was evident that female students were much more likely to participate in an activity that was taken by an instructor, and that male students were more likely to participate in team activities than females. This agreed with Edie (1991) and Coalter (1999) cited in Chapter Three. These findings are important to the planning of a student recreational programme and the results indicate that high activity rates are possible with an instructor-led programme. The desire for competition was more important to males than females, but was not a priority for either gender. A high percentage of males and females participated for ‘health related’, ‘enjoyment’ and ‘achievement’ reasons. The analysis revealed that it is important that the facilitators of a university programme are able to meet such demands to ensure that the participation rates are high. This study has shown that the choice of activities by the majority of students were for health and fitness classes, conditioning rooms and small group activities. The data confirmed the evidence in Chapters Two and Three which indicated that a ‘mass’ sport programme was likely to be motivating for a young adult population to continue with physical activity. Therefore, the results in this study strongly suggest that a university programme based on a similar diet of the school PE programme of team sports will not be successful in motivating high numbers of young adults to exercise regularly.

The study also found that the ‘Personal’, ‘Social/Circumstantial’ and ‘Opportunity Factors’ highlighted by Torkildsen (1999) as influencing participation, were all very positive in the undergraduate environment. This new research demonstrates that there is a very important role for universities in the area of ‘sports development’ as this can have a positive influence on increasing the activity levels of young people. These opportunities within universities have been acknowledged in Scotland (Scottish Executive 2002) but no reference is yet included in the Sports Council for Wales’ Strategic Plan or acknowledged by the Welsh Assembly Government (2002). This research reveals that the key to increasing participation, particularly amongst re-starters, is to find out what motivates the students and then deliver a ‘managed’ programme to meet their needs. This needs to include instructional classes, intra mural sport and recreational programmes.
The provision of quality facilities alone may not motivate the student. Furthermore, the traditional barriers to female participation of family, children, housework and employment appeared alien to many female students and new graduates. This is an important finding particularly as the majority of undergraduates are now female and such a high percentage of young females are entering higher education. This thesis also suggests that many of the 'traditional' studies on female participation quoted in the review of literature do not deal with female undergraduates of this age cohort (Deem 1986, Talbot 1988a, Coakley and White 1992, Women’s Sport Foundation 2001). The data showed that female participation rates in 'managed' leisure was very high for both undergraduates and new graduates.

The research also illustrates that the provision of sport and recreation within UK universities is divided between the Athletic Union and Sport and Recreation Department. The data in Study Four and previous research on undergraduate reviewed in Chapter Two (Llewelyn 1978, Edie 1991, Harris 1993, Pook 1995, Hudson 1995 and Lemmons 1998) indicates that this may not be an ideal model. The analysis reveals that the current situation could result in poor use of resources, poor coordination and the delivery of a programme by inexperienced staff.

There were some differences between the Heads of Department of Sport and Recreation in 'old' and 'new' universities. In 'old' universities there was more autonomy and 39% of individuals had been in post for over eleven years (25% 16+ years). It was also apparent that over 84% of the leaders of sport and recreation in UK universities were male. The data revealed that 'lifelong participation' by the promotion of health and fitness activities and recreational programmes was included in the majority of all UK university mission statements and this illustrates that universities see their role as 'educational' in the delivery of their services. It was significant to note that there was more emphasis by Sport and Recreation Departments on 'classes, facilities and programmes' rather than elite teams. The Heads of Sport and Recreation were also confident that universities could change the habits of the students by encouraging participation
in a relaxed, ‘customer focused’ and friendly approach which did not include a prescriptive programme. This compares favourably to the philosophy of provision and interventions at the University of Glamorgan outlined in Study One in Chapter Five.

This is an important finding of the research. The first three Studies in this research involved a case study at the University of Glamorgan into the specific interventions which were designed to positively influence exercise behaviour. The interventions were designed for a particular population at a specific university. However, it was important to also research the ‘physical activity environment’ at other universities to examine the philosophy of use and to gauge if the strategies at Glamorgan would be appropriate at other universities. The results in Study Four are the first ever detailed analysis of the provision of Sport and Recreation at UK universities and the data revealed that ‘mass’ sport is also a priority at UK universities rather than teamsports. These results illustrate the important role that universities could have in the promotion of physical activity in the community. The results indicate that agencies responsible for physical activity promotion, (Sports Councils, Local Authorities, Health Authorities), need to work in partnership with universities in the promotion of ‘active lifestyles’.

This thesis has demonstrated that physical activity interventions introduced in a university environment can positively influence exercise behaviour. It was evident that the students had ‘new/started’ activities following educational initiatives. The continuing educational role of universities in the promotion of physical activity is an important finding of this study. The interventions in the case study were planned and delivered by a team of sports graduates who had a background in teaching/coaching and facility management. In Study Four, Morgan’ (1993) research revealed that only 8% of managers in local authority Sports Centres in West Glamorgan were educated to degree level. However, the philosophies of local authority Centres may not be the same as the ‘lifelong learning’ aim of university Sports Department. Therefore, it may not be necessary to have specialist sports graduates in managerial positions in local authority sport centres. This study indicates that the positive responses to the physical activity
interventions confirmed the need for sports graduates/educators to be involved in the planning and delivery of a sport and recreation programme in a university. This is an important finding particularly as the data in Study Four revealed that the recent appointments as Heads of Sports Departments in ‘new’ universities tended to have ‘business management’ qualifications rather than physical education/teaching backgrounds. The new data in this research also highlighted that the philosophy of the programme in a specific university was directly linked to the Head of Sport. Therefore, this suggests that the background/qualifications of the Head of Sport will be highly influential in any physical activity programme within a university environment. This again compares favourably with the University of Glamorgan where the author of this research, as Head of Department, was highly influential in the philosophy of the sport and recreation provision.

Detailed analysis revealed that the third year students felt that the recreation programme at university with emphasis on ‘mass sport’, (health and fitness classes, conditioning room and instructional classes), would influence them to continue with participation once they had left university. These positive answers (85% male and 91% female) were almost identical when the same question was asked of the graduates a year after they had left university. This is an important finding and the results in this study show that the university ‘experience’ has changed the exercise habits of students, both in frequency and choice of activity, since the students had started at university. The graduate data also demonstrated that ex-students were participating at a higher level than the general population and were participating in similar activities to those they had started in university. The graduates stated that this was as a direct result of their university experiences. This important research shows that a modern, ‘mass sport’ programmes could result in continued and (possibly) ‘lifelong’ participation. Almost 100% of graduates in the sample – one year after leaving university – indicated that they were motivated to continue with ‘lifelong participation’ in these new activities. The research in Chapters Two and Three indicated that early motivation to regularly exercise in young adulthood was most likely to result in continued exercise. The results in this study are very encouraging and show that both males
and females are motivated to continue exercising at this stage in their lives. It was evident that the interventions in Study One had a significant influence on their exercise behaviour.

This research has demonstrated that universities are possibly the ideal environment to encourage high activity levels amongst young people. The high number of young, single people with excellent ‘opportunities’ are matched by the ‘mass’ sport philosophies of the majority of UK universities. The majority of PE/sport staff at universities view themselves as ‘educators’ and perceive the need to re-educate young people to new opportunities due to their inadequate pre-university experiences. This is an important finding and links Study Four to the earlier case study at Glamorgan. The findings in this research disagree with Glyptis’ (1993:8) view quoted in Chapter Two who stated that ‘young people often lacked facilities, had low incomes and were cut off from peer groups’. Glyptis (1993) indicated that these were some of the many barriers for young people to actively participate in recreation. However, it is important to realise that Glyptis (1993) was writing just before the growth in mass higher education. New data in this study suggests that the physical activity environment is very positive for influencing physical activity for young people with access to university. There needs to be recognition of these opportunities at national level so that universities can play a major part in encouraging ‘mass’ sport as well as the recognition they already have for delivering elite programmes.

Cohen and Scribner (2000) in Chapter Three reported that specific structural mechanisms could effect change in individual health behaviours. The ‘structural model’ of a university as a positive environment for encouraging physical activity is a central theme to this research. The four categories that influence health behaviour identified by Cohen and Scribner (2000) could be adapted in a university environment to the model on the next page.
Figure 9.1

Possible structural model of a university as a positive environment for encouraging physical activity

**Availability**
- Availability of facilities
- Health and fitness programme
- Health and fitness advice
- Pricing policy
- Access to facilities
- Professional staff

**Physical Structures**
- Campus sport and recreation facilities
- Transport
- Safety
- Modern equipment
- Consultation advice
- Quality programmes

**Social Structures**
- Philosophy of use
- Welcoming atmosphere
- Intra mural programmes
- Positive relationships
- Classes
- Education/wellness
- Age range
- Students Union Activities

**Cultural Messages**
- Instructors
- Inductions
- Branding
- Community access
- 'Re-start' philosophy
- Student led programmes
- Ownership

Positive University environment to influence physical activity
This research has demonstrated that the 'Availability,' 'Social Structures' 'Physical Structures' and 'Cultural Messages' outlined in the model on the previous page can be specifically designed in a university environment to positively influence physical activity. This research has also demonstrated the importance of universities in influencing exercise behaviour in young adults, particularly in 'community' universities such as the University of Glamorgan. Pook' (1995) research was written at the time when mass higher education was still developing within the UK. Pook (1995:130) stated;

'Higher Education must recognise it’s role in the promotion of habitual physical activity to develop strategies to promote lifelong participation amongst the student population'.

This research has illustrated that high levels of physical activity participation are achievable with both undergraduates and recent graduates. This new research, completed since the 'mass' higher education boom in the UK, also emphasises that a 'managed' programme tailored to the specific population, is essential to create the correct environment to positively influence exercise behaviour. This research has also added to past research in that it has demonstrated that it has been the 'operationalisation' of theory which has been essential in increasing participation. Crucial to the case study was the conversion of theory into working practice and this research is reporting on the theory of delivery rather than testing a particular hypothesis. This will be very valuable for future studies on undergraduate exercise behaviour and the design of future physical activity interventions in universities. (Examples of additional specific recommendations are included in Appendix D).

This research has demonstrated that the aim of the facilitators should be to know the market in a specific university and deliver a programme to meet the needs of the students. Many universities have different mission statements and certain universities such as the University of Glamorgan may attract local students. Therefore, cultural expectations may also influence a specific programme. In conclusion, the marketing of a sport and recreation programme should rely on a
combination of business techniques and innovation. Mull et al (1997:297) comments that conventional methods of marketing and management are no different in a sports management context;

'Marketing is designed to motivate the customer to access recreational sport services. Once arrived there must be an ongoing practice of customer service that keeps the participant coming back for more. Quality customer service does not happen by itself, it is managed'.

**Future Research**

The methodology in this research resulted in excellent responses and generated new data. Future research with graduates at possibly three, five, and ten year intervals would give an indication if the 'lifelong participation' goal in physical activity was realistic. However, on reflection there have been some lessons learnt by the researcher over the five years of the project. One particular area has been the creation of the National Assembly for Wales and the new strategic vision of the University of Glamorgan to become a regional university. Study One detailed the geographical location of the University of Glamorgan and the new vision to attract local students to the university as part of the Assembly's aim to widen access. In reality this has meant that in the future the University of Glamorgan could become less cosmopolitan. Therefore, the future strategies at Glamorgan to increase physical activity may differ from a traditional 'red brick' university with a high percentage of students from different cultural and educational backgrounds.

Additionally, since the start of this research the new 'lifelong' learning agenda of the Assembly has seen a huge increase in the number of part-time students, both at undergraduate and postgraduate level at the university. There has also been an increase in vocational courses such as nursing which traditionally have not studied on the campus. This research has only been concerned with full-time undergraduates and future research would also need to look at part-time students and courses such as nursing where the students may spend much of their time on
work experience rather than on campus. The latest development is e-learning and, by design, there are now ‘virtual students’ who do not visit the campus.

There were also major advantages in the researcher being intimately involved in the planning of the programme whilst also completing the research. In most studies the researcher is not responsible for the results but in this instance the researcher was responsible for the results in the case study and therefore it was difficult to be completely detached. However, the researcher did view this as an advantage and would recommend future studies where the researcher is operationally involved in the programme. This style of research, using the techniques of ‘action research’, could particularly be of interest to other practitioners who are responsible for a delivery of a programme. Practitioners often require practical solutions to specific challenges and new research from ‘operational’ colleagues could be invaluable for future planning of university programmes.

One of the more innovative future areas of research could be to introduce academic credit-based modules in health and physical activity on non-sports courses at the university. This research has demonstrated that by re-educating undergraduates with motivating programmes, high levels of participation are possible. Pook (1995) comments that at North Carolina University 25,000 students have to take a PE elective to graduate and one of the modules must be in Health and Exercise. Other research has reported on ‘academic’ modules specifically designed to educate students and positively influence exercise behaviour (Corbin and Laurie 1978, Brynsteson and Adams 1993, Leslie et al 2000 and Leslie et al 2001). The programmes did report some successes in increasing participation levels as a result of increased knowledge in health and exercise. Modular degree programmes are now very popular in UK universities and such a ‘lifestyle’ course could be included at Level 1 in a university. If such courses were successful they could have significant benefits to the local community. Recent ‘lifelong learning’ initiatives which have been introduced in schools include courses on ‘citizenship’. A health related module at university could offer similar opportunities in educating young adults on the benefits and
practical solutions to regular exercise. A possible future proposal could be to investigate whether such courses would positively influence students to participate in regular exercise once they had completed the course.
References


Appendix A

Undergraduate Cover Letter and Questionnaire
31st March 1999

Dear Student

PARTICIPATION PATTERNS IN SPORT AND RECREATION

With reference to the above I would be grateful if you could provide me with some information as part of my PhD research at the University of Glamorgan. My research is concerned with the participation patterns in sport and recreation by students when they are at University and soon after they have left University.

The study is in three parts:

1. Questionnaire to current students (enclosed).
2. Selected interviews with students (Summer Term 1999).
3. Follow up questionnaire once students have left the University (Easter 2000)

I would be grateful if you could please complete the enclosed questionnaire and return in the pre-paid envelope. The questionnaire should take about 15 minutes to complete.

I completed a similar survey in 1993 as part of my Master Degree programme. The research in the Masters Degree was used in a review of the facilities and programmes at the University of Glamorgan and resulted in an investment of nearly £800,000 in Sport and Recreation at the University. The information you give is essential and will prove valuable in improving the future programmes and facilities at the University.

All the information is confidential and the coding on the questionnaires is for analysis and checking responses. I would be grateful if you could please return the completed questionnaires as soon as possible and at the latest by Wednesday 7th April 1999.

Many thanks for your help and co-operation.

Yours sincerely

[Signature]

T Williams
Manager
Centre for Sport and Physical Recreation
PhD Research Student University of Glamorgan

Enc.
This questionnaire forms part of a PhD study into the participation patterns of students and ex-students in active sport and recreation.

Department of Humanities and Social Sciences

Researcher: TUDOR WILLIAMS

Research Supervisor: DR SUSAN HUTSON

Telephone Contact No. 01443 482681

University of Glamorgan
Department of Humanities and Social Sciences
1. Full Time Student?  
   Part Time Student?  
   Male?  
   Female?  

2. How many years will you study at the University of Glamorgan before graduating?  
   3 Years  
   4 Years  

3. What level did you complete your secondary education?  
   Secondary School to Age 16  
   Secondary School to Age 17/18  

4. What is your current age?  
   18-20  
   21-23  
   23-25  
   26+
5. Marital Status?

   Tick (✓) One Box Only
   Married  1
   Single   2

6. What type of accommodation do you live in?

   Tick (✓) One Box Only
   Halls of Residence  1
   Rented Accommodation  2
   Living at Home with Parents  3
   Living at Home with Spouse/Children  4

7. How do you normally travel to the University Campus?

   Tick (✓) One Box Only
   Own Car  1
   Car (Have lift)  2
   Bicycle  3
   Bus  4
   Walk  5
   Train  6
   Other  7

8. What course are you studying at the University?

   Tick (✓) One Box Only
   HND  1
   Degree  2
   Post Graduate  3
   Other (please specify)__________  4
9. **What Department are you in**

- Business School
- School of Applied Sciences
- Law School
- Computer Studies
- Humanities
- Nursing and Midwifery
- Built Environment
- Accounting and Mathematics
- Design and Advanced Technology
- Electronics and Information Technology
- Combined Studies

10. **Did you enjoy the curriculum based Physical Education Programme at School?**

   **TICK (✓) ONE BOX ONLY**

   Yes (continue with question 11a)
   No (continue with question 11b)

11a. **What did you enjoy about the Physical Education programme at School?** Please circle one response on the scale for each category.

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<tr>
<th>Excellent Facilities</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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<th>Good P.E. Teachers</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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<th>I enjoyed the P.E. programme offered</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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<th>I had good success at the activities</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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<th>Friends also enjoyed sports</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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<th>I enjoyed the team sports</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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<th>Plenty of opportunity for extra curricular sports</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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<th>Plenty of Opportunities for competitions/matches</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
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Please continue with Q. 12
11b. What did you dislike about the Physical Education Programme at school? Please circle one response on the scale of each category

<table>
<thead>
<tr>
<th>Category</th>
<th>Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Personal Dislike of P.E. Teacher</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Disliked the programme offered</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Low personal achievement in sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Friends/Peers not interested in sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Disliked P.E. kit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Disliked the P.E. Rules</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Disliked the changing/showering arrangements</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please continue with Q. 12

12. Who had the most positive influence on you to participate in sport whilst at school? Rank in order of importance 1-7 (number 1 the most important etc.)

Ranking 1-7

Parents
Friends
P.E. Teacher
Coach (Outside School)
Girlfriend/Boyfriend
Famous Sporting Heroes/Personalities
Other (please specify)__________________________

Continue with Q. 13
13 Did you opt for GCSE PE at School?

TICK (✓) ONE BOX ONLY

Yes □ 1
No □ 2

14. After the age of 16 and before coming to the University of Glamorgan, how often did you exercise (not including school/college lessons)?

TICK (✓) ONE BOX ONLY

Everyday □ 1
2-3 Time Per Week □ 2
Once/Twice Per Month □ 3
Never □ 4

15. Whilst you were at school what would have made you take more regular exercise if the following were in place?

TICK (✓) ONE BOX ONLY

Better range of activities □ 1
Better facilities □ 2
Less emphasis on team games and more emphasis on Health & Fitness activities □ 3
Less strict approach by the P.E. staff□ 4
More team games □ 5
Other.................................................. □ 6

16. Are there other members of your family who regularly participate in sport?

TICK (✓) ONE BOX ONLY

Yes □ 1
No □ 2

IF YES PLEASE TICK (✓)

Spouse □ 1
Father □ 2
Mother □ 3
Sister □ 4
Brother □ 5
17. How often do you now participate in sport/physical activity per week?

```
TICK (✓) ONE BOX ONLY

Everyday        1
2-3 Time Per Week  2
Once a fortnight   3
Less often        4
```

18. What is your main motivation for participation now?
Please circle one number in each section

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Very Important</th>
<th>Quite Important</th>
<th>Not Very Important</th>
<th>Not At All Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>The desire for competition</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Meet Friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Relaxation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Health Related</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Enjoyment/Fun</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Achievement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
19. What type of activities do you normally participate in?

**TICK (✓) ONE BOX ONLY**

<table>
<thead>
<tr>
<th>Option</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teams Games (Rugby, Netball, Soccer, Hockey etc.)</td>
<td>1</td>
</tr>
<tr>
<td>Health &amp; Fitness Classes (Activities taken by an instructor e.g. Aerobics, Boxercise, Circuit Training)</td>
<td>2</td>
</tr>
<tr>
<td>Using the Conditioning Room/Trimnasium (No Instructor)</td>
<td>3</td>
</tr>
<tr>
<td>Individual small group activities (E.g. Squash, Climbing, Archery)</td>
<td>4</td>
</tr>
<tr>
<td>A mixture of the above, but mainly Health and Fitness Classes and/or Conditioning Room/Trimnasium</td>
<td>5</td>
</tr>
<tr>
<td>A mixture of the above but mainly team games</td>
<td>6</td>
</tr>
</tbody>
</table>

20. For a person your age how would you describe your fitness?

**TICK (✓) ONE BOX ONLY**

<table>
<thead>
<tr>
<th>Option</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very fit</td>
<td>1</td>
</tr>
<tr>
<td>Quite fit</td>
<td>2</td>
</tr>
<tr>
<td>Not very fit</td>
<td>3</td>
</tr>
</tbody>
</table>

21. How would you rate the sport and recreation facilities and opportunities at the University of Glamorgan?

**TICK (✓) ONE BOX ONLY**

<table>
<thead>
<tr>
<th>Option</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>1</td>
</tr>
<tr>
<td>Very Good</td>
<td>2</td>
</tr>
<tr>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>Fair</td>
<td>4</td>
</tr>
<tr>
<td>Poor</td>
<td>5</td>
</tr>
</tbody>
</table>
22. What activities do you usually participate in?  

| Activities run by the Athletic Union (i.e. Clubs) | 1 |
| Activities run by the Sport Centre (Classes/Conditioning Rooms) | 2 |
| None of the above | 3 |
| A mixture of both | 4 |

23. Do you feel that there are equal opportunities for male and female students to participate in sport and recreation at University?  

| Yes | 1 |
| No | 2 |

24. Have you tried new sporting activities since you started University?  

| Yes | 1 |
| No | 2 |

25. Do the facilities and opportunities for sport and recreation and the University have a positive influence on your ‘quality of life’ whilst a student?  

| Yes | 1 |
| No | 2 |
26. Do you belong to an Athletic Union Club?  

_TICK (✓) ONE BOX ONLY_  

Yes (please go to Q. 27)   □ 1  
Specify: .................................  
No (please go to Q. 29)   □ 2  

27. Are you satisfied with the club and programme offered?  

_TICK (✓) ONE BOX ONLY_  

Yes (please go to Q. 28a)   □ 1  
No (please go to Q. 28b)   □ 2  

28a. If you are satisfied with the Athletic Union Club, please circle one number in each category below for your club.  

<table>
<thead>
<tr>
<th>Category</th>
<th>True</th>
<th>Sometimes True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent organisation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Regular fixtures</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Excellent value for money</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Few cancellations</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Excellent standard of competition</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Excellent student led club</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Excellent equipment</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Excellent facilities e.g. Sport Centre/Playing Fields</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Excellent help from AU office</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Please continue with Q. 29
28b. If you are dissatisfied with the Athletic Union Club, please circle one number in each category below for your club

<table>
<thead>
<tr>
<th>Category</th>
<th>True</th>
<th>Sometimes True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor organisation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Very clique atmosphere</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Poor value for money</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Coaching poor/non existent</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Few fixtures</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Too many cancellations</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Club organised by students who tend to pick their friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Kit/equipment is poor</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Poor facilities (e.g. Sport Centre/Playing Fields)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Little positive help from A.U. office</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Please continue with Q. 29.

29. Does your participation in sport and active recreation drop during the vacation?

**TICK (✓) ONE BOX ONLY**

- Yes (please go to Q.30) ☐ 1
- No (please go to Q. 31) ☐ 2

☐ 83
30. Why does your participation drop during the vacations? Please circle each category

<table>
<thead>
<tr>
<th>Category</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time (e.g. job)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Poor facilities</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>No transport to facilities</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Too expensive at home</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>No clubs nearly (e.g. rugby, netball)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Nobody to go with</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Please continue with Q. 31.

31. Do you think that you will continue to participate in sport and active recreation once you have left University?

Tick (✓) one box only

- Yes (please go to Q.32)  [ ] 1
- No (please go to Q. 35)  [ ] 2

<table>
<thead>
<tr>
<th>Box Number</th>
<th>84</th>
<th>85</th>
<th>86</th>
<th>87</th>
<th>88</th>
<th>89</th>
<th>89</th>
</tr>
</thead>
</table>
32. Why do you think you will continue to participate in active sport and recreation once you have left the University? Please note there are no right or wrong answers. Please circle a number in each section.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have always enjoyed sport and recreation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sport and recreation is now a regular part of my lifestyle and I will continue</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Most of my friends tend to also be active - this could include any new friends I make once I leave University</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>My social life will include sport and recreation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I should be able to afford participating in sport and recreation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sport and recreation will provide an excellent change from the pressures of work</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I will prioritise time in my new lifestyle after University to enable me to participate regularly.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Please go to Q. 33

33. What type of activities do you think that you would participate in?

**TICK (√) ONE BOX ONLY**

- Health & Fitness Activities (such as visiting a Conditioning Room in a Centre or Aerobics Classes, Circuit Training etc)  
  - 1
- Team Games (Netball, Soccer, Hockey etc)  
  - 2
- A mixture of both the above  
  - 2

Please go to Q. 34.
34. When you have secured employment after leaving University, how many times per week do you think you will participate in sport/active recreation?

TICK (✓) ONE BOX ONLY

- Everyday (7 days week) □ 1
- 2-3 times per week □ 2
- Once/twice per month □ 3
- Never □ 4

Please go to Q. 36

35. Why do you think you will not continue to participate in any active sport or recreation once you have left University? Please note there are no right or wrong answers. Please circle a number in each section:

<table>
<thead>
<tr>
<th></th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Intend to 'retire' from active lifestyle</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Do not enjoy sport</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Will not have same friends</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Pressures of work</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>No facilities available</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Will not be able to afford to participate regularly</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Please go to Q. 36
36. Do you think that the opportunities and facilities for sport and recreation at University (including all the clubs, new activities offered, Health & Fitness classes) has been a positive learning experience to motivate you to continue participating in sport and recreation once you have left University?

**TICK (✓) ONE BOX ONLY**

- **Yes** ✓ 1
- **No** ✓ 2

37. Below are a series of statements regarding sport and recreation and factors which motivates individuals to participate. Please circle one number by each question to rate how much you agree or disagree with the statement. There are no right or wrong answers. Please answer each question honestly according to your personal preferences.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoyed P.E. at school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I enjoy sport and exercise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My main reason for participation is to compete</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I disliked my P.E. teacher at school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My parents never encouraged me to participate in sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I never have enough time to exercise regularly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I will continue with active sport and recreation once I have left University</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sport and recreation is expensive at University</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A lot of my friends participate regularly in sport and recreation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Below are a series of statements regarding sport and recreation and factors which motivates individuals to participate. Please circle one number by each question to rate how much you agree or disagree with the statement. There are no right or wrong answers. Please answer each question honestly according to your personal preferences.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>I really enjoy to go to classes which are taken by an instructor</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Regular exercise is part of my lifestyle</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I feel a 'bit down' if I do not exercise regularly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The student clubs at the University are excellent and very friendly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The opening times and access to the facilities at the University are very poor</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My lectures and coursework commitments means that I find it difficult to regularly exercise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The programme offered at University does not appeal to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would like to participate more but do not have the confidence to go to the gym or join a class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I am not sure about what sport and recreation is on offer at the University. The publicity is poor.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would participate more regularly if it was all free</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Below are a series of statements regarding sport and recreation and factors which motivates individuals to participate. Please circle one number by each question to rate how much you agree or disagree with the statement. There are no right or wrong answers. Please answer each question honestly according to your personal preferences.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise is part of my normal weekly routine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I hope to continue with regular exercise once I leave University</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I tend to go to exercise with friends rather than go alone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sport and recreation provision at University is excellent and acts as a positive motivator to regularly exercise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

38. Have you participated in more sport and recreation since you came to University?

*Tick (✓) one box only*

- Yes (Go to Q. 39)  
  - [ ] 1

- No (go to Q. 40)  
  - [ ] 2
39. If you answered 'yes' to Q. 38 please state your reasons for participating in more sport and recreation since you came to University compared to your school days. Please circle a number in each category.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Different/New Activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Good staff who motivate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Excellent friendly atmosphere</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Plenty of opportunities to try a variety of activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Group of Friends who also participate regularly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please go to Q. 41

40. If you answered 'no' to Q. 38 please state your reasons for participating in less sport and recreation since you came to University compared with your school days. Please circle a number in each category.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not like sport</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Not enough time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Too busy studying</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My friends are not interested</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Not sure about the programme Facilities on offer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Play sport/recreation outside the University i.e. at home/local club facility</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please go to Q. 41
41. As mentioned in the covering letter this study is a three part study. This questionnaire completes the first part of the study. The second part will be a selection of interviews. These will take place in the Summer Term 1999 in the Sport Centre at the University. The interviews will last about 15-20 minutes and are a valuable part of the study.

Please indicate if you are willing to be interviewed as part of this important study.

Tick (✓) one box only

Yes □ 1

No □ 2

Term Time address for contact:

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

.........................................................  Tel:.........................................................

42. The final part of the study involves a postal questionnaire ten months after you have left University (Easter 2000). This will be to gauge your participation levels once you have left University.

I appreciate that it will be difficult for you to predict where you are living at this time. However, I would be grateful if you could give an address below where the questionnaire can be forwarded to you if it is not your permanent address. (Parents address is usually ideal). The follow up questionnaire should arrive during the Easter holidays ten months after you have left University. (Many of you may be at home for Easter with your family).

Address for 'follow up' questionnaire

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

.........................................................  Tel:.........................................................

Many thanks for completing this questionnaire. Please return the questionnaire in the pre-paid envelope.
Appendix B

Graduate Cover Letter and Questionnaire
9th March 2000

Dear Former Student

PARTICIPATION PATTERNS IN SPORT AND RECREATION

This time last year you kindly completed a questionnaire regarding your participation patterns in active recreation.

I would be grateful if you could now provide me with similar information now that you are an ex-student. The final part of the study includes:

1. Questionnaires to ex-students (enclosed).
2. Selected telephone interviews with ex-students (April 2000).

I would be grateful if you could please complete the enclosed and return in the pre-paid envelope by THURSDAY 16th MARCH 2000. The questionnaire should take about 15 minutes to complete. All replies will be entered onto a draw for £25.00 in Next Vouchers.

Since 1996 the investment in the University of Glamorgan in Sport and Recreation facilities has been over £1.2m. Developments this year have included a new Conditioning Room and three new super pitches at Tyn y Wern. Future projects may include partnership funding with Sportslot to further develop the facilities. The information you give is essential and will prove valuable in improving future programmes and facilities at the University.

All the information is confidential and the coding on the questionnaires is for analysis and checking responses.

Many thanks for your anticipated co-operation.

Yours faithfully

T Williams
Head of Sport and Physical Recreation
PhD Research Student — University of Glamorgan

P.S. Remember you could win £25.00 in Next Vouchers!
This questionnaire forms part of a PhD study into the participation patterns of students and ex-students in active sport and recreation.

Department of Humanities and Social Sciences

Researcher: TUDOR WILLIAMS

Research Supervisor: DR SUSAN HUTSON

Telephone Contact No. 01443 482681

University of Glamorgan Department of Humanities and Social Sciences
1. Please specify:

   Male □ 1
   Female □ 2

2. What is your current age?

   18-20 □ 1
   21-23 □ 2
   23-25 □ 3
   26+ □ 4

3. Marital status:

   Married □ 1
   Single □ 2

4. Do you have any children?

   No □ 1
   Yes □ 2

   If Yes:- Age(s):_________________ Gender:_________________

5. What type of accommodation do you live in?

   Own Property □ 1
   Rented Accommodation □ 2

6. Who do you live with?

   Living at Home with Parents □ 1
   Living at Home with Partner/Children □ 2
   Living Alone □ 3
   Living in Shared Accommodation □ 4

   Other (please specify):__________________________________________ □ 5
7. Are you currently employed?

PLEASE TICK(✔) ONE BOX ONLY

- Full Time Employment
- Part Time Employment
- Unemployed

8. Do you own a car or have a car available for your use?

PLEASE TICK(✔) ONE BOX ONLY

- Yes
- No

9. What type of course did you study at the University?

PLEASE TICK(✔) ONE BOX ONLY

- HND
- Degree
- Post Graduate
- Other (Please Specify):

10. How often do you now participate in sport/physical activity per week?

PLEASE TICK(✔) ONE BOX ONLY

- Everyday
- 2-3 Times Per Week
- Once per Fortnight
- Less Often
- Never (Please go to Q. 13)

11. What is your main motivation for participation now?

Please circle one number in each section

<table>
<thead>
<tr>
<th>The desire for competition</th>
<th>Very Important</th>
<th>Quite Important</th>
<th>Not Very Important</th>
<th>Not At All Important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Meet Friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Relaxation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Enjoyment/Fun</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Achievement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
12. What type of activities do you now normally participate in?

- Team Games (Rugby, Soccer, Netball etc.)
- Health & Fitness Classes (Activities taken by an instructor e.g. Aerobics, Boxercise, Circuits etc.)
- Use of a Conditioning Room/Gym (No instructor)
- Individual Small Group Activities (E.g. Swimming, Squash, Badminton, Martial Arts)
- A Mixture of Above, But Mainly Health & Fitness Classes and/or Conditioning Room/Gym
- A Mixture of the Above But Mainly Team Games
- Do Not Currently Participate in Active Recreation

Additional Comments: ____________________________

13. For a person your age how would you describe your fitness?

- Very Fit
- Quite Fit
- Not Very Fit

14. How would you describe your fitness now in comparison to your University days?

- Fitter now than when at University
- Fitter when at University
- About the same

15. How would you describe the sport and recreation opportunities in your local area?

- Excellent
- Very Good
- Good
- Fair
- Poor
16. How would you describe your activity levels now in comparison to when you were a student at the University of Glamorgan?

Currently participate in more active recreation than I did at University (Please go to Q.18)  
Currently participate in less active recreation than I did at University (Please go to Q.17)  
Currently participate in about the same as when I was at University (Please go to Q.19)

17. Why do you think that you now participate in less active recreation than you did whilst at University?
Please circle a number in each section

<table>
<thead>
<tr>
<th>Reason</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Have now 'retired' from active lifestyle</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Do not enjoy sport</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Friends do not participate</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Pressures of work</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>No facilities available</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cannot afford to participate regularly</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Any Other Comments:-__________________________

Please go to Q. 20

18. Why do you think you participate in more active recreation now than you did at University?
Please circle a number in each section

<table>
<thead>
<tr>
<th>Reason</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>More time available</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Better facilities available locally</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>The prices locally are excellent value for money</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Active lifestyle is part of my weekly routine</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Friends also participate regularly</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I find regular activity relaxing</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I feel confident about exercising regularly</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Please go to Q. 20
18. Why do you think you participate in more active recreation now than you did at University?  
Please circle a number in each section  
Any Other Comments:__________________________

19. Why do you think that you now participate in 'about the same' level of activity as when you were at University?  
Please circle a number in each section

<table>
<thead>
<tr>
<th>Reason</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently content with my levels of participation</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Would like to participate more</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Facilities locally are not very good</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Current lifestyle (work, family etc.) means that I am unable to participate more regularly</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Facilities are expensive locally</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>I go with friends and we are all happy with our current level of participation</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Any Other Comments:__________________________

Please go to Q. 20

20. Have you tried any new sporting activities since you left University?  

[ ] Yes 1  
[ ] No 2

If Yes Please Specify:________________________________________

21. Have you dropped any activities?  

[ ] Yes 1  
[ ] No 2

If Yes Please Specify:________________________________________

22. Do you feel that there are equal opportunities in your local area for males and females to participate in active sport and recreation in comparison to your University days?  

[ ] Yes 1  
[ ] No 2

Please Specify:________________________________________
23. Reflecting back to your time at the University, do you think that the opportunities and facilities for sport and recreation at University (including all the clubs, new activities offered, classes etc.) were a positive learning experience to motivate you to continue participating in sport once you left University?

Yes [ ] 1
No [ ] 2

24. Below are a series of statements regarding sport and recreation and factors which motivates individuals to participate. Please circle one number by each question to rate how much you agree or disagree with the statement regarding your CURRENT activity levels. There are no right or wrong answers. Please answer each question honestly according to your personal preferences.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Not Agree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy sport and exercise now</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My main reason for participation now is to compete</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I now never have enough time to exercise regularly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have continued with active sport and recreation since I left University at a similar level</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Sport and recreation is expensive in my local area</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A lot of my friends participate regularly in sport and recreation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I really enjoy to go to classes which are taken by an instructor</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Regular exercise is now part of my lifestyle</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I feel a 'bit down' if I do not exercise regularly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Below are a series of statements regarding sport and recreation and factors which motivates individuals to participate. Please circle one number by each question to rate how much you agree or disagree with the statement regarding your CURRENT activity levels. There are no right or wrong answers. Please answer each question honestly according to your personal preferences.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Not Agree</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>The local clubs are excellent and very friendly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The opening times and access to local facilities is very poor</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My work commitments now means that I find it difficult to regularly exercise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The programmes offered locally do not appeal to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would like to participate more now but do not have the confidence to go to the gym or join a class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I am not sure about what sport and recreation is on offer locally. The publicity is poor</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would participate more regularly now if it was cheaper</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Exercise is part of my normal weekly routine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I tend to go to exercise with friends rather than go alone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
25. Do you hope to continue with regular exercise throughout your life?

 Agree Strongly [ ] 1
 Agree [ ] 2
 No Opinion [ ] 3
 Not Agree [ ] 4
 Disagree [ ] 5
 Disagree Strongly [ ] 6

 Comments (Type of activity, reasons for participation etc.): -

26. As mentioned in the covering letter this study is a two part study. The second part will be a selection of short telephone interviews. The interviews will last about ten minutes and all charges for the calls will be paid by the University.

Please indicate if you are willing to participate in a telephone interview as part of this important study:

Yes [ ]
No [ ]

If yes please state contact numbers:

Day Time: ________________________________

Evening: ________________________________

It is likely that you will be contacted in late April early May 2000 for telephone interviews.

Please indicate ideal times when you can be contacted:

Day Time Number: ________________________________
(e.g. between 9:00am-12noon, 2:00-5:00pm)

Evening Number: ________________________________
(e.g. after 6:00pm)

Please also indicate any time when it is unsuitable to call or when you may be away from the above number:

Many thanks for completing this questionnaire. Please return the questionnaire in the pre-paid envelope.
Appendix C

Heads of Sport Cover Letter and Questionnaire
30th August 1999

Dear Colleague

Participation Patterns in Sport and Recreation

With reference to the above I would be grateful if you could provide me with some information as part of my PhD research at the University of Glamorgan. My research is concerned with the participation patterns in sport and recreation by students when they are at University and soon after they have left University.

The research will include:

- Questionnaires to current students.
- Selected interviews with current students.
- Follow-up questionnaires to students after they have left University.
- Follow-up selected interviews with students once they have left University.
- Questionnaires to Directors of Sport and Physical Recreation at UK Universities (enclosed).
- Selected interviews with Directors of Sport and Physical Recreation at UK Universities.

The objectives of the research are to investigate the physical activity patterns of students before, during and after Higher Education. The aims of this study are:

- To research what is distinctive about sport and recreation in Universities.
- To research the motivational factors which influence students to participate in recreation whilst at University.
- To investigate whether a students participation in University sport and recreation programmes influences post University participation.

I would be grateful if you could please complete the enclosed questionnaire and return in the enclosed envelope. The questionnaire should take about 15 minutes to complete.

All the information is confidential and the coding on the questionnaire is for analysis and checking responses. I would be grateful if you could please return the complete questionnaire as soon as possible and at the latest by 20th September 1999.

Many thanks for your help and anticipated co-operation.

Yours sincerely

T Williams
Head of Sport and Physical Recreation
Centre for Sport and Physical Recreation
PhD Research Student University of Glamorgan

Enc.
PARTICIPATION PATTERNS IN SPORT & RECREATION SURVEY

This questionnaire forms part of a PhD study into the participation patterns of students and ex-students in active sport and recreation.

Department of Humanities and Social Sciences

Researcher: TUDOR WILLIAMS

Research Supervisor: DR SUSAN HUTSON

Telephone Contact No. 01443 482681

University of Glamorgan
Department of Humanities and Social Sciences
1. How would you describe your University since the expansion in the 1990's?  
- New University  
- Old University

2. Which of the following would describe your current post?  
- Director of Sport and Physical Recreation  
- Director of Sport and Physical Education  
- Head of Sport and Physical Recreation  
- Head of Sport and Physical Education  
- Sport and Recreation Manager  
- Other Please Specify

3. How long have you been employed in your current role (To the nearest full year)?  
- Less than 1 year  
- 1-2 years  
- 3-5 years  
- 6-10 years  
- 11-15 years  
- 16+ years

4. Where were you employed in your previous role?  
- University (Academic Teaching)  
- University (Sport and Physical Recreation e.g. Assistant Director)  
- Teaching (Schools)  
- Lecturing (Further Education College)  
- Leisure Management (Local Authority)  
- Leisure Management (Private Club)  
- Sports Council  
- National Governing Bodies of Sport  
- Other Please Specify
5. When did you complete your first FULL TIME course in leisure, sport, recreation or physical education? 

<table>
<thead>
<tr>
<th>Duration</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 20 years</td>
<td>1</td>
</tr>
<tr>
<td>11-20 years</td>
<td>2</td>
</tr>
<tr>
<td>6-10 years</td>
<td>3</td>
</tr>
<tr>
<td>3-5 years</td>
<td>4</td>
</tr>
<tr>
<td>1-2 years</td>
<td>5</td>
</tr>
<tr>
<td>Less than a year</td>
<td>6</td>
</tr>
</tbody>
</table>

6. What type of course was this? 

<table>
<thead>
<tr>
<th>Type of Course</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree (BA, BSc - 3 years full time)</td>
<td>1</td>
</tr>
<tr>
<td>Teaching Degree (BEd - 4 years full time)</td>
<td>2</td>
</tr>
<tr>
<td>Teaching Certificate (Cert Ed)</td>
<td>3</td>
</tr>
</tbody>
</table>

7. What type of course below is the closest to the course you studied? 

<table>
<thead>
<tr>
<th>Course</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA Human Movement Studies/Sports Studies</td>
<td>1</td>
</tr>
<tr>
<td>BEd Physical Education</td>
<td>2</td>
</tr>
<tr>
<td>BEd Physical Education/Joint Honours</td>
<td>3</td>
</tr>
<tr>
<td>Cert Education Physical Education</td>
<td>4</td>
</tr>
<tr>
<td>Cert Ed Physical Education/Joint Honours</td>
<td>5</td>
</tr>
<tr>
<td>BSc Sport Science</td>
<td>6</td>
</tr>
<tr>
<td>BA/BSc Sport and Recreation Management</td>
<td>7</td>
</tr>
<tr>
<td>BA/BSc Joint Sport and Recreation Management/ Physical Ed.</td>
<td>8</td>
</tr>
<tr>
<td>BA/BSc Joint Sport Science/Physical Education</td>
<td>9</td>
</tr>
<tr>
<td>Other Please Specify</td>
<td>10</td>
</tr>
</tbody>
</table>

8. Do you have a qualification to teach Physical Education in either Secondary or Primary Schools? 

<table>
<thead>
<tr>
<th>Choice</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td></td>
</tr>
</tbody>
</table>

PLEASE TICK(✓) ONE BOX ONLY
9. When was your last full time or PART time leisure/ sport/ recreation course of study? 

- More than 20 years ago [ ] 1
- 16-20 years ago [ ] 2
- 11-15 years ago [ ] 3
- 6-10 years ago [ ] 4
- 3-5 years ago [ ] 5
- 1-2 years ago [ ] 6
- Less than a year ago [ ] 7
- Currently studying [ ] 8

10. What type of course was this? 

- Diploma Level [ ] 1
- Degree Level [ ] 2
- Masters Level [ ] 3
- Doctorate Level [ ] 4
- ILAM/IBRM [ ] 5

11. How effective was your last (or current) educational course of study in meeting YOUR needs at the workplace? 

- Very effective [ ] 1
- Quite effective [ ] 2
- Effective [ ] 3
- Not very effective [ ] 4
- Not at all effective [ ] 5

12. Within the organisational structure at your University which of the following would describe the ‘location’ of Sport and Recreation? 

- Within the Student Services/Campus Services Department with other non Academic Departments such as Accommodation, Conferences, Catering, Conferencing, Careers, Counselling etc. Head of Department is Head of Student Services/Campus Services [ ] 1

13. Please check one box only.
Within an Academic Department (e.g. Sport/Physical Recreation (Education) but Sport and Recreation staff do not directly contribute to Academic Teaching.  

Within an Academic Department (Sport/Physical Recreation/ Education) and staff do directly contribute to Academic Teaching.  

Independent ‘Support’ Department with direct line management to Deputy Vice Chancellor/Secretary/Registrar  

Independent Centre but not a ‘Departmental’. Reporting directly to senior member of staff at Directorate level.  

Other Please Specify.  

13. How many full time students are there at your University?  
   Less than 5,000  
   5,001-8,000  
   8,001-11,000  
   11,001-14,000  
   14,001-17,000  
   More than 17,000  

14. Since the increase in student numbers by how much do you think the student numbers have increased since approximately 1990 (pre-expansion days)?  
   Additional 2,000 full time students  
   Additional 4,000 full time students  
   Additional 6,000 full time students  
   Additional 8,000 full time students  
   Additional 10,000+ full time students  

15. Does your University offer courses in sport/recreation/leisure related subjects?  
   Please go to question 15a  
   Please go to question 16  
   YES  
   NO
15a. Do you teach on the sport/leisure/recreation courses?

Please go to question 15b

YES ☐ 1

NO ☐ 2

Please go to question 16

15b. What percentage of your time is spent on academic teaching in comparison to sport/recreation provision/management?

Less than 10% ☐ 1

Less than 20% ☐ 2

About 50% ☐ 3

More than 60% ☐ 4

16. Is the Athletic Union a separate organisation within your University or does the organisation/co-ordination of all teams come under your control?

Athletic Union is separate ☐ 1

Teams/fixtures controlled by Sport and Recreation Dept ☐ 2

17. How would you describe the relationship between the Athletic Union and Sport and Recreation Department within your University?

Excellent ☐ 1

Very Good ☐ 2

Good ☐ 3

Fair ☐ 4

Poor ☐ 5

N/A (Athletic Union controlled by Sport and Recreation) ☐ 6

18. How would you describe the organisation of the Athletic Union within your University?

Excellent ☐ 1

Very Good ☐ 2

Good ☐ 3

Fair ☐ 4

Poor ☐ 5

N/A (Athletic Union controlled by Sport and Recreation) ☐ 6
19. Do you believe that the Athletic Union offers a good service to the students in terms of the organisation/structure of the BUSA fixtures?  

PLEASE TICK(✓) ONE BOX ONLY

| Agree Strongly | 1 |
| Agree          | 2 |
| No Opinion     | 3 |
| Disagree       | 4 |
| Disagree Strongly | 5 |

20. Do you and/or your staff contribute to the coaching of any Athletic Union Teams?  

PLEASE TICK(✓) ONE BOX ONLY

| Please go to question 20a YES | 1 |
| Please go to question 21 NO   | 2 |

20.a Is this done on a voluntary basis or is it part of the role for you and your staff?  

PLEASE TICK(✓) ONE BOX ONLY

| Please go to question 21 Voluntary | 1 |
| Please go to question 21 Within Role | 2 |

21. Who are the main users (highest number) of your facilities during term time?  

PLEASE TICK(✓) ONE BOX ONLY

| Athletic Union Teams | 1 |
| Casual Sport and Recreation Users (Students) | 2 |
| (e.g. 5-a-side, squash, badminton, swimming etc.) |
| Health and fitness classes/facilities | 3 |
| (e.g. classes, conditioning rooms etc.) |
| An even balance between students and local community groups | 4 |

22. Do you work to a financially driven Business Plan with specific income targets to achieve?  

PLEASE TICK(✓) ONE BOX ONLY

| Please go to question 22a YES | 1 |
| Please go to question 23 NO   | 2 |

22a Has this been a new initiative within the last five/seven years?  

PLEASE TICK(✓) ONE BOX ONLY

| Please go to question 22b YES | 1 |
| Please go to question 23 NO   | 2 |
22.b In your experience has this been a positive or negative influence on the sport and recreation provision at your University?

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

23. Are you responsible for the philosophy of the Department and setting your own aims and objectives?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

23.a Who is responsible for the philosophy of the Department and setting the aims and objectives? Please specify:

24. Is there pressure to generate income at the expense of student provision?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

25. Do you do any detailed surveys to find out what the students' expectations are of the sport and recreation programme at University?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

26. Do you do any detailed surveys to find out what the students pre-University experiences in sport and recreation were before they started at University?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>
27. How would you rank the following in order of importance as far as your role in the University as Director/Head of Sport and Recreation?

- Priority for Student Union teams to complete and be successful in BUSA competitions. Emphasis on elite sport. [ ]
- Priority for casual sport and recreation with emphasis on health and fitness classes and activities. Emphasis on providing facilities/resources for non-elite sport. [ ]
- A mixture of the above but main emphasis from Sport and Recreation Department (facility provisions, resources, staff time) for elite teams. [ ]
- A mixture of the above but main emphasis from Sport and Recreation Department for recreation classes, facilities and programmes. [ ]

PLEASE TICK(✔) ONE BOX ONLY

28. Does your Sport and Recreation Department have a mission statement?

Please specify YES [ ]

NO [ ]

PLEASE TICK(✔) ONE BOX ONLY

29. Do you feel that encouragement of 'lifelong participation' in sport and recreation should be one of the aims of a University Sport and Recreation Department?

YES [ ]

NO [ ]

PLEASE TICK(✔) ONE BOX ONLY

30. Do you feel that University can change the participation motivation/habits of students to encourage more participation post-University?

YES [ ]

NO [ ]

PLEASE TICK(✔) ONE BOX ONLY
31. How would you gauge the pre-University experiences of students as far as their school experiences were concerned?

Please circle one number in each Category.

<table>
<thead>
<tr>
<th>Most students probably enjoyed the school PE programme</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Not Agree</th>
<th>Strongly Not Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most students seem to have a good background in a lot of activities and there is little need for beginner classes</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Not Agree</th>
<th>Strongly Not Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most students have a good background and understanding of Health and Fitness and exercise</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Not Agree</th>
<th>Strongly Not Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

32. Do you feel that your Department has a role in educating students for the goal 'lifelong participation' in sport/recreation or do you feel that your role is more of facility management?

Educational Role [ ] 1
Facility Management [ ] 2

31. Please specify your gender.

Male [ ] 1
Female [ ] 2

Thank you for completing this questionnaire.
Appendix D

Recommendations for encouraging students to become more active during University
Recommendations for encouraging students to become more active during University.

In order to achieve increased physical activity participation within universities, there must be a balance between theoretical models and operational factors. Many of the interventions discussed in this study were developed from recommendations from previous research into student participation as well as advice from colleagues from other universities. The recommendations below could prove useful to colleagues in other universities who may be looking for ideas to increase student participation. Some of the recommendations detail the operational successes of the interventions detailed in this study whilst other recommendations are personal reflections arising from over ten years experience of developing a university physical activity programme.

Development of a Conditioning Room

The development of a high quality modern conditioning room with treadmills, cycles, rowers and fixed weights machines has been very successful in encouraging students to exercise regularly. Essential additional features in such a facility are televisions showing a music channel and a compulsory induction scheme for all new users. The induction programme has been very successful in safely introducing the equipment to new students. Following the course they are much more confident to use the facilities independently.

Pre-University advertising material.

Sending out detailed information to new students prior to their arrival has proved to be tremendously successful. It has raised the awareness of the facilities and programmes and has motivated the students to try something new when they arrive. Additionally, a 30 page colour brochure is placed in all study bedrooms prior to the students arrival at the beginning of the Autumn Term. In house surveys have indicated that over 60% of students were made aware of the programmes and facilities through the brochure and this had encouraged them to contact the Centre.
Instructional/Health and Fitness Classes
A large health and fitness programme of instructor-led classes has been very popular. Most classes were offered at beginner/intermediate level to encourage students to ‘new start’ activities. However, the 44 hours of classes per week taken by experienced instructors are expensive and similar programmes will need sufficient resources.

Intra Mural Programme
Many male students were motivated to play competitive league matches with their friends on a weekly basis. However, many students were not motivated to join a club due to the travelling, the ‘clique’ atmosphere and the vagaries of team selection. An eight week intra mural programme in a variety of activities attracted over 500 students per week. The programme was resourced with approximately ten hours of staff time per week. This was one of the most popular programmes in the Centre and included indoor and outdoor activities.

Athletic Union
The transitional nature of Student Union’ representatives can result in poor continuity in the Athletic Union structure. Additionally, the independence of a Students Union often results in a difficult partnership. Without guidance from professional sports staff the Athletic Union structure in many universities may not develop competitive sport beyond the current recreational teams.

Marketing - the ‘Big Mac’ approach.
The University of Glamorgan has been offering a highly popular circuit training class at the same time and in the same facility for twelve years. The class has changed little over the last twelve years and different instructors have used similar styles. The marketing philosophy has been similar to that of the Macdonald’s Restaurant chain which never changes its core products if they are successful. Consequently, the ‘Big Mac’ has remained a best seller for the last thirty years. New themes are introduced by Macdonalds around the core product throughout the year, but not at the expense of the customers’ favourite product. In an innovative health and fitness environment it is often tempting to change the
programme to offer something new to the users. However, if the needs of the customers are ignored then this could have a negative influence on the regular ‘repeat’ customers. In summary, if students have enjoyed a particular activity for ten years...do not change it!

**Pricing Policy**
The recent financial hardship of students is well documented. However, if the students perceive ‘value’ to the programme then this will not be a barrier to regular participation. The pricing policy must be appropriate to the service offered. The average spend per head, per activity at the University of Glamorgan in 2002 was £1.39 and the majority of students (70% male, 79% female) did not feel that the facilities/programmes were expensive.

**Sales Culture**
High quality instructors, modern equipment and exciting programmes may not be enough to motivate new students to start participating regularly. Annual surveys at the University of Glamorgan indicated that many students were initially persuaded to try a class from the discussions with the receptionists at the Sport Centre. Many of the students enquired about the classes at the Reception having seen the brochures and it was often the responses from the part time receptionists which influenced them to join the class or not. Consequently, the University of Glamorgan’ strategy was to change the Reception area from an ‘information point’ to a ‘sales point’ and staff attended sales courses rather than customer care courses. The aim was for the receptionists to offer the ‘initial’ motivation to join an activity and once in the class the instructors would then take over. This proved to be a successful strategy within the Centre.

**Customer Focus**
The delivery of a sport and recreation programme in a university has to be customer focused to the specific market. The aim of the facilitators should be to know the market in a specific University and deliver a programme to meet the needs of the students.