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The British student-athlete experience: Identity, commitment and role conflict

by

Jeremy Alan Cross

A Doctoral Thesis
Submitted in Partial Fulfilment of the Requirements for the Award of Doctor of Philosophy of Loughborough University

May 2004

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Abstract

This thesis aimed to develop a clearer understanding of the academic and psychological patterns of elite student-athletes. In particular, it takes a psychological perspective on how these dual role individuals cope with potential role conflict and maintain balance in their lives. The thesis is comprised of four studies:

Study 1 investigated the academic outcomes (grade point averages) and academic preparation (A level points) of 120 elite British student-athletes compared to the average of their non student-athlete peers (n = 5395). The results showed that firstly, some student-athletes - in particular those who were male, younger and who played team sports - were more academically 'at risk' than others. Secondly, the academic patterns of student-athletes were different from non student-athletes, as student-athletes tended to do better relatively in more flexible, yearlong modules. Finally, and most revealingly, although elite student-athletes were less well academically prepared, they did not underperform (do worse than predicted by their A level grades) and, in the case of the much lower academically prepared, they instead tended to 'catch up' during their time at university. Compared to the pattern of lower academic preparation and underperformance in the U.S. literature, the reduced admissions criteria of elite British student-athletes were not a reflection on a campus 'athletic culture' but more that 'athletic talent is considered a proxy for other skills and attributes that serve the institution’s core educational mission' (Shulman and Bowen, 2001, p. 42).

Study 2 presented a systematic review of student-athlete psychological outcomes. A variety of research implications were found, including the need to; measure student-athlete role conflict; link objective and psychological outcomes in the same study; measure student outcomes as well as athletic ones; utilise a student-athlete specific measure of career maturity; research the elite British student-athlete experience; and undertake comparative U.S./U.K. student-athlete research.

Study 3 took its lead from the implications of the systematic review. Firstly, Study 3a aimed to construct and initially validate a multidimensional and bidirectional measure of student-athlete role conflict, using the conceptualisations of work-family role conflict from the organisational psychology literature (Carlson, Kacmar and Williams, 2000). The outcome of this study was a 23-item measure of student-athlete role conflict. Secondly, Study 3b aimed to use the role conflict
measure to investigate the psychosocial patterns of elite student-athletes finding that objective outcomes (e.g. GPA, sporting level, hours in role), identity, role conflict and career maturity associate and differ in ways that would be anticipated, i.e. sport with sport and academic with academic (including career maturity). In particular, career maturity positively associated with student identity. However, higher non-exclusive and more intrinsically committed identities helped protect against role conflict. Thus, from a personality perspective, to maintain one’s identity balance, the study concluded that one could either adopt appropriate role behaviours or increase role commitment. Study 3c compared U.K. and U.S. student-athletes finding that, although no different in terms of overall GPA and career maturity, U.S. student-athletes experienced significantly more role conflict and were motivated significantly more extrinsically in both their sport and study compared to U.K. student-athletes. Whilst highlighting the cultural differences that the literature might predict, the results also supported Study 3b’s finding that a balanced and self-determined self, one that is both ‘coherent’ and ‘congruent’ (Sheldon and Kasser, 1995), suffers less from role conflict and makes better student-athlete career transitions.

Study 4 used a cyclical and collaborative action research approach to understand and respond to a specific elite British student-athlete environment. Role conflict issues were identified and tackled by either behavioural psychoeducational programming or by structural management recommendations. Thus, in addition to the realisation from Studies 3b and 3c that there are behavioural and/or commitment coping choices to manage role conflict at a psychological level, from a more structural perspective, role conflict can be managed by reducing student-athlete role demands and/or by changing the expectations of significant others. The study concluded with the recognition of the need for a developmental perspective when planning support and an awareness of how this can be best delivered, suggesting that the coach’s role may be crucial.

The programme of research in this thesis highlights the benefit of taking a psychological perspective on the student-athlete experience. In particular it suggests that college sport can be more than developing one’s sporting ability whilst becoming academically qualified. When structured in a developmentally appropriate way, sport and study can act as complementary activities to enhance personal development.

*Keywords: student-athletes, identity, commitment, role conflict, action research*
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To Grandma Stokell
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Chapter 1: Introduction

For twelve hours a day I studied, read, wrote, and went to classes, in addition to training. This left time to eat and sleep. Gradually the work-load and the toll on my body started to tell on my spirit. The theme 'run for fun' was unfortunately missing.

(David Hemery, 400m hurdles Olympic gold medallist, writing about his time at Boston University in preparation for the 1968 Mexico Olympics; 1976)

1.1 Structure of chapter

This chapter begins by introducing the area of study, outlining the personal, philosophical, psychological and sociological rationales for studying student-athletes in general and those in the British context in particular. The purpose of the research undertaken is then summarised through the broad questions the thesis asks of the student-athlete experience. The research approach that the thesis takes to provide answers to these questions is then briefly discussed. The chapter is concluded with an overall structure of the thesis.

1.2 Introduction

After making a thorough search of the published student-athlete literature, perhaps the most immediate conclusion any British researcher would make is that it focuses almost entirely on the North American college environment. Apart from one unpublished action research study (Dunstan, 2000), the experience of the British student-athlete is, from a scholarly point of view at least, unknown.

Furthermore, although the student-athlete literature has evolved and developed over the last seventy or so years, it still has many conceptual and methodological frailties. Therefore, along with replication in a British context, conceptual extension and innovation are also important research foci.
Research issues aside, there are a number of other reasons that have prompted the research contained in this thesis. These include the author's personal experience as a student-athlete and some philosophical, psychological and sociological rationales, all expanded upon below.

1.3 Personal experience

I would like to provide the reader with the opportunity to understand my own development as a student-athlete, so I will use the first person to describe how my own life has led me to my research question.

Without realising it perhaps, I have been a student-athlete myself since I was in primary school and discovered the joy of playing sport. I remember one example of a particularly busy school day when I was eleven on which I had a squash match at break time, a football match at lunchtime, badminton singles and doubles matches after school, and then a tennis practice in the evening before I went home for dinner and homework. Over time, my main sport of tennis became more serious, as did my approach to schoolwork. Most of my British national tennis peers decided to compete full-time at the age of sixteen but I stayed on for A levels, possibly because I had internalised my parents' belief in the importance of a good education. During my undergraduate degree I consistently put time into training and was rewarded with a place in the English Universities Team. Although my commitment to my sport remained reasonably constant throughout my three years at university, my social and study life was usually inversely correlated. In particular, I noticed a trend in both myself and my athletic peers' that, whilst social options had more often than not won the battle in my first year, my degree became increasingly important in my second and final years.

After playing full-time tennis myself following graduation, I then came to Loughborough University as the head tennis coach. This gave me a chance to appreciate the student-athlete from the different perspectives of coach and administrator. One major lesson that was reinforced during this time was that those who seemed conscientious in both study and sport were usually also those who planned well and recognised in advance what their priorities were. If this meant cutting back on socialising then that was the sacrifice that they consciously made.
Furthermore, there was also a definite gender split; it seemed that it was often the females who were more willing or able to make these choices.

Although I enjoyed the coaching, I missed both the intellectual challenge and the opportunity of playing competitively myself. I decided to do a Masters degree and jump back over the fence to become a student-athlete again. Back in education, this time in an elite sporting environment and as a member of the university Sport Scholarship Scheme, I was given the opportunity to implement the lessons I had learnt from my undergraduate, playing and coaching experience. I found that it was actually possible to compete and train, to achieve a high degree classification and to have a great year socially (and to do part-time work too!) if I planned well, set goals, and said ‘no’ to certain roles when they were not a priority at any particular point in time. Furthermore, not only did I find it possible, I also felt that there was a definite need for me to cultivate and balance each area of my student-athlete life. When I was feeling stressed with work, sport became my release; when I performed poorly in my sport I still had my studies (which I had not had when I was full-time). And conversely, when I performed well in one role there was often a positive spillover to the other.

Therefore, it was my personal experience that firstly piqued my academic interest in whether other student-athletes were also managing their multiple roles. Furthermore, because I had experienced the possibility myself, I also became interested in understanding the underlying processes that facilitate the development of others. My strong belief, not only in this possibility, but also in the potential benefits of understanding and developing oneself as both a student and an athlete, initially forged through my personal experience, is now something that has been reinforced by my understanding of the rationales that are detailed below.

1.4 The philosophical rationale for the research

The research programme is motivated by the belief in the interdependence of body and mind, and the belief that being a student-athlete is an inherently 'good' way to live.

The second Fundamental Principle from the Olympic Charter includes the following lines, 'Olympism is a philosophy of life, exalting and combining in a balanced whole the qualities of body, will and mind'. This philosophy reflects the
beliefs of the founder of the modern Olympic Movement, Baron Pierre de Coubertin\(^1\), whose ideal man is characterized by the Latin motto *mens fervida in corpore lacertoso* (a committed spirit in a muscular body). Coubertin believed that the Movement should,

Foster men who had the characteristics of the ancient scholar-athlete with the Aristotelian virtue of eutrapelia – an idealised concept of vitality, versatility, and, above all, a sense of proportion' (Loland, 1995, p. 62).

These idealised individuals were seen to have attained the anthropological affirmation of *kalos kagathos* the,

Spirit of beauty, greatness and through a hard, continuous struggle against himself, (whereby) the two sides of human being are but a single unit of the psychosomatic interpretation. One perfects the other; they are mutually interdependent. (Nissiotis, 1978)

This ideal is also relevant to the student-athlete today, whereby the balanced facilitation of mind potential, through academic studies, and body potential, through sports training and competition, can be viewed as a philosophical 'good' way of life. One concrete example of this belief is from the Former Yale President, A. Bartlett Giamatti, who comments on how his university expresses similar values,

We must remember that our obligation... to develop (our students) as thinking and feeling human beings is not deformed by the demands of athletic pursuits... There must be at Yale, in philosophy and in actuality, *proportion* in how the institution shapes itself and in how it encourages and sanctions a student’s behavior. Athletics is essential

\(^1\) Coubertin’s philosophy of life no doubt stems from his interest not only, as is more commonly known, in the body and physical education, but also from the mind and sport psychology. In fact, it was actually Coubertin himself who staged the first-ever international congress for sport psychology in Lausanne in 1913 and has amongst his writings a book entitled ‘*Essais de psychologie sportive*’.\(^{19}\)
but not primary. It contributes to the point, but it is not the point itself. (Giamatti, 1981, p. 85)

1.5 Psychological rationale for the research

Recent research in Identity Theory points to the various negative psychological consequences of an unbalanced identity, one that focuses exclusively on only one role. For example, Linville (1985) found that people who are higher in self-complexity, those who define themselves in terms of a larger number of independent self-schemas, are less variable in their day-to-day affect. Because many student-athletes are faced with environmental and sporting demands that often force them to foreclose on their other identities, research on their experience can lead to suggestions on how they can maintain their self-complexity. As Mihalich (1984) puts it, 'the rationale for college sports reduces to the need to educate the total person in pursuit of human excellence'.

Therefore, in essence, my thesis takes a psychological perspective on the ways these dual role individuals cope with potential role conflict and maintain balance in their lives.

1.6 The sociological rationale for the research

With Britain’s increasing social emphasis on further education and the greater presence of sporting National Governing Bodies in academic settings, the university environment is attracting larger numbers of world-class performers who are choosing to combine training and competition with study.

The British Olympic Association Athletes’ Commission Reports from the Summer and Winter Olympics are a useful indicator of this contention. For example, the Sydney 2000 Games Report found that 60% of Team GB had a Higher National Diploma (HND), degree or higher (an increase of 7% from 1996) and that 20% were in some form of education at the time of the Games. The Atlanta 1996 report concludes,

As training regimes become more demanding, it is critical that student athletes are not faced with a false dichotomy,
being forced to sacrifice either elite sport or academic study, both should be possible, and it is important that rigidities in either system do not cause athletes to suffer needlessly. Athletes must be able to complete their education...On the face of it, athletes who do not go through higher education have a disproportionately small chance of becoming Olympians (p. 6).

Similarly, in a recent UK Sport report on the lifestyles of 570 elite sportsmen and women (UK Sport, 2001), it was found that, of those 42% who had degrees and 29% who were currently in education, half (49%) suggested they had had problems balancing sport with their education commitments.

In terms of facilities, sport scientific support and finances, the UK government has recently recognised the need to provide for student-athletes. As far back as 1996, the then Department of National Heritage identified the increasing importance of Higher Education in providing opportunities for developing excellence in sport, noting that by the year 2000, ‘...almost 50% of our top athletes will be in Higher Education’ (p.13). The Department for Culture Media and Sport (DCMS) ‘Talented Athlete Scholarship Scheme’ is the most recent governmental initiative to acknowledge the needs of student-athletes. Launched in May 2003, this scheme identifies the HE setting as of prime importance for developing talent,

As we have heard, getting the balance between academic life and training and competing is hard. Support is ad hoc. It's not organised. It's down to luck. (Tessa Jowell, Secretary of State for DCMS, http://www.culture.gov.uk 2003).

However, as yet (and somewhat mirroring the American collegiate interventions) there has been no scientific research base informing these initiatives. With the current emphasis being placed on university campuses as national Centres of Excellence, it seems both foolish to ignore the current student-athlete literature and absolutely vital to develop our understanding of the experience from the British perspective so that talent and both university and government money is not wasted.
1.7 Purpose of the thesis

How are British student-athletes different from their non-athletic peers? Do they come into university with different academic qualifications? When they are at university, do they get different degree marks? If they do, how can this be explained in terms of their psychological characteristics or the conflicts between their dual roles? How do they compare to their American peers? And how can we use all this information to help student-athletes successfully negotiate through their university experience? These are the general questions that my thesis attempts to go some way to answering.

1.8 Approach

The structure of my research is influenced by the concept of 'mixing methods' (Steckler, McLeroy, Goodman, Bird and McCormick, 1992), whereby qualitative methods (in this case action research) are used to complement quantitative findings. As can be seen from the progressively applied nature of the questions in the ‘Purpose’ section above, the research approach also encapsulates the theory to practice philosophy summarised by Langeveld (1965),

Educational studies... are a 'practical science' in the sense that we do not only want to know facts and to understand relations for the sake of knowledge, we want to know and understand in order to be able to act and act 'better' than we did before.

The thesis therefore attempts to make it possible for student-athletes, their coaches, their lecturers and their administrators to act better than they did before.

1.9 Structure of thesis

This Chapter 1 has provided an introduction the area of study, the reasons why such study is of current importance and the course of action the research takes in its aims and approach.
Chapter 2 provides an overview of the student-athlete literature and delineates the three main strands of research that have evolved since its inception. These are the Functional Paradigm literature (including both objective and psychological outcome studies), the conceptual commentaries literature, and the applied interventions literature.

Chapter 3 begins with an in-depth review of the current literature on the academic outcomes associated with being a student-athlete and goes on to present a first study looking at the academic outcomes of an elite British student-athlete sample, in two parts. The first part analyses the differences between student-athletes and their non-athletic peers, and also within the student-athlete group, over the course of their degrees in terms of grade-point average (GPA), degree classification and graduation status. The second part makes a similar 'between and within' comparison using academic preparation (A level grades in the British context) as the unit of analysis.

Chapter 4 presents the second study, which is a systematic review of the psychological outcomes of student-athletes literature. Several conclusions are drawn that form the rationales for the subsequent studies.

Chapter 5 begins with a review of the literature on role strain and role conflict in both the student-athlete and the wider psychology literature, with a particular focus on occupational psychology and work-family conflict. Study 3a, the development, construction and initial validation of a student-athlete role conflict scale, is then presented.

Chapter 6 presents Study 3b and 3c; the former being a larger study with multidimensional psychological outcomes, the latter being a smaller comparative study. Both studies employ the above student-athlete role conflict scale and are perhaps the most important conceptual extensions of the previous student-athlete literature in their informed use of identity, commitment, motivation and career maturity construct measures. The results are discussed in relation to recent developments in Identity Theory.

Chapter 7 communicates the applied outcomes of the research and describes the fourth and final study, an action research project on an elite British student-athlete Scholarship Scheme. This study does not temporally follow on from the conclusions of the previous studies. Although it does utilise information from the applied literature and the earlier studies, due to its qualitative nature it stands alone as an
investigation of the issues and potential solutions in one particular elite British student-athlete context.

Chapter 8 discusses the practical and methodological implications, the limitations and potential further directions of the research programme and concludes with an evaluation of the extent to which the programme satisfies the original research purpose.

N.B. In terms of definitions, it is important to point out that this thesis defines the term 'student-athlete' in two different ways depending on the focus of each chapter. Similarly to Shulman and Bowen's (2001) 'college athlete', for the purposes of the Overview of Literature and Studies 1, 2, 3b and 4, a student-athlete is any person who is enrolled on an academic course at an institution of education who also plays sport for that institution. In Study 3a however, a student-athlete is someone who has a 'high' (in relation to other sports playing students) identity to both their student and athletic identities.
Chapter 2: Overview of the student-athlete literature

2.1 Structure of the chapter

This chapter begins with an introduction to the mainly North American student-athlete literature showing that it is a growing body of work, especially in the last twenty years. The dearth of British student-athlete research is noted, as is the typography of U.S. college environments, which, in fact, expediently maps onto the different types of U.K. university suggesting that they can be compared. The three strands of student-athlete literature are then introduced and discussed in detail. The Functional Paradigm literature is defined and discussed from both the objective and then the psychological outcomes approach. The conceptual commentaries literature, which shifts the research focus away from sociology towards psychology, is then examined, with a particular focus on role conflict and career transitions through the constructs of identity and commitment. Finally, the applied interventions and student-athlete programmes literature is reviewed. This goes beyond U.S. based research with a detour into the elite European student-athlete context. The limitations and problems associated with each literature strand are summarised after each review. These give rise to the specific thesis research aims that are presented at the end of the chapter.

2.2 The literature: An overview

Although relatively recent on a large scale in Britain and Europe, the concept of organised environments of elite sport in higher educational settings has a long tradition in North America. Due to improving standards and professionalism of both the elite student-athlete as a population and the university as a sporting environment, associated with the accompanying pressures of the experience, North American student-athletes have attracted the attention of academic scholars and applied sports psychologists alike. From an overall snapshot (PsychInfo Database Search, January 2004), it is interesting to note that the published literature on student-athletes has increased markedly over the last ten years or so compared to the previous two
decades (Figure 1). This perhaps reflects the comparatively recent burgeoning interest in student-athletes as a population worthy of study.

![Figure 1: Results of PsychInfo search 1872-2003 (keywords 'student + athlete', 'student-athletes')]

Although the vast majority of studies emanate from North American student-athlete populations, it is important, as Sack (1988) cautions, 'to recognise that college sport is not a homogenous entity'. Sack identifies a matrix of four types currently existing in the U.S. collegiate system; the ‘Corporate Model’, the ‘“Small Time” Corporate Model’, the ‘Ivy Model’ and the ‘Amateur Model’ (Figure 2).

<table>
<thead>
<tr>
<th>Commercialised</th>
<th>Less commercialised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Athletic Scholarships</td>
<td>Corporate Model</td>
</tr>
<tr>
<td>Amateur</td>
<td>Ivy Model</td>
</tr>
<tr>
<td>No Athletic Scholarships</td>
<td></td>
</tr>
</tbody>
</table>

![Figure 2: Typology of College Athletic Programmes in the U.S. (Sack, 1988)]

The Corporate Model encapsulates those National Collegiate Athletics Association (NCAA) Division I colleges who run a large-scale American Football and/or baseball programme for profit from television contracts and gate receipts. As a consequence, the student-athletes in these college teams are virtual professional sportsmen and
women. The “Small Time” Corporate Model would include NCAA Division II programmes, and any others that grant athletic scholarships but generate little revenue. The Ivy Model contains programmes that attract revenue but do not condition financial assistance on athletic ability. Finally, the Amateur Model includes NCAA Division III colleges who give no athletic scholarships and generate no revenue from sport. Sack suggests that,

Sport participation in these schools is much like engaging in any other extracurricular activity in that the athletes receive no financial compensation. Instances of athletic abuse and corruption are minimal, if not nonexistent, at this level (p. 32).

This typology is an important consideration to keep in mind when considering the types of environment student-athletes within them are subject to. It also provides a template for the British, or indeed any other student-athletic country, to map their system onto. It would seem that the U.K. has all types to a greater or lesser extent, except the Corporate Model.

The Ivy League Model maps intuitively onto the two Oxbridge universities, particularly considering that their Boat Race always makes prime-time television viewing in the U.K. and around the world. However, although they have a rich tradition in many sports other than rowing, they do not give athletic scholarships (although there are recent moves to change this at Oxford).

The “Small Time” Corporate Model is very similar to the growing (currently 63; BUSA, 2004) number of U.K. universities currently offering athletic scholarships because of their sporting traditions and/or because they also double-up as government funded centres of sporting excellence. These universities are perhaps most threatened by the spectre of commercialism and its ensuing negative objective and psychosocial outcomes that are discussed and investigated in this thesis.

Finally, the Amateur Model also maps very clearly onto the remaining U.K. universities who compete in British University Sport Association (BUSA) championships, some 170 in total, who, although not offering scholarships or gaining sport-related revenue, may produce international standard athletes, something which would be highly unlikely in the U.S. system.
2.3 The three strands of research

There are perhaps three different strands of published articles that have discussed the student-athlete situation. The first, which also happens to be paradoxically both the most researched and least clear-cut, involves some form of what has been termed 'functional analysis'. In terms of the sociological Functional Tradition paradigm, 'college athletics as a social pattern exhibits some consequences' (Frey, 1986, p. 205). Therefore, functional analysis essentially compares the functions, and consequently dysfunctions, of a population, in this case either within student-athlete groups (for example, across sport, gender or scholarship level) or between student-athletes and non-athletes.

The second, more recent strand of published student-athlete literature is composed of conceptual commentaries of the area. Perhaps the most influential of these is Chartrand and Lent's 1987 paper clarifying the concepts of 'role-conflict' and 'athletic retirement'. The impact of this literature has been to provide a psychological angle on what was previously seen to be mainly within a sociological domain, emphasising identity-related measures rather than the more 'objective' attainment consequences of being a student-athlete. Unfortunately, although the commentaries over the last 15 years have provided insight and ideas, they have not been fully capitalised upon in scholarly research. Similarly, student-athlete research has also remained relatively blinkered to novel developments from other areas of social psychology and has not, as a consequence, progressed as far as it could have.

The final strand, running parallel but not usually in tandem with the developments in the other two, comprises intervention studies of counselling or support programmes specific to the needs and demands associated with being a student-athlete. Partly due to the pressing applied nature of the area, this research has been relatively fruitful. However, because of the limitations inherent in the other literature strands, the applied interventions appear not to have arisen from any particular theoretical base.
2.4 Functional literature

2.4.1 Definition of the Functional Paradigm

The Functional Paradigm has been used in sport sociology since the 1960s. The traditional functional view is expressed by Dunning (1967) in the case of the personality system,

It is likely that any sport or game which shows some degree of persistence over time will be found to perform certain functions in the sense of yielding satisfactions of some kind or another for those who participate, whether directly as actors, or less directly as spectators (p. 147).

In relation to intercollegiate sport, there are both potentially positive and negative ‘functions’ or consequences for participants, the community and even the society as a whole. Therefore, this type of research takes a teleological approach that arrives at an explanation not by reference to causes that bring about effects, but by reference to ends that provide the purpose or goal of its action. Due to the psychological nature of this thesis’ enquiry, it is mainly the individual/personality functions and dysfunctions of college athletics that are of interest here. Frey (1986) summarises these as follows:
Table 1: Summary of the functions and dysfunctions of college athletics at the Individual/Personality System Level (taken from Frey, 1986)

<table>
<thead>
<tr>
<th>System</th>
<th>Functions</th>
<th>Dysfunctions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual / Personality</td>
<td>1. Character development</td>
<td>1. Character detraction</td>
</tr>
<tr>
<td></td>
<td>2. Acquisition of social skills</td>
<td>2. Negative aggression</td>
</tr>
<tr>
<td></td>
<td>3. Tension release</td>
<td>3. <em>Educational detraction</em></td>
</tr>
<tr>
<td></td>
<td>5. <em>Occupational attainment</em></td>
<td>5. <em>Role conflict and stress</em></td>
</tr>
<tr>
<td></td>
<td>7. Educational opportunity</td>
<td>7. Value distortion</td>
</tr>
<tr>
<td></td>
<td>8. Physical fitness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Prestige</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Tension/excitement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. <em>Identity formation</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12. Affective association</td>
<td></td>
</tr>
</tbody>
</table>

However, although recognised as areas of student-athlete function and dysfunction, not all of these have been studied in the student-athlete functional literature. Those in *italic* are the areas that have been studied, and that shall be discussed below in the remainder of this section.

### 2.4.2 Objective functional literature

The thesis defines ‘objective functional’ studies as those that measure the performance-related outcomes of student-athletes, the most prevalent of which has been the Grade Point Average (GPA). The U.S. government and governing collegiate
sports body, the NCAA, produces yearly raw data reports on the objective outcomes of American student-athletes, and has done so for some time. Whilst acknowledging this body of evidence, this shall not be reviewed in this thesis. Instead, only published academic studies in refereed journals or books shall be considered.

Perhaps the most comprehensive examples of academic research published as volumes are the two books produced by the Andrew C. Mellon Foundation, based on the information from their expansive 'College and Beyond' database of 30 academically selected U.S. colleges. Published in 2001, 'The Game of Life: College Sports and Educational Values' (Shulman and Bowen, 2001) provides evidence of a variety of dysfunctions concerning recruitment, admissions, academic performance, graduation, and career post college currently existing within the colleges. The later book, 'Reclaiming the Game: College Sports and Educational Values' (Bowen and Levin, 2003) develops these conclusions in the light of an expansion of the database. The thesis will detail some of the most important conclusions from these books in the Introduction to Chapter 3 as they concern mostly academic-related outcomes.

Academic journal articles from the objective functional literature, the oldest strand of student-athlete research, extend back as far as 1934 when Davis and Cooper produced a study entitled, 'Athletic ability and scholarship: A resume of studies comparing scholarship abilities of athletes and non-athletes' in Research Quarterly. Since this time most articles have approached student-athletes, as Davis and Cooper had, from the individual approach. However, a few have assessed college athletics from a campus/college subsystem level either on perceptions of intercollegiate athletic programmes or on attitudes towards student-athletes as a population. For example, Putler and Wolfe (1999) looked at whether perceptions of intercollegiate athletic programmes differ as a function of issues such as winning, profits, ethics, and the education of athletes. They found that ethics and winning, and education and revenue, tend to be competing athletic programme priorities, regardless of which stakeholder group (students, prospective students, student-athletes, alumni, faculty and athletic programme employees) was being asked. In a study looking at the links between intercollegiate sports success and first-year student enrolment demand, Chressanthis and Grimes (1993) confirmed the popular notion that winning at American football and basketball does indeed attract students. Put together, these two studies reflect the unfortunate trend away from the positive ethical and educational benefits of sport, commented upon in one Faculty President's observation that,
The problem is we... tend to celebrate an idiot-savant-like activity such as winning at basketball. In many spheres, if you were to celebrate something like that at the expense of the whole, you’d be institutionalized (Putler and Wolfe, 1999, p.1).

Still at the campus/college subsystem level, but this time investigating attitudes towards student-athletes as a population, there are a small number of articles that have investigated student-athlete campus stereotypes, in particular that of the ‘Dumb Jock’ (Sailes, 1993). For example, Engstrom and colleagues provide evidence that negative stereotypes and prejudicial attitudes toward male, and African-American, student-athletes are held by fellow students and faculty (Engstrom and Sedlacek, 1991; Engstrom, Sedlacek and McEwan, 1995). The researchers conclude that,

Fear, conscious and unconscious prejudicial attitudes and behaviors, patterns of misinformation, and stereotyping toward student-athletes all may be instilled and perpetuated by members of the campus community (Engstrom et al., 1995).

Back at the individual level of study, over 50 studies have focussed on the academic outcomes of student-athletes using various independent variables, including gender, sport revenue-producing status, race, sport type, academic background, and collegiate division status. These studies have measured various pre/during/post college academic-related variables such as high-school GPA, Scholastic Aptitude Test (SAT) scores, course choices, GPA, graduation rates, and occupational attainment, with mixed findings. However, it would be clear to say that in U.S. student-athletes (upon which the bulk of literature rests) there is a trend towards poorer academic-related outcomes compared to the non-athletic student body, particularly in terms of GPA scores for male and revenue producing sports. These shall be discussed these in detail in Chapter 3.

To a much lesser extent, post-college outcomes have also been recognised and studied. Perhaps the most wide-ranging exploration of this area is that from the
Andrew C. Mellon Foundation ‘College and Beyond’ database mentioned earlier. In terms of advanced degrees, careers, and earnings, the student-athletes from the database of 90,000 undergraduate students from 30 colleges at three points in time (1951, 1976 and 1989), showed some of the following trends:

- Women athletes in the ’76 cohort (but not the ’89 cohort) were more likely than their peers to earn advanced degrees of every kind; this was not true of the men however.
- Consistent with patterns of advanced degree attainment, male athletes are more likely than other men in their classes to have chosen jobs in business and finance and less likely to become scientists, engineers, academics, or doctors or lawyers.
- Male athletes consistently earn more money than their classmates.
- The earnings advantage of male athletes is attributed to both pre-college differences (in terms of for-profit organisation vocational degree choice and/or positive personal traits associated with being an athlete) and post-college choices (using athletic alumni networks).
- Level of college play does not translate into superior later life outcomes for male athletes, as measured by earnings.
- Women athletes in the ’76 cohort were more likely than their female peers to be working full-time, to be either doctors or academics (unlike the male athletes, who were disproportionately found in business fields), and, like the men who played sports, to enjoy a sizeable earnings advantage over their women classmates. Moreover, within the for-profit sector, the relative earnings advantage of the ’76 women athletes is even larger than the earnings advantage of their male counterparts.
- In contrast, women athletes in the ’89 cohort are no more likely than other women to have earned, or to be earning, advanced degrees, and they do not enjoy any earnings advantages over their peers.
- There is no evidence that earnings for women athletes are enhanced by larger “doses” of athletic training in college.

(Shulman and Bowen, 2001)

Various other smaller studies have also been published on post-educational outcomes for student-athletes that focus mainly on how educational trajectories
follow on from high-school sports participation, (e.g. Howell, Miracle and Rees, 1984; Picou, McCarter and Howell, 1985; Sabo, Melnick and Vanfossen, 1993). After controlling for differences such as education, age, years of experience, tenure in firm, community size, etc., these studies have provided mixed results. One theme that arose across most of the studies was that if there was a positive relationship between sports participation and occupational economic payoffs, it was usually white males who fared the best relative to their student-athlete peers. It is interesting to note Shulman and Bowen’s (2001) evidence linking post-college outcomes to these post-high school studies (a different analysis than the one on just college athletes). Although they did not use any statistical controls and only focused on male student-athletes from high school who then attended college, the authors found that high school athletes who did not play sport in college had average earnings that exceed the average earnings of the students who did not play sports either in high school or college, and also that the college athletes earned more than those who played sports in high school only. This suggests that, for U.S. males at least, positive occupational outcomes of high school and college sport are additive.

Also, a small number of studies have looked at the (anti) social variables associated with being a student-athlete, particularly those associated with delinquent/amoral behaviour and substance abuse (e.g. Etzel, Ferrante and Pinkney, 1996). These appear largely in counselling journals/book chapters and suggest that student-athlete behaviour is ‘situated’, that is, it is conditioned by the social environment in which it occurs. For example, Leonard (1987) found that NCAA male basketball player behaviour depended upon which Division (I, II or III) they were measured in. Differences were found between Division I and the other Divisions in a variety of variables such that Division I student-athletes were more likely to take a less demanding major, cheat at school work, miss classes and exams and have others write their papers for them. However on the other side of the coin, as long ago as 1904, G. Stanley Hall, the American psychologist, wrote that athletics,

Supplies a splendid motive against all errors and vices that weaken and corrupt the body. It is a wholesome vent for the reckless courage that would otherwise go to disorder or riotous excess (Betts, 1974).
This belief has been borne out in several studies reporting a negative association between participation in intercollegiate athletics and delinquent behaviour (Landers and Landers, 1977; Shafer, 1969; Segrave and Chu, 1978; Segrave and Hastad, 1982). However, the problem with these studies is that they,

Represent an example of research within a specific area of inquiry which has restricted itself to the epidemiological approach and failed to take account of the social psychological processes underlying the relationship (Segrave, 1980).

Similarly, it is these ‘psychological processes’ that have been missing from the student-athlete literature as a whole until recently.

One final objective outcome is from a particularly recent, and idiosyncratic, French study providing evidence that student-athletes have more sexual partners than other students (Faurie, Pontier and Raymond, 2004). The authors suggest that the physical traits necessary for sporting success are also those evolutionarily selected as attractive. However, they do suggest caution interpreting the results, particularly as the reliance on self-reports of number of sexual partners can be problematic (Morris, 1993).

Overall, the more objective functional literature has provided us with a wealth of information concerning what outcomes others perceive student-athletes to have and what outcomes they actually do show in terms of their objective social/academic behaviours (Figure 3). In the last 15 years or so, however, there has been a rise in the number of what may be have termed ‘psychological functional’ studies, answering Segrave’s call, to which this review shall now turn.
Objective functional outcomes

<table>
<thead>
<tr>
<th>Individual level</th>
<th>University level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic preparation/outcomes</td>
<td>1. Programme perceptions</td>
</tr>
<tr>
<td>2. Occupational attainment</td>
<td>2. Stereotyping</td>
</tr>
<tr>
<td>3. Moral/Delinquent behaviour</td>
<td></td>
</tr>
<tr>
<td>4. Substance abuse</td>
<td></td>
</tr>
<tr>
<td>5. Sexual practices</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 3**: A visual taxonomy of the Objective functional outcomes literature

### 2.4.3 Psychological functional literature

Chapter 4 of this thesis presents a systematic review of the psychological functional literature so, rather than discussing the detail here, an overview shall be presented. Arising out of the conceptual commentaries literature (discussed below) in the mid-1980s, and still considering the functions and dysfunctions of the student-athlete at the individual level, this literature moves the student-athlete from the sociological into the psychological domain in order to explain the objective functional literature findings. As Riemer, Beal and Schroeder (1998) comment,

> In the 1980s, studies shifted the focus from identifying categorical variables of success to investigating the social processes that impacted the students' academic success

The psychological functional literature can be neatly divided into quantitative and qualitative studies. This in itself denotes a shift in the student-athlete literature, as before Adler and Adler's seminal four-year participant observation study of a major college basketball programme focussing on the relationship between athletic and academic performance published in 1985, no qualitative methodology had been used in the study of student-athletes. The quantitative studies can be further classified into
those that consider psychological outcomes during one's college career, (including general psychological constructs such as self-efficacy, affect, mood, life satisfaction, hope, achievement motivation, and ethical values; and more identity-related variables and role conflict) and those that consider the transitions (mainly out of college) associated with being a student-athlete (including various indices of career maturity) (Figure 4).

The literature suggests that during one's time as a student-athlete there are a number of associated positive personal psychological indices including an increase in self-esteem/confidence (Jurkovac, 1987; Taylor, 1995; Curry, Snyder, Cook, Ruby and Rehm, 1997), mood (Meyers, Sterling and LeUnes, 1996), hope (Curry et al. 1997) and eating behaviours (for females) (Marten Di Bartolo and Shaffer, 2002). However, this may be accompanied by a reduction in positive deontological ethics, as over time in college the sports environment decreases 'sportsmanship orientation' and increases more 'professional' attitudes to sport (Priest, Krause and Beach, 1999).

There are also a few studies that have measured role conflict in student-athletes. Although this is a very important construct in the area of student-athletes, only a couple of studies have measured it, unfortunately doing so in a particularly rudimentary manner (Ingham Berlage, 1987; Sack and Thiel, 1985). The one exception is a study by Settles et al. (2002) who look at student-athlete 'role interference' finding higher interference in those who do not see their roles as distinct. This finding draws on work by Linville (1985), which suggests that high self-complexity may act as a buffer against role stresses.

However, the most well researched psychological outcomes for student-athletes during college revolve around athletic identity. A variety of articles suggest that student-athletes are more likely to strongly and exclusively identify with their athlete role than other students, and this can vary depending upon sport level, gender, and time of season (e.g. Curry and Parr, 1988; Curry, 1993; Antshel, 1995).

The use of the athletic identity construct is also prevalent in the transitions areas of the psychological functional literature. A number of studies have looked at how athletic identity associates with career maturity and also whether there are any differences between or within student-athletes on a variety of career maturity measures. Most studies have found that, not only do student-athletes have lower career maturity compared to non-athletic peers, but also that revenue-sport male student-athletes have the lowest career maturity (Blann, 1985; Kennedy and
Dimmick, 1987; Murphy, Petitpas and Brewer, 1996; Martens and Cox, 2000). Only one study found no differences between student-athletes and a matched sample of non-student-athletes (Smallman and Sowa, 96). As student-athletes may be high in athletic identity measures, many studies have hypothesised a negative correlation between athletic identity and career maturity. However, although Murphy et al. (1996) found this result, three other studies (two more recent) found no association. Brown and Hartley (1998) suggest that academic identity may be moderating the relationship but, as yet, academic identity has not been measured. However, what do these student-athlete transition issues ultimately dictate in terms of individual psychology? Two studies have drawn links between identity and career maturity measures in ex-student-athletes and found associations with life satisfaction, suggesting that those student-athletes with greater career plans (Perna, Zaichkowsky and Bocknek, 1999) and higher academic orientation (Kleiber and Malik, 1992) tend to be more satisfied with life post-college.

Finally, the more recent qualitative psychological studies have proved to be the most illuminating. Not only do they highlight the various identity and commitment functions/dysfunctions, but they also describe the changes in these as a function of role conflict processes. For example, Adler and Adler (1985, 1987), describe the progressive socialisation away from academics in a male basketball squad over a four-year degree. Meyer (1990) replicated their study with a female team, reporting that academics were maintained as a priority. The qualitative approach taken in both studies enables us to understand the similar underlying processes of the student-athlete experience, with albeit different outcomes due to gender differences, which the previous quantitative literature has been unable to capture.
2.4.4 Problems associated with the Functional Literature

Those problems specifically associated with the objective outcomes literature shall be detailed in Chapter 3, and those specifically associated with the psychological outcomes literature shall be discussed in Chapter 4. However, perhaps the overarching issue associated with the functional literature, both objective and psychological, is that, although its application has been viewed as useful during the infancy of student-athlete research,

The result was the grasp of a more immediate and visible ex post facto analytic approach as opposed to building theoretical models with an empirical base.

(Frey, 1986, p. 200)

Unfortunately, this type of research often continues to be churned out to no greater effect than adding to the ‘chaotic brickyard’ (McPherson, 1978) of descriptive facts, especially in terms of the academic outcomes of student-athletes. Moreover, although the psychological outcomes literature is grounded in some theory, it is over 20 years out of date. What are needed are some new theoretical frameworks within which the empirical results can be explained. The recent qualitative literature has begun to build theoretical ideas linked to the identity formation and stress processes, which is a promising move forward. However, there are a number of advances from social psychology (in Identity Theory), and occupational psychology (in work-family role
conflict) that may help to remedy this situation but have as yet been unnoticed. To understand where this current trend of psychological functional literature comes from, we now turn our attention to the body of conceptual commentaries studies, which, although now a little outdated, are the giant’s shoulders upon which this thesis stands.
2.5 Conceptual commentaries

2.5.1 Introduction

The conceptual commentaries literature began in the mid-1980s with Snyder’s (1985) article ‘A theoretical analysis of academic and athletic roles’ in the Sociology of Sport Journal and Chartrand and Lent’s (1987) paper ‘Sports counselling: Enhancing the development of the student-athlete’ in the Journal of Counseling and Development. These were the heralds for the new psychological functional literature research agenda detailed above. These articles, and the dozen or so commentaries that have been published since, do not present new research findings. Instead they outline the issues that are currently facing student-athletes and then frame these in terms of developmental and social psychological theoretical frameworks. Again, as is true of the literature that has already been discussed, the majority of these articles emanate from North America and so reflect the issues particular to this student-athlete population.

However, it must be kept in mind that although there may be differing reasons why issues arise in the first instance, depending upon the environmental conditions, the conceptualisation of how they impact on the individual is more universal, and therefore also more amenable to cross-cultural, e.g. U.S. to U.K., and cross-domain, e.g. student-athlete to work-family role, comparisons.

2.5.2 Student-athlete demands

What are the issues that the conceptual commentaries discuss? What are the particular demands facing student-athletes? First of all, it has been suggested that there are a group of challenges that are inherent to all students in the college environment. As Parham (1993) suggests,

When viewed within the context of the developmental life cycle, intercollegiate athletes and their non-athlete peers share very similar profiles. Each struggle with the same developmental issues and existential concerns, and both groups are challenged identically to resolve their age- and stage-appropriate developmental tasks in ways that will
ultimately promote their emotional health and maturity (p. 411).

Parham goes on to suggest that the most important developmental challenges faced by both groups include the following:

1. Developing and strengthening a set of personal competencies (e.g. academic, social, intrapersonal) that will enable them to bring about a greater degree of mastery and control over their environment
2. Solidifying their identities as individuals separate from their families and communities
3. Discovering and creating ways to nurture interpersonal and intimate relationships
4. Coming to terms with a set of beliefs and behaviours that are consistent with their emerging values and moral and ethical standards, and
5. Formulating career goals and, ultimately, deciding to pursue a vocational path that is both satisfying and personally rewarding

(Parham, 1993; p. 412)

In these ways student-athletes are no different from the rest of the population. Taken in isolation, these challenges test their development as students, athletes, and people, in a way that any full-time student, any full-time athlete, or indeed any person at a similar developmental age might face (Etzel, et al., 1996).

However, there is also a unique set of demands that are particular to the combination of student-athlete roles that must be faced above and beyond those already mentioned. The literature consistently mentions the following to be specific to the student-athlete:

- **Time demands:** these may involve simply the additive effects of having two roles that require considerable time to achieve success in, and also the problem of time clashes, whereby the time spent playing sport interferes with academic activities such as lectures/exams, or vice versa (Greenspan and Andersen, 1995; Parham, 1993). An additional issue is that, due to daytime playing and lecture demands, personal study time may be forced to the evening and therefore often competes with, and loses out to, more attractive social opportunities (Etzel, et al., 1996).
Concentrations demands: these may involve the stresses of poor performance in one role causing a distraction, and subsequent associated reduced performance in another role (Parham, 1993).

Conflicting expectations from different roles (from the self, from peers, coaches, lecturers, etc.): Scholarship athletes have in a sense become employees of the university (Purdy, Eitzen and Hufnagel, 1985). They 'owe' their coaches their undivided attention because it is these coaches and their superiors who are paying their expenses. They may have signed an explicit, promissory and written contract specifying what is required of them athletically, or they may feel bounded by a more 'psychological contract'. This may be vary from the expectations of another role's significant others, or it may become different from their own expectation as values change and academics become more important in the final college years (Miller and Kerr, 2002). One common associated problem is the exploitation of student-athletes by their coaches for their own, and not the student-athletes' developmental, needs.

Social isolation: Either geographically or temporally, through special living quarters or long hours of practice and travel to events, student-athletes may become socially isolated from their peers (Pinkerton, Hinz and Barrow, 1989). Accommodation issues in particular are somewhat of a Catch-22 for the student-athlete. If they are housed within the college population, isolation may occur as a consequence of complaining about disruptions and/or having to turn down various opportunities and cope with peer-pressure to socialise. However, if they choose to cope by being housed with other student-athletes they solve the disruption and peer pressure problems but, in so doing, again isolate themselves as a consequence. As Remer, at al. (1978) note,

Athletes are trapped in a self-perpetuating system set in motion early in their lives...They have a special commodity that separates them from the rest of the (college) population – athletic talent. Unfortunately, while they benefit from the special attention, they are also blocked from 'normal' development by being segregated, even if they don't realize it (p. 628).
• **Negative stereotyping:** one of the corollaries of social isolation, not just from peers but also from academic staff and administrators, is that student-athlete misconceptions are cultivated and acted upon. The 'dumb jock', the 'pampered elite', and the 'prima donna' are a few of the most often cited (Parham, 1993) which may cause problems for the undeserving student-athlete as these stereotypes are usually very different from the norms associated with being a 'good' academic member of the student population.

• **Financial constraints:** The additive demands of paying for sporting costs, as well as academic tuition and accommodation has been suggested as problematic. Lack of time and energy for part-time work and scholarships dependent upon consistent performance make this especially anxiety provoking, especially for the student-athlete whose family is unable to contribute little, if any, financial support (Parham, 1993).

The framework presented by De Knop, Wylleman, Van Hoecke, De Martelaer, and Bollaert (1999) captures the different area of these demands by suggesting that the student-athlete may experience problems on three levels. The social level is associated with the need to simultaneously develop two careers, e.g. career management issues. The psycho-social environmental level is associated with support from significant others, e.g. peer group relationship issues. Finally, the individual/personal level is associated with psychological responses, e.g. poor time management skills. This somewhat mirrors the functional analysis systems approach of Frey (1986) in Table 1 above.

So, for a variety of reasons and at different levels, combing the roles of student and athlete is a challenge. As Parham (1993) concludes,

> To say the least, attempting to effectively and efficiently maximise one’s participation in both domains really does test the mental and physical stamina of even the most well-balanced and committed student-athlete (p. 413).

If we turn now to how these issues have been conceptualised in relation to theory, we can see that they can all split into those involving role conflict and those
involving *career transition* (Chartrand and Lent, 1987). The next two sections of this overview will focus on each in turn.

### 2.5.3 Role conflict conceptualisations

As described above, the expectations and tasks demanded of student-athletes to excel, or at the very least to manage, in their dual roles, are often in conflict with one another. The term ‘role conflict’, where the demands, either functionally (e.g. time) or psychologically (e.g. focus, motivation or expectations) of one role are incompatible with the requirements of another, has been well documented in the case of student-athletes (e.g. Chartrand and Lent, 1987, Greenspan and Andersen, 1995). Even if the student-athlete is committed to their academic work as well as to their sports participation, time demands may prevent them from giving as much attention to their studies as they might like. However, student-athletes often see academic studies as difficult, irrelevant and time consuming, with only moderate potential for reward in the future (Murphy et al. 1996). Athletic participation, on the other hand, is more likely to be perceived as more intrinsically enjoyable and as providing more consistent, visible, immediate and potentially greater rewards (Greenspan and Andersen, 1995).

Snyder (1985) tackles the question of what exactly is in conflict for student-athletes by introducing a conceptualisation of multiple roles from Marks (1977) that suggests two opposing approaches. The usual traditional, common sense ‘scarcity approach’ suggests that we all have a finite amount of time and energy in our lives. This has been described using a spending theory of human energy whereby energy is considered in terms of supply and demand; it is allocated to, and then consumed by, one activity or another. In this way, demanding roles are viewed as in competition for a person’s limited resources (Lance, 1987). However, Marks takes issue with this and suggests a second approach – the energy expansion theory. He argues that human physical and social activities to which we are seriously committed often produce more energy rather than reducing it. According to this view, we not only have ample time and energy for all the roles to which we are highly committed, but we also feel more energetic for having undertaken them. Snyder applies the energy expansion conceptualisation to the student-athlete suggesting that,
Rather than assuming that the respective role spheres will automatically lead to strain and conflict because of scarcities of time and energy, we might consider time and energy as products of role bargains, negotiations, and accommodations based on the level of commitment to the respective role spheres. Additionally, the benefits in terms of feelings of personal well-being accrued from both the academic and athletic roles may have an additive effect when compared to an involvement in only one role (p. 212).

Using this idea of commitment to roles as a way of conceptualising role conflict, Snyder then proposes a four-type student-athlete model:

Using this idea of commitment to roles as a way of conceptualising role conflict, Snyder then proposes a four-type student-athlete model:

[Table]

<table>
<thead>
<tr>
<th>Academic role</th>
<th>Athlete role</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Commitment</td>
<td>High commitment</td>
</tr>
<tr>
<td>1. Scholar-Athlete</td>
<td>2. Pure scholar</td>
</tr>
<tr>
<td>Low Commitment</td>
<td>Low commitment</td>
</tr>
</tbody>
</table>

Figure 5: Snyder’s (1985) 4 types of commitment to the student-athlete role

Picking up the baton, Settles, Sellers and Damas, Jr., (2002) recently added the idea of role separation into the conceptual mix. They suggest, following Linville (1985), that,

The individual’s perceptions of the distinctiveness of two roles... may act as a buffer by preventing the negative experiences of one role from polluting other roles. Further, for the individual who views the two roles as very distinct (i.e. high role separation), positive experiences in one role
may counterbalance the negative experiences of another role. For instance, a student athlete who is struggling on the athletic field may be buffered by receiving good grades in the classroom if he or she sees the athletic and student roles as distinct (p. 575).

Therefore, in Snyder’s typology, the scholar-athlete who sees and is committed to two distinct identities manages to cope with role conflicts partly due to the buffering effects of increased role complexity. However, those student-athletes whose environment creates an imbalanced rewards structure, e.g. rewarding and supporting athletic but not academic excellence, will reduce their role commitment in the non-rewarded role and suffer more stress when faced with conflicts. If we define a (mentally) healthy person as one who has high role complexity, the implication is that the increased professionalism in U.S. colleges is making great sports men and women but not making great people.

2.5.4 Career transitions conceptualisations

The constructs of commitment and identity, that have emerged as useful in conceptualising role conflict issues, also provide a framework for the commentaries that discuss student-athlete career transitions (Chartrand and Lent, 1987). The use of the term transition, used in relation to intercollegiate athletics, was raised by Greendorfer and Blinde (1985) and has been mentioned frequently since. They suggested that, although the issues faced by college athletes may be substantially different from professional athletes, student-athletes are also in a period of sporting career transition.

The transitions student-athletes make will probably revolve around development tasks, such as identity formulation and developing self-esteem and social competence (Gould and Finch, 1991) and have been grouped into three categories, being ‘common realisations’, ‘ethnic and cultural transitions’ and ‘retiring from competitive sport’ (Greenspan and Andersen, 1995). Many student-athletes must accept the realisation that, in their new sporting environment, they may not play as important a role as previously. For example, they may have to cope with the possibility of not being picked to start in a team for the first time in their sporting careers. They may find the academic structure alien to them and do poorly in exams
and coursework as a result. They may also, like many young people, embarrass themselves in public and receive admonitions from campus law enforcers. Although these examples can occur to any student, they are likely to have greater repercussions for student-athletes who have heightened visibility, responsibility as ambassadors representing their institution and implicit expectations exacted upon them by university staff. The transitions into college may further be complicated by ethnic and cultural concerns. Although little commentary or research exists on the cultural transitions faced by student-athletes (Petitpas, Brewer and Van-Raalte, 1996) some articles do discuss the transitions faced by black student-athletes, centring on the issue of stereotyping, e.g. 'The Myth of Black Athletic Superiority' (Sailes, 1993).

However, the most discussed transition for student-athletes is that of retirement from sport, which, unless injured or deselected, usually occurs at the end of the college career. One concept that has been associated with a poor student-athlete transition is ‘identity foreclosure’ (Petitpas and Champagne, 1988). This describes a student-athlete’s increasing self-identification with the athlete role to an extent that the possibility of all other future roles is attenuated (Marcia, 1966). Foreclosure may be brought on by the demands and expectations of the environment or may be a result of individual choice (Danish, Petitpas and Hale et al., 1992). Closely related to identity foreclosure is ‘athletic identity’, defined by Brewer, Van Raalte and Linder, (1993) as, ‘the degree to which an individual identifies with the athletic role’. It is suggested that those student-athletes who foreclose on their academic identities and identify strongly and exclusively with their athletic role may be less likely to explore other career options. The literature uses the term ‘career maturity’ to describe the extent to which student-athletes are conscious of, and are preparing for, their future after sports participation has ended (Brown, Glastetter-Fender and Shelton, 2000), suggesting that the less student-athletes consider the possibility of other social and professional roles, the more likely they will struggle with the transition. Since less than 2% of high school athletes will ever make it to the professional level (Lee, 1983), this transition has the potential to impact upon the vast majority of graduating student-athletes.

2.5.5 Conclusions and Problems

The conceptual commentaries literature uses the constructs of role conflict and career transitions to conceptualise the various demands faced by student-athletes.
The literature also emphasises that both of these can be described in terms of role identity and commitment, which are perhaps the most appropriate means of understanding the student-athlete experience. These insights have managed to take the student-athlete literature beyond just the simple objective functional outcomes and projected it into the realms of underlying psychological processes.

However, the one main problem with the conceptual commentaries literature is that they have not progressed in line with more recent developments in the occupational psychology literature in role conflict (as shall be discussed in Chapter 5) and the social psychological literature in Identity Theory (as shall be discussed in Chapter 6). They began encouragingly in the 1980s but have conceptually remained where they started. Therefore, what is needed is a new updated conceptual base from recent theoretical developments to invigorate the next revolution in student-athlete psychologically orientated research.
2.6 Applied interventions and student-athlete programmes

2.6.1 Introduction

As mentioned in the Introduction, the applied interventions and student-athletes programmes literature has arisen, not out of any student-athlete theoretical framework, but simply out of the recognition of a need. However, the literature is quite large, spawning not just articles but also books (e.g. Etzel, et al., 1996; Bohac, 2000; Meeker, Stankovich and Kays, 2000) and is more international than the first two strands of the student-athlete literature with some European work and also a general recognition from the worldwide community. One reflection of this is that the recent 4th Asia-Pacific Congress of Sport and Physical Education University Presidents (2001) took as its title ‘Elite Sport in Higher Education’ and discussed many of the practical, structural requirements of college sport frameworks. However, although there are published descriptions and recommendations of student-athlete programmes outside of the U.S., most of the scientific intervention work is again from the American perspective.

2.6.2 Student-athlete Intervention studies

Numerous studies have detailed the impact of varying sports support programmes on student-athletes, measuring student-athlete treatment groups on different outcome variables against control groups. These have consistently demonstrated positive effects upon student-athlete treatment groups (e.g. Etzel et al., 1996).

Nelson (1982) looked at the effect of career counselling on freshman college athletes. She found that the treatment group had significantly higher 1st semester GPAs, more changes in college majors, and expressed higher satisfaction with their majors compared to the control group that received no career counselling. Similarly, Weber, Sherman and Tegano, (1987), in their 2-year study, found that student-athletes with low admission qualifications who participated in a summer transition programme achieved higher GPAs, more secure athletic and academic eligibility, and greater potential to graduate than similar student-athletes not participating in the programme.

Interventions during college were also found to be beneficial. Dudley, Johnson and Johnson, (1997) looked at the effects of cooperative learning study groups on the academic and social experiences of 107 freshman student-athletes.
Positive outcomes were found such as higher task orientation, confidence in academic ability, and involvement in positive and supportive relationships with fellow participants. Also, Fischer (1995) found, amongst other results, that student-athletes who learned time management principles and strategies had greater post-treatment academic role-identities, and therefore greater chances of academic success, than did the matched control group. Fischer (1995) concluded that,

Student-athletes can manage a variety of roles but must be taught the skills to do so in order to be successful.

Further, a couple of studies have also looked at the effect of who assists the student-athlete on the impact of an intervention. In their study looking at the association of mentoring with psychosocial development among male athletes at the termination of their college career, Perna et al. (1996) noted that the coach was cited as the most frequent mentor of student-athletes. Similarly, Maniar, Lewis, Sommers-Flanagan, and Walsh, (2001) looked specifically at student-athlete preferences in seeking help when confronted with sport performance problems. They found that, in all scenarios, student-athletes preferred seeking help from a coach to sport-titled professionals (performance specialists, sport counsellor, and sport psychologists), whereas sport-titled professionals were preferred over counsellors and clinical psychologists. This may have important ramifications for the method of delivery of student-athlete support programmes.

2.6.3 Student-athlete programmes

The majority of the student-athlete programmes literature advocates the implementation of preventative developmental-educational frameworks as opposed to alternative clinical or remedial programmes, which are characteristic of many existing non-athlete counselling interventions (Chartrand and Lent, 1987; Danish et al., 1992; Petitpas and Champagne, 1988; Petitpas et al., 1992). From this perspective the focus is on the individual as a whole person, rather than as an athlete alone, and on the changing needs and skills of individuals over time in different situations. Lottes (1991) ‘whole-istic’ model of counselling student-athletes is an example of such framework. In her study, a Delphi panel identified the various academic, athletic, personal and environmental components required in helping student-athletes
cope with their predicament. For example, the model includes academic components such as 'tutorial assistance' and 'support services for acquiring learning skills', and personal components such as 'time management education' and 'eating disorders education'.

The literature describes both individual/team counselling programmes and more general student-athlete workshop programme models of how these components may be delivered. From the counselling literature, for example, Whitner and Myers (1986) walk us through a case study of a consultancy helping a student-athlete cope with mounting academic demands. Expanding upon this, Pinkerton et al. (1989) review the different approaches to individual psychological intervention, including short-term psychotherapy, very brief interventions, cognitive behavioural therapy, and career/vocational counselling, and discuss the special considerations for conducting therapy with student-athletes. Similarly, Gabbard and Halischak (1993) describe their consulting experience at the University of Notre Dame and outline their work with student-athletes in areas such as performance enhancement, personal counselling, study skills, and career planning. Finally, Cogan and Petrie (1996) suggest that there exists little practical information for counsellors consulting with teams. They therefore describe a two-year consultation with a women's gymnastics team and provide a general intervention outline for counsellors to use in planning and implementing consultations with other student-athlete teams.

The developmental student-athlete workshop approach has also been well documented. Many of these look at the career development of student-athletes. After recognising and describing the particular student-athlete need, some simply seem to follow a generic career development plan (Wooten and Hinkle, 1992; Martens and Lee, 1988). However, the more rigorous and innovative also promote the identification and transference of sporting skills to the career context. This idea originated in the work of Steve Danish (Danish and D'Augelli, 1983), arising from the psychoeducational model that he earlier proposed, (Danish and Hale, 1981) and has been used as a basis for the U.S. nationwide CHAMPS (Challenging Athletes' Minds for Personal Success)/Life Skills programmes. As Brown and Bohac (1997) comment on their programme at a major Texas college,

In the planning of a career, student-athletes must be helped to recognize that many of the skills learned through sport
training and competition can be transferred to the classroom and other nonathletic pursuits (p. 671).

Perhaps the best example of a student-athlete programme, which takes into account the idea of transferable skills and also emphasises both the developmental and holistic approaches, is that of Petitpas and Champagne (1988). They present an excellent model, which takes the reader through the possible five years of college, noting the particular developmental needs and programme responses for each year.

Although the author is aware of one unpublished doctoral dissertation on a British student-athlete programme (Dunstan, 1998), the only other international perspective on student-athlete programmes to the author’s knowledge is that provided by Wylleman, De Knop and colleagues (1995a, b; 1999), based on their Student and Talent Education Programme at the Free University of Brussels, Belgium. Although their 1999 commentary focuses more on the management of an overall student-athlete framework, rather than the developmental specifics, it does provide some valuable cross-cultural insights. They mention that it is only in the past 15 or so years that initiatives have been developed in different European countries to assist the combination of study and sport. In their comparative study of the situation in 12 European countries Wylleman and De Knop (1995a, b) reveal that,

Although in most countries the problems of student-athletes were not new, not all European countries have developed a positive climate in favour of their student-athletes (p. 3).

In their university programme in Brussels, the authors describe the possible differences in focus between the U.S. and European environments. Perhaps the most striking is the pre-eminence of academics over sport, reversing that seen across the Atlantic,

While many of its student-athletes have performed at Olympic or World level... the real measure of success... (is) the student-athletes’ rate of academic success which is
Furthermore, although the programme is athlete-centred like those from the U.S. literature, there also seems to be a greater awareness of the need to intervene not just with student-athlete education programmes, but also with the higher level framework links that impact on the student-athlete experience by ‘intra- and extra-mural rapport-building (with) teachers, faculty members, partners’ (p.10).

2.6.4 Problems with applied literature

In sum, the student-athlete applied literature has been proved fruitful by showing the benefits of interventions and by detailing developmentally appropriate frameworks to use in college settings. However, although there has been a focus on the whole person, little attention has been given to intervening in the whole system that impacts upon the student-athlete. The psychological literature hints that the social support structures and climates may be a major influence on the student-athlete (especially in terms of their academic identity) but there is scant evidence of intervening on anything other than just the student-athlete. Furthermore, although the applied literature seems to be fulfilling a need, it is not based, or evaluated, upon any conceptual framework. Finally, although there is recognition of a few European programmes, there is no published work on applied programmes in the British university context.
2.5 Summary and specific research aims

This review has looked at the three strands that the student-athlete literature naturally subdivides into; functional outcomes, conceptual commentaries, and applied interventions/programmes on student-athletes. Although the literature is quite extensive, there are a number of problems and deficiencies that have been highlighted. Therefore, the specific aims of this research are three-fold:

1. Following the functional literature:
   Based on a thorough knowledge of both the objective and psychological outcomes literature, to replicate and extend previous research on the academic and psychological consequences of being a student-athlete in a British context (Studies 1, 2, 3b, 3c).

2. Following the conceptual commentary recommendations:
   To construct and validate a conceptually based, multidimensional measure of student-athlete role conflict and utilise this to investigate how athletic and student identity affects role conflict outcomes (Studies 2, 3a, 3b).

3. Following the applied student-athletes programmes literature:
   To conduct action research in an elite British student-athlete environment utilising information from the applied literature and the Studies 1-3 to understand and respond to the particular needs of this environment (Study 4).
Chapter 3: Study 1: The academic outcomes and preparation of elite British student-athletes

3.1 Structure of the chapter

This chapter first provides a detailed summary of the literature on the academic outcomes of student-athletes. Some conclusions based on the findings and methodologies of the studies are then drawn. These conclusions inform the aims of a two-fold study investigating firstly the academic outcomes and secondly the academic preparation outcomes of an elite British sample. The first study investigates the Grade Point Averages (GPA) of 120 student-athletes over the 3-year course of their university degrees compared to their peers. The second study then compares these same student-athletes against their peers in terms of their A level grades from school. The results from both studies are discussed and conclusions are drawn in relation to the extant literature.

3.2 Introduction

3.2.1 College outcomes

Student-athletes have been a focus of American research from as far back as the 1930s. In 1934, Davis and Cooper produced a systematic review of all research articles retrievable that compared educational attainment of college athletes and non-athletes in an attempt to elucidate the "effects of athletic participation on scholastic standing". Since that time, numerous studies have ploughed the same furrow, most premised by the persistent belief that student-athletes suffer academically because of their athletic role compared to their non-athletic peers. Despite this belief, the

Sustained scholarly research over the course of the century has failed to show equivocally that college athletes differ in any important way from other college students. (Brede and Camp, 1987, p. 246).
The 'important way' has usually been quantified in terms of mean GPAs, but has also included the dependent variables of graduation status (graduated verses did not graduate), time of graduation (on schedule or not), years spent at university, academic preparation (i.e. high-school GPAs or Scholastic Aptitude Tests (SATs), academic clustering (student-athletes taking similar courses) and measures associated with looking at the student-athletes' actual transcripts.

The findings of this research canon have, in turn, been interpreted from different perspectives, determined by the independent variables used. These have included gender, race, sporting level, academic background, year of study, prestige of sport (revenue producing versus non-revenue producing), college Division status, etc.

Recently, two large scale research projects, commissioned by the Andrew C. Mellon Foundation and based on information from their expansive 'College and Beyond' database, have provided the most rigorous description of the academic preparation and college outcomes. These have tipped the balance of the previous literature's muddled conclusions into accepting that, in some college environments and in some outcome measures, student-athletes exhibit more dysfunctional than functional academic outcomes. These findings and the rest of the literature shall now be reviewed in detail.
3.3 Literature review

3.3.1 Structure of review

It is important to stress that this is a literature review and not a systematic review. The aim of a systematic review, as shall be discussed in Chapter 4, is to understand all of the literature in question in order to make judgements upon it based on this complete picture. This is not the aim here. Instead, this review focuses more on finding the general patterns and problems associated with the student-athlete academic outcomes literature in order to inform the methodologies and conclusions of Studies 1a and 1b.

However, having said this, the review is intended to be quite comprehensive. Furthermore, to make it easier to understand and digest, the review uses some strategies also seen in systematic reviews. Namely, the articles reviewed are tabulated using specific criteria and they are summarised numerically in both the preceding discussions and ensuing summary table.

The criteria used to tabulate the articles are as follows: author(s), title, participants, methodology/independent variables (IVs), dependent variables (DVs), results, main findings/comments. The articles are listed in alphabetical order. The criteria, based on the academic consequences of being a student-athlete, used to group the articles together is as follows:

1. No consequences
2. Negative consequences
3. Positive consequences
4. Academic clustering outcomes
5. Literature reviews of outcomes

However, before turning to these reviews, there is one particular group of studies that requires special attention due to their size, breadth of focus and recent conclusions.

3.3.2 The 'College and Beyond' database

Perhaps the most comprehensive examples of academic research looking at the objective functional outcomes of student-athletes is the 'College and Beyond' database commissioned by the Andrew C. Mellon Foundation. Information from this database has been published in the two books, 'The Game of Life: College Sports and
Educational Values' (Shulman and Bowen, 2001) and 'Reclaiming the Game: College Sports and Educational Values' (Bowen and Levin, 2003). The first book provides evidence of a variety of (mainly) dysfunctions concerning recruitment, admissions, academic performance, graduation, and career post-college outcomes (detailed in Chapter 2) currently existing within certain U.S. colleges. The later book develops these conclusions in the light of an expansion of the database.

The first book uses the institutional records of 30 academically selective colleges from the entering cohorts of the years 1951, 1976 and 1989. The universities are a cross-section of Division IIA private universities (8), Division IIA public universities (4), Division IAA Ivy League universities (4), Division III co-educational liberal arts colleges (7), Division III universities (3) and Division III women's colleges and capture data on some 90,000 undergraduates, sporting and non-sporting alike. These universities were selected for a number of reasons. Most noticeably they all had a 'collegiate athletic' culture. Furthermore, although they are not representative of American higher education, they do provide a wide lens through which to observe similarities between 'qualitatively' different institutions. Some of their main findings are summarised as follows:

1. Academic preparation: Athletes enter college with considerably lower SAT scores than their classmates. This pattern holds true for men and women athletes and is highly consistent by type of school. The SAT deficit is most pronounced for men and women who play sports at the Division IIA universities, least pronounced for women at the liberal arts colleges (especially the women’s colleges), and middling at the Ivies. Among the men at every type of school, the SAT deficits are largest for those who play high profile sports of (American) football, basketball, and hockey.

2. Graduation rates: Despite their lower SAT scores, athletes (along with their classmates who participated in other time-intensive extracurricular activities) graduated at very high rates.

3. Grade point averages: The academic standing of student-athletes, relative to that of their classmates, has deteriorated markedly in recent years. Whereas male athletes in the '51 cohort were slightly more likely than other students to be in the top third of their class, only 16 percent of those in the '89 cohort finished in the top third, and 58 percent finished in the bottom third. Women
athletes in the '76 cohort did as well academically as other women, but women athletes in the '89 cohort were more likely than other women to be in the bottom third of the class.

4. **Links between SATs and GPAs:** Only part of the decline in academic performance of student-athletes can be attributed to lower SAT scores as they consistently underperform academically even after controlling for differences in academic preparation (for both genders and all sport types).

5. **Reasons for underperformance:** As well as pre-college indicators, academic underperformance varies also with how many other athletes who played on the same teams underperformed, suggesting a possible peer effect. This 'culture of sport' interpretation is supported by evidence showing that students who were active in other time-intensive extracurricular activities *overperformed* academically relative to their SAT scores.

6. **Academic clustering:** Male athletes have become highly concentrated in certain fields of study, especially social sciences, and female athletes have started to show different patterns of majors as well.

(Shulman and Bowen, 2001)

The second book, 'Reclaiming the Game: College Sports and Educational Values' (Bowen and Levin, 2003), adds a more recent cohort (1995) to the data set, finding again that student-athlete underperformance is rife across most college types. (The one exception are the UAA (University Athletic Association) universities. These can be equated to the Small Time Corporate Model (Sack, 1988) and also the British Sports Scholarship university model). One further analysis they conducted was comparing the underperformance of playing student-athletes with that of student-athletes who were recruited but, for whatever reason, did not play sport in the year. This tested the 'time hypothesis', the belief that it is the amount of time student-athletes spend on their sport, which directly causes academic underperformance. The results were surprising, 'the recruited athletes who are not playing still show substantial and significant underperformance' (p.161). Therefore, 'there is strong evidence that the time hypothesis can provide, at most, only a very partial explanation of the phenomenon of underperformance by recruited athletes' (ibid.). So where does the difference come from? The authors conclude that it is in the recruitment process and admissions advantage. However, it is not simply the lower academic preparation
of student-athletes, it is more to do with what this says about their priorities, and the priorities of the college, that makes athletics the focus of the student-athlete’s life.

In conclusion, these studies present persuasive evidence suggesting that student-athletes, in a culture of increasing professionalism, tend to elicit negative academic outcomes in terms of GPA (but not graduation rates). However, the fact that other time-intensive extracurricular activity-students (such as musicians, college paper journalists and student union representatives) overperform, and that non-participating recruited athletes underperform, is an indication that time demands, in themselves, should not necessarily hold student-athletes back academically. This is a very interesting realisation if consideration is to be given to the interpretation of the findings for student-athletes from other cultures in the light of those from the ‘College and Beyond’ database. The act of combining two roles in itself is no cause for reduced performance in either role.

Nonetheless, although these studies are the most rigorous and current in the literature, the case is not closed. There is a significant body of published research articles looking at the academic consequences of student-athletes, beginning with those that found no significantly different consequences for student-athletes compared to their non-sporting peers.

3.3.3 Student-athlete academic outcomes - No consequences

These studies are listed in Table 2. The most prevalent functional comparisons are the academic measures of grade point average (GPA) and graduation rates (GR). These variables are used in 8 and 5 respectively (the other compared high-school GPA) of the 14 studies that suggest no differences between student-athletes and non-athletes.

In her 1984 archival study of 1,642 male student-athletes from Michigan State University, Shapiro found that graduation rates between student-athletes and the mean for non student-athletes were very similar. However, she also noticed a decline in those rates since the 1950s suggesting that the increased professionalism of

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2 This comment is similar to that made by De Knop et al. (1999) from a European student-athlete programme perspective, “The real measure of success of the (student-athlete programme is) the student-athlete’s rate of academic success which is ten percent higher than that of the total student population” (p. 10).

3 It is interesting to note that some of the studies listed found positive and/or negative results as well as no differences, conditional on the dependent variable measured. These are therefore replicated in the later tables. Their positive and/or negative consequences shall also be discussed in the later sections that accompany each table.
American collegiate sport is having an impact on academic results. Purdy, Eitzen and Hufnagel’s (1985) study reflects this, the authors arguing that revenue-sports skew the data on academic outcomes for student-athletes. In their study, non-revenue minor sport student-athletes, and also therefore particularly females, were found to be no different to non-athletes on various academic and academic preparation variables including GPA, SAT scores, High School grade point average (HSGPA), High School (HS) class rank, number of years at university and graduation rate.

Stuart’s (1985) findings are contrary to this. Although Stuart found significant differences in academic preparation between male intercollegiate football players and matched (for race and academic majors) male non-athletes (in terms of a higher mean HS rank, lower mean HSGPA and lower average number of HS mathematics courses), she found no differences between the groups by GPA and graduation rate. She suggested the reasons for this were that weaker student-athletes were helped to achieve academically by team support and the desire to maintain eligibility for their sport by passing the academic year. This conclusion is in line Richards and Aries (1999), who found that student-athletes’ personal growth was positively related to time spent with team-mates in games and practices and that athletic participation did not impede academic success or prevent involvement in most other extracurricular activities. Similarly, Kartschoke (1996) found no significant difference in GPAs of student-athletes and non student-athletes and also no significant difference between student-athletes and non student-athletes in time spent going to class, doing homework or studying to account for this.

As the reader may appreciate, although many studies reveal no differences in various measures between student-athletes and non-athletes, the evidence is far from clear-cut within this specific selection. Turning to other studies from published journal articles, that emphasise either negative or positive consequences, clouds the issue even further.
### Table 2: Review table containing student-athlete academic outcomes research articles – No differences

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>Methodology / IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kirchner (1962)</td>
<td>Participants in athletics and its Effects on Academic Success at Central Michigan University</td>
<td>Unreported</td>
<td>SA v Non-SA</td>
<td>GPA</td>
<td>No sig. Diff's</td>
<td></td>
</tr>
<tr>
<td>Steiklein and Dameron (1965)</td>
<td>Intercollegiate Athletics and Academic Progress: A Comparison of Academic Characteristics of Athletes and Male student athletes Nonathletes at the University of Minnesota</td>
<td>University of Minnesota</td>
<td>SA v Non-SA</td>
<td>GPA</td>
<td>1. DR lower for SA</td>
<td>SA, compared to non-SA, performed better on some measures of academic performance and no different on others</td>
</tr>
<tr>
<td></td>
<td>182 (Male, 91 SA/ Academic Preparation and 91 matched non-SA, 1st Subsequent Performance of 2nd years, Football Intercollegiate Football Players players)</td>
<td></td>
<td></td>
<td>GPA</td>
<td>1. GR higher for SA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SA v Non-SA</td>
<td>GPA</td>
<td>2. Sig diffs in academic (for race and academic majors) 2: Re: preparation differences - weaker student-athletes male non-SA. (SA&gt;mean HS were helped to achieve academically by team support</td>
<td></td>
</tr>
<tr>
<td>Klingbeil (1968)</td>
<td>Varsity sports participation has no effect upon the academic success of athletes</td>
<td></td>
<td></td>
<td>GPA</td>
<td>4. SA GR = 49% (similar to GR of non-SA)</td>
<td></td>
</tr>
<tr>
<td>Hanks and Eckland (1976)</td>
<td>Data from the College Football Association Male, Football players</td>
<td>SA v Non-SA</td>
<td></td>
<td>GPA</td>
<td>5. GR no differences</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Participants</td>
<td>Methodology / IVs</td>
<td>DVs</td>
<td>Results</td>
<td>Main findings/comments</td>
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<tr>
<td>Agnew (1983)</td>
<td>The Varsity Athlete as a Representative of the Academic Community</td>
<td>(SA)</td>
<td>SA v Non-SA</td>
<td>Graduation rates</td>
<td></td>
<td>SA are comparable to regular students in terms of whether they graduate and the length of time taken to graduate</td>
</tr>
<tr>
<td>Brede and The Education of College Basketball Camp (1987) Student-Athletes</td>
<td>167 (Male, NCAA Div I, n=143) (n=24),</td>
<td>Academic ability (coaches score)</td>
<td>Graduation time</td>
<td></td>
<td>1. Defined relative ranking on athletic and academic ability</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>2. Measured semester GPA rather than entire year GPA</td>
</tr>
<tr>
<td>Gurney and The Education of Academic Performance (1987) Freshman Student-Athletes</td>
<td>SA, Admissions requirements</td>
<td>GPA</td>
<td>Mean GPA</td>
<td>Sub-groups: 'Passing easily/Getting by' / 'Struggling Along'</td>
<td>3. Highlights need to identify 'process dynamics' of SA (rather than just summary GPA)</td>
<td></td>
</tr>
<tr>
<td>Stuart (1987)</td>
<td>Academic Performance (private institutions)</td>
<td></td>
<td>SA v Non-SA</td>
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<td></td>
<td></td>
<td></td>
<td>Competitive status</td>
<td></td>
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<tr>
<td>Kartschoke (1996)</td>
<td>The Difference Between Participation in Intercollegiate Athletics and Academic Performance Based on Time Use</td>
<td>SA v Non-SA</td>
<td>GPA</td>
<td></td>
<td>No sig. Differences</td>
<td>Although no evidence was found to indicate that varsity competition adversely affected academic performance and general population suggested</td>
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<tr>
<td></td>
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<td>Time in class</td>
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<td>Time studying</td>
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<td>HSGPA</td>
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<td></td>
<td></td>
<td></td>
<td>Graduate on time v late</td>
<td></td>
<td></td>
<td>Canadian SAs do not experience role conflict and there is no greater need for SAs than for non-SAs to negotiate or accommodate among other roles typical of student life in order to satisfy both academic and sporting demands</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gender</td>
<td></td>
<td></td>
<td>1. Gender: Female SA GPA higher than female non-DA</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Race</td>
<td></td>
<td></td>
<td>3. Sport: Individual= higher SA v non: SA less prepared and lower academically. GPA/GR, revenue sports = lowest However, scholarship athletes skew this general result. GPA/GR Minor sports/ female SA are similar to non-SA.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Participants</td>
<td>Methodology / IVs</td>
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<tr>
<td>Shapiro (1984)</td>
<td>Intercollegiate Athletic (Male, Participation and Academic Football/Basketball/Race Achievement: A Case Study of Baseball/Hockey, Michigan State University, 1950-Michigan State/Athletic success (letter</td>
<td>1,642</td>
<td>SA-Non SA</td>
<td>Sport Decade</td>
<td>1. GR in steady decline since 1950s (rate depends on sport) 2. Letter winner v non GR = 81% v 58%</td>
<td>SA v non-SA: similar GR (even though SA v non-SA HSGPA special consideration = 50% v 3-4%). 3. Two-sport GR = 80% 4. 1972 GR: MSU SA cohort v NLS therefore results support the position that (National Longitudinal Study of Intercollegiate Athletics have a neutral/positive High School Students) cohort = (depending on measure) influence on the educational attainment of participating athletes.</td>
</tr>
</tbody>
</table>
3.3.4 Student-athlete academic outcomes - Negative consequences

Surprisingly perhaps, given the damning evidence from the ‘College and Beyond’ database, very few other studies have concluded that student-athletes do worse academically than their non-athlete counterparts (Table 3). Only 5 studies have found that being a student-athlete has negative consequences in terms of GPA (3 studies), graduation rate (2 studies) and HSGPA (1 study). Interestingly only 1 of those published showed exclusively negative consequences.

For example, Danylchuk (1995), using a Canadian university sample, found that non-athletes had significantly higher GPAs than student-athletes. In a more extensive study, Purdy et al. (1985) looked at more than two thousand athletes over ten years at a major western university and found that athletes were less prepared for college and achieved less academically in college than the general student population. However, they further noted that all athletes did not perform equally. Scholarship holders, blacks and participants in the major revenue-producing sports of football and basketball had the poorest academic potential and performance. Similarly, although they found no differences in overall student-athlete graduation rates, Henschen and Fry's (1984) study of 1049 student-athletes at the University of Utah found that of those 28 who became professional over the 9 years of their study, only 5 (17.8%) graduated, leading them to conclude that as sport becomes more ‘big time’ graduation rates decrease. This mirrors Purdy et al.'s (1985) contention that revenue sports tend to skew overall student-athlete data. However, Sullivan and Newton Jackson Jr.'s (2001) recent paper, describes a different pattern. Investigating the academic consequences for 256 track/cross-country athletes, they found that although student-athletes participating in this non-revenue sport achieved lower GPAs compared to non-athletes, they actually graduated at higher rates. The reasons for this were not discussed.

In terms of HSGPA differences, only Purdy et al.'s (1985) study found that student-athletes overall were significantly less prepared academically for college. However, when we remember that this study emphasised the skewed nature of the results due to scholarship athletes, or other studies that found either significantly higher HSGPAs for student-athletes (Sullivan and Newton Jackson Jr., 2001) or no
differences (Danylchuk, 1995), we cannot conclude that, if indeed student-athletes do actually perform worse academically when compared to non-athletes, this is due to their sporting commitments at college or the fact that they were already at a disadvantage when they arrived. Controlling for HSGPA effects on GPA and graduation rate, as Bowen and colleagues (2001, 2003) have done, would have been necessary to provide evidence for either of these theses.
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
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<th>Methodology / IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benagh (1976)</td>
<td>Making It to No. 1 Southeast and Southwest Conferences</td>
<td>SA v Non-SA</td>
<td>Graduation rates</td>
<td>1. Female SA &gt; Male SA</td>
<td>Low graduation rates for SA</td>
<td></td>
</tr>
<tr>
<td>Danylchuk (1995)</td>
<td>Academic Performance of Intercollegiate Athletes at a Canadian University: Comparisons by Gender, Type of Sport and Affiliated Faculty</td>
<td>Canadian (769 male/280 female)</td>
<td>Gender</td>
<td>2. Non SA (male+female) &gt; SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purdy et al (1985)</td>
<td>Are Athletes Also Students? The Colorado State Scholarship level College Athletes</td>
<td>2,091 (Men and women)</td>
<td>Gender</td>
<td>1. 49% graduated overall (student body = 45%)</td>
<td>As sport becomes more 'big time', GRs reduce</td>
<td></td>
</tr>
<tr>
<td>Sullivan and Newton (2001)</td>
<td>Academic Performance and Achievements: Track/Cross Country, Gender, Ethnicity, Graduation rates</td>
<td>256 (141 males/115 females)</td>
<td>Gender, Ethnicity</td>
<td>2. Non SA higher on GPA</td>
<td>Non-revenue sport study shows that 'dumb jock' generalisation may be invalid on some measures but not on others</td>
<td></td>
</tr>
<tr>
<td>Newton Jackson,</td>
<td>Academic Performance and Achievement of Selected Track/Cross Country, Gender, Ethnicity, Graduation rates</td>
<td>5. SA &gt; Non SA on HSGPA</td>
<td>GPA</td>
<td>3. SA higher Graduation rates</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3.5 Student-athlete academic outcomes - Positive consequences

Interestingly, and more optimistically for those involved with student-athletes, there is also a group of articles that return positive consequences for student-athletes concerning academic achievement (Table 4). Of the 9 studies presented, 7 found positive consequences related to graduation rates while only 3 found them related to GPA.

In his sample of 753 college athletes, Akker (1995) found that student-athletes performed better than non-student-athletes on mean GPA. More specifically, male student-athletes out-performed the male non-student-athlete group and the female student-athletes surpassed the other three groups. Similarly, Curtis and McTeer (1986), in their investigation of the relationship between intercollegiate sport participation and academic attainment in two Canadian universities, found some support for a positive relationship between sport participation and academic achievement, particularly for honours students. The study by Jacobs (1985), on the graduation rates of student-athletes compared to non-athletes at the University of North Carolina at Chappel Hill (N = 4876), also found that student-athletes graduated at a higher rate than the overall student body (from 1966 to 1976). Furthermore, an archival study by Henschen and Fry (1984), that looked at the relationship between intercollegiate athletic participation and graduation at a major American university between 1973-1982, found mixed results but concluded that athletes appear to graduate at a better rate than do their non-athletic peers.

The studies by Shapiro (1984) and Kiger and Lorentzen (1986) suggest that in fact increased sports participation is inherently beneficial in terms of GPA and graduation rates. Shapiro (1984) found that both letter winners and two sport student-athletes had graduation rates of 81% and 80% compared to the non-athlete average of only 58%. Kiger and Lorentzen (1986) corroborated this result in their within student-athlete sample whereby GPA positively related to increased sports intensity involvement.
Table 4: Review table containing student-athlete academic outcomes research articles – Positive consequences

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>Methodology / IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akker (1995)</td>
<td>Athletic Participation and the Academic Achievement of 753 (SA and non-SA)</td>
<td>Gender</td>
<td>GPA, Gender</td>
<td>1. SA higher GPA than non-SA</td>
<td>SAs performed better academically than non-SAs, and female SAs performed the best</td>
<td></td>
</tr>
<tr>
<td>Curtis and McTeer (1986)</td>
<td>Sport Involvement and Academic Attainment int(Male, Canadian SA, University: Two Studies in the Football/Basketball/ Canadian Case)</td>
<td>SA v Non-SA</td>
<td>GPA, Grad status, Years at uni</td>
<td>2. Male SA &gt; male non-SA</td>
<td>Positive relationship between sport participation and academic achievement, particularly for honors students</td>
<td></td>
</tr>
<tr>
<td>Jacobs (1995)</td>
<td>A Comparison of the Graduation Rates of Student-athletes with 4876 the Overall Student Body who SA and non-SA, Enrolled at the University of North Carolina at Chapel Hill/Carolina at Chapp from 1966 to 1976.</td>
<td>Gender, Race, Sport Revenue v non-revenue, HSGPA, SAT</td>
<td>GPA, Graduation rate</td>
<td>1. 49% graduated overall (student body = 45%)</td>
<td>SA graduated at a higher rate than the overall student body</td>
<td></td>
</tr>
<tr>
<td>Kiger and Lorenzen (1986)</td>
<td>The Relative Effects of Gender, 69% male/31% female, Scholarship level Race, and Sport on University NCAADiv I, 1984 Academe Performance</td>
<td>SA v Non-SA, Scholarship level, Sport involvement</td>
<td>GPA, SAT, Graduation rates</td>
<td>2. White female non-revenue = highest GPA/black male revenue = worst GPA</td>
<td>Gender, race and sport are interrelated (though no sig. interaction effects on GPA)</td>
<td></td>
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<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Participants</td>
<td>Methodology / IVs</td>
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<tr>
<td>NCAA</td>
<td>NewsAthletes Graduation Surpass Non-athletes</td>
<td>Football, Basketball, Baseball and Non-athletes, 1975 cohort</td>
<td>SA v Non-SA Sport</td>
<td>Graduation rate</td>
<td>SA graduated at higher rates than non-SA, even in non-revenue sports</td>
<td></td>
</tr>
<tr>
<td>Shapiro</td>
<td>(1984) Intercollegiate Athletic(Male, Participation and Academic)</td>
<td>1,642 Decade</td>
<td>SA-Non SA Sport</td>
<td>1. GR in steady decline since 1950s (rate depends on sport)</td>
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<td></td>
<td>Academic, State University, Michigan State Athletic success</td>
<td></td>
<td>Sport</td>
<td>2. Letter winner v non GR = 81% v 58%</td>
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</tr>
<tr>
<td></td>
<td>Success Graduation Rates</td>
<td></td>
<td>Decade</td>
<td>3. Two-sport GR = 80%</td>
<td></td>
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<td></td>
<td>University, 1950-1980</td>
<td></td>
<td>4. 1972 GR: MSU SA cohort v NLSSA HSGPA special consideration = 50% v 34%</td>
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<td></td>
<td>University, 1950-1980</td>
<td></td>
<td>(letter winners)</td>
<td>SA v non-SA: similar GR (even though SA v non-</td>
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<td>SA v Non-SA GPA = No sig measures of academic performance and no different</td>
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<td></td>
<td>GPA HSGPA SAT</td>
<td>SA, compared to non-SA, performed better on some</td>
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<td>Academic major</td>
<td>on others</td>
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<td>GPA /</td>
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<tr>
<td>Steiklein</td>
<td>Intercollegiate Athletes and Male student athletics</td>
<td>256</td>
<td>SA v Non-SA GPA</td>
<td>1. DR lower for SA</td>
<td></td>
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<tr>
<td>and</td>
<td>Academic Progress: A Comparison of Academic</td>
<td></td>
<td>GPA HSGPA SAT</td>
<td>2. GR higher for SA</td>
<td></td>
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<tr>
<td>Dameron</td>
<td>Characteristics of Athletes at the University of and non-athletes,</td>
<td></td>
<td>Academic major</td>
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<td>(1965)</td>
<td>Non-athletes at the University of and non-athletes, Minnesota</td>
<td></td>
<td>GPA /</td>
<td>3. SA v non-SA GPA = No sig measures of academic performance and no different</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sullivan</td>
<td>Academic Performance and(141 males/115 females, Quantitative</td>
<td>1983-1993</td>
<td>SA v Non-SA GPA</td>
<td>SA, compared to non-SA, performed better on some</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and</td>
<td>Achievement of Selected Track/Athletes</td>
<td></td>
<td>GPA /</td>
<td>on others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jackson,</td>
<td></td>
<td></td>
<td>SA v Non-SA GPA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2001)</td>
<td></td>
<td></td>
<td>GPA /</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whiteley</td>
<td>Those &quot;dumb jocks&quot; are at it again: A Comparison of the</td>
<td>285,805</td>
<td>SA v Non-SA GPA</td>
<td>1. SA GPAs &gt; non-SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1999)</td>
<td>Educational Performances of Athletes and Nonathletes in</td>
<td></td>
<td>GPA /</td>
<td>2. SA absences &lt; non-SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North Carolina High Schools from 1993 through 1996</td>
<td></td>
<td>SA v Non-SA GPA</td>
<td>3. SA discipline &lt; non-SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(high school SA)</td>
<td></td>
<td>GPA /</td>
<td>4. SA % dropouts &lt; non-SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SA v Non-SA GPA</td>
<td>SA showed significantly more positive results in all</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GPA /</td>
<td>measures compared to non-SA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3.6 Academic Clustering

The phenomenon of 'academic clustering' refers to the propensity for a distinct population of students to take similar courses. Rather than discovering that student-athletes display similar patterns of course selection to their non-athlete peers, some studies have found that student-athlete modules have tended to cluster (Table 5). This is not in itself necessarily a negative consequence, as Shulman and Bowen (2001) suggest it may simply reflect similar personality propensities, however a few studies suggest it reflects that student-athletes may be 'majoring in eligibility' (Suggs, 1999).

For example, Case, Greer and Brown, (1987) found that a disproportionate percentage of athletes grouped into selected majors when compared to the overall university percentage in the same major and that student-athletes clustered around the 'easier' courses. Similarly, Suggs (1999) reported that 54% of student-athletes on the University of Cincinnati (1988-9) basketball team majored in criminal justice, which was the major with the lowest number of total hours required in the university. Furthermore, in their study of basketball and American football players at the University of Maryland, Farrell and Monagham (1986) found that 40% of athletes were enrolled in general studies, compared with 4% of the general student population, and concluded that the 'general studies major appeared to be less rigorous than others and was abused by athletes'.

One point to make is that all the above studies looked at revenue-producing sports such as basketball, baseball and American football. The one study that looked at non-revenue student-athletes course majors (Sullivan and Newton Jackson Jr., 2001), found that there was a large variation in the academic majors chosen by the 256 track/cross-country they studied. Therefore, it seems that sport type may be important in predicting the extent of academic clustering in any population of student-athletes.
### Table 5: Review table containing student-athlete ‘academic clustering’ research articles

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>Methodology / IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case, et al. (1987)</td>
<td>Academic clustering in athletics: Myth or reality?</td>
<td>SA v Non-SA</td>
<td>Academic major/ Type of course</td>
<td></td>
<td>Disproportionate % of athletes grouped into selected majors when compared to the overall university % in the same major and student-athletes clustered around the ‘easier’ courses.</td>
<td></td>
</tr>
<tr>
<td>Farrell Monaghan (1986)</td>
<td>University of Maryland Athletic and Director Quit: Task Force Faults</td>
<td>Male, Baseball, Basketball and Football players, University of Nevada (at Las Vegas), 1978-1987</td>
<td>SA v Non-SA Sport</td>
<td>Academic major</td>
<td>40% of athletes in men’s basketball and football were enrolled in general.SA “academic clustering “… the ‘general studies’ studies, compared with 4% of all major appeared to be less rigorous than others and was abused by athletes&quot;.</td>
<td>1. Majority of coursework (15%) was in P.E.</td>
</tr>
<tr>
<td>Knapp and Raney (1990)</td>
<td>Basketball Level in 7 Years for Athletes</td>
<td>Race</td>
<td>Academic major</td>
<td></td>
<td>2. Only 25-35% of Black athletes graduated, of these 60-65% in P.E. or ‘easy’ majors created specifically for athletes</td>
<td>Academic clustering of SA</td>
</tr>
<tr>
<td>Suggs (1999)</td>
<td>Graduation Rates Hit Lowest Male, Football and Basketball</td>
<td>Admitting students to the University of Cincinnati, 1998-99</td>
<td>Academic major</td>
<td></td>
<td>54% SA on the Basketball team majored in criminal justice (major with the lowest number of total hours required)</td>
<td>SA &quot;majoring in eligibility&quot; (academic clustering)</td>
</tr>
<tr>
<td>Sullivan and Newton Jackson (2001)</td>
<td>Academic Performance Achievement of Selected Athletes</td>
<td>256 and (141 males/115 females, Ethnicity and country, Track)</td>
<td>Gender</td>
<td></td>
<td>1. Females higher on GPA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SA v Non-SA Track/cross</td>
<td></td>
<td></td>
<td>2. Non SA higher on GPA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1983-1993</td>
<td></td>
<td></td>
<td>3. SA higher Graduation rates</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SA v Non-SA</td>
<td>GPA</td>
<td></td>
<td>4. Highly variable SA academic majors</td>
<td>Non-revenue sport study shows that 'dumb jock' generalisation may be invalid</td>
</tr>
</tbody>
</table>
3.3.7 Student-athlete academic outcomes literature reviews

Four literature reviews have been published on the student-athlete functional literature (Table 6). These all come to a similar conclusion and voice their concerns regarding study methodology. The most recent literature review by Mouw and Khanna (1993) focused on the variables that have best predicted academic success. Although this study looked at all students as opposed to just student-athletes, it did conclude that academic factors (such as HSGPA and/or SAT scores) are the best predictors of GPA success and explain most of their variance, suggesting that if student-athletes are academically well prepared for college they do no worse than their non-athletic peers.

The other three reviews, specifically on student-athletes, arrive at very similar conclusions to each other. Davis and Cooper (1934), in their study of 34 papers on academic attainment of student-athletes, found conflicting results and concluded that these were due to,

Differences in the time devoted to each of the studies; the lack of similarity in procedures; the divergences in the type of tools used in securing the data; and, because of the wide variations in the kind and size of the groups.

Similarly Snyder and Spreitzer (1978) concluded that valid comparisons between collegiate athletes are difficult because of the variations in institutional quality, degree programmes, type of sport and other potentially contaminating factor. Finally, Mathiasen (1984) also found that methodologies and populations varied greatly, and agreed that the conflicting results are based on the diversity of methodologies used.
Table 6: Review table containing literature review research articles

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>Methodology / IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis &amp; Cooper (1934)</td>
<td>Athletic Ability and Scholarship: and A Resume of Studies Comparing Scholarship Abilities of Athletes</td>
<td>student-athletes, Literature review, Educational studies</td>
<td>SA v Non-SA, attainment</td>
<td>Conflicting results</td>
<td>Conclusions attributed to &quot;differences in the time devoted to each of the studies; the lack of similarity in procedures; the divergences in the type of tools used in securing the data; and, because of the wide variations in the kind and size of the groups.</td>
<td></td>
</tr>
<tr>
<td>Mathiasen (1984)</td>
<td>Predicting College Academic Achievement: A Research Review</td>
<td>n/a</td>
<td>Literature review</td>
<td>n/a</td>
<td>n/a</td>
<td>Conflicting findings are based on the methodology utilised. Methodologies and populations vary greatly.</td>
</tr>
<tr>
<td>Mouw &amp; Khanna (1993)</td>
<td>Prediction of Academic Success: A Review of the Literature and Some Recommendations</td>
<td>n/a</td>
<td>Literature review</td>
<td>n/a</td>
<td>n/a</td>
<td>Academic factors (such as HSGPA and/or SAT/ACT scores) are the best predictors of success and explain most of the variance.</td>
</tr>
<tr>
<td>Snyder &amp; Spreitzer (1978)</td>
<td>n/a</td>
<td>n/a</td>
<td>Literature review</td>
<td>n/a</td>
<td>n/a</td>
<td>Valid comparisons between collegiate athletes are difficult because of the variations in institutional quality, degree programmes, type of sport and other potentially contaminating factors</td>
</tr>
</tbody>
</table>
3.3.8 Methodological concerns

There are a number of methodological concerns that can be directed at the extant literature. Studies have been limited by a number of factors:

Firstly, by only measuring one/very few sports rather than a variety of sports to capture different levels of competition and type (individual or team), e.g. (Sullivan and Newton Jackson, Jr, 2001 (only track/cross country runners); Neinas, 1982 (only American Football players).

Secondly, by only measuring the grossly over-simplistic rate of whether a person graduated or not rather than any other more finely grained academic outcome.

Thirdly, by only measuring a degree-end GPA, rather than a year-end, or even more illuminating, the temporal patterning of semester-end GPAs.

Fourthly, by only comparing student-athletes GPA scores against overall university averages rather than comparing athletes' with their immediate peers in their specific academic department and/or on the same degree programme.

Fifthly, by not taking account of the different ages of student-athletes at their time of entry in college.

Furthermore, only one study (Kiger and Lorentzen, 1986) has compared variables within a student-athlete population in contrast to all others that only compare between student-athletes and non-athletic students. As Purdy et al. (1985) comment though,

These ‘obstacles’ must not deter future efforts to understand the relationship between participation in college sports and educational attainment (p. 446).

3.3.9 Academic outcomes summary

It seems difficult to draw any specific conclusions from the previous student-athlete academic outcomes literature from published journal articles. Table 7, showing summary information from this literature, does however tentatively suggest that female/non-revenue/individual sport student-athletes tend to show more positive characteristics, whereas revenue sport student-athletes tend to show more negative consequences; and that graduation rate may be the most positive academic outcome
for student-athletes. However, as I quoted in the Introduction to the chapter, and possibly due to the methodological inconsistencies mentioned in the student-athlete literature reviews, Brede and Camp (1987) sum up the situation with their comment that overall,

Sustained scholarly research over the course of the century has failed to show equivocally that college athletes differ in any important way from other college students (Brede and Camp, 1987).

<table>
<thead>
<tr>
<th>Academic Measure</th>
<th>Positive outcomes</th>
<th>Negative outcomes</th>
<th>No differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>By gender</td>
<td>2 (female)</td>
<td>1 (male)</td>
<td>/</td>
</tr>
<tr>
<td>By sporting level</td>
<td>1 (non-revenue)</td>
<td>2 (revenue)</td>
<td>/</td>
</tr>
<tr>
<td>By sport type</td>
<td>1 (individual)</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>HSGPA</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>By gender</td>
<td>1 (female)</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>By level</td>
<td>/</td>
<td>1 (revenue)</td>
<td>/</td>
</tr>
<tr>
<td>Graduation rates</td>
<td>6</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>By sporting level</td>
<td>/</td>
<td>3 (revenue)</td>
<td>/</td>
</tr>
<tr>
<td>By sport type</td>
<td>1 (individual)</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Years at university</td>
<td>/</td>
<td>/</td>
<td>1</td>
</tr>
<tr>
<td>HS rank</td>
<td>1</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Dropout rate</td>
<td>/</td>
<td>2</td>
<td>/</td>
</tr>
<tr>
<td>Academic clustering</td>
<td>/</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11</td>
<td>14</td>
<td>22</td>
</tr>
</tbody>
</table>

**Table 7:** Summary of the SA v non-SA functional literature result
3.3.10 Conclusions and study aims

If we consider the body of research articles findings in the light of those found by Bowen and colleagues, where does this leave us? First of all it seems that both suggest that being a student-athlete does not have a negative effect on graduation rates but does engender clustering (for either easier or more business-oriented courses). Secondly, it does seem however, that the extent of positive, negative, or neutral GPA outcomes very much depend on the student-athlete sample. For example, out of those studies that found positive consequences, one was a Canadian study and one was for high-school student-athletes, and out of those that found no consequences all were from the early 1980’s except three (and these included one on Division III student-athletes, one on Canadian student-athletes, and one which only used a sample of 141 student-athletes from a private institution). More clear however, is the conclusion that academic outcomes do vary according to student-athlete type such that female/non-revenue/individual student-athletes achieve more and revenue (and therefore Division I level) and male student-athletes achieve less compared to each other (strong evidence) and their non-sporting peers (strong evidence for revenue sports, weaker for other variables). The evidence from the journal literature for an academic preparation difference is scant so Bowen and colleagues’ (2001, 2003) conclusions that student-athletes are significantly less well prepared for college seems the most feasible.

These conclusions withstanding, the lack of research in the British context and the various methodological issues that have been highlighted, are two of the main motivations for the current study.

Therefore the three aims of this current study can be summarised as follows:

- To obtain retrospective functional information on student-athletes academic outcomes and preparation in the British context
- To replicate, compare and contrast with the extant literature on the influence of athletic participation on academic outcomes and preparation in a British context
- To improve upon, and avoid the methodological pitfalls of, previous research. In particular:
• To include a variety of sport types, including both team and individual (there are no revenue sports in the British university context)
• To include graduation rate (compared to the university as a whole) and semester, year and degree-end GPA
• To compare student-athlete’s GPA/entry criteria against their exact year and course cohort average for an exact comparison controlling for year and course variation
• To include age on entry as an independent variable
• To compare within the student-athlete sample on a variety of independent variables

Study 1a will investigate the academic outcomes of elite British student-athletes, whilst Study 2a will look at the academic preparation of elite British student-athletes.
3.4 Study 1a: The academic outcomes of elite British student-athletes

3.4.1 Hypotheses

The hypotheses for Study 1a are as follows:

1. Between student-athletes and their non-athlete student peers
   a. There is no difference in overall graduation rate
   b. There is no difference in overall GPA
   c. There is no difference in GPA temporal patterning over the course of a degree, semester by semester and year by year
   d. There is no difference in academic degree classification
   e. Female student-athletes do better academically compared to their peers
   f. Male student-athletes do worse academically compared to their peers
   g. Individual sport student-athletes do better academically compared to their peers
   h. Team sport student-athletes do worse academically compared to their peers
   i. No hypothesis for differences academically between student-athletes and their peers enrolled on the same academic course
   j. No hypothesis for differences academically between older/younger student-athletes and their peers

2. Within the student-athlete sample
   a. Female student-athletes do better academically than male student-athletes
   b. Individual sports student-athletes do better academically than team sports student-athletes
   c. Student-athletes cluster into particular degree courses
   d. No hypothesis for differences academically between student-athletes enrolled on different types of academic course in different departments
   e. No hypothesis for differences academically between older and younger student-athlete academic outcomes
3.4.2 Methodology

3.4.2.1 Participants
The subjects were 120 elite student-athletes (73 male, 47 female) - all members of the Loughborough University Sports Scholarship Scheme between the years 1994-2002 (including many Olympic and senior Internationals). The university is internationally renowned for its sporting alumni, having produced many Olympic and World Champions, and the scheme itself is highly selective so that the sample can very definitely be labelled as elite (all Scheme members have represented their country at their sport). There were 112 undergraduates and 8 postgraduates, 79 individual sports performers and 41 team performers. All the student-athletes apart from two were studying full-time.

The sports they competed in were as follows; Athletics (30), Swimming (15), Hockey (14), Tennis (10), Golf (9), Rugby (7), Volleyball (5), Cricket (5), Association Football (4), Netball (3), Sailing (3), Basketball (2), Badminton (2), Rowing (2), Triathlon (2), Taekwondo (1), Cycling (1), Waterpolo (1), Fencing (1), Skiing (1), Squash (1), and Handball (1).

The departments that the student-athletes studied in included the School of Sport and Exercise Sciences (SSES), Economics, Politics, the Business School, Human Sciences, Geography, Social Sciences, Information Management, English, Computing, Engineering, European Studies, Education and Maths. In total, there were 74 SSES student-athletes and 46 non-SSES student-athletes.

In addition to the 120 student-athletes, the participants of the study also included the 5395 non student-athletes who made up the academic peer-group of each scholar. Of these, 4855 were undergraduates and 540 were postgraduates. Also 3330 were from the SSES and 2065 were non-SESS students.

3.4.2.2 Procedure
The data collection split into two phases; the sporting data collection and the academic data collection.

The university sports administration department was contacted to compile a database of the Sport Scholarship Scheme member details from its inception, in 1995,
to 2002. Information was collected on the following variables: names, university ID number, gender, main sport, date of birth, year of entry into the university (and therefore age at time of entry was calculated), year of graduation (if achieved), academic department, degree course, and degree status (undergraduate or postgraduate).

The university Student Records department were then contacted to provide the academic information variables (and crosscheck with some of the variables from the sports section of the database) for each student-athlete. Various computer search programmes were written to extract the following information: semester-end grade point average, year-end grade point average, degree-end grade average, graduation status (graduated, failed, withdrawn), time taken to graduate, academic department, degree undertaken, full-time/part-time.

As one of the aims of the study was to improve upon previous studies, the study's method firstly aimed to compare within the cohort of student-athletes. Therefore, student-athletes from different sports, types of sport (individual or team), ages, gender, and departments could be compared with each other. Secondly, the method aimed to allow comparisons between student-athletes and non-athletic students on the same variables. This information would show whether the student-athletes (and which ones in particular) differ academically in any way from non-athletic students. Therefore, to make the comparisons as meaningful as possible, it was decided that the average GPA information from each exact student-athlete degree cohort, in terms of year of study and by academic course, should be collected. This posed a significant challenge as, for each student-athlete, the scores of every person in their year and degree course had to be obtained and averaged. This amounted to collecting and analysing information on 5395 non-athletic students who were the immediate year and course peers of the 120 student-athletes in the database.

Once all the data had been collected it was inputted into the database such that end of degree GPAs reflected the weighting as dictated by the particular course the student-athlete and their cohort took. This was usually made up of a proportion of the second and third year-end GPA, with the proportion between the years being between 30%: 70% and 40%: 60%. It is also important to note that the 1st semester and 2nd semester GPAs of each year took into account only single semester modules, whereas
the year-end averages took double (year-long) modules, as well as these single modules, into account. Therefore, not only is the final degree average not an average of the three years, but also the year-end scores are not an average of the two semester marks in that year.

3.4.2.3 Data analysis

The data was analysed using a repeated measures analysis provided by version 11.0.0 of the Statistical Package for the Social Sciences (SPSS). This analysis was chosen, as the data comprised ten serial measurements of the same student-athletes over the time of their degree course. Each longitudinal time-point, i.e. semester (6 time-points), year (3 time-points), degree-end (one time-point), denoted a level of within-subjects measurement in the analysis. Furthermore, the analysis also allowed the researcher to compare between-subjects over time (in this case, the further level of student type, i.e. scholar/non-scholar). Multiple t-tests were not used for the GPA average comparisons due to the increase in the likelihood of making type I ‘false-positive’ errors in the analysis. (However, a single t-test was deemed appropriate to compare the single student-athlete and non student-athlete degree classifications). Assumptions for homogeneity of variance (if the analysis tested for between-subjects effects) and sphericity were tested using Levene’s test and Mauchley’s test respectively, and the Greenhouse-Geisser epsilon was used, according to the methods of Field (2000) and Atkinson (2001), if the assumption of sphericity was found to be violated.

One limitation of the analysis is that the cohort average must contain at least one student-athlete score. Unfortunately, the way the Students Records database organised the data it was not possible to extract these scores. However, on conceptual grounds, it may be argued that it is important to keep the student-athlete scores within the cohort averages, as they are by definition part of the cohort.

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4 Thus the use of the term 'non student-athletes' is used as shorthand for clarity and is not strictly correct. When this term is used, it refers to the department or course average that is in its majority non student-athletes but will of course include at least one student-athlete score. (Most of the courses analysed included at least 30 students).
3.4.3 Results

3.4.3.1 Introduction

The results to Study 1a are split into two sections, firstly ‘student-athletes v non student-athletes’ results and secondly ‘student-athletes within comparisons’ results. Each section first presents descriptive data. (Due to the amount of data analysed, only the most important results are presented). In the descriptive results tables Year 1, Semester 1, etc. denotes the student-athlete average whilst the postfix ‘Dep’ denotes the department average. After this, each section then presents the results from the repeated measures analysis, and one t-test for degree class differences (again only providing figures for the most important results).

3.4.3.2 Student-athletes v non student-athletes

1. The descriptive data from the 112 undergraduate and 8 postgraduates is as follows:
   a). Graduation rate: The graduation rate of scholars was 91.7% over the period 1994-2002. This is compared with a university rate of 91% (2002-2003 university data records). Therefore, student-athlete and non student-athlete graduation rates are very similar. (No statistical test could be performed on this data as the university graduation rate was taken from the university total for the year 2002-2003).

   b). GPA and degree class: The grade point averages over semester, year and at degree end, and degree class, for both student-athletes and department cohort (N=5395), are shown in Table 8. The average age of the undergraduate student-athletes was 19.01 (SD = 1.50)
Table 8: Descriptive statistics for GPA, and degree class of undergraduate student-athletes and department cohort.

c). Postgraduate age, GPA, degree class: The postgraduate grade point averages over semester, year and at degree end, and degree class, for both student-athletes and department cohort (N=5395), are shown in Table 9. The average age of the postgraduate student-athletes was 23.13 (SD = 2.48).

Table 9: Descriptive statistics for GPA, and degree class of undergraduate student-athletes and department cohort.
2. The student-athlete v non-student-athlete repeated measures analysis is as follows:

a). Hypothesis: There is no difference in overall GPA.

As there is no between-subjects variable in this overall analysis no homogeneity of variance test was necessary. The data violated the assumption of sphericity ($W = 0.000$, $p<0.05$). No significant main effect of student type (student-athlete v non student-athlete) was found ($F(1) = 2.65$, $p<0.05$). Therefore there is no significant difference between scholars and non-scholars GPA. However, it is important to note that student-athletes do have consistently slightly lower (~1%) GPA scores throughout the degree (Figure 6).

![Figure 6: Overall student-athlete and non student-athlete GPA over time](image)

b). Hypothesis: There is no difference in GPA temporal patterning over the course of a degree, semester by semester and year by year.

As there is no between-subjects variable in this overall analysis no homogeneity of variance test was necessary. The data violated the assumption of sphericity ($W = 0.000$, $p<0.05$). A significant main effect of time (student-athlete v non student-athlete) was found ($F(3.58) = 36.61$, $p<0.05$). Therefore both student-athletes and
non student-athletes show a significant increase in their GPA scores over the
time of their degree courses (Figure 6).

It is also important to notice two trends in the data. Firstly, student-athletes
seem to 'catch up' on their peers and improve more academically over time. The
GPA difference between student-athletes at the first time-point (Year1, Semester1) is
1.13%, whereas the difference at GPA difference at Year 3 is only 0.55%.

Furthermore, there is a difference in the patterns of average GPAs between
student-athletes and their peers at the end of year time-points in Years 2 and 3.
Student-athlete scores 'jump' and are a lot higher than at the end of year than the
average of their Semester 1 and Semester 2 scores. This suggests that their 'double-
module' (year-long course) marks are higher than their Semester scores and are
therefore bringing up the Year-end averages.

c). Hypothesis: There is no difference in academic degree classification.
To test the hypothesis of no difference in academic classification between student-
athletes and non-student-athletes a single paired samples t-test was used. The test was
found to be significant ($t(110) = 2.81$, $p<0.05$). Therefore non-student-athletes
attained significantly higher degree classifications compared to student-athletes.

d). Hypothesis: Female student-athletes do better academically compared to their
peers
As there is no between-subjects variable in this overall analysis no homogeneity of
variance test was necessary. The data violated the assumption of sphericity ($W =
0.000$, $p<0.05$). No significant main effect of student type (student-athlete v non
student-athlete) was found ($F(1) = 0.01$, $p<0.05$). Therefore there is no significant
difference between female student-athletes and their non student-athlete peers
overall in GPA (Figure 7).
Figure 7: Female student-athletes and their non student-athlete peers GPAs over time

e). Hypothesis: Male student-athletes do worse academically compared to their peers
As there is no between-subjects variable in this overall analysis no homogeneity of variance test was necessary. The data violated the assumption of sphericity ($W = 0.000, p<0.05$). A significant main effect of student type (student-athlete v non student-athlete) was found ($F(1) = 4.70, p<0.05$). Therefore male student-athletes attain significantly lower GPAs overall compared to their non student-athlete peers (Figure 8).

Figure 8: Male student-athletes and their non student-athlete peers GPAs over time
f). Hypothesis: Individual sport student-athletes do better academically compared to their peers

As there is no between-subject variable in this overall analysis no homogeneity of variance test was necessary. The data violated the assumption of sphericity ($W = 0.000$, $p<0.05$). No significant main effect of student type (student-athlete v non student-athlete) was found ($F(1) = 0.25$, $p<0.05$). Therefore there is no significant difference between individual sport student-athletes and their non student-athlete peers overall in GPA (Figure 9).

![Figure 9: Individual student-athletes and their non student-athlete peers GPAs over time](image)

**Figure 9**: Individual student-athletes and their non student-athlete peers GPAs over time

g). Hypothesis: Team sport student-athletes do worse academically compared to their peers

As there is no between-subject variable in this overall analysis no homogeneity of variance test was necessary. The data violated the assumption of sphericity ($W = 0.000$, $p<0.05$). A significant main effect of student type (student-athlete v non student-athlete) was found ($F(1) = 5.19$, $p<0.05$). Therefore team sports student-athletes attained significantly lower GPAs overall compared to their non student-athlete peers (Figure 10).
h). No hypothesis for differences academically between student-athletes and their peers enrolled on the same academic course
Test 1: Non SSES student-athletes v their peers
Test 2: SSES student-athletes v their peers
In both tests the data violated the assumption of sphericity (W = 0.000, p < 0.05). Both tests found a significant main effect of student type, with non-SSES significantly higher and SSES significantly lower than their peers (student-athlete v non student-athlete); Test 1 (F(1) = 17.86, p < 0.05) and Test 2 (F(1) = 7.75, p < 0.05). Therefore, non-SSES student-athletes attain significantly higher GPAs overall compared to their non student-athlete peers. SSES student-athletes attain significantly lower GPAs overall compared to their non student-athlete peers.

i). No hypothesis for differences academically between older/younger student-athletes and their peers
Test 1: Age ≤ 19 student-athletes v their peers
Test 2: Age ≥ 20 student-athletes v their peers
In both tests the data violated the assumption of sphericity (W = 0.000, p < 0.05). Test 1 found a significant main effect of student type (student-athlete v non student-athlete); Test 1 (F(1) = 5.09, p < 0.05) and Test 2 found no significant main effect of student type (F(1) = 0.29, p < 0.05). Therefore although younger (age ≤ 19)
student-athletes attain significantly lower GPAs overall compared to their non student-athlete peers, there is no significant difference between overall GPA of older (age ≥ 20) student-athletes compared to their non student-athlete peers.

3.4.3.3 Student-athletes within comparisons

1. Gender

a). Descriptives

<table>
<thead>
<tr>
<th></th>
<th>Male=1,Fem=2</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year1 Semester1</td>
<td>1</td>
<td>55.3733</td>
<td>8.16846</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>58.4232</td>
<td>8.70394</td>
</tr>
<tr>
<td>Year1 Semester2</td>
<td>1</td>
<td>55.3050</td>
<td>7.05243</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>57.9232</td>
<td>7.68098</td>
</tr>
<tr>
<td>Year1</td>
<td>1</td>
<td>55.5083</td>
<td>6.67818</td>
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<tr>
<td></td>
<td>2</td>
<td>58.1329</td>
<td>7.69053</td>
</tr>
<tr>
<td>Year2 Semester1</td>
<td>1</td>
<td>55.3583</td>
<td>6.72693</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>59.3463</td>
<td>8.04811</td>
</tr>
<tr>
<td>Year2 Semester2</td>
<td>1</td>
<td>56.4533</td>
<td>6.93562</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>59.6317</td>
<td>7.23984</td>
</tr>
<tr>
<td>Year2</td>
<td>1</td>
<td>56.7100</td>
<td>6.00981</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>60.0268</td>
<td>6.51395</td>
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<tr>
<td>Year3 Semester1</td>
<td>1</td>
<td>57.9650</td>
<td>8.09996</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>60.8829</td>
<td>6.39437</td>
</tr>
<tr>
<td>Year3 Semester2</td>
<td>1</td>
<td>58.3217</td>
<td>5.89878</td>
</tr>
<tr>
<td></td>
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<td>61.1732</td>
<td>5.07159</td>
</tr>
<tr>
<td>Year3</td>
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<td>5.81954</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>61.9268</td>
<td>4.98493</td>
</tr>
<tr>
<td>End of course GPA</td>
<td>1</td>
<td>58.2300</td>
<td>5.64912</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>61.2007</td>
<td>5.25070</td>
</tr>
</tbody>
</table>

Table 10: Table showing the average GPAs for male and female student-athletes

b). Hypothesis: Female student-athletes do better academically than male student-athletes

Levene’s test was non significant, therefore homogeneity of variance was accepted (p<0.05). The data violated the assumption of sphericity (W = 0.000, p<0.05). A significant main effect of gender (male v female) was found (F(1) = 6.75, p < 0.05).
Therefore female student-athletes attained significantly higher GPAs overall compared to male student-athletes (Figure 11).

Figure 11: Male and female student-athlete GPAs over time

2. Age
   a). Descriptives:
Table 11: Table showing average GPAs for ≤18, 19 and ≥20 yr old student-athletes (degree start age)

b). Hypothesis: No hypothesis for differences academically between older and younger student-athlete academic outcomes

Levene’s test was non significant, therefore homogeneity of variance was accepted (p<0.05). The data violated the assumption of sphericity (W = 0.000, p<0.05). A significant main effect of age (≤18 v 19 v ≥20 yr olds) was found (F(2) = 3.33, p < 0.05). The Bonferroni post-hoc test found a significant difference between the ≤18 group and the ≥20 yr old group. Therefore older (≥20 years at start of degree) student-athletes attain significantly higher GPAs overall compared to younger (≤18 years at start of course) student-athletes (Figure 12).
Figure 12: GPAs for ≤18, 19 and ≥20 yr old student-athletes (at degree start) over time

3. Sport type (individual v team)

a). Descriptives:

<table>
<thead>
<tr>
<th>Sport</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football</td>
<td>61.94</td>
<td>3.24</td>
<td>4</td>
</tr>
<tr>
<td>Tennis</td>
<td>61.81</td>
<td>6.04</td>
<td>9</td>
</tr>
<tr>
<td>Volleyball</td>
<td>59.81</td>
<td>3.76</td>
<td>5</td>
</tr>
<tr>
<td>Golf</td>
<td>59.53</td>
<td>5.52</td>
<td>8</td>
</tr>
<tr>
<td>Cricket</td>
<td>58.70</td>
<td>2.88</td>
<td>5</td>
</tr>
<tr>
<td>Athletics</td>
<td>58.57</td>
<td>3.91</td>
<td>28</td>
</tr>
<tr>
<td>Netball</td>
<td>58.54</td>
<td>3.92</td>
<td>3</td>
</tr>
<tr>
<td>Swimming</td>
<td>58.39</td>
<td>3.93</td>
<td>14</td>
</tr>
<tr>
<td>Hockey</td>
<td>56.72</td>
<td>6.54</td>
<td>13</td>
</tr>
<tr>
<td>Rugby</td>
<td>55.74</td>
<td>4.86</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 12: End of degree mean GPA by sport

b). Hypothesis: Individual sports student-athletes do better academically than team sports student-athletes
Levene’s test was non significant, therefore homogeneity of variance was accepted (p<0.05). The data violated the assumption of sphericity (W = 0.000, p<0.05). No significant main effect of sport type (individual v team) was found (F(1) = 2.52, p < 0.05). Therefore the overall GPAs of individual sport student-athletes do not significantly differ from those of team sport student-athletes (Figure 13).

However, it must be pointed out that there is a trend towards individual-sport scholars achieving higher GPAs than team-sport scholars (consistently ~2% from start to end of degree) (Figure 13).

Figure 13: GPAs for individual and team sport student-athletes over time

4. Department (Sport Sciences v non-Sport Sciences)
   a). Descriptives:
Table 13: Average GPAs for SSES and non-SSES student-athletes

b). Hypothesis: No hypothesis for differences academically between student-athletes enrolled on different types of academic course in different departments

Levene’s test was non significant, therefore homogeneity of variance was accepted (p <0.05). The data violated the assumption of sphericity (W = 0.000, p <0.05). A significant main effect of department (SSES v non-SSES) was found (F(1) = 7.00, p < 0.05). A significant time x department interaction was also found (F(1) = 7.40, p < 0.05). Therefore non-SSES student-athletes attain significantly higher GPAs overall compared to SSES student-athletes, but SSES student-athletes significantly improve over time compared to non-SSES student-athletes (Figure 14).

Figure 14: Overall GPAs for SSES and non-SSES department student-athletes over time
3.4.4 Conclusions

3.4.4.1 Introduction

In a study conclusion, the aim is to not only draw inferences for the reasons behind the results within the sample studied, but also to tease out parallels between those results and the existing literature. As the literature is mainly North American it is important to mention how the sample may map onto the U.S. context. As discussed in the Chapter 2, Sack (1988) provided a typology of the college athletic programmes that currently exist in the U.S. The current study uses a sample equivalent to that of the ‘Small Time Corporate’ model, characterised by little commercialism but also by the awarding of athletic scholarships, and so comparisons may be drawn with NCAA Division II, or equivalent, American colleges. Moreover, the entire sample had to attain reasonably good secondary school (equivalent to high school) grades to be able to take up their university places. As this mirrors the academic selection inherent in the colleges used in the ‘College and Beyond’ database, this suggests the sample’s university may also be compared to this database. Furthermore, the elite nature of the sample may also entitle some comparison with the non-revenue sports programmes provided at the NCAA Division I colleges. Before making these comparisons however, it is important to recap the main results relative to the initial hypotheses:

1. Between student-athletes and their non-athlete student peers:
   - There is no difference in overall graduation rate
   - There is no difference in overall GPA, although student-athletes tend to receive slightly worse grades over time
   - Over the course of their degree, semester by semester and year by year, student-athletes ‘catch up’ as well as do better in flexible double modules
   - Student-athletes get lower academic degree classifications
   - Female student-athletes fare no differently academically
   - Male student-athletes do worse compared to their peers
   - Individual sport student-athletes fare no differently academically
   - Team sport student-athletes do worse academically compared to their peers
   - Non SSES student-athletes do better academically
   - SSES student-athletes do worse than their peers
Older student-athletes fare no differently academically
Younger student-athletes do worse academically compared to their peers

2. Within the student-athlete sample
   - Female student-athletes do better academically than male student-athletes
   - Individual sports student-athletes tend to do better academically than team sports student-athletes
   - Elite student-athletes cluster into particular degree courses (SSES in particular)
   - Non-SSES student-athletes do better than SSES student-athletes
   - Older student-athletes do better than younger student-athletes academically

3.4.4.2 Graduation Rate
Graduation rate is perhaps the most basic initial objective outcome upon which to measure academic performance. Like much of the student literature, the graduation rate of the student-athletes in this study was similar to that of the general student body. Therefore, from the widest possible perspective, this elite British sample mirrors the literature. Similarly to the sample from Shulman and Bowen (2001),

Clearly, “surviving” college has not been a big issue for athletes… Sports involvement may in fact have provided a stronger incentive to continue in school and a greater degree of stability than many other students experienced (p. 60).

3.4.4.3 Overall GPA
Becoming more fine-grained, the overall GPA that student-athletes attain compared to their non-athletic peers has been the most prolific level of literature analysis. In this study, by measuring at ten time points, we are able to uncover the GPA differences over the course of the degree. Therefore, although the difference between student-athletes and their peers was not significant (even though student-athletes significantly increased in their GPA average over time), it was consistently slightly
lower at all points throughout their degrees. A possible reason for this result is the poorer academic preparation of the student-athletes rather than problems due to athletic participation. This conclusion may be drawn because the differences between student-athletes and their course peers is evident even at the outset of their degrees from the Year 1, Semester 1 time point. However, how true this is can only be known once the academic preparation variable of the sample is considered.

3.4.4.4 GPA temporal patterning

Due to the innovative methodology of the current study, not only was it possible to see the overall GPA differences, it was also possible to appraise the differing academic ebbs and flow between and within student-athletes and their non-athletic peers over time. The results suggest that there is a difference in GPA temporal patterning over the course of a degree, semester-by-semester and year-by-year such that student-athletes firstly ‘catch up’ with non student-athletes and secondly also do better in flexible double modules.

From the first time point at Year 1, Semester 1 to the final Year 3 GPA average, student-athletes make up over 0.5% on their peers. There may be a variety of reasons for this. As Year 1 scores do not count towards the final degree mark, and Year 3 scores make up the highest proportion towards this final mark, perhaps student-athletes are pacing themselves, inversely correlating their academic and athletic effort. Or, perhaps it is simply that by Year 3, student-athletes have learnt the skills to then manage their predicament from the mistakes made in the previous two years. There is some unpublished evidence to support both these hypotheses in the elite British environmental context (Cross, 2000).

3.4.4.5 Degree classification

A degree classification is given based on the 10% band that one’s degree end GPA falls into. Therefore, scores of 60% and 69% for example, although markedly different, would receive the same degree classification. Although neither student-athlete and non student-athlete graduation rate, nor overall GPA, differed significantly, degree classification was found to be significantly lower for student-athletes. This suggests that student-athletes may have been getting near the top of
10% bands but, more often than their peers, just missing out on the higher classification band. What does this tell us? Perhaps the answer is that many student-athletes, in the process of easing off academics early on in their degrees and then accelerating later on (discussed in relation to the 'catch up' effect), somewhat mistimed their academic sprint finish and had too much ground to make up. In effect, their terminal velocity was high but their acceleration started too late. As there is no similar methodology from the literature, there are no previous results to back up this suggestion.

3.4.4.6 Gender

Following recent U.K. HE trends (Equal Opportunities Commission, 1998; Higher Education Statistics Agency, 2004), female student-athletes outperform males and their non-athletic peers. Several recent studies suggest these trends may be due to gender behavioural and personality differences. For example, Woodfield and colleagues (2003, 2005) considered three sets of possible influences on degree performance. They assessed behavioural factors, such as how hard people work and how good their attendance is; sociological factors, such as class background and educational history; and individual factors, such as personality and cognitive differences. From a behavioural point of view, women were found to work consistently harder than men. Secondly, women also scored higher on 'openness' and 'agreeableness', and these factors started to influence degree performance in the second and third years. They contend that, as university working trends are shifting away from the individual and onto the team, evidenced by more continuous assessment, seminars and group work, females are more equipped with the psychological tools to excel.

Furthermore, using a student-athlete lens, the gender differences reflect those found in the literature which are put down to the differing academic socialisation factors in men's and women's teams (Adler and Adler, 1985,1987; Meyer, 1990). Although teams of both genders encourage members to adjust their academic values to the norms of the group, male team norms tend to devalue academics whereas female team norms do the opposite. Therefore, the effect of an across-the-board academic gender gap is magnified in the specific case of team sports.
3.4.4.7 Sport type

The results found that not only did team sport student-athletes achieve significantly lower grades compared to individual sport student-athletes, they also performed significantly worse academically compared to their non-athletic peers. This latter eventuality was not the case for individual sport student-athletes. This suggests that rather than individual sport scores being higher, the team sport scores were lower. As mentioned in the gender section, and when considering that there were around 20% more males in the sample than females, this result suggests the team sport student-athletes were becoming socialised into their team norm of 'pragmatic detachment' from their academic identity. This conclusion is backed up when we look at descriptive data on each sport (Table 12). The lowest sports academically by some margin (over 1.5% lower) were rugby and hockey, which are both team and mainly male in this sample. (The anomaly of the male team sport of football having the highest average can be put down to the low sample size (n = 4) and the fact that the football student-athletes were much older than average when they entered university). In contrast, the female team sports of netball and volleyball had particularly high GPA averages when compared to the male team sports.

3.4.4.8 Age

Similar to the sport type, the results showed that not only did younger student-athletes achieve significantly lower grades compared to older sport student-athletes, they also performed significantly worse than non student-athletes. Again, similar to sport type, this second eventuality was not the case for older scholars. The differences in age may be reflected in higher academic identity, career awareness and intrinsic motivation to study. These factors are all more likely in a more ‘mature’, older student-athlete. As there is no previous student-athlete literature on age this contention cannot be backed up until this variable is used in future studies, particularly if this factor and GPA are linked with psychological outcome variables.

3.4.4.9 Academic clustering and Department

The elite student-athletes from the university Scholarship Scheme who make up the sample show a marked academic clustering to courses in the School of Sport and
Exercise Sciences (74 SSES compared to 46 non-SSES). Unlike the literature however, that finds academic clustering in either easy or more ‘competitive’ business-orientated degrees, the clustering here is possibly for different reasons. First of all, the University is a leader in sports-related degrees that will no doubt attract athletes due to their personal interest and experiences. Secondly, the SSES department may have the licence to provide a slightly reduced university offer to an elite performer. This may offer a further inducement for the academically-minded athlete intent on pursuing their sport at university.

Nonetheless, the results also revealed a difference both between student-athletes and their peers and within student-athletes in terms of department (SESS v non-SSES). There may have been two reasons for this. Firstly, the fact that many other student-athletes are likely to be enrolled in the SSES may produce a socialising effect away from academics, similar to that in male team sports. Secondly, the possible lower academic preparation for SSES student-athletes may account for GPA differences. This second result seems the most plausible as the results also revealed that these student-athletes significantly caught up on the non-SSES student-athletes, which they would not do if a socialisation effect was occurring.

To ascertain the extent of this, this chapter also reports on the academic preparation of the elite student-athlete sample.
3.5 Study 1b: The academic preparation (A levels) of elite British student-athletes

3.5.1 Hypotheses

From the literature the hypotheses for Study 1b are as follows:

1. Between student-athletes and non student-athletes
   a. Student-athletes overall arrive at university with a lower academic preparation compared to their non-athletic peers
   b. Regardless of gender or sport type, student-athletes are less prepared
   c. No hypotheses could be forwarded for age or department differences

2. Within student-athletes as a group
   a. Similar to college academic outcomes; female and individual sports student-athletes will be more academically prepared than their fellow male and team sport student-athletes
   b. From Study 1a, older and non-SSES department student-athletes will be more academically prepared compared to younger, SSES student-athletes

3. Predicting GPA
   a. Academic preparation does not significantly predict student-athlete university academic outcomes
   b. Student-athletes perform worse over the course of their degree than their non-athletic peers who have similar academic preparation

3.5.2 Method

The participants for Study 1b were taken from those in the Study 1a database. The procedure for Study 1b included retrieving, adding and then analysing academic preparation details for student-athletes and non student-athletes into the existing database.

Firstly, the university Academic Registry was contacted to retrieve information. The student-athletes in the sample came from various backgrounds, but most had undertaken A level (usually British high-school 16-18 year old)
qualifications before coming to university. Therefore, the A levels of each student-athlete were retrieved. Similarly, to enable comparisons, the average A level admissions offer total and the actual A level total for each student-athlete's exact course and year was also retrieved.

Secondly, these grades were then converted to a points total following the system generally recognised in the U.K. (A=10 points, B=8 points, etc.). Those equivalent qualifications that some student-athletes had taken instead of A levels (e.g. Scottish Highers, International Baccalaureate, etc.), were also able to be converted in a points total. The total for student-athletes was divided by the number of A levels taken to obtain a student-athlete mean A level. (The total scores for the departmental offers and actual grades were divided by three). Those student-athletes who had taken qualifications that could not be translated into a points total were deleted from the Study 1b database. This left a total of 100 student-athletes of which 59 were male and 41 were female. There were 64 individual sport and 36 team sport student-athletes from 18 sports. A total of 62 were from the School of Sport and Exercise Sciences (SSES) and 38 were non-SSES department student-athletes. Finally, the data were analysed in the following ways:

1. Descriptive means and standard deviations overall and for different demographic variables (gender, age, sport type and department)
2. Paired samples (matched-pairs) t-tests were used to investigate the differences between student-athletes and non student-athletes.
3. Independent samples t-tests were used to compare differences within the student-athlete sample. When the analysis tested a specific hypothesised prediction, the one-tailed probability was used. If there was no prediction, the two-tailed probability was used. Furthermore, Levene’s test for equality of variance was also employed and if found to be significant, equal variances were not assumed and the adjusted degrees of freedom significance score was used.
4. Simple regression analyses and analyses of variance were used to test how well A levels predicted end of degree GPA outcomes for student-athletes and non student-athletes.
5. Finally, a repeated measures analysis was used, following Study 1a, to compare the different GPA patterns of student-athletes who had achieved higher, lower and much lower A levels grades than their non student-athlete peers. The assumptions of this test were followed as in Study 1a.

3.5.2 Results

3.5.2.1 Student-athletes v non student-athletes

1. Descriptives

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA total points</td>
<td>20.2845</td>
<td>5.66703</td>
</tr>
<tr>
<td>Dept offer points</td>
<td>23.4038</td>
<td>2.71465</td>
</tr>
<tr>
<td>Dept actual points</td>
<td>23.3067</td>
<td>2.40538</td>
</tr>
<tr>
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</tr>
<tr>
<td>Dept actual points per A level</td>
<td>7.7689</td>
<td>.80174</td>
</tr>
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</table>

Table 14: Descriptive data on the academic preparation of student-athletes and their non student-athlete peers
Table 15: The academic preparation mean scores for student-athletes and non-student-athlete depending on demographic variable (SD in brackets).

<table>
<thead>
<tr>
<th></th>
<th>SA total points</th>
<th>Dept offer points</th>
<th>Dept actual points</th>
<th>SA points per A level</th>
<th>Dept offer points per A level</th>
<th>Dept actual points per A level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>19.29 (5.47)</td>
<td>22.9 (2.84)</td>
<td>22.80 (2.63)</td>
<td>6.60 (1.66)</td>
<td>7.63 (0.95)</td>
<td>7.60 (0.88)</td>
</tr>
<tr>
<td>Female</td>
<td>21.52 (5.69)</td>
<td>24 (2.42)</td>
<td>23.99 (1.93)</td>
<td>7.37 (1.77)</td>
<td>8.00 (0.81)</td>
<td>7.99 (0.64)</td>
</tr>
<tr>
<td>Older</td>
<td>17.90 (5.82)</td>
<td>23.60 (2.72)</td>
<td>23.32 (2.60)</td>
<td>6.20 (1.65)</td>
<td>7.87 (0.91)</td>
<td>7.77 (0.87)</td>
</tr>
<tr>
<td>Younger</td>
<td>20.77 (5.49)</td>
<td>23.29 (2.73)</td>
<td>23.28 (2.40)</td>
<td>7.09 (1.72)</td>
<td>7.76 (0.91)</td>
<td>7.76 (0.80)</td>
</tr>
<tr>
<td>Individual sport</td>
<td>20.14 (5.78)</td>
<td>23.32 (2.74)</td>
<td>23.22 (2.45)</td>
<td>6.98 (1.75)</td>
<td>7.77 (0.91)</td>
<td>7.74 (0.82)</td>
</tr>
<tr>
<td>Team sport</td>
<td>20.32 (5.48)</td>
<td>23.41 (2.70)</td>
<td>23.39 (2.41)</td>
<td>6.81 (1.75)</td>
<td>7.8 (0.90)</td>
<td>7.80 (0.80)</td>
</tr>
<tr>
<td>SSES department</td>
<td>19.21 (5.65)</td>
<td>25.11 (1.28)</td>
<td>24.54 (0.92)</td>
<td>6.62 (1.69)</td>
<td>8.37 (0.43)</td>
<td>8.18 (0.31)</td>
</tr>
<tr>
<td>Non-SSES department</td>
<td>21.83 (5.31)</td>
<td>20.51 (1.88)</td>
<td>21.83 (5.31)</td>
<td>7.40 (1.74)</td>
<td>6.84 (0.63)</td>
<td>7.10 (0.91)</td>
</tr>
</tbody>
</table>

Note: the high SDs for SA total points is due to many student-athletes having taken less than three A levels. This is reflected in the more acceptable SDs for points per A level.)
2. Paired-samples $t$-tests examined the differences between student-athletes and non student-athletes on academic preparation (all df = 101). Overall and at all the variables bar 'non-SSES', student-athletes achieved lower academic preparation than their cohort peers. Non-SSES department student-athletes achieved significantly higher A level mean and total scores than the conditional offers of their departments.

<table>
<thead>
<tr>
<th>Variable</th>
<th>SA total v Conditional total</th>
<th>SA total v Actual total</th>
<th>SA mean v Conditional mean</th>
<th>SA mean v Actual mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>-4.89 (sig.)</td>
<td>-5.31 (sig.)</td>
<td>-4.31 (sig.)</td>
<td>-4.67 (sig.)</td>
</tr>
<tr>
<td>Male</td>
<td>-4.26 (sig.)</td>
<td>-4.55 (sig.)</td>
<td>-3.86 (sig.)</td>
<td>-4.16 (sig.)</td>
</tr>
<tr>
<td>Female</td>
<td>-2.51 (sig.)</td>
<td>-2.80 (sig.)</td>
<td>-2.08 (sig.)</td>
<td>-2.29 (sig.)</td>
</tr>
<tr>
<td>Older</td>
<td>-3.83 (sig.)</td>
<td>-4.10 (sig.)</td>
<td>-3.88 (sig.)</td>
<td>-4.26 (sig.)</td>
</tr>
<tr>
<td>Younger</td>
<td>-3.60 (sig.)</td>
<td>-3.96 (sig.)</td>
<td>-3.02 (sig.)</td>
<td>-3.30 (sig.)</td>
</tr>
<tr>
<td>Individual</td>
<td>-3.67 (sig.)</td>
<td>-3.89 (sig.)</td>
<td>-3.00 (sig.)</td>
<td>-3.13 (sig.)</td>
</tr>
<tr>
<td>Team</td>
<td>-3.35 (sig.)</td>
<td>-3.84 (sig.)</td>
<td>-3.30 (sig.)</td>
<td>-3.83 (sig.)</td>
</tr>
<tr>
<td>SSES</td>
<td>-7.91 (sig.)</td>
<td>-7.71 (sig.)</td>
<td>-7.81 (sig.)</td>
<td>-7.48 (sig.)</td>
</tr>
<tr>
<td>Non-SSES</td>
<td><strong>1.77</strong> (student-athletes sig. higher)</td>
<td>0.77 (non sig.)</td>
<td><strong>2.257</strong> (student-athletes sig. higher)</td>
<td>1.28 (non sig.)</td>
</tr>
</tbody>
</table>

Table 16: $t$-values (and significance) of paired samples $t$-tests on the academic preparation of student-athletes and their non student-athlete peers depending on demographic variables

3. Independent samples $t$-tests for within student-athlete sample. Females, younger and non-SSES were found to have significantly higher academic preparation than male, older and SSES student-athletes.
Variable | A level total | A level mean  
---|---|---  
Gender | $t(86.74) = -1.86$, sig. | $t(101) = -2.11$, sig.  
Age | $t(28.88) = 1.64$, non sig. | $t(30.87) = 1.75$, sig.  
Sport type | $t(78.65) = -0.05$, non sig. | $t(101) = 0.57$, non sig.  
Department | $t(85.06) = -2.24$, sig. | $t(79.48) = -2.08$, sig.  

**Table 17**: $t$-values (and significance) of independent samples $t$-tests on the academic preparation of student-athletes depending on demographic variables

4. Regression and analysis of variance analysis  
a. The student-athlete A level *mean* score was found to predict 16.7% of the student-athlete end of course GPA variation. Furthermore, this regression model for **A level mean scores predicts end of degree GPA significantly well** ($F(1) = 19.58$, sig. $p < 0.05$).

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA total</td>
<td>.408</td>
<td>.167</td>
<td>.158</td>
<td>5.11600</td>
</tr>
</tbody>
</table>

**Table 18**: Summary table of regression model for A level mean scores on end of course GPA variance

b. The student-athlete A level *total* score was found to predict 12.6% of the student-athlete end of course GPA variation. Furthermore, this regression model for **A level total scores predicts end of degree GPA significantly well** ($F(1) = 14.13$, sig. $p < 0.05$).

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA mean</td>
<td>.355</td>
<td>.126</td>
<td>.117</td>
<td>5.23881</td>
</tr>
</tbody>
</table>

**Table 19**: Summary table of regression model for A level total scores on end of course GPA variance

108
c. The department A level mean score was found to predict 40.7% of the department end of course GPA variation. Furthermore, this regression model for department A level mean scores predicts end of degree departmental GPA significantly well (F(1) = 68.53, sig. p < 0.05).

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept total</td>
<td>.638</td>
<td>.407</td>
<td>.401</td>
<td>2.31402</td>
</tr>
</tbody>
</table>

**Table 20:** Summary table of regression model for actual department A level mean scores on end of course GPA variance

5. Repeated measures analysis of student-athletes with different levels of academic preparation was performed:
   a. Level 1 = higher A level mean score than non student-athlete peers
   b. Level 2 = just lower A level mean score than non student-athlete peers (up to 2 A level points lower)
   c. Level 3 = a lot lower A level mean score than non student-athlete peers (more than 2 A level points lower)

<table>
<thead>
<tr>
<th>A level grps</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>27</td>
</tr>
<tr>
<td>Lower</td>
<td>40</td>
</tr>
<tr>
<td>Much lower</td>
<td>24</td>
</tr>
</tbody>
</table>

**Table 21:** Frequencies of different levels of A level preparation in the student-athlete sample

---

5 Department total will predict the same variance as department mean as the mean was initially calculated by dividing the department total by three. This was not true for the student-athletes as some had taken less than three A levels.
<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Alev gpa</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>1.00</td>
<td>62.8463</td>
<td>7.10004</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>56.0325</td>
<td>7.84587</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>51.0417</td>
<td>7.20899</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>2.00</td>
<td>57.2752</td>
<td>6.47789</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>57.9575</td>
<td>6.34533</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>57.4458</td>
<td>5.93956</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>3.00</td>
<td>56.4250</td>
<td>7.76636</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>53.6167</td>
<td>6.35888</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>58.9063</td>
<td>4.03068</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td>57.2000</td>
<td>3.81503</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>58.3917</td>
<td>2.22123</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>61.6511</td>
<td>5.95732</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>1.00</td>
<td>57.2752</td>
<td>6.47789</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>57.9575</td>
<td>6.34533</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>57.4458</td>
<td>5.93956</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>2.00</td>
<td>56.4250</td>
<td>7.76636</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>53.6167</td>
<td>6.35888</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>58.9063</td>
<td>4.03068</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>3.00</td>
<td>57.2000</td>
<td>3.81503</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>58.3917</td>
<td>2.22123</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>61.6511</td>
<td>5.95732</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td>57.2000</td>
<td>3.81503</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td>58.3917</td>
<td>2.22123</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td>61.6511</td>
<td>5.95732</td>
<td></td>
</tr>
</tbody>
</table>

**Table 22:** Descriptive data on the different levels of A level preparation for student-athletes on student-athlete and department GPA outcomes.
Between student-athletes and non student-athletes
The data violated the assumption of sphericity (W = 0.000, p < 0.05). Apart from the main effect of time (which was reported in Study 1a), there was a significant main effect for A level type (F(6) = 5.50, p < 0.05). A Bonferroni post-hoc test revealed that, regardless of time and student type, the higher group differed significantly from the lower and much lower groups (p < 0.05).

As can be seen in Figures 15, 16 and 17, student-athletes decrease a little, stay similar and increase a lot respectively over time in relation to non student-athletes. Although not significant, the most interesting result is the time x student type x A level group interaction (Figure 17). This result shows a definite trend (F(7.67) = 1.87 p = 0.66) such that the way in which GPAs of student-athletes and non student-athlete changes over time depends upon which A level group the subject is. Therefore, elite student-athletes do 'catch up' compared to their peers, even though they begin with very much lower academic preparation.

![Figure 15: Student-athlete and department GPA scores for A level group 1 (higher)](image1)

![Figure 16: Student-athlete and department GPA average scores for A level group 2 (just lower)](image2)
**Figure 17:** Student-athlete and department GPA average scores for A level group 3 (much lower)

**Within student-athletes A level groups analysis**

The data violated the assumption of sphericity ($W = 0.000$, $p < 0.05$). A significant main effect of A level type (higher v lower v much lower) was found ($F(7.68) = 2.38$, $p < 0.05$). Therefore the groups differed significantly in their GPA scores over time. Bonferroni post-hoc tests revealed that it was Level 1 that differed significantly from both Level 2 and Level 3 ($p < 0.05$) (Figure 18). Therefore, student-athletes with much higher academic preparation have higher academic outcomes compared to those with lower and much lower academic preparation. However, those with much lower preparation ‘catch up’ on those with a little lower preparation.

**Figure 18:** Student-athlete GPA average scores for A level group 1,2 and 3
3.5.3 Conclusions

3.5.3.1 Introduction

As in Study 1a this Introduction shall first summarise the results of the study in relation to the original hypotheses:

- Student-athletes overall arrive at university with significantly lower academic preparation (A levels) compared to their non-athletic peers
- Regardless of gender, sport type or age, student-athletes are less prepared compared to their departmental peers
- However, although SSES department student-athletes are also significantly less prepared compared to their peers (and compared to their department offers suggesting an admissions advantage over their peers), non-SSES student-athletes achieve significantly higher A level grades than their department offers and are no different to their non student-athletes peers’ actual average grades
- Similar to college academic outcomes in Study 1a, female and non-SSES department student-athletes are more academically prepared than male and SSES department student-athletes. However, there are no differences between individual and team sport student-athletes. Furthermore, contrary to predictions, younger student-athletes are more academically prepared than older student-athletes
- Academic preparation does significantly predict student-athlete university academic outcomes for both student-athletes and non-student-athletes. However, student-athlete academic preparation predicts 24% less of the GPA variance than does non student-athlete academic preparation
- This may be due to the fact that some student-athletes i.e. those who are much lower academically prepared compared to their peers, ‘catch up’ on their departmental peers and other student-athletes alike

3.5.3.2 Overall academic preparation

In the U.S. literature, the measure of academic preparation is usually either the Scholastic Aptitude Test (SAT) or the high-school grade point average (HSGPA).
The general pattern from the journal and database literature suggests that student-athletes come to university with significantly lower SATs and/or HSGPAs than their peers. For example, Shulman and Bowen (2001) found that the gaps in average SAT scores between students at large and both high- and low- profile athletes were very large regardless of college group. Therefore, in all the college typology quadrants described by Sack (1988), apart from the Amateur Model (as this type was not included in the ‘College and Beyond’ database), academic preparation differences were large. The general result of the current study supports this finding in the elite British context.

As student-athletes from the study came to university with significantly lower academic preparation, not only to their peers but also to the departmental offers, they profited from a strong admissions advantage over the average student. This result is again in line with that of Shulman and Bowen (2001) who found that, by 1999, athletes had a 48% increased likelihood of admission to college. Athletic recruitment, they suggested has two primary justifications. Firstly,

By fuelling an enterprise that potentially provides a return through gate revenues, community relations, increased fundraising, and name recognition ("image"), vigorous athletic recruitment may increase the resources available to other activities (p.42).

As the British university in the study may be equated to the Small Time Corporate Model (Sack, 1988), with little or no gate revenues or the like associated with most sports played there, this justification does not seem to hold water with this, or indeed any other British or European sample. More relevant may be the second principle justification for the active recruitment of athletes, which is that their,

Athletic talent is considered a proxy for other skills and attributes that serve the institution’s core educational mission. This... assumes that intercollegiate athletes have personal qualities (values, strengths, power) that will
distinguish them when the games of sport end and the game of life begins (p. 42).

This is a very important point and one that may crucially distinguish the current U.S. system from the current British/European system. In the U.S., because of the massive financial incentives available to universities made from producing winning teams, much of the admissions advantage may arise from the first justification above. In the U.K. and Europe, any admissions advantage (if it occurs) is much more likely to be in harmony with the university's educational mission, mainly because the external gains just do not exist.

3.5.3.3 Student-athletes v non student-athletes by variable

When the academic preparation of student-athletes and non student-athletes in the sample is broken down by variables, a very different perspective emerges. This is completely due to the huge department clustering effect of the sample, whereby 62% come from one department, the School of Sport and Exercise Sciences. The descriptive data in Table 15 gives us our first clue to what is happening. Although student-athletes from non-SSES have significantly higher academic preparation than SESS department student-athletes, their departmental peers attain far lower actual grades than non student-athletes from SSES. Plainly put, the SSES is a highly competitive course with excellent incoming students and high intake standards. This makes the academic preparation of non-SSES student-athletes seem a little less remarkable, but nevertheless still excellent.

Furthermore, it is only in the SSES department that the admissions advantage is evident as in other departments student-athletes are actually entering university with grades that are significantly higher than the standard offers for that course and year and no different from the actual grades of their peers.

What does this mean in relation to the overall result discussed in section 3.5.3.2? One conclusion would be that only in departments that have an admissions advantage policy does the British context reflect that of the U.S. literature. An academic admissions policy is just one of the ways a university chooses to provide for athletic excellence. As many British universities (currently 63; BUSA, 2004) have
chosen to provide athletic scholarships, the author would contend that the academic preparation for many elite British student-athletes may be being ‘allowed’ to become lower as part of a national recognition of the value that sport can play in complementing one’s educational development.

3.5.3.4 Student-athletes within group variables

Mirroring Study 1a, female student-athletes achieved significantly higher academic preparation than male student-athletes. The same behavioural and psychological forces may also be at play here. The recent U.K. H.E. trends (Equal Opportunities Commission, 1998; H.E.S.A., 2004) show that not only do females outperform males at university; they also outperform them in school, in both their G.C.S.E examinations (taken aged 15-16 years old) and A levels. The result of this study shows that student-athletes as a group are no different in this regard.

No differences though were found between individual and team sport student-athletes as they had been in Study 1a. This result gives more strength to the argument that university team group norms, especially in male teams, can play a big part in socialising the student-athlete away from their academic ideals (Adler and Adler, 1985, 1997). However, because team sport student-athletes are less likely to be placed in such a strong environment when they are at school, this socialising effect is either not present or is much weaker.

Contrary to the study hypothesis, younger student-athletes were significantly more prepared than older student-athletes. One reason for this may be that older student-athletes were older in the first place as they came to university after one or more years of competing full-time at their sport. If this is the case, they would have been training during A levels or may have even left school before A levels and only come to them later or taken them by correspondence whilst competing. All these eventualities may have impeded their ability to perform well academically. This is a very different situation to that in the U.S. where the collegiate system is seen more as a springboard to a professional career. The U.K. system does include student-athletes who are using their university time in a similar way but this is true of far fewer students and far fewer sports. Also, older student-athletes may have simply had to repeat years at school, an indication of poorer academic performance. Therefore,
when these conclusions is paired with the evidence on GPA outcomes from Study 1a, it is not that younger student-athletes are performing better, but rather that older student-athletes are performing worse.

Finally, non-SSES student-athletes were significantly more academically prepared than SSES student-athletes. As discussed, this was simply due to the academic admissions policy of the SSES department.

3.5.3.5 Academic preparation as a predictor of university GPA

The study results found that both student-athlete and non-student-athlete academic preparation significantly predicted subsequent student-athlete and non-student-athlete degree GPA outcomes. This is consistent with educational research (Bekhradnia and Thompson, 2002, HEFCE, 2002), which similarly suggests that,

Entrants with lower A level grades are... less likely to get a good degree... There is good evidence to back the practice of using grades for A levels and other qualifications, either individually specified or summarised in a tariff, as a condition for entry to higher education courses (p.8).

Interestingly though, student-athlete academic preparation predicts 24% less of the GPA variance than does non-student-athlete academic preparation. What is happening here? Why is this difference present and is it based on student-athletes either underperforming or overperforming in their degrees based on what is expected by their academic preparation?

3.5.3.6 Student-athlete under- and over-performance

The final analysis of Study 1b, that splits student-athletes into three groups based on their academic preparation, attempts to answer the question of whether the British sample under- or overperformed in their degrees. The literature suggests that, even when controlling for differences in SAT scores, college major and sociological status, athletes perform lower than would be predicted by their high school class rank.
(Shulman and Bowen, 2001⁶). In the British sample from this study, it was found that if a student-athlete was more academically prepared than their peers they would continue to achieve higher average GPA scores than those peers at university. Although they were consistently higher, they neither improved nor decreased in relation to non student-athletes. This pattern was also found if the student-athlete was a little lower (up to 2 A level points lower than the department average) in academic preparation to their peers. Again, although they consistently achieved lower GPAs they neither improved nor decreased compared to their cohort. However, a trend did emerge which showed that student-athletes who were much lower (more than 2 A level points lower than the department average) improved compared to their non student-athlete peers and caught up with the GPA averages of the ‘a little lower’ group. Thus, it is this much lower group that accounts for the reduced predictive variance of student-athlete academic preparation on GPA compared to the predictive variance of non student-athletes on their subsequent GPA.

There could be many reasons for this improvement over time. Perhaps, this particular group of student-athletes have only learnt life and time management skills at university rather than before, either by trial and error, by transferring skills from sport, or by formal education from the university Scholarship Scheme education programmes. Perhaps they have gained in student commitment due to the academic achievements of their departmental friends and/or due to the realisation that their career transition out of university is looming on the horizon. Or perhaps simply they have been fortunate to have an academically minded mentor, tutor or coach. There is some evidence to suggest that all of these factors may play their part (Cross, 2000).

3.5.3.7 Conclusion

This study ultimately presents results that, when linked to GPA averages data, paint a positive picture for elite British student-athletes. Even though student-athletes overall come to university less academically prepared than their peers, this is a conscious

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⁶ It does seem that these authors are being a little devious though in the way they present their data. For example, they only present data for male athletes (which is likely to be lower than overall athlete scores). They only find 9 out of their 16 analyses to be significant for different athlete types (high and low profile sports) and college type (IA private, IA public, Ivy League and liberal arts) in 1976 and 1989. Furthermore, the significance for these analyses is set at the 90% level of confidence. However, regardless of their artful presentation, the message is still both credible and compelling.
decision made by administrators that is in line with their educational mission. Moreover, the results also suggest that overall they are not underperforming like the U.S. samples are purported to be doing with increasing regularity. Their athletic participation is not negatively affecting their academic performance as predicted by their academic preparation. On the contrary, those with poor academic preparation are actually close to overperforming even though they are elite athletes with significant time commitments on a sports scholarship.
3.6 Overall conclusions

3.6.1 Comparisons with the existing literature

Within the individual conclusions of Study 1a and 1b, the reasons for particular results have been discussed in light of the literature. There are also a number of further conclusions that can be drawn by taking the two studies together from a wider student-athlete research perspective.

In contrast to the current literature the methodologies of Study 1a and 1b enable the process of academic outcomes to be uncovered for the first time. We can see what happens to a student-athlete’s grades over the course of their degrees. The conclusions concerning ‘catching up’ and academic flexibility through double modules would have been hidden if only the usual single end of degree GPA measure was used. Furthermore, the variables of age and sport type (individual and team sport) have not been investigated previously to the author’s knowledge. These have added further insights into the student-athlete academic experience.

In comparison to the literature, the studies found many similarities. Females outperformed males, team socialisation issues were highlighted in the reduced team sport outcomes, graduation rates were found to be similar, and academic clustering (albeit for different reasons) was evident.

However, the main realisation that the studies jointly clarify is that, although there are many similarities in the results found here in the elite British context, the situation in the U.S. is, in the main, somewhat different. The core of the difference lies in the practices that stem from the university mission. In the U.S., lower academic outcomes are more likely to have occurred as a consequence of a choice towards more external rewards. In the U.K. lower academic outcomes compared to peers (in this sample at least) seem to reflect a choice in line with wider educational

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7 Bowen and Levin (2003) report that UAA colleges, however, have ‘largely avoided the problems associated with the recruitment of college athletes’ in that student-athletes looked like their peers in terms of academic preparation and performance. They suggest that this ‘may be the result of less formalised recruitment processes, more careful monitoring of academic performance, the relatively limited size of the athletics programs on these campuses, the absence of intense traditional rivalries, and the strong presidential control of the athletic enterprise’ (p.329). This sounds very similar to the British university that is the subject of this Chapter.
values. In the U.S., student-athlete academic outcomes are not only lower but are dropping over time compared to students at large. Whether this trend is followed in the British context remains to be seen.

### 3.6.2 Future directions

The student-athlete functional literature has three main time points of interest. These are the academic preparation, the academic outcomes, and the post-academic occupational outcomes of student athletes. This chapter has included studies that have focussed on the first two of these time points. Further research in a British context could expand to the third time point to assess occupational development in comparison with academic preparation and outcomes, and also to compare these with the U.S. situation.

Some lessons from the ‘College and Beyond’ database in particular can also be drawn. Obviously, expanding the sample to other student-athlete groups, at other universities, in other European contexts would enable a wider assessment of the current situation in relation to the extant literature. Using controls such as socio-economic status and comparing to other committed student groups may provide further perspective. Furthermore, assessing changes longitudinally would also be of paramount importance if the researcher were interested in how sociological trends towards professionalism may be influencing student-athlete outcomes over time.

However, perhaps the most illuminating direction may come from the combination of objective and psychological variables in the same study. Such a methodology would enable some of the conclusions drawn here, concerning how academic outcomes vary as a result of underlying commitments and conflicts, to be tested.

### 3.6.3 Final thoughts

There are a number of practical recommendations that arise from the analyses in Study 1a and 1b. A simple dissemination of the findings to key stakeholders;

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8 An independent t-test comparing mean A level grades and end of course GPA between Year 1 (1994) and Year (1999) of the Scholarship Scheme found that, whilst there was no significant difference between Year 1 and Year 6 mean A level grades, student-athletes had significantly improved (F(18.49), p < 0.05) in end of course GPA from Year 1 to Year 6.
including coaches, lecturers, administrators and student-athletes themselves, may help supplement existing student-athlete frameworks through an awareness of the principles underlying the study's conclusions. In particular, university staff may recognise that it would be particularly beneficial to design support systems with particular 'at risk' student-athlete groupings in mind. Also, as the student-athletes in the sample seem to 'catch up' academically from year-long, double-semester modules (more coursework and less exams), staff may see a benefit in continuing to promote academic flexibility to help student-athletes work to their full potential.

These practical recommendations exist because of the university's choice in accepting less academically prepared student-athletes. This choice however comes at a cost. As Bekhradnia and Thompson (HEFCE, 2002) suggest in their report for the Higher Education Funding Council for England,

>'The idea that there is little or no association between previous educational attainment, and success in higher education, fits very well with the idea that widening participation can be achieved with no additional unit costs. A perfectly logical deduction from a false premise. If universities are going to take students from a wider range of educational backgrounds, maintain standards, and give students a good chance of succeeding, more resources will be required' (p. 9).

Therefore, student-athletes who come to university with lower academic preparation can succeed but they will need extra help to do so. Exactly what underlying processes dictate this success, which in turn can inform the content of this extra help, can only be known once a psychological perspective is added to the analysis. This is the perspective to which this thesis shall now turn its attention.
Chapter 4: Study 2: Systematic Review of Student-Athlete Psychological Outcomes

4.1 Structure of the chapter
This chapter first introduces the research context of the student-athlete psychological outcomes literature. It then provides a background and rationale for using the systematic review to appraise this literature. The method, including various criteria for article searching, inclusion and reviewing, followed by the results, grouped into tabulated summaries, is then presented. Finally, the research patterns, conclusions and implications for future lines of enquiry are then drawn.

4.2 Introduction

4.2.1 Literature context
What are the consequences of being a student-athlete? Is a student's functioning helped or hindered by participating in intercollegiate athletics? As I have discussed in Chapter 2, the Functional Paradigm has been used to good effect to answer these questions in the student-athlete literature and has borne fruit in particular with the more objective outcomes student-athletes show. As I also previously mentioned, a body of student-athlete 'conceptual commentaries' articles began to appear in the 1980s that provided a psychological clarity to the previously sociological literature. However, to what extent have the recommendations of these commentaries been followed? And, as a consequence, what can the psychological outcomes literature now conclude?

Since Snyder conceptualised student-athletic roles in terms of sporting and academic commitment in 1985, and Chartrand and Lent described 'role conflict' and 'career transitions' relative to student-athletes in terms of commitment to identity in 1987, there has been a flurry of functional studies and articles on these areas. The
most important recommendations from the conceptual commentaries literature, discussed in detail in Chapter 2, can be summarised as follows:

1. Conceptualising the student-athlete experience in terms of student and athlete role identity and/or commitment.
2. Conceptualising the student-athlete experience in terms of student and athlete role conflict.
3. Using these conceptualisations to investigate and more fully understand the psychological developmental processes and demands of being a student-athlete, i.e. from the transitions into, those during, and those leaving the college environment.

However, there has yet to have been made any systematic summary of the information these studies present. Therefore, employing a systematic review to undertake this evaluation seems appropriate.

4.2.2 Systematic reviews

Why use a systematic review as opposed to any other type of literature review? As Mulrow (1995) suggests, “tradition reviews have been criticised as haphazard and biased, subject to the idiosyncratic impressions of the individual reviewer”. (p. 5) Furthermore, “traditional reviews are often not very systematic, and are frequently biased”. (Eysenck, 1995; p. 64).

On the other hand, the systematic review takes a more scientific approach, applying explicit principles that aim to reduce random and systematic error. Each study is searched for, selected and reviewed using a number of standardised criteria. Because of this,

   Systematic reviews establish whether scientific findings are consistent and can be generalised across populations, settings, and treatment variations or whether findings vary significantly by particular subsets. (Mulrow, 1995; p. 7)
They are also an “efficient scientific technique that can prevent meandering down an already explored path” (ibid). In this particular case, the intention is not only to find explored, but also to identify unexplored, avenues of research.

4.2.3 Aims

The aims of this study are therefore three-fold. Firstly, to understand what has been studied following the conceptual commentaries, from Snyder (1985) onwards. Secondly, to review whether the psychological consequences for student-athletes are positive, negative or neutral. Thirdly, to ascertain where the research deficiencies are compared to the commentaries and therefore to then suggest on which areas student-athlete research now needs to focus.
4.3 Method

4.3.1 Search criteria

It was decided that the systematic review would only search for articles in the English language between the years 1985-2004 (since Snyder, 1985). The search was made using a variety of sources:

Firstly, a search was made of the following computerised databases PsychInfo, Sports Discus and BIDS using keyword combinations of student-athlete(s), student(s), athlete(s), college athlete(s), intercollegiate athletics.

Secondly, a manual search of the following serials was made: The Sport Psychologist, the Journal of Sport and Exercise Psychology, the Journal of Applied Sport Psychology, the International Journal of Sport Psychology, the Journal of Sport Behavior, Sociology of Sport Journal, and the Journal of College Student Development. These journals were selected as they had published many of the studies identified by the initial computerised database search.

Thirdly, reference sections from the primary studies located were used to ‘snowball’ the search.

Finally, the search extended to personal communications and/or reference lists from Britton Brewer, Richard Cox, Nicky Dunstan-Lewis, Patricia Miller, and David Yukelson (all noted researchers in the area of student-athletes).

4.3.2 Selection and Inclusion Criteria

Only those studies that recorded psychologically-related functional outcomes of student-athletes were selected to be included in the review. These could focus on the differences between student-athletes and non-student-athletes, and/or the differences within different types of student-athlete. Excluded were PhD/Masters theses, due to pragmatic reasons of expense and difficulty obtaining them. Also, as many are reported in journal articles, their inclusion may have led to repetition. Also excluded were unpublished articles and conference papers. However, qualitative studies were included, as the review did not use an effect size methodology.
4.3.3 Sample characteristics

The participants in each article had to currently be, or at some point in the past have been, college/university student-athletes. This meant that high-school student-athletes were not included in the review.

4.3.4 Criteria for reviewing

To make the information user friendly, to review each study in a consistent manner, and to allow comparisons between articles, the findings from each article were tabulated and reviewed using column headings. The following headings were used for the quantitative articles: author(s), year, participants, independent variables (IVs), dependent variables (DV$s), results, and main findings/comments. Where the author(s) used a previous measurement instrument, the initials of the instrument are detailed. If there are no initials the psychological constructs were measured using questions designed by the author(s). (Table 28 in section 4.4.7 details the key to instruments). The following headings were used for the qualitative articles: author(s), year, participants, method, area of research, and main findings/comments. The studies were listed in alphabetical order.
4.4 Results

4.4.1 Classification and number of studies

The systematic review found a total of 42 studies that fulfilled the student-athlete psychological functional literature search criteria. A summary of these, and the areas they naturally group into, is shown in Table 23. Tables 24 to 27, which show the articles included in the review, are also grouped according the headings in Table 23.

<table>
<thead>
<tr>
<th>Systematic review category</th>
<th>Number of articles found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative within college, general psychological outcomes</td>
<td>9</td>
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<tr>
<td>(Table 24)</td>
<td></td>
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<tr>
<td>Quantitative within college, identity-related outcomes</td>
<td>11</td>
</tr>
<tr>
<td>(Table 25)</td>
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<tr>
<td>Quantitative transition outcomes</td>
<td>12</td>
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<tr>
<td>(Table 26)</td>
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<tr>
<td>Qualitative psychological outcomes</td>
<td>10</td>
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<td>(Table 27)</td>
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</tbody>
</table>

Table 23: Summary table of the classification and number of studies found by the systematic review (Expanded in Tables 24-27)

4.4.2 Journals list

The articles were found in the following journals: The Sport Psychologist, the Journal of Sport and Exercise Psychology, the Journal of Applied Sport Psychology, the International Journal of Sport Psychology, the Journal of Sport Behavior, Sociology of Sport Journal, the Journal of College Student Development, Sociology of Education, the Social Science Journal, the Journal of Higher Education, the Journal of College Student Personnel, the Journal of Vocational Behavior, the Academic Athletic Journal, Career Development Quarterly, the Journal of Sport and
4.3.3 Systematic review tables
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curry, Snyder, Cook, Ruby and Rehman (1997)</td>
<td>Role of hope in academic and sport achievement</td>
<td>Study 1: Male and female SA</td>
<td></td>
<td>Trait + Disp hope (Hope scale)</td>
<td>1. M+F SA trait hope&gt;non-SA. Also, hope sig predicted semester GPA beyond cumulative GPA and overall self-worth</td>
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<td></td>
<td></td>
<td>Study 2: Female, Cross-country SA</td>
<td>SA v Non-SA</td>
<td>Self-esteem (SSES)</td>
<td>2. Trait hope predicted athletic outcomes and weekly state hope predicted athletic outcomes beyond Hope sig predicted athletic outcomes beyond disp. hope, training and self-esteem, variance related to athletic abilities and affectivity confidence and mood</td>
<td>Further, SAs are more hopeful than non-SA.</td>
</tr>
<tr>
<td>Jurkova (1987)</td>
<td>“Big-shot” collegiate athletics: Effects of high status roles and ritualistic objects on their self-esteem and performance</td>
<td>Study 3: Female track SA</td>
<td>Gender</td>
<td>Mood (POMS)</td>
<td>100% SAs enjoyed status, whilst SA status can help self-esteem and therefore 60% felt this helped performance</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>94 female SAs and 115 non-SA</td>
<td>SA v non SA</td>
<td>Trait affect</td>
<td>1. SA less eating disorder (PANAS) symptomatology</td>
<td></td>
</tr>
<tr>
<td>Meyers, Sterling, and Le.Unes (1996)</td>
<td>Psychological characterization of collegiate rodeo athlete</td>
<td>the34 Rodeo SA (26 male, 8 female)</td>
<td>Gender</td>
<td>Perceived self</td>
<td>2. SA more healthy psychological Female athletic involvement is associated with functioning on all measures healthy eating and psychological functioning</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>SA v non SA</td>
<td>Personality measures</td>
<td>1. SA sig higher in vigour and extraversion and lower depression, fatigue, confusion, total mood</td>
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<td></td>
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<td></td>
<td>Mood states (POMS) disturbance and conformity</td>
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</table>

Table 24: Systematic review of quantitative within college general student-athlete psychological outcomes
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priest, et al.</td>
<td>Four-year changes in college athlete’ ethical value choices in sport situations</td>
<td>631 SA</td>
<td>Inter-collegiate v intramural College entrance v exit</td>
<td>Individual v team sports Deontological ethics</td>
<td>1. At entrance, and at graduation, intercollegiate athletes value scores were sig. lower than intramural athletes, and both declined through college 2. Individual sport score were higher over college than team, but also decline more ‘sportsmanship orientation’ and increase ‘professional’ attitudes to sport</td>
<td>1. SA appraise academic situation as more relevant to the needs of loved ones, and appraise athletic situation as more relevant to self-concept</td>
</tr>
<tr>
<td>Sellers. (1995)</td>
<td>Situational differences in the coping processes of student-athletes</td>
<td>84 SA American football players</td>
<td>Student situation v Coping strategies (Ways of Coping)</td>
<td>Escape avoidance and social support</td>
<td>A ‘pessimistic’ explanatory style – in which bad events are attributed to internal, stable, and global causes – predicted appraisals of adequate coping in the academic situation are more likely to escape avoidance and social support. Modest evidence of situational differences between academic and athletic coping strategies.</td>
<td>More accepting responsibility, coping in the academic situation</td>
</tr>
<tr>
<td>Sellers (1993)</td>
<td>Explanatory style and coping with controllable events by student-athletes</td>
<td>66 SA American football players</td>
<td>SA Explanatory style v Coping strategies (Ways of Coping)</td>
<td>Escape avoidance and social support</td>
<td>A ‘pessimistic’ explanatory style – in which bad events are attributed to internal, stable, and global causes – predicted appraisals of adequate coping in the academic situation are more likely to escape avoidance and social support. Modest evidence of situational differences between academic and athletic coping strategies.</td>
<td>More accepting responsibility, coping in the academic situation</td>
</tr>
<tr>
<td>Storch, Kolsky, Silvestri and Storch, (2001)</td>
<td>Religiousity of elite college athletes</td>
<td>248 students (84 SA)</td>
<td>SA v non SA Intrinsic religiousness (DR)</td>
<td>Male and female SA sig. more religious than male non SA</td>
<td>Male and female SA sig. more religious than male non SA</td>
<td>College athletic participation was one of a number of college experiences that cumulatively contribute to increases in self-SA higher self-esteem than non SA (controlling for other college experiences)</td>
</tr>
<tr>
<td>Taylor, (1995)</td>
<td>A comparison of college athletic participants and non-participants on self-esteem</td>
<td>College students and SA</td>
<td>SA v non SA Year Self-esteem (SSES)</td>
<td></td>
<td>College athletic participation was one of a number of college experiences that cumulatively contribute to increases in self-SA higher self-esteem than non SA (controlling for other college experiences)</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Participants</td>
<td>IVs</td>
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<td>Results</td>
<td>Main findings/comments</td>
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<tr>
<td>Abbott, Weinmann, Bailey,</td>
<td>The relationship between sport salience and choice behavior in Division I collegiate baseball players</td>
<td>159 Division I baseball players</td>
<td>Sport Salience</td>
<td>Choice behaviour</td>
<td>Those SA who placed their sporting identity high in their salience hierarchy chose more sport-related behaviors than those who placed salience level of sport identity lower in their behaviour. This may explain why some athletes experience distress upon retirement from sport.</td>
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<td>and Laguna, (1999)</td>
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<td>1. SAs identify more with the athletic identity in the championship and post season times</td>
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<td>2. Males greater identity than females</td>
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<td></td>
<td>3. Low/moderate skill level SAs had Athletic identity changes over the course of the Academic year depending upon sporting commitments</td>
<td></td>
</tr>
<tr>
<td>Antshel, (1995)</td>
<td>The effect of time of season on the athletic identity in collegiate 28 female/22 male, swimmers</td>
<td>50 swimmers</td>
<td>Gender, Skill level</td>
<td>Athletic identity (AIMS)</td>
<td>Study 1: Pre-Title IX SAs develop sport commitment later, maintain it longer, have more fun playing sport and continue participating post-Title IX – requiring educational institutions college than post-Title IX SAs receiving federal funds to provide equal opportunities to males and females – although giving Study 2: Females post-Title IX more equal opportunities to female SAs, has changed the like male counterparts; less fun, ‘tone’ of female programmes. This has consequently more demanding on time, and more shifted female orientations towards sport to those committed to sport, similar to males, i.e. more professional attitudes.</td>
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<td></td>
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<td></td>
<td>1. Letter winners had higher sporting identities.</td>
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<tr>
<td>Blinde, (1986)</td>
<td>Contrasting orientation toward sport: Pre and post-Title IX Study 1: 697 female SA SA pre v SA post-Title IX</td>
<td>Study 2: additional 472 male SA</td>
<td>Gender, Competition level, Letter winner</td>
<td>Sport commitment</td>
<td>2. Higher level SA had higher Sporting identity (SII)</td>
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<tr>
<td>Curry, (1993)</td>
<td>The effects of receiving college letter on sport identity a505 Division I, III SA (229 female/276 male)</td>
<td>Gender</td>
<td>Sporting identity (SII)</td>
<td></td>
<td>External recognition may increase sporting identity</td>
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</tbody>
</table>

Table 25: Systematic review of quantitative within college identity-related student-athlete psychological outcomes
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curry Parr, (1988)</td>
<td>Comparing commitment to sport and religion at a Christian college</td>
<td>348 (149 female/199 male)</td>
<td>Sport v religious salience</td>
<td>Commitment (Stryker, 1980)</td>
<td>v1. Males have sig. higher sport salience than females.</td>
<td>2. Males and females have similar patterns of association between commitment, salience, and satisfaction for sport but not for identity predicts psychological and objective outcomes in SA</td>
</tr>
<tr>
<td>Weiss, (1989)</td>
<td>Sport identity and motivation for sport participation: A comparison between American college athletes and Austrian college students and sport club members U.S. and Austrian v U.S. SA</td>
<td>698 (301 students/397)</td>
<td>Sporting identity</td>
<td>Sporting identity</td>
<td>1. Sporting identity and motivation is sig. related.</td>
<td>2. SA's from the U.S. and Austria have a comparatively different sporting identity and sporting motivation</td>
</tr>
<tr>
<td>Good, Brewer, Petipas, and Mahar, (1993)</td>
<td>Identity foreclosure, athletic identity, and college sport participation</td>
<td>506 (246 non-SA, 156 SA)</td>
<td>Sporting level</td>
<td>Identity foreclosure (OM-EIS) Athlete identity (AIMS)</td>
<td>3. U.S. SA are focus more on competitive motivations, whereas Austrian SA focus more on fitness Sporting identity and motivation is influenced by the motivations values of the sporting culture</td>
<td></td>
</tr>
<tr>
<td>Ingham and Berlage, (1987)</td>
<td>Women intercollegiate athletes use of the apologetic role</td>
<td>627 (All female)</td>
<td>Sport type (more masculine vs more feminine)</td>
<td>Role conflict</td>
<td>No differences found between amount of role conflict experienced Women make no apology for being women and depending upon sport type athletes</td>
<td></td>
</tr>
<tr>
<td>Sack and Theil, (1985)</td>
<td>College basketball and role conflict: A national survey</td>
<td>60% male, 40% female (644)</td>
<td>NCAA Division Gender Coaching demands Hours of practice Scholarship status</td>
<td>Role conflict</td>
<td>1. Only 29% of SA felt conflict</td>
<td>2. NCAA Division, gender, coaching demands, hrs. of practice and scholarship status were all related to role conflict (Div I, male, demanding coaches, 21+ hours practice, and scholars had greater role conflict)</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>The vast majority of SA's, with the exceptions of Div I males, have little problem reconciling their roles as athletes</td>
<td>3. Academic preparation did not athletes and students</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Participants</td>
<td>IVs</td>
<td>DVs</td>
<td>Results</td>
<td>Main findings/comments</td>
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</tr>
<tr>
<td>Settles et al. (2002)</td>
<td>One role or two? The function of various role gender, and level separation in role conflict</td>
<td>200 (133 female, 87 male; GPA, sports)</td>
<td>Role separation</td>
<td>Role interference</td>
<td>Role interference negatively related to well being for those who viewed the two roles as distinct but unrelated for those who did not. Role overload = high interference + low separation</td>
<td></td>
</tr>
<tr>
<td>Simons, Van Rheenen and Covington, (1999)</td>
<td>Academic motivation and the student athlete</td>
<td>361 (Male and female, NCAA Div I)</td>
<td>Sporting level and Gender</td>
<td>Achievement motivation (AAE)</td>
<td>Female have a different achievement motivation to males, as do revenue SAs to non-revenue SAs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Academic-athletic relationship</td>
<td>Females and non-revenue SA had higher academic commitment (and role in academic motivation of both revenue and higher GPA) than revenue males non-revenue student athletes</td>
<td></td>
</tr>
</tbody>
</table>
Table 26: Systematic review of quantitative student-athlete transitions psychological outcomes

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Participants</th>
<th>IVs</th>
<th>DVs</th>
<th>Results</th>
<th>Main findings/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blann, (1985)</td>
<td>Intercollegiate competition and students(nonal-SA / 100 male non-educational and career plans)</td>
<td>568 (147 female SA / 203 male SA / 118 female Year of study SA, NCAA Div I/Div II Sporting level)</td>
<td>SA v Non-SA Gender</td>
<td>Career planning (SDT-2) ID foreclosure (OM-EIS) Athletic identity (AIMS)</td>
<td>1. Freshman/sophomore male SA, at both high and low competitive levels (NCAA1. Only the career plans of male SA, at all Div I and Div III status), did not years and levels, was affected negatively by formulate career plans to as great anathletic participation extent as freshman and sophomore male non SAS 2. Participation in intercollegiate athletics at a high level of competition may detrimentally affect students’ ability to formulate mature career plans</td>
<td></td>
</tr>
<tr>
<td>Brown, Glastetter-Fender and Shelton, (2000)</td>
<td>Psychosocial identity and careers: swimming control in college student-volleyball (6%), Division athletes</td>
<td>189 (117 males / 72 female, football 31%, soccer / Time (24%) / track 16% / participating baseball (12%) / sport (11% /)</td>
<td>Academic identity (AIMS) Career Decision-Making Self-efficacy (CDMSE-SF)</td>
<td>Career LOC. Inverse relation with CDMSE: Hours/activities are associated with lower self-efficacy expectations of sport, ID foreclosure, Career LOC for career decision-making tasks</td>
<td>Extensive hours in sport participation, failure to explore alternative roles and the belief that one's career outcomes are unaffected by one's participation</td>
<td></td>
</tr>
<tr>
<td>Brown and Hartley, (1998)</td>
<td>Athletic identity and career maturity of college student (57.9%) and Div II Competition and basketball (21%) Level (Div I/Div II)</td>
<td>114 (Male, NCAA Div I)</td>
<td>Academic identity (AIMS) Career Maturity (CDI)</td>
<td>1. Career maturity were not significantly different by level of AI 2. AI and competition level interaction factor in understanding the relationship between athletic identity and career maturity</td>
<td>The student role identity may be a moderating factor in understanding the relationship between athletic identity and career maturity</td>
<td></td>
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<tr>
<td>Greendorfer and Blinde, (1985)</td>
<td>“Retirement” intercollegiate and empirical (427 males, females)</td>
<td>1123 from sport: 66</td>
<td>Adjustment sport retirement Gender</td>
<td>Adjustment sport retirement Commitment sport role</td>
<td>1. No differences between males and females in adjustment to sport retirement 2. Little evidence of adjustment (been conceptualised) adjustment to sport retirement</td>
<td>Mild, rather than severe (as has previously been conceptualised) adjustment to sport retirement</td>
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<tr>
<td>Author(s)</td>
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<td>DVs</td>
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<tr>
<td>Kennedy</td>
<td>Career maturity and professional sports expectations of college football and basketball players, 80 non SA</td>
<td>SA v non SA</td>
<td>Career maturity</td>
<td>SA sig. lower on career maturity than non-SA</td>
<td></td>
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<tr>
<td>Dimnick, (1987)</td>
<td>The effect of career-ending injuries on the subsequent well-being of elite college athletes</td>
<td>Degree of sport investment</td>
<td>Life satisfaction</td>
<td>Of those athletes who had been injured, only those who had an investment in playing professional sport showed lower self-esteem and life satisfaction</td>
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<td>Kleiber &amp; Brock, (1992)</td>
<td>Educational involvement of former basketball players</td>
<td>Life satisfaction</td>
<td>Self-esteem</td>
<td>Significant correlation between academic orientation and life satisfaction/self-esteem and life in general when college years are over</td>
<td>Academic orientation appears to have a</td>
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<tr>
<td>Malik, (1992)</td>
<td>The relationship of demographic and psychological variables to career maturity of junior college student-athletes</td>
<td>Gender</td>
<td>Athletic identity</td>
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<td>Etzel, (2001)</td>
<td>Martens &amp; Cox</td>
<td>Class rank</td>
<td>Career self-efficacy (CDMSE-SF)</td>
<td>1. Career LOC and career self-efficacy were best predictors of career maturity</td>
<td></td>
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<tr>
<td></td>
<td>Career development in college varsity athletes</td>
<td>Sport type</td>
<td>Career maturity (CMI)</td>
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<tr>
<td></td>
<td></td>
<td>SA v non-SA</td>
<td>Athletic identity (AIMS)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Career development (MVS)</td>
<td>1. No sig association between sport commitment, athletic identity and career development</td>
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<tr>
<td></td>
<td></td>
<td>Sport type</td>
<td>2. SAs sig. lower career development roles, the more likely they will struggle with the transition</td>
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<td>DVs</td>
<td>Results</td>
<td>Main findings/comments</td>
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<tr>
<td>Murphy, Petitpas and Brewer, (1996)</td>
<td>Identity foreclosure, athletic identity, and career maturity in intercollegiate athletes 124 (99 male/25 female)</td>
<td>Gender, Playing status, Sport type, Career</td>
<td>Identity foreclosure (OM-EIS)</td>
<td>Athletic identity and identity foreclosure inversely relationship with career maturity</td>
<td>Failure to explore alternative roles and identifying strongly and exclusively with the athletic role are associated with delayed career development in SA; male/varsity/revenue are most at risk</td>
<td></td>
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<tr>
<td>Perna, Ahlgren and Zaichkosky, (1999)</td>
<td>The influence of career planning, race, and athletic injury on life satisfaction among recently retired collegiate male athletes (43 SA, 32 non SA)</td>
<td>Race, Injury history, Occupational plans</td>
<td>Life satisfaction (SWL)</td>
<td>Career maturity, gender, playing status (varsity v non varsity), sport (revenue v non revenue)</td>
<td>1. Athletes with occupational plans were more satisfied with life than those who had no plan</td>
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<td>Smallman and Sowa, (1996)</td>
<td>Career maturity levels of male(All male, revenue and non-revenue sports)</td>
<td>Sport type, Race</td>
<td>Career maturity, Race in determining career maturity</td>
<td>2. No interaction between sport type and differences</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All SAs should be career counselled in the same way</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Participants</td>
<td>Method</td>
<td>Area of research</td>
<td>Main findings/comments</td>
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<tr>
<td>Adler and Adler</td>
<td>From idealism to pragmatic performance of college athletes</td>
<td>Major college basketball four year participants</td>
<td>Relationship between athletic and academic performance</td>
<td>Contrary to popular belief, most athletes enter college with optimistic and idealistic goals for academics. However, their athletic, social and classroom experiences lead them to become progressively detached from academics. As a result, they make pragmatic adjustments, abandoning their earlier aspirations and expectations and gradually resign themselves to inferior academic performance.</td>
<td></td>
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<tr>
<td>(1985)</td>
<td>Role conflict and identity salience of academic and athletic roles.</td>
<td>Major college male four year participants</td>
<td>Identity salience of role conflict and socialisation</td>
<td>Role conflict resolutions were accomplished by realigning, reducing, or, in extreme cases, dropping the academic role. This occurred because of the following conditions: 1. An overwhelmingly demanding athletic role and powerful role-set members 2. A peer subculture that emphasised athletics and recreation while devaluing academics 3. A series of failures in academics caused by poor academic training, a lack of study skills, perceived irrelevance of courses, and diminishing effort 4. A paucity of role reinforcing others in the academic sphere</td>
<td></td>
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<tr>
<td>Adler and Adler</td>
<td>College athletics and the academic role</td>
<td>Major college football programme four year participants</td>
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<tr>
<td>(1987)</td>
<td>Constructing academic inadequacy among African American athletes.</td>
<td>American football team interviews</td>
<td>Investigation of high-school background, early academic experiences</td>
<td>There is an establishment and reinforcement of limited academic experiences. Athletes experience significant trauma and disruption, frequently equating feelings with death and dying. Therefore, this particular group may require special assistance to cope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benson, (2000)</td>
<td>The &quot;Sport Career Death&quot; of 20 SAs cut from sport team and college athletes: Involuntary and/or whose sport programme semi-structured unanticipated sport exits was suddenly eliminated</td>
<td>Semi-structured interviews</td>
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<td>Stratta, (1992)</td>
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<tr>
<td>Author(s)</td>
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<td>Participants</td>
<td>Method</td>
<td>Area of research</td>
<td>Main findings/comments</td>
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<td>Giacobbi Jr., Lynn, Wetherington, Bodendorf, Langley, (2004)</td>
<td>Stress and coping during the transition to university for first-year female athletes</td>
<td>1 university swimmer</td>
<td>Focus group interviews</td>
<td>Sources of stress and coping strategies during the transition to university</td>
<td>Major sources of stress were: training intensity, high performance expectations, interpersonal relationships, being away from home, and academics. Coping strategies used initially were: social support, emotional release, and humour/fun. As the year progressed, cognitive coping responses such as positive reinterpretation and task focus emerged.</td>
<td></td>
</tr>
<tr>
<td>Jambor and Weekes, (1996)</td>
<td>The non-traditional female athlete: A case study</td>
<td>36 year old Division II female distance runner</td>
<td>Case study</td>
<td>The experience of the non-traditional student-athlete</td>
<td>Compared to other female SA, subject was similar in motivation, locus of control, self-esteem and attentional focus but different in role conflict, social support, use of imagery, and anxiety experiences due to lifestyle and role differences. The female SA enter collegiate with similar expectations and attitudes as males (Adler and Adler, 1985). However, over time, the female attitude towards academics strengthened due to: 1. Prointellectual environment existing in women’s team sports 2. Lack of public recognition and androcentric nature of women’s sports preventing exclusive identification with athletics 3. Absence of pressure from significant others to emphasise sport as a career 4. Higher socio-economic background due to reduced admissions advantages in female sports Role experimentation was limited to the three spheres of: athletic, academic, and social These spheres were ‘competitive’, and SAs were forced to make a components, relationships number of compromises and negotiations between them and etiology of Canadian student-athlete role. The prominence of each sphere changed notably from entry to graduation</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
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<td>Participants</td>
<td>Method</td>
<td>Area of research</td>
<td>Main findings/comments</td>
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<tr>
<td>Miller and Kerr (2003)</td>
<td>The role experimentation of intercollegiate student athletes</td>
<td>Canadian Senior (final year) SAs</td>
<td>Semi-structured interviews</td>
<td>The role experimentation of intercollegiate student athletes</td>
<td>Role experimentation was limited to the three spheres of: athletic, academic, and social. Two-stage model of identity formation: 1. <strong>Over-identification with the athlete role</strong> 2. <strong>Deferred role experimentation</strong> (increased investment in social and academic roles in upper years)</td>
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</tr>
<tr>
<td>Riemer, Beal, Schroder, and T. (2002)</td>
<td>The influences of peer and university culture on female student athletes' perceptions of career and social isolation</td>
<td>30 Division I SA (11 semi-structured interviews)</td>
<td></td>
<td>The influences of peer and university culture on female student athletes' perceptions of career and social isolation</td>
<td>Commercialisation trends: 1. SAs tended to see their sport participation as an exchange of services, like a job. 2. More commercialised, more status given. Social isolation: 1. SAs felt socially isolated. However, this can result in good academic performance if the subculture values academics (the female SAs did this).</td>
<td></td>
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<tr>
<td>Psychological outcome measured</td>
<td>Validated measure used (see Key for details)</td>
<td>Outcomes for student-athletes</td>
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<tr>
<td></td>
<td></td>
<td>Higher scores</td>
<td>Lower scores</td>
<td>No difference</td>
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<tr>
<td>Athletic Identity</td>
<td>AIMS (1), SII (2)</td>
<td>6 (/)</td>
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<td>Sports commitment</td>
<td>SCMS (3) Commitment (4)</td>
<td>1 (post Title-IX)</td>
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<tr>
<td></td>
<td></td>
<td>2 Total = 3 (/)</td>
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<tr>
<td>Role conflict</td>
<td>Role interference (5)</td>
<td>1 (male, revenue, scholars, 21+ hrs practice)</td>
<td>1 (separated roles) (+)</td>
<td>2 (women) (/)</td>
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<td></td>
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<td>1 (unseparated roles)</td>
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<tr>
<td></td>
<td></td>
<td>1 (male)</td>
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<td></td>
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<td>2 (black males)</td>
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<td>Total = 6 (-)</td>
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<tr>
<td>Identity foreclosure</td>
<td>OM-EIS (6)</td>
<td>2 (-)</td>
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<tr>
<td>Eating disorder</td>
<td>EAT (7)</td>
<td>1 (+)</td>
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<td></td>
<td>EDI (8)</td>
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<tr>
<td>Positive Mood/Affect</td>
<td>PANAS (9)</td>
<td>1 (+)</td>
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<td>POMS (10)</td>
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<td>Self-esteem/Confidence</td>
<td>SSES (11)</td>
<td>2 (+)</td>
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<td>SSCS (12)</td>
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<td>SPPCS (13)</td>
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<td>Retirement adjustment</td>
<td>/</td>
<td>2 (-)</td>
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<td>Career transition</td>
<td>CDMSE-SF (14)</td>
<td>1 (male)</td>
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<td>CLCS (15)</td>
<td>1 (male, varsity, revenue)</td>
<td>1 (female)</td>
<td>2 Total = 3 (/)</td>
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<td>CDI (16)</td>
<td>1 (male, revenue)</td>
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<td>CMI (17)</td>
<td>3 Total = 5 (-)</td>
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<td>MVS (18)</td>
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<td>SDTI-2 (19)</td>
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<td>Hope</td>
<td>DHS/SHS (20)</td>
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<td>Life satisfaction/Well being</td>
<td>SWL (21)</td>
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<td>SES (22)</td>
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<td>PSS (23)</td>
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<td>CES-D (24)</td>
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<td>Achievement motivation</td>
<td>AAAQ (25)</td>
<td>1 (females and non-revenue) (+)</td>
<td>1 (males and revenue) (-)</td>
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<td>Personality</td>
<td>EPI (26)</td>
<td>1 (females) (-)</td>
<td>1 (males) (+)</td>
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<td>Religiosity</td>
<td>DRI (27)</td>
<td>1 (/)</td>
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<td>Ethical values</td>
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<td>TOTALS</td>
<td>+tive consequences</td>
<td>5</td>
<td>3</td>
<td>0 = 8</td>
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<td>-tive consequences</td>
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<td>No (-) c’quences</td>
<td>10</td>
<td>0</td>
<td>7 = 17</td>
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</table>

Table 28: Summary table of psychological measures and positive/negative/no psychological consequences

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9 The symbols ‘/’, ‘+’, or ‘-’ by scores indicates the consequence type for student-athletes, either positive, negative or no consequences.
Key to scales used:

<table>
<thead>
<tr>
<th>Scale title (and author/year)</th>
<th>No. times used in literature</th>
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</thead>
<tbody>
<tr>
<td>1. Athletic Identity Measurement Scale (Brewer et al. 1993)</td>
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<tr>
<td>2. Sport Identities Index (Curry and Weaner, 1987)</td>
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<tr>
<td>3. Sport Commitment Measurement Scale (Carpenter, Scanlan, Simons and Lobel 1993)</td>
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<tr>
<td>4. Self-in-role Scale (Stryker and Serpe, 1982)</td>
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<tr>
<td>5. Student-Athlete Role Interference Scale (Settles, et al., 2002)</td>
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</tr>
<tr>
<td>6. Objective Measure of Ego-Identity Status (Adams, Shea and Fitch 1979)</td>
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<tr>
<td>7. Eating Attitudes Test (Garner full ref needed et al., 1982)</td>
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<tr>
<td>8. Eating Disorders Inventory (Garner et al., 1983)</td>
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<tr>
<td>9. Positive and Negative Affect Schedule (Watson, et al., 1988)</td>
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<td>10. Perception of Mood States (McNair, et al., 1971)</td>
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<td>11. State Self-Esteem Scale (Heatherton and Polivy, 1991)</td>
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<tr>
<td>12. State Sport Confidence Scale (Vealey, 1986)</td>
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<tr>
<td>13. Self-Perception Profile for College Students (Neeman and Harter, 1986)</td>
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<tr>
<td>15. Career Locus of Control Scale (Trice, Haire and Elliot 1989)</td>
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<td>16. Career Development Inventory (Super, Thompson, Lindeman, Jordan and Meyers, 1981)</td>
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<tr>
<td>17. Career Maturity Inventory (Crites, 1978a)</td>
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<td>18. My Vocational Situation (Holland, Daiger and Power, 1980)</td>
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<tr>
<td>19. Student Development Task Inventory (Winston, Miller and Prince, 1979)</td>
<td>1</td>
</tr>
<tr>
<td>20. Dispositional/State Hope Scale (Snyder, Irving and Anderson, 1991)</td>
<td>1</td>
</tr>
<tr>
<td>21. Satisfaction With Life Scale (Diener et al., 1985)</td>
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</tr>
<tr>
<td>22. Self-Esteem Scale (Rosenburg, 1979)</td>
<td>1</td>
</tr>
<tr>
<td>23. Perceived Stress Scale (Cohen, et al., 1983)</td>
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</tr>
<tr>
<td>24. Center for Epidemiological Studies – Depression Scale (Radloff, 1977)</td>
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<tr>
<td>25. Approach success-Avoid failure Achievement Questionnaire (Covington and Omelich, 1991)</td>
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</tr>
<tr>
<td>26. Eysenck Personality Inventory (Eysenck and Eysenck, 1982)</td>
<td>1</td>
</tr>
<tr>
<td>27. Duke Religion Index (Koenig et al., 1997)</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 29: Summary table for systematic review demographics (quantitative studies only)

<table>
<thead>
<tr>
<th>Demographic used</th>
<th>No. of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between SAs and non-SAs</td>
<td>9</td>
</tr>
<tr>
<td>Within student-athlete differences</td>
<td>24</td>
</tr>
<tr>
<td>NCAA division</td>
<td>2</td>
</tr>
<tr>
<td>Sporting level (Revenue/non-revenue, skill)</td>
<td>8</td>
</tr>
<tr>
<td>Gender</td>
<td>12</td>
</tr>
<tr>
<td>Sport type (Individual/team, general)</td>
<td>4</td>
</tr>
<tr>
<td>Time in year</td>
<td>2</td>
</tr>
<tr>
<td>Year of study/age</td>
<td>3</td>
</tr>
<tr>
<td>Comparative (Austrian)</td>
<td>1</td>
</tr>
<tr>
<td>Hours of practice</td>
<td>1</td>
</tr>
<tr>
<td>Injured/not injured</td>
<td>2</td>
</tr>
<tr>
<td>Academic measures (preparation, outcomes)</td>
<td>2</td>
</tr>
<tr>
<td>Race</td>
<td>4</td>
</tr>
<tr>
<td>Post-college outcomes</td>
<td>1</td>
</tr>
<tr>
<td>Pre- and post Title IX</td>
<td>1</td>
</tr>
<tr>
<td>Letter winners</td>
<td>1</td>
</tr>
<tr>
<td>Salience (sport v religion)</td>
<td>1</td>
</tr>
<tr>
<td>Coaching demands (demanding v not demanding)</td>
<td>1</td>
</tr>
<tr>
<td>Role separation</td>
<td>1</td>
</tr>
</tbody>
</table>
**Table 30: Summary table for systematic review demographics (qualitative studies only)**

<table>
<thead>
<tr>
<th>Demographic used</th>
<th>No. of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>3</td>
</tr>
<tr>
<td>Females</td>
<td>4</td>
</tr>
<tr>
<td>Individual sport</td>
<td>6</td>
</tr>
<tr>
<td>Team sport</td>
<td>8</td>
</tr>
<tr>
<td>Revenue-producing sport</td>
<td>4</td>
</tr>
<tr>
<td>Non revenue-producing sport</td>
<td>7</td>
</tr>
<tr>
<td>Transition in/out of college athletics</td>
<td>3</td>
</tr>
<tr>
<td>U.S. student-athletes</td>
<td>8</td>
</tr>
<tr>
<td>Canadian student-athletes</td>
<td>2</td>
</tr>
</tbody>
</table>

**Table 31: Summary table for systematic review of number of studies according to Sack’s (1988) typology of U.S. colleges**

<table>
<thead>
<tr>
<th></th>
<th>Corporate Model</th>
<th>“Small Time” Corporate Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30</td>
<td>8*</td>
</tr>
<tr>
<td>Ivy Model</td>
<td>0</td>
<td>Amateur Model</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

*The two Canadian samples were equivalent to this college type. Also, some studies include participants from more than one type.*
4.5 Discussion

4.5.1 Initial thoughts

The conceptual commentaries literature defines the student-athlete experience (and therefore also the processes underlying particular outcomes) in terms of role identities and role commitments. The two main psychological demands that impinge upon the student-athlete are role conflicts and career transitions. Therefore, to fully explore the possibilities that arise from an awareness of these issues, the psychological literature would need to firstly measure student and athletic identity/commitment and then associate them with, compare them to or use them to predict outcomes related to these two student-athlete demands. The systematic review shows that the literature to date has only partially completed this task.

The initial results Table 23 reveals that 42 psychological functional studies have been published on student-athletes in the last 20 years – approximately 2 per year which does not seem to be a particularly large number considering their stated importance and the increasing calls from the conceptual commentaries to invest research effort in understanding student-athletes from their perspective. However, the way the studies naturally group into within college general psychological outcomes, within college identity-related outcomes, college transitions, and qualitative psychological outcomes does suggest that the empirical literature is aware of the various areas, and also the different methods with which to investigate them. Furthermore, the range of different journals publishing these articles suggests an encouragingly multidisciplinary approach. Similarly encouraging is the temporal spread of the articles. Averaging the dates of each table reveals that the identity literature (mean year of publication = 1992.4) is a similar age to the transitions literature (mean article age = 1993.4) reflecting the main thrust at answering the questions the commentaries have asked since the late 1980s. However, the qualitative studies form the newest literature (mean article age = 1996) even accounting for Adler and Adler’s studies in 1985 and 1987, perhaps reflecting the trend in psychology generally towards being more sympathetic and conversant with qualitative methodologies. This can only be a good sign as a qualitative approach can tell us more about the underlying processes associated with student-athlete identity change. In fact the qualitative studies are only loosely functional studies as they not only
describe what happens to the student-athletes, good or bad, but they also attempt to understand the 'why'. As Frey (1986) concludes in his commentary of the Functional Paradigm,

> We must move beyond the strict application of a functionalist approach and must take advantage of the diversity in methodological and theoretical orientations that currently exist... Each should be used where appropriate and with the goal of building cumulative knowledge (p. 209).

4.5.2 Scope of the literature

The three aims of this study were to understand what has been investigated following the conceptual commentaries, to review whether the psychological consequences for student-athletes are positive, negative or neutral, and to ascertain where the research deficiencies are compared to the commentaries and therefore to suggest on which areas research now needs to focus.

So, what has been covered and what has not? And, in what depth? In short, what is the scope of the literature to date as uncovered by the systematic review? The summary Table 28 shows that athletic identity (6 articles) and career maturity (8 articles) have been investigated in reasonable depth relative to other student-athlete constructs. Furthermore, general psychological outcomes (such as mood, self-esteem, hope, and life satisfaction) have also attracted some attention (6 articles). Notably, studies that have looked at these constructs have made good use of existing validated measures. Although role conflict has been studied somewhat (3 studies), as it should have been one of the most 'high-profile' student-athlete issues, only one study has made an attempt to construct a valid measure of student-athlete role conflict. However, this is not based on any underlying theoretical framework. Finally, perhaps the most significant omission is the lack of any measurement for the academic side of the student-athletes experience. On a more positive note though, this is perhaps the only area that is conspicuous by its absence.

Tables 29 and 30 show the variety of demographic variables that the literature has focussed upon. Most of the quantitative literature looks at how student-athletes compare to each other (24 studies) rather than to non student-athletes (9 studies). The
most well researched comparisons have been gender (12 studies) and sporting level (8 studies). Disappointingly, but understandably considering the location of the literature, only one comparative study, between student-athletes in a U.S. and Austrian college (Curry and Weiss, 1989), was found. More surprising however, is that only two studies have compared different college Division status (Blann, 1985; Sack and Thiel, 1985). Table 31 summarises the number of studies found according to Sack's (1988) typology of U.S. colleges. So, although different types of college student-athlete have been studied (some combined in the same studies), they are rarely compared. Less surprisingly, Table 31 shows that the Corporate Model (Division I colleges) has been the most well researched student-athlete environment. However, like the objective literature on academic outcomes until the 'College and Beyond' database rectified the situation, the Ivy League college type has not yet received any attention in terms of psychological outcomes.

4.5.3 Psychological outcomes discussion

Table 28 shows the positive (8 outcomes), negative (17 outcomes) and neutral (17 outcomes) psychological outcomes that the literature has found for student-athletes. The table is a little crude though and may benefit from some elaboration. First of all, the literature suggests that during one's time as a student-athlete there are a number of positive personal psychological indices including an increase in self-esteem/confidence (Jurkovac, 1987; Taylor, 1995; Curry et al. 1997), mood (Meyers et al. 1996), hope (Curry et al. 1997) and eating behaviours (for females) (Marten Di Bartolo and Shaffer, 2002). However, these may be accompanied by a reduction in positive deontological ethics, as over time spent in college the sports environment has been found to decrease 'sportsmanship orientation' and increase more 'professional' attitudes to sport (Priest et al. 1999). Also, work by Sellers (1993, 1995) found modest evidence of situational differences between academic and athletic coping strategies. Student-athletes were found to appraise their academic situation as more relevant to the needs of loved ones, and appraise their athletic situation as more relevant to their self-concept, and therefore to cope with them in different ways. This result suggests a link between the coping strategies and the identity patterns of student-athletes.

The literature is quite conclusive that student-athletes have a higher athletic identity when compared to their non-athletic peers (all 6 studies show higher identity). Moreover, one's athletic identity may vary according to time in sporting season
(Antshel, 1995), gender (males higher; Antshel, 1995; Curry and Parr, 1988), skill level (higher skill = higher identity; Antshel, 1995; Curry, 1993), and having more ‘professional' attitudes to sport (Blinde, 1986). However, this is not in itself a negative outcome for student-athletes.

What may be seen as negative though are the psychological outcomes associated with a strong athletic identity. These include more distress upon retirement (Abbott, et al., 1999), more role interference (Settles, et al., 1999), less likelihood of seeing student-athlete roles as distinct (associated with negative mental health outcomes) (Settles, et al., 1999), and higher identity foreclosure (Good, et al. 1993; Murphy, et al., 1996). The proposed link between a high athletic identity and lower career maturity measures is, however, a little less clear-cut.

Most studies in the transitions literature find that, not only do student-athletes have lower career maturity compared to non-athletic peers, but that revenue-sport and/or male student-athletes also have the lowest career maturity (4 studies; Blann, 1985; Kennedy and Dimmick, 1987; Murphy et al., 1996; Martens and Cox, 2000). Only one study found no differences between student-athletes and a matched sample of non-student-athletes (Smallman and Sowa, 1996). However, when the hypothesis of a negative association between athletic identity and career maturity was investigated, although Murphy et al. (1996) found this result, three other studies (two more recent) found no association. Brown and Hartley (1998) suggest that academic identity may be moderating the relationship, however, as yet, academic identity has not been measured. The closest the literature has come to doing this is with Kleiber and Malik’s (1992) measurement of academic orientation which, along with career planning (Perna, et al.’s, 1999), may predict student-athlete life satisfaction post-college transition.

Also highly relevant to the themes highlighted by the conceptual commentaries, are the few studies that have measured role conflict in student-athletes (3 studies). Although this is a very important construct in the area of student-athletes, a couple of the studies that have measured it have done so using particularly rudimentary, single-item measures (Ingham and Berlage, 1985; Sack and Thiel, 1985). These studies actually found little student-athlete role conflict overall, e.g. 29% of student-athletes reported problems reconciling roles, although male/high level/high practicing student-athletes with demanding coaches did show more than the average (Sack and Thiel, 1985). The one exception is the Settles et al. (2002) study
looking at student-athlete 'role interference' which found higher interference in those who do not see their roles as distinct. This finding draws on work by Linville (1985), which suggests that high self-complexity may act as a buffer against role stressors. Impressively, not only did Settles et al. (2002) correlate role interference and separation with athletic identity, they also recognised the need to look at academic importance. However, this was unfortunately only measured using the single item, 7-point likert scale question "How important is it to you personally that you perform well in academics" rather than with a more rigorous scale of academic identity.

Finally, it is the more recent qualitative psychological studies that have perhaps proved to be the most illuminating (10 studies). Not only do they highlight the various identity and commitment functions/dysfunctions, but they also describe the changes in these as a function of role conflict processes. The summary of what types of demographic these studies have used in captured in Table 30. Along most of the variables there is a good spread of articles. However, qualitative student-athlete literature outside of the U.S. context is one area that is lacking.

The two exceptions to this are the Canadian student-athletes studied by Miller and Kerr (2002, 2003). These authors suggest a two-stage model of change caused by role conflict demands over the course of a degree. Student-athletes in their Canadian study begin by 'over-identifying' with their athletic role but then go through a 'deferred role experimentation', whereby they increase their investment in social and academic roles in upper years. This mirrors the evolving coping processes that student-athletes use, as studied by Giacobbi et al. (2004). These authors found that the coping strategies used initially were social support, emotional release, and humour/fun. However, as the year progressed, cognitive coping responses such as positive reinterpretation and task focus emerged. Similarly, Adler and Adler (1985, 1987), describe the progressive socialisation away from academics in a male basketball squad over a four-year degree with their sound bite 'From Idealism to Pragmatic Detachment'. Meyer (1990) replicated their study with a female team, reporting that academics were maintained as a priority, retorting with her title 'From Idealism to Actualisation'. The socialisation reasons for these patterns are summarised in the Table 27 'Main findings/Comments' sections. These reasons are also reflected in Reimer et al.'s (2000) study, following up on Meyer's by investigating individual as well as team female athletes. These researchers looked at the influences of peer and university culture on student athletes' perceptions of career
termination, professionalisation, and social isolation, finding that although more status was conferred, student-athletes saw their sport more as a job. Also, social isolation was explained as something that may result in positive outcomes, as long as the values of the socialising in-group are in line with the educational mission of the college. The qualitative approaches taken in all these studies enable us to understand the similar underlying processes of the student-athlete experience, with albeit different outcomes due to gender and/or cultural differences, which the previous quantitative literature has been unable to capture.

4.5.4 Research deficiencies and areas/implications for future research

The most useful advances that the psychological outcomes have provided to the student-athlete literature as a whole have been highlighted by this systematic review. Athletic identity scales and career maturity measures have been used to good effect. (This somewhat reflects the mainstream sport psychology literature trend since the early 1980s. Lavallee and Wylleman (2000) report that in 1980 there were only 20 published articles in the area of career transitions (McPherson, 1980), whereas by 2000 they identify no fewer than 270 citations on sports career transitions and career transition issues). Attempts have also been made, to varying degrees of success, to measure student-athlete role conflict. Finally, qualitative methodologies have been employed to show the story behind these variables of the fluctuating importance placed on sport, study and social life over time. However, what has been lacking in the literature as shown from the systematic review, and therefore what are the implications for future research?

1. There have been no attempts to synthesise the various psychological measures into one study. Furthermore, very few studies have made objective-psychological links, which would help explain findings from the academic outcomes literature.

Implication: Measure various objective (e.g. GPA, hours in role) and psychological, (e.g. identity, commitment, role conflict, career maturity) measures in the same study and employ an analysis that allows them to be linked.
2. Even though the conceptual commentaries suggest that identity and commitment may be used to do so, there has been no linking of identity and role conflict measures. This would enable the proposed energy expansion theory hypothesis (Snyder, 1985) to be tested.

Implication: Test the energy expansion hypothesis by measuring, and then comparing, student-athlete identity, commitment and role conflict.

3. There has been no measure of student identity or student commitment used to study the student-athlete. This has, however, been recognised as of vital importance, especially in relation to the career transitions research. As Brown and Hartley (1998) suggest,

Student role identity may be a moderating factor in understanding the relationship between athletic identity and career maturity, (and) an investigation of role commitment as an influential construct in understanding the athletes identification with the sports role is warranted (p. 24).

Implication: Measure student identity and commitment, and use this to investigate its moderating effects on career maturity.

4. There exists no conceptually based, adequate, multidimensional measure of student-athlete role conflict. As well as studies using single-item measures, Settles et al. (2002) measure student-athlete role interference. However, with no reference to other role conflict literature, it seems clear that the student role can conflict with the athlete role and/or the athlete role can conflict with the student role. Therefore, their measure can intuitively be seen to be inadequate due to its unidimensional nature.

Implication: Construct and validate a conceptually based, multidimensional measure of student-athlete role conflict.
5. Although a variety of different measures have been used, (the systematic review found 6 in total), there has been no use of a student-athlete specific measure of career maturity.

**Implication:** Use a student-athlete specific measure of career maturity in an investigation of student-athlete career transitions.

6. Most of the literature is correlational (with often weak correlations to boot). Therefore the differences between the four student-athlete identity/commitment types from Snyder’s (1985) model have not yet been tested.

**Implication:** Utilise other statistical analyses to compare student-athlete types as described by Snyder’s (1985) model.

7. There has been no recent updating of the conceptual frameworks upon which the psychological functional literature rests.

**Implications:** Evaluate and apply new conceptual developments in psychology to provide a firm theoretical base for future student-athlete psychological outcomes research.

8. There has been no psychological functional research on the British university context. As a consequence, there has also been no comparative literature between British and U.S. populations.

**Implications:** Research psychological outcomes in a British context and compare these to the U.S. situation, both theoretically and empirically using comparative student-athlete samples.
4.5.4 Conclusion

When I was President of the American Psychological Association, I had an encounter with CNN. Their reporter asked to interview me about the 'state of psychology today.' "But," she warned me, "this is CNN, so you only get a sound byte."

"How many words do I get?"

"One," and the cameras rolled.

"What, Professor Seligman, is the state of Psychology today?"

"Good!"

"Cut. That won't do. We'll have to give you a longer sound byte."

"How many words do I get this time?"

"Two."

"What, Dr. Seligman, is the state of psychology today?"

"Not good!"

"Cut. I can see you're not comfortable in this medium. We'll have to give you a real sound byte: three words."

"What, Professor Seligman, is the state of psychology today?"

"Not good enough!"

(Martin E.P. Seligman, Former APA President, 2003)

This chapter has presented a systematic review of the student-athlete psychological outcomes literature. One important limitation of the current study is that, although there is a somewhat smaller literature associated with high-school student-athletes, this was not considered here. This was decided for good reasons. Although the high-school student-athlete may encounter many demands similar to the college student-athlete, their experience is nevertheless different in many ways. However, as the similarities do overlap, future reviews may chose to include and learn from the high-school student-athlete experience.

In conclusion, the author suggests that Seligman’s (2003) phrase of 'not good enough' could equally apply here to the state of the student-athlete literature that the results of the review have revealed. Although the review points out a variety of gaps to be plugged by future research, this thesis now turns its attention to the research implication under point 4 above - to construct and validate a conceptually based, multidimensional measure of student-athlete role conflict.
Chapter 5: Study 3a: Student-athlete role-conflict scale development

5.1 Structure of the chapter

This chapter first provides an introduction to how the student-athlete literature has investigated student-athlete role conflict. Although there has been some excellent work (e.g. Settles et al., 2002) the lack of a conceptual base has constrained the research development. A discussion is then presented on how the occupational psychology literature, with its definitions, conceptualisations and measures of role conflict, can aid this situation. The chapter then turns its attention to adapting, extending and adding to current measures in order to develop and initially validate a conceptually based, multidimensional student-athlete role conflict scale. The chapter concludes with a discussion of both the implications of the construction and validation process and the possible future uses of the scale.

5.2 Introduction

5.2.1 Student-athlete role conflict literature review

The functional student-athlete literature embraces psychological variables that illuminate the consequences of the student-athlete experience much more than the traditional objective measures, such as the ubiquitous grade point average. Perhaps the two most important psychological constructs to have been discussed are those of career transitions and role conflict (Chartrand and Lent, 1987). The former encompasses those demands faced by student-athletes as they either enter, as they go through or, more frequently in the literature, as they exit further education (e.g. Greendorfer and Blinde, 1985; Perna, et al., 1999).

However, until Sack and Thiel's (1985) study, no attempt had been made to operationalize and measure student-athlete role conflict. Unfortunately their research was in some ways a false start as they did not attempt to incorporate any of the measures of role conflict widely used by researchers in the area of role conflict albeit
outside of the student-athlete context (e.g. Rizzo, House and Litzman, 1970) and only assessed the construct indirectly with the one bivariate answer question, "Do you feel pressure to be an athlete first and a student second?" Although useful as a general indicator, this question neither taps the magnitude nor the aetiology of the conflict and also implicitly (and falsely) assumes that pressure is always unidirectional. In fact a student-athlete is as likely to experience conflict by feeling pressure to be a student first and an athlete second even though they will have answered "no" to the question.

Ingham and Berlage (1987) also tenuously looked at role conflict in a study of 627 female student-athletes. Asking both more ‘masculine’ (track athletics) and more ‘feminine’ (tennis) sport type student-athletes whether they felt any conflict between their roles of being an athlete and being female, they found that regardless of sport type, women experienced little role conflict. However, even though using a sample of student-athletes, this study looked at gender-athlete role conflict rather than student-athlete role conflict.

After these two studies, the literature had to wait 15 years before student-athlete role conflict was measured again. However, this time the approach was a little more rigorous. Settles, Sellers and Damas (2002) premise their recent study on the argument that previous role conflict literature over the last 50 years from all areas of psychology has not considered whether a person views their dual roles as distinct or not. They suggest that this is important in dictating whether role stresses are perceived as conflicting, which would have implications for psychological well-being. Thus the authors constructed a measure of role interference and a measure of role separation hypothesising that role conflict only occurs with high interference and high separation. High interference and low separation would instead be perceived as role overload. Their findings support this hypothesis with an interaction between interference and separation on well-being. They suggest that individuals who reported role conflict (i.e. two roles and high role interference) and individuals who reported role overload (i.e. one role and high role interference) were both experiencing lower levels of well-being than those who perceived the student-athlete role as separate and experienced little interference. However, individuals who perceived being a student-athlete as a single role and experienced less interference reported levels of well-being similar to levels reported by those who experienced role conflict and overload (the first two cases mentioned above). This finding,
Seems to reinforce the benefit of viewing the two roles as separate and distinct regardless of the level of interference that the individual experiences (p. 580).

Settles et al.'s (2002) research seems to be an excellent conceptualisation to help predict well-being from dual role stress measures. Therefore if one is going to attempt to infer psychological health outcomes from role conflict measures it would seem important to add a measure of role separation into the battery. One problem the author’s mention, however, is that their measure of role separation had very low reliability with a Cronbach’s alpha of .54. They suggest that ‘a more reliable measure of role separation is surely needed’ (p.580).

Role separation issues aside, there are potentially also a few further problems with their measure of role interference, which are more relevant to our discussion here concerning role conflict scale measurement. Although Settles et al. (2002) discuss other literature, no account of recent role conflict conceptualisations have been taken within the development of their interference scale. They instead produce a unidimensional, rather than multidimensional, scale that only measures athlete on student interference. This may be due the fact that 1994 is the latest year of role conflict research they mention.

Therefore, due to the centrality of the concept in the student-athlete literature but the lack of measures and hence studies to investigate it, it seems imperative to develop a multidimensional measure of student-athlete role conflict. To understand how this may be done it is first necessary to evaluate how the literature defines 'role conflict', how the construct has been measured in other psychology domains, and how this information relates to student-athletes.

5.2.2 Role conflict definitions

In his study of psychosocial stress, Pearlin (1983) defines the concept of role strain as,

The hardships, challenges, and conflicts or other problems that people come to experience as they engage over time in normal social roles. These strains, in turn, stand as
potentially powerful antecedents of stress and its emotional and physical manifestations.

He identified six types of role strain:

1. Those involving problems between the individual and the nature of the tasks she or he is expected to perform
2. Interpersonal problems within role sets
3. Intrapersonal problems resulting from participation in multiple role sets
4. Role captivity
5. The gain or loss of roles
6. The restructuring and change of roles within role sets

Although it is true to say that student-athletes may experience all these types of role strain during their time at college/university, type 3 - intrapersonal problems resulting from participation in multiple role sets - is the kind of role strain that is specific to them as dual-role performers. Pearlin defines this type of strain as when,

The expectations and demands of one role may collide with those of another, presumably leaving the incumbent in a state of confusion and cross-pressures.

Kahn, Wolf, Quinn, Snoek, and Rosenthal (1964) named this type of role strain 'interrole conflict' and viewed it similarly as a form of conflict in which 'role pressures associated with membership in one organisation are in conflict with pressures stemming from membership in other groups. (p.20). This is the type of role strain that the study refers to with the use of the term role conflict. To further clarify in relation to the student-athlete research, the term role conflict in this context is similar to an amalgamation of Settles et al.'s (2002) role conflict and role overload. Their term used role conflict to define conflicting expectations and role overload to define conflicting demands, but as we can see from the Pearlin (1983) quote above, the definition of role conflict used in this thesis – in common with the student-athlete conceptual commentaries literature (Chartrand and Lent, 1987) - encompasses both expectations and demands.
5.2.3 Measures of role conflict in psychology

There has been a marked recent output of studies on role conflict over the past decade or so, especially in the area of work-family role conflict. In fact, some may argue that role conflict has recently become a hot topic as evidenced by the Journal of Vocational Behavior's (1997) special issue on work-family balance.

The most influential measure of role conflict up to the mid-1980s was that constructed by Rizzo, et al., (1970). This is a 30-item scale which actually combined measures of role conflict and role ambiguity in a traditional work setting. Apart from criticisms against this scale on the grounds of poor construct validity and contamination by method variance (King and King, 1990; Smith, Tisak and Schmieder 1993), only three items (out of a possible thirteen) seem to measure interrole conflict. In the only article on role conflict the author is aware of from a specifically sport psychology journal, this is the scale used. In this study, Capel, Sisley and Desertrain (1987) looked at the relationship of role conflict and role ambiguity to burnout in 235 high school basketball coaches. One study from the Sociology of Sport Journal has also looked at role conflict in high school coaches (Sage, 1987), but this study used a qualitative methodology.

A conceptual advancement came in 1985 with Greenhaus and Beutell's paper on work-family conflict (WFC), defined as 'a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect' (p.77). The authors identified three dimensions of WFC. Time-based conflict is defined as occurring when time spent on activities in one role impedes the fulfillment of responsibilities in another role. Strain-based conflict suggests that strain experienced in one role intrudes into and interferes with participation in another role. Finally, behaviour-based conflict occurs when behaviour in one role cannot be adjusted to be compatible with behaviour patterns in another role. Furthermore, although researchers have traditionally measured WFC unidirectionally, that is, they have studied the conflict that occurs when work interferes with family, (Greenhaus and Beutell, 1985), more recently they have begun to recognise the duality of WFC by

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11 Items 19 "I work with two or more groups who operate quite differently", item 21 "I receive incompatible requests from two or more people", and item 23 "I do things that are apt to be accepted by one person and not accepted by others".
considering both directions, i.e. work interference with family and family interference with work (e.g. Frone, Russell and Cooper, 1992; Gutek, Searle and Klepa, 1991). Therefore, when the two directions are combined with the three forms, six dimensions of WFC result. This conceptualisation can be intuitively transplanted into the student-athlete setting to arrive at the dimensions shown in Figure 19.

![Diagram of student-athlete conflict dimensions]

**Directions of Student-Athlete Conflict**

<table>
<thead>
<tr>
<th>Study Interference with Sport</th>
<th>Sport Interference with Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-based student interference with sport</td>
<td>Time-based sport interference with study</td>
</tr>
<tr>
<td>Strain-based student interference with sport</td>
<td>Strain-based sport interference with study</td>
</tr>
<tr>
<td>Behaviour-based student interference with sport</td>
<td>Behaviour-based sport interference with study</td>
</tr>
</tbody>
</table>

**Figure 19: Dimensions of student-athlete conflict**

In the author’s review of the role conflict measures literature of 28 articles published between 1970 and 2002, there is only one measure that captures all these 6 dimensions, being Carlson, Kacmar and Williams (2000). This is an 18-item scale with 3 questions per dimension for use within a work-family conflict context. As this scale is the most complete of those reviewed, being both multidimensional and bi-directional, and has been validated on two separate samples, it seems prudent to utilise it as a model for the construction of the student-athlete scale in this study.

**5.2.4 Study aim**

The aim of the present study is to construct and initially validate a multidimensional and bidirectional measure of student-athlete role conflict, following the measures of WFC from the organisational psychology literature.
5.3 Study 3a Part 1: Construction of Initial Questionnaire

5.3.1 Item Generation

The first stage in the development of the scale involved the generation of items. In order to do this several strategies were used. Firstly, items from the existing student-athlete role conflict literature were considered (Settles et al., 2002). Secondly, items from the existing psychological literature on role conflict were taken into account (Carlson et al., 2000; Gutek et al., 1991; Duxbury and Higgins, 1991; and Frone et al., 1992). This literature was mainly from the well-researched organisational area of work-family conflict. Only items that could be translated into a student-athlete setting were considered. Thirdly, items constructed from previous research on the demands of the student-athlete experience were considered (Cross, 2000; Etzel et al., 1996; Chartrand and Lent, 1987; Petitpas and Champagne, 1988; and Anderson, 1992). Finally, items constructed from three student-athlete focus groups and other discussions with student-athletes and administrators were also considered.

This process produced a total of 33 items (Appendix 1) most of which naturally fell into the categories of time-based, strain-based or behaviour-based role conflict, either student on athlete role or vice versa. However, some items did not seem to fit into any of these categories so a further category was suggested for later analysis, based on the expectation part of the Pearlin (1983) definition of interrole conflict, called expectation-based role conflict. This is defined as the expectation you or others have of yourself in one role that is compromised by the demands of your other role.

5.3.2 Preliminary Item Analysis

5.3.2.1 Face validity and content analysis

Procedure

A panel of 16 people directly involved with the student-athlete experience (6 student-athletes, 2 student-athlete researchers, 2 coaches, and 6 university sport psychologists/lecturers) was asked to complete a face validity and content analysis questionnaire (Appendix 2). This questionnaire listed the 33 items and asked the subjects to rate each item on the following criteria:
1. Grammatical and conceptual clarity (Is the question sufficiently clear? Yes or No)

2. Which one or more categories of role conflict they considered each item to be part of from some initial definitions (time, strain, behaviour, expectation)

**Analysis and results**

The detailed results of the face validity and content analysis are shown in Appendix 3. Items were retained if they satisfied the following criteria; (a) the participants categorised items such that the highest mean corresponded with the intended dimension, (b) this highest mean was at least .20 different from next highest mean, (c) more than 80% of them rated these items as being part of this dimension, and (d) the items were rated by more than 80% of participants as grammatically and conceptually sound. This process left items from all dimensions including time (6 items), strain (7 items), expectation (3 items) and behaviour-based role conflict (4) items, to make a total of 20 items. The items kept were then ordered by descending ‘fit power’ (highest to lowest percentage rated from (c) above) and by role conflict type (one of the now 8 dimensions). Only the top three items were kept for each dimension.

The items that had not achieved 100% for clarity (face validity) were modified. Based on the results, and on feedback from the expert panel, it was decided that the expectation dimension should be split further into ‘internal’ and ‘external’ expectation role conflict. This was due to the fact that participants felt that questions concerning internal expectation were valid as role conflict items from their experience, but the face validity questionnaire was not able to capture them. The original definition of expectation based role conflict embraced both self and others. Therefore the definition ‘internal’ expectation role conflict is the expectation you have of yourself in one role that is compromised by the demands of your other role, whilst the definition ‘external’ expectation role conflict is the expectation others have of yourself in one role that is compromised by the demands of your other role. The items were now split into role type again accounting for this new dimension. For those dimensions with less than three items, further items were constructed. This left a total of 30 items comprising the questionnaire; 15 items representing each representing student-athlete role conflict and athlete-student role conflict, 3 items for each of the ten dimensions. The process and final items are in Appendix 4. These items were then
used to construct a Likert-type questionnaire. Table 32 shows the 30-item Student-Athlete Role Conflict Scale with the scoring criteria based on the content validity.
**Table 32: 30-item Student-Athlete Role Conflict Scale with scoring criteria.**

**Student-Athlete Role-Conflict Scale (SARCS)**

Please circle the number that best reflects the extent to which you agree or disagree with each statement regarding your experience as a student-athlete over the last semester.

1. **The time I must devote to studying keeps me from participating fully in my sport**
   
   Strongly disagree  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | Strongly agree

2. **Due to stress in my sport, I am often preoccupied with sporting matters when I am studying**
   
   Strongly disagree  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | Strongly agree

3. **I worry that I am not performing as well as peers of mine who are full-time athletes due to academic demands**
   
   Strongly disagree  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | Strongly agree

4. **My tutor/lecturers dislike how I am often preoccupied with my sport**
   
   Strongly disagree  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | Strongly agree

5. **The behaviours that make me effective in my studies do not help me to be better at my sport**
   
   Strongly disagree  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | Strongly agree

6. **I have to miss lectures/exams due to the amount of time I must spend on my sport**
   
   Strongly disagree  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | Strongly agree

7. **I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport**

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8. I worry that I am losing ground to non-sporting students on my course because of the time I devote to my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

9. My coach/sporting peers dislike how I am often preoccupied with my studies

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

10. The behaviours that work for me when I am playing sport do not seem to be effective when I am studying

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

11. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

12. Because I am often stressed from my sport, I have a hard time concentrating on my academic work

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

13. I feel guilty for devoting too much to studying and not enough time on my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

14. My tutors/lecturers are concerned that my sporting commitments are affecting my studies

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

15. In order for me to be as successful in sport as I am in my studies, I must behave differently

Strongly disagree 1 2 3 4 5 6 7 Strongly agree
16. The time I spend playing sport often interferes with my studies

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

17. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

18. I feel guilty for devoting too much to playing sport and not enough time on my studies

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

19. My coach/sporting peers are concerned that my academic commitments are affecting my sport

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

20. In order for me to succeed as a student, I must be a different person than I am in my sport

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

21. The time I spend studying often interferes with my sport

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

22. Tension and anxiety from my sport often weakens my ability to study

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

23. I am concerned that my studies are interfering with how well I expect to perform in my sport

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |
24. My tutors/lecturers think that I must compromise my sport for my studies  
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

25. The problem-solving approaches I use during my degree work are not effective in resolving problems I have in my sport  
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

26. The time I spend training/competing often causes me not to spend time studying  
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

27. I am often preoccupied with academic worries when I am playing sport  
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

28. I am concerned that my sport is interfering with how well I expect to perform in my studies  
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

29. My coach/sporting peers think that I must compromise my studies for my sport  
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

30. Behaviour that is effective and necessary for me to be successful in my sport would be counterproductive in my studies  
Strongly disagree 1 2 3 4 5 6 7 Strongly agree
Instructions for scoring

Time-based student interference with sport: 1, 11, 21
Time-based sport interference with study: 6, 16, 26
Strain-based student interference with sport: 7, 17, 27
Strain-based sport interference with study: 2, 12, 22
Internal Expectation-based student interference with sport: 3, 13, 23
Internal Expectation-based sport interference with study: 8, 18, 28
External Expectation-based student interference with sport: 9, 19, 29
External Expectation-based sport interference with study: 4, 14, 24
Behaviour-based student interference with sport: 5, 15, 25
Behaviour-based sport interference with study: 10, 20, 30
5.3 Study 3a Part 2: Test of factor structure

5.3.1 Method

The 30 items that were selected from the face and content validation process were subsequently factor analysed. The questionnaire was distributed to 200 student athletes (87 Males and 113 females; mean age = 20.02, SD = 1.81), both undergraduates (176) and postgraduates (24), representing a variety of sports and levels of competition, from two scholarship-providing British universities. 111 of the participants were team sports student-athletes and 89 were individual sports student-athletes. 33 of the participants were scholarship participants. The different university sporting levels included 92 1st team members, 76 2nd or below team members, and 32 others below this standard or non-university competing athletes. The different sporting levels regardless of university were 56 international standard athletes, 58 national standard athletes, 62 county standard athletes, and 24 below this standard. The student-athletes completed a web-based questionnaire as part of a battery of other questions concerning their experiences as student-athletes.

5.3.2 Results

5.3.2.1 Descriptive findings

Means, standard deviations, skewness and kurtosis were calculated for each item and are shown in Table 33.
<table>
<thead>
<tr>
<th></th>
<th>Mean Statistic</th>
<th>Std. Statistic</th>
<th>Skewness Statistic</th>
<th>Kurtosis Statistic</th>
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<tr>
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<td>1.61062</td>
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<td>SARCS2</td>
<td>3.9255</td>
<td>1.58684</td>
<td>0.058</td>
<td>-0.838</td>
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<td>SARCS3</td>
<td>3.8549</td>
<td>1.84821</td>
<td>0.154</td>
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</tr>
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<td>SARCS4</td>
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<td>0.877</td>
<td>0.090</td>
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<td>3.3059</td>
<td>1.52885</td>
<td>0.396</td>
<td>-0.462</td>
</tr>
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<td>SARCS6</td>
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<td>1.94031</td>
<td>0.232</td>
<td>-1.317</td>
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<td>SARCS7</td>
<td>3.2000</td>
<td>1.58089</td>
<td>0.474</td>
<td>-0.700</td>
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<td>1.87327</td>
<td>0.200</td>
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<td>1.49237</td>
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<td>1.68555</td>
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<td>1.71564</td>
<td>0.344</td>
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</tr>
<tr>
<td>SARCS13</td>
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<td>1.61925</td>
<td>0.879</td>
<td>-1.185</td>
</tr>
<tr>
<td>SARCS14</td>
<td>2.5216</td>
<td>1.51063</td>
<td>0.987</td>
<td>0.239</td>
</tr>
<tr>
<td>SARCS15</td>
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<td>1.79643</td>
<td>0.318</td>
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</tr>
<tr>
<td>SARCS16</td>
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<td>-1.205</td>
</tr>
<tr>
<td>SARCS17</td>
<td>3.5686</td>
<td>1.79298</td>
<td>0.195</td>
<td>-1.135</td>
</tr>
<tr>
<td>SARCS18</td>
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<td>1.85341</td>
<td>0.151</td>
<td>-1.165</td>
</tr>
<tr>
<td>SARCS19</td>
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<td>1.39424</td>
<td>0.967</td>
<td>0.580</td>
</tr>
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<td>SARCS20</td>
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<td>-0.974</td>
</tr>
<tr>
<td>SARCS21</td>
<td>3.3961</td>
<td>1.67543</td>
<td>0.370</td>
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</tr>
<tr>
<td>SARCS22</td>
<td>3.3922</td>
<td>1.67753</td>
<td>0.307</td>
<td>-0.980</td>
</tr>
<tr>
<td>SARCS23</td>
<td>3.2706</td>
<td>1.65335</td>
<td>0.409</td>
<td>-0.894</td>
</tr>
<tr>
<td>SARCS24</td>
<td>2.8784</td>
<td>1.67336</td>
<td>0.666</td>
<td>-0.486</td>
</tr>
<tr>
<td>SARCS25</td>
<td>3.1922</td>
<td>1.58435</td>
<td>0.369</td>
<td>-0.599</td>
</tr>
<tr>
<td>SARCS26</td>
<td>4.2902</td>
<td>1.84490</td>
<td>-0.274</td>
<td>-1.102</td>
</tr>
<tr>
<td>SARCS27</td>
<td>3.0157</td>
<td>1.61433</td>
<td>0.569</td>
<td>-0.565</td>
</tr>
<tr>
<td>SARCS28</td>
<td>3.4902</td>
<td>1.77441</td>
<td>0.182</td>
<td>-1.087</td>
</tr>
<tr>
<td>SARCS29</td>
<td>2.4902</td>
<td>1.47915</td>
<td>0.983</td>
<td>0.323</td>
</tr>
<tr>
<td>SARCS30</td>
<td>3.2627</td>
<td>1.65938</td>
<td>0.456</td>
<td>-0.582</td>
</tr>
</tbody>
</table>

Table 33: Descriptive results for SARCS scale items

5.3.2.2 Internal reliability

The internal reliability of each factor was calculated using Cronbach’s alpha coefficient. The results are shown in Table 34. All factors demonstrated acceptable internal reliability except both Behaviour-based factors (following Nunally and Bernstein, 1994). Item deletion failed to increase the alpha over acceptability (.7), therefore these six items were excluded from further analysis.
<table>
<thead>
<tr>
<th>Factor</th>
<th>Question No.s</th>
<th>Alpha</th>
<th>Accept/reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-based student interference with sport:</td>
<td>1, 11, 21</td>
<td>0.8278</td>
<td>Accept</td>
</tr>
<tr>
<td>Time-based sport interference with study:</td>
<td>6, 16, 26</td>
<td>0.7932</td>
<td>Accept</td>
</tr>
<tr>
<td>Strain-based student interference with sport:</td>
<td>7, 17, 27</td>
<td>0.8183</td>
<td>Accept</td>
</tr>
<tr>
<td>Strain-based sport interference with study:</td>
<td>2, 12, 22</td>
<td>0.8475</td>
<td>Accept</td>
</tr>
<tr>
<td>Internal Expectation-based student interference with sport:</td>
<td>3, 13, 23</td>
<td>0.7486</td>
<td>Accept</td>
</tr>
<tr>
<td>Internal Expectation-based sport interference with study:</td>
<td>8, 18, 28</td>
<td>0.8308</td>
<td>Accept</td>
</tr>
<tr>
<td>External Expectation-based student interference with sport:</td>
<td>9, 19, 29</td>
<td>0.8198</td>
<td>Accept</td>
</tr>
<tr>
<td>External Expectation-based sport interference with study:</td>
<td>4, 14, 24</td>
<td>0.8437</td>
<td>Accept</td>
</tr>
<tr>
<td>Behaviour-based student interference with sport:</td>
<td>5, 15, 25</td>
<td>0.6872</td>
<td>Reject</td>
</tr>
<tr>
<td>Behaviour-based sport interference with study:</td>
<td>10, 20, 30</td>
<td>0.6873</td>
<td>Reject</td>
</tr>
</tbody>
</table>

**Table 34:** Cronbach’s alpha coefficient scores for each factor

### 5.3.2.3 Correlations

Bivariate correlations were performed on the factors and all relationships were found to be significant (at p< 0.01). Also no correlation coefficients were over .9. Therefore, we can be confident that multicollinearity is not a problem for this data and no further items need to be deleted at this stage (Field, 2000).
<table>
<thead>
<tr>
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<td>SA Time</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS Time</td>
<td>.367</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SA Strain</td>
<td>.687</td>
<td>.386</td>
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<td>.703</td>
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<td>.564</td>
<td>.540</td>
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</table>

Table 35: Correlations between factors of student athlete role conflict

5.3.2.4 Exploratory factor analysis

A principle components analysis (PCA) was used to identify the nature of the factors of student-athlete role conflict. PCA is concerned with establishing which linear components exist within the data and how a particular variable might contribute to that component (Field, 2000). Four factors emerged having eigenvalues greater than 1, which explained 63.28% of the variance. The scree plot confirmed that these four factors were meaningful and should be retained. Subsequently, factor analysis using principal components extraction and direct oblimin rotations (as there were obvious theoretical and empirical grounds for supposing that the factors were correlated) were computed.

The factor loadings that emerged from the direct oblimin rotation are displayed in Table 36. (Loadings under .3 were not included to aid interpretation).
Table 36: Exploratory factor analysis (direct oblimin) results on SARCS items

<table>
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<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
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<tr>
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<tr>
<td>SARCS23</td>
<td></td>
<td></td>
<td></td>
<td>.683</td>
</tr>
<tr>
<td>SARCS13</td>
<td></td>
<td></td>
<td></td>
<td>.600</td>
</tr>
<tr>
<td>SARCS7</td>
<td></td>
<td></td>
<td></td>
<td>.569</td>
</tr>
<tr>
<td>SARCS3</td>
<td></td>
<td></td>
<td></td>
<td>.526</td>
</tr>
</tbody>
</table>

There are various criteria that researchers have proposed to assess the results of the exploratory factor analysis (e.g. Kline, 1994; Tabachnick and Fidell, 1996). These include; (a) eigenvalues greater than 1.0 to indicate that a component explains more variance than any single item, (b) a minimum of 5% explained variance per component, (c) unique factor loadings of .4 and above, and of at least .1 difference in the loadings when the items are cross-loaded, and (d) acceptable KMO and Bartlett’s tests for sampling adequacy and sphericity. As mentioned, all four factors had eigenvalues over 1 (Factor 1 = 10.08, Factor 2 = 2.60, Factor 3 = 1.41, Factor 4 = 1.10) and they all explained over 5% of the variance. Furthermore, acceptable KMO and Bartlett’s tests were found ($\chi^2$ (276) = 3631.31, p<0.001). Taking into consideration the item groupings in relation to the literature (as shall be elaborated below), it seemed that the factors split into what could thus be labelled ‘student to athlete internal role conflict’, ‘student to athlete external expectation role conflict’,

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'athlete to student internal role conflict', and 'athlete to student external expectation role conflict'. Each of these, in relation to criteria (c) and to the literature, shall now be discussed.

Factor 1: Athlete to student internal role conflict

Eight items loaded onto Factor 1 above .4 (2, 12, 22, 16, 26, 8, 18, and 28). These items comprise the items that were previously grouped into time, strain and internal expectation based athlete to student role conflict. Although item 6 (.38) did load onto this factor, it did with a loading .02 below the recommended acceptance level. Therefore, the results suggest that time, strain, and internal expectation-based role conflict are conceptually similar. What is the reason for this? One suggestion is that all these items relate how a student-athlete may feel when their sport interferes with their study. Although the wording of the time and strain-based role conflict items do not specifically suggest that less time or strain is a negative demand (as the wording in the internal expectation based items does), they would be interpreted as negative by someone who values their academic role. Therefore, the personal affective element of role conflict is inherent in all the items that load highly onto Factor 1. The one exception, item 6, which was expected to load onto this factor, is related to how sport demands affect participation in lectures and exams. This is perhaps somewhat more specific than the general time conflicts suggested by items 16 and 26. This makes the item less applicable to all student-athletes and thus reduces its affective quality. This may account for the lower loadings of this item.

Factor 2: Athlete to student external expectation role conflict

Five items loaded onto Factor 2 above .4 (4, 14, 24 and 6). These items comprise the items that were previously grouped into external expectation based athlete to student role conflict and item 6 mentioned above. (As there was not at least a 0.1 loading difference for item 6 between Factors 1 and 2, this may suggest that, on conceptual grounds, it should be included in Factor 1). Contrary to Factor 1, the items in Factor 3 contain less of an emotive element. There may be an external expectation to spend more time studying but this may not worry the student-athlete. The demand is coming from a source outside of the self, and whether or not this causes the student-athlete any distress requires a further negative appraisal.
Factor 3: *Student to athlete external expectation role conflict*

Three items loaded onto Factor 3 above .4 (9, 19 and 29). (Item 19 also loaded onto Factor 2 but lower and by more than 0.1). These items comprise the items that were previously grouped into external expectation based student to athlete role conflict. Again, similar to Factor 2, these items are separate due to their external demand. Factor 3 is separate from Factor 2 as the role conflict is student on athlete, rather than athlete on student. This reflects the conceptual clarification made by Carlson et al. (2002), who suggested that role conflict was bi-directional and thus should be measured as such.

Factor 4: *Student to athlete internal role conflict*

Eight items loaded above .4 onto Factor 4 (1, 11, 21, 3, 13, 23, 7, 17, and 27). These items comprise the items that were previously grouped into time, strain and internal expectation based student to athlete role conflict. These relate to each other in the same way as is described in Factor 1. However, they are different to Factor 1 due to being student to athlete, rather than athlete to student, role conflict, following the commentary mentioned above under Factor 3.
5.4 Study 3a Part 3: Scale validation

5.4.1 Method

The third stage of the investigation of the validity of the student-athlete role conflict scale assessed factorial validity. This refers to the degree to which the measures hypothesised to indicate their respective factors load on to the correct factor. Confirmatory factor analysis is regarded as the most rigorous method for concluding factorial validity.

The CFA was performed using the EQS 5.7b computer package, and on same sample in 5.3. This means that the solutions are sample-specific. This is useful as a CFA can provide fit indices, which enable the findings of an EFA solution to be ‘fine tuned’ (Ntoumanis, 2004). The student to athlete role conflict items were separated from the athlete to student role conflict items and analysed separately. Therefore the factor models for student to athlete role conflict were tested first and then the optimum model of best fit was tested for athlete to student role conflict.

5.4.2 Results

5.4.2.1 Models tested

The sample size to free parameters ratio in the models examined exceeded the recommended 10:1 ratio (Bentler, 1995). The normalised estimate of Mardia's coefficient was relatively high (52.74) indicating a degree of multivariate non-normality, and therefore the robust Maximum Likelihood estimation procedure was utilised. No items showed high skewness or kurtosis (all were under 2; Chi and Duda, 1995). The fit indices that were used to evaluate the adequacy of the models included: Sattora Bentler scaled $\chi^2$ (S-B $\chi^2$), robust Comparative Fit Index (CFI), Non-normed Fit Index (NNFI), Standardised Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA). For the CFI and NNFI, values approaching 0.95 are considered very satisfactory, whereas values close to 0.08 and 0.06 respectively indicate better fitting models for the SRMR and RMSEA (Hu and Bentler, 1999). Furthermore, Browne and Cudeck (1993) recommend that when the 90% Confidence Interval (CI) of the RMSEA includes the value of 0.05 then the model tested can be considered as close fitting.
Initially, four different student to athlete role conflict models were tested. The first was a first-order factor model with four first-order factors, where all factors (time, strain, internal expectation and external expectation role conflict) are correlated (Figure 20).

![Image](image.png)

**Figure 20:** CFA Model 1 (first-order factor model with four first-order factors)

In the second model, a second-order factor model was tested. In this model the items were loaded onto the four previous factors of role conflict, which then loaded onto a fifth factor, namely student to athlete role conflict (Figure 21).

![Image](image.png)

**Figure 21:** CFA Model 2 (second-order factor model with four factors loading on a fifth factor)

In the third model, a third-order factor model was tested, which followed the factor structure suggested by the EFA. In this model the items were loaded onto the four role conflict factors (time, strain, internal and external expectation). Time, strain and internal expectation then loaded onto a fifth factor, internal role conflict that, with external expectation loaded onto the sixth factor, role conflict (Figure 22).
In the fourth model, another third-order factor model was tested. Again, this was a variant on the factor structure suggested by the EFA. However, this time the items loaded onto just the time, strain and external expectation role conflict factors. The time and strain factor was then loaded onto the internal expectation factor. Finally, the internal and external expectation factors were then loaded onto role conflict (Figure 23).

5.4.2.2 Fit Indices

The fit indices for the four models for student to athlete role conflict are presented in Table 37. Although Model 1 had higher fit indices, it also had a correlation of 1.0 between Factors 1 and 2. Therefore, there is a problem of multicolinearity in this model, suggesting that it does not describe the data adequately. Overall, although all
the models gave excellent fit indices, all falling within the recommended parameters for goodness-of-fit, Model 4 was the most satisfactory.

<table>
<thead>
<tr>
<th>Fit Index</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4 Student to athlete</th>
<th>Model 4 Athlete to student</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-B $\chi^2$/</td>
<td>96.05/0.000</td>
<td>107.522/0.000</td>
<td>107.522/0.000</td>
<td>106.412/0.000</td>
<td>103.096/0.000</td>
</tr>
<tr>
<td>probability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NNFI</td>
<td>.947</td>
<td>.936</td>
<td>.931</td>
<td>.937</td>
<td>.956</td>
</tr>
<tr>
<td>CFI</td>
<td>.960</td>
<td>.952</td>
<td>.950</td>
<td>.952</td>
<td>.967</td>
</tr>
<tr>
<td>SMSR</td>
<td>.044</td>
<td>.049</td>
<td>.049</td>
<td>.048</td>
<td>.047</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.070</td>
<td>.076</td>
<td>.079</td>
<td>.075</td>
<td>.065</td>
</tr>
</tbody>
</table>

Table 37: The fit indices for the four alternative CFA models

The individual item loadings, errors, and $R^2$ results (giving the variance explained for each item) provided further evidence. For Model 4 (student to athlete) the $R^2$ was .5 or above for all but two items (item 1 and 13). For Model 4 (athlete to student) all items apart from one (item 6, $R^2 = .26$) had an $R^2$ above .5. Therefore, Model 4 was found overall to be the model of best fit.

5.4.3 Conclusions

The factor structure of the exploratory factor analysis was fine-tuned by this subsequent confirmatory factor analysis. The EFA revealed that the student-athlete role conflict data has at least four factors, namely 'student to athlete internal role conflict', 'student to athlete external expectation role conflict', 'athlete to student internal role conflict', and 'athlete to student external expectation role conflict'. However, the CFA provides more detail of the 'internal' factor structure. The time and strain-based role conflict items are best explained by their loading onto the higher order internal expectation role conflict factor. This structure, when considered in the light of both the student-athlete and the occupational role conflict literature, makes clear conceptual sense.

The original work-family literature conceptualisation of role conflict included time, strain and behaviour-based role conflict. Although behaviour-based role conflict items were excluded in the scale validation process, time and strain-based role
conflict remained as demands. However, when we refer back to both the student-athlete conceptual commentaries literature and the original definition of inter-role conflict by Pearlin (1983), we also see the idea of 'expectations' being in conflict. As a person's appraisal of their demands will be filtered through the looking glass of their expectations, their time and strain-based demands will be dictated by the internal expectation they have for their role performance. This explains the 'internal' factor structure of the best-fitting Model 4 from the CFA. In this sense then, external expectations (from one's coaches, lecturers or peers) are themselves only demands to be negotiated. They may influence one's internal expectation but, by themselves, they have no 'filtering' influence on time and strain demands. This further explains why the external expectation factor loads directly onto role conflict.

Thus the questionnaire can provide various measures of student-athlete role conflict. As well as overall student to athlete role conflict and athlete to student role conflict, the scale can measure time, strain, internal expectation and external expectation for each of these directions. Also, due to the factor model structure, time and strain-based role conflict can be discussed conceptually in relation to the higher order factor of internal expectation role conflict.

One specific, unresolved issue from the validation process is the low loading and low variance explained by item 6 ('I have to miss lectures/exams due to the amount of time I must spend on my sport'). The face validity and internal reliability of this item is not under question. However, the way it fits into the factor structure of the EFA was found to be a little unclear, probably due the item's specificity. Furthermore, as the $R^2$ was well below .5 (.28) from the CFA revealing that it explained very little of the factor variance in the model, item 6 was deleted from the final questionnaire.
5.5 Discussion

This Chapter has detailed the process of adapting, extending and adding to current measures in order to develop and initially validate a conceptually based, multidimensional student-athlete role conflict scale. The final result is a 23-item questionnaire (Appendix 11) following a third-order factor structure (Figure 23), which describes both student to athlete and athlete to student role conflict.

The work-family role conflict literature suggested that role conflict is bi-directional. The factor structure of the current student-athlete scale reflects this important consideration. However, the overall factor structure is a little different from the work-family scales mentioned in the review. Perhaps one of the most important extensions is the recognition that role conflict also includes an 'expectation' element. Moreover, the recognition that, not only can expectation be subdivided into 'internal' and 'external' expectations, but also that these influence role conflict in different ways, is also important. These novel conceptualisations seem to have been neglected in the literature even though the original definitions of role conflict quite clearly suggest both demand and expectation components (Pearlin, 1983).

Apart from the addition of expectation, the scale development and validation process also subtracted the original behaviour-based role conflict factor. The author would hazard that the items were dropped simply because the questions were not fully understood by the student-athletes in their experience. Unlike the other items, the behaviour-based statements were simply less intuitive. However, the conceptual reason for having behaviour-based type items still remains, especially when the factor is considered in the light of ideas related to 'transferable life skills' (Danish and D'Augelli, 1983). As mentioned in Chapter 2, Brown and Bohac (1997) suggest that 'many of the skills learned through sport training and competition can be transferred to the classroom and other nonathletic pursuits' (p. 671). This links to Settles et al.'s (2002) idea that if roles are seen as separate, and interference is high, role conflict occurs. Perhaps items that are both clear and student-athlete specific, and that can tap into this idea of transferability in relation to student-athlete role conflict, can be constructed and tested in future research.

Now that a conceptually-based, multidimensional scale has been created to measure student-athlete role conflict how can it be used? The implications from Chapter 4 provide a good starting point. Many of the ideas arising from the student-
athlete conceptual commentaries literature can now be tested. More generally, we can now assess what the demographic and psychosocial differences are in student to athlete and athlete to student role conflict in both British samples and comparatively with U.S. samples (Implications 1, 6 and 8). More specifically, we can now also test the 'energy expansion theory' (Markus, 1977), which suggests that role-conflicting time demands only reduce role performance within our less committed role identities.

Finally, although the literature reviewed in this chapter has provided us with greater detail concerning the factors underlying role conflict, we still have a further need for conceptualisation of the role conflict process, if possible in terms of identity and commitment. As Snyder (1985) suggested, role conflict may be able to be explained with reference to these constructs. However, his comments were only the beginning. The next chapter picks up Snyder’s trail and, through the lens of recent developments in Identity Theory, uses the new role conflict scale to test and explain a variety of the research implications suggested from Chapter 4’s systematic review.
Chapter 6: Study 3b and 3c: Psychosocial patterns of British and U.S. student-athletes

6.1 Structure of the chapter
This chapter firstly presents a brief recap of the psychologically related student-athlete literature. It then provides an overview of Identity Theory followed by a detailed discussion of the way the conception of role identities by Burke (1991) can provide a conceptual base for student-athlete research. Two studies investigating the patterns of elite student-athletes are then presented, both utilising the new student-athlete role conflict scale and following the implications from the systematic review in Chapter 4. After each study, detailed discussions are presented, followed by an overall implications section that draws out conclusions from both studies together.

6.2 Introduction

6.2.1 State of the literature
Over the last 20 years of student-athlete research there has been a general shift towards a more psychological approach. The previous sociological literature has made room for investigations of such psychological constructs as athletic identity, identity foreclosure and career maturity. The systematic review in Chapter 4 provided a thorough synopsis of this literature and presented a number of research implications that, if followed, would advance the body of empirical evidence that has built up so far.

The theoretical basis for this research came from the conceptual commentaries literature that was reviewed in Chapter 2. These commentaries were highly successful in identifying the variety of demands that student-athletes face and classifying these into the two main categories of role conflict and career transitions (Chartrand and Lent, 1987). Not only this, the literature was also useful in suggesting that role identity, and the commitment to role identity, may play an important part in how much these demands impact upon the student-athlete. For example, Snyder (1985) suggests that, rather than a student-athlete having to reduce their application to one
role in favour of another, conflict resolution may instead be moderated by one's commitment to the pressured role.

The scale construction and factor validation process in Chapter 5 has now provided the student-athlete experience with a more precise role conflict definition along with a means of measuring it. However, there is still little informed recent commentary about the process by which student-athlete identity may change and conflict. A clear conceptual framework of the student-athlete identity process would enable the researcher to synthesise conflict and transition issues and explain a variety of student-athlete outcomes. For example, we know from the literature that due to sporting peer socialisation processes, male athletes may reduce their academic identity but females may not, and that this may affect their academic outcomes. What the current literature does not provide though, is the conceptual vocabulary with which to explain how this, or any other example of student-athlete demands, actually happens.

To remedy this situation, the literature can turn to the area of Identity Theory. This literature is perfectly placed to invigorate the understanding of the student-athlete experience as it bridges sociology and psychology, and theorises and investigates how multiple identities relate to each other, are activated, and jointly operate to influence behaviour. The recent contributions by Burke and colleagues (2004) are especially useful regarding student-athlete issues. A brief overview of this literature, with detours into areas of particular relevance, is therefore warranted.

6.2.2 Identity theory: An overview

Identity Theory uses the term 'identity' with reference to the parts of a self composed of the meanings attached by persons to the multiple roles they typically play (Stryker and Burke, 2000)\(^\text{12}\). Thus, more simply put, someone's identity is what it means to be who they are. There are three different bases for these; being a member of a group (social identity), having a certain role (role identity), and having certain personal attributes (personal identity). Therefore, a student-athlete may be both a member of the tennis team and a university department (social identities), a student and an athlete

\(^{12}\) There are two other distinct sociological and social psychological uses of the term 'identity'. One refers to the culture of a people, and is indistinct from 'ethnicity' (Calhoun, 1994) and the other refers to common identification with social category or 'culture', e.g. Social Identity Theory. These are not used here.
(role identities) and a person who is conscientious (personal identity). For the uses of this thesis, the identity basis taken shall focus on that of the role identity.

Identity Theory has evolved in two different yet related directions. Both have, however, theorised and researched under the umbrella label of structural symbolic interactionism 'having the goal of understanding and explaining how structures impact self and how self impacts social behaviours' (Stryker, 1980). The first direction, reflected in the work of Stryker and colleagues, took the linkages of external social structures and identities as its focus. This approach took the writings of Mead (1934) as its starting point. Oversimplified, Mead's framework is encapsulated by the formula; ‘Society shapes self shapes social behaviour’. Social behaviour, with the recognition that we function in a society made up of a ‘mosaic of relatively durable patterned interactions and relationships… embedded in an array of groups’ (p.4) (Stryker and Burke, 2000), was first operationalised as ‘role choice behaviour’. The term ‘identity salience’ was then used to reflect the hierarchy of our multiple societal roles such that the higher the salience of an identity relative to others, the higher the probability of behavioural choices in congruence with the expectations of that identity. Further, one’s salience was dictated by one’s ‘commitment’, defined as the degree a person’s relationships to others in their network depends on having a particular identity. In this sense, commitment only has an external, social component. Therefore, this strand of Identity theory arrived at the new specification of Mead’s formula; ‘Commitment shapes identity salience shapes role choice behaviour’.

A very few student-athlete articles have used this framework. For example, Abbott, Weinmann, Bailey, and Laguna, (1999) examined the extent to which the salience-level of the sport role-identity influenced choice behaviour in Division I baseball players (commitment was not discussed nor measured). The work of Curry and colleagues (1988, 1989, 1993) also follows the external framework, defining commitment in terms of the number of people known in, and strength of tie to, college sporting and religious groups. However, as commitment also has a psychological component, this approach neglects the internal dynamics of self-processes.

The more recent second direction, reflected in the work of Burke and colleagues (2004), focuses more on this internal process of identity self-verification. Instead of simply linking commitment to role partners, in this conception commitment is linked to a stable set of self-meanings (role identity). This is important when
multiple roles are being considered, as is here with both the student and athlete roles. As recently discussed,

Conceptions of persons as occupying multiple statuses or multiple social positions with divergent role expectations do not fully incorporate or anticipate a multiple identities conception of self or the theoretical and research possibilities inherent in that conceptualisation, which requires the internalisation of role-related expectations and their ordering in a salience hierarchy (Stryker and Burke, 2000, p.16).

6.2.3 A feedback model of the identity process

Most importantly, Burke and colleagues describe the links between role commitment, identity and behaviour using a process model. This is a cybernetic model based on the work of Powers (1973) and his models of perceptual control. At a basic level it is a homeostatic feedback loop with four central components (Burke, 1991): an identity standard (the set of culturally prescribed self-meanings defining an individual's role identity in a situation); an input (self-appraisals, relevant to the identity standard, from the social situation); a comparator (that compares the input with the standard); and an output (an individual’s behaviour arising from the comparison). (Figure 24). Therefore,

Identities are control systems in which outputs in the form of behaviours change the situation to bring perceived self-meanings in the situation into alignment with the self-meanings contained in the identity standard; this is the self-verification process (p.211). (Burke et al., 2003).

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13 So as not to mislead, it should be mentioned that Stryker’s name is referenced as the two researchers recently teamed-up to write a joint paper on the ‘Past, Present, and Future of Identity Theory’. There is no doubt, though, that this section would have been written by Burke!
This model provides a framework firstly for linking identity and behaviour. (This link was previously tested and confirmed empirically by Burke and Reitzes, 1991). However, how does the model encapsulate role commitment and role conflict?

6.2.4 The role of commitment in the identity process

Commitment, according to Burke and colleagues (1991),

Refers to the sum of the forces, pressures, or drives that influence people to maintain congruity between their identity setting and the input of reflected appraisals from the social setting (p.243).

Therefore, if forces are weak, an individual will engage in behaviour to modify the reflected appraisals toward congruity with the identity standard, (a) only some of the time, (b) only if the incongruity is extreme, (c) only if little effort is required, (d) only to a limited degree, and (e) only if the cost is not high. Thus the student-athlete who has low academic commitment will only perform academic behaviours sometimes, if they have to (to maintain sporting eligibility for example), if they are easy and if they do not affect their sport. However, greater commitment implies that there will be a greater correspondence between the inputs (reflected appraisals) and identity standard.
Hence the student-athlete who has a higher academic commitment will appraise his or her behaviour as consistent with an academic identity. Burke and Reitzes (1991) found that ability to predict performance based on identity was higher for those with more committed identities. In our case, student-athletes with a more committed student identity will work more effectively to verify and maintain that identity. Their behaviours will include more academic-related activities than those student-athletes who have lower academic commitment.

This begs the question; where does commitment come from? Burke and colleagues suggest that there are two bases of commitment; cognitive and, reflecting Stryker’s (1980) contribution, socioemotional. Cognitive bases of commitment refer to ‘those perceived positive meanings and rewards, and to the assessment of the overall reward-cost balance of maintaining identity’, whereas socioemotional bases of commitment refer to ‘the emotional and identity-sustaining ties created by “interaction with other based on role identity” with others’ (Burke and Reitzes, 1991, p. 244). Therefore, student-athletes and student-athlete administrators can theoretically increase commitment to either role by increasing either or both positive rewards and meanings, and social support. (Furthermore, any measure of student and athlete role commitment would need to tap into all these bases to fully capture the construct). Interestingly, a number of articles from sport and occupational psychology provide empirical evidence of the components of commitment. For example, Stevenson (1990) looked at the early careers of international athletes and found that athlete choices of what sport they would commit to were contingent on two factors. Firstly, an evaluation of the relative potential for success that each sport offered to the athlete was made,

Very consciously and deliberately, the athlete made a determination of his or her chances of success, however defined, in the various sports. As Hilda said, “It was a question of what I was going to get furthest in” (p. 245).

Similarly, student-athletes see their athletic role as the role that will provide them with the most success and prestige during their university career. The second factor in the athletes’ decisions was ‘an appraisal of the people involved in the different sports; the sport chosen was associated with the more positively evaluated people’ (p. 245). The
occupational literature also suggests that social support is an important moderator of commitment, especially through its capacity to reduce work-family role conflict (e.g. Cooke and Rousseau, 1984; Carlson and Perrewe, 1999).

6.2.5 Stress and identity change

The control system approach, where commitment moderates identity that in turn drives behaviour, also provides a model of understanding how stress occurs in one’s roles with the incorporation of interruption theory (Mandler, 1982). Social stress in general therefore results from an ‘interruption of the feedback loop that maintains identity processes’ (Burke, 1991). The model allows us to understand and even consider coping methods for the stress that may occur as a result of various situations. For example, recognising that higher levels of stress may occur from (1) repeated or severe interruptions of the identity process; (2) the interruption of highly salient identities; (3) the interruption of identities that a person is highly committed to; (4) an interruption when the perceived input originates from a significant other; allows us to suggest the following methods of coping; (1) reduce the frequency and severity of interruptions; (2) and (3) reduce the salience and the commitment of non-priority identities; (4) educate and promote communication between significant others, e.g. coaches and academic tutors.

Burke (1991) suggests four general conditions in which the identity feedback loop may be interrupted. The ‘interference from other identities’ condition is particularly pertinent to student-athlete role conflict where there may be a negative connection between two or more identities such that increasing the congruence with respect to one identity decreases the congruence for another. As Thoits (1983) has commented, having more identities does not necessarily generate more conflict, in some cases it may even reduce it. However, particular identity combinations are likely to produce more distress, especially combinations that interrupt each other with demands. Perhaps being a student-athlete is one such combination. As Burke suggests,

Some role identities are more likely to intrude on and interrupt other role identity processes, especially if the social system has not yet adapted to buffer the roles from each other and prevent their mutual interruptions. Detailed studies of particular role identities are needed (p. 23).
Although it has been shown how the single feedback control system model shown in Figure 24 above, ably connects role identity, commitment, behaviour and conflict, it requires further amplification to describe identity change due role conflict. At a basic level, the model describes how commitment may influence self-appraisals of role behaviour which may be modified if found to be incongruent with an identity standard, and how interruptions may cause stress in that role. This is a model of behaviour change due to conflict. However, Burke (2004) suggests that if congruence cannot be achieved by changing outputs and inputs, then, depending upon the level of commitment, the identity or standard of comparison itself may be changed.

Behaviour changes the situation and moves one’s perception toward the standard, while identity changes (changing meaning held in the identity standards) move the standard toward the perception (though at a much slower rate). In the longer run, the identity system moves toward congruence between perceptions and the identity standards through the operation of both mechanisms (p. 199)

Therefore, it is possible that an identity will be dropped and the individual will no longer consider himself or herself to have that identity. For example, Cast and Burke (2002) show that spouses who have trouble verifying their spousal identity are more likely to become divorced. This, of course, is exactly what happens in the student-athlete experience. For example, Adler and Adler’s work (1985, 1987) showed that student-athletes reduced their academic identities from idealism to ‘pragmatic detachment’ due to continual incongruence between their initial ideal academic identity and their enervating sporting social environment. Figure 25 shows how the ‘behavioural change’ and the ‘identity change’ feedback loops interact with one another.
6.2.6 Role conflict in Identity Theory

Imagine a number of role identity models interpreting input and creating output in the same situation. Simply put, conflict will occur between multiple identities if they do not share common meaning. This area of conflict between multiple identities has only recently been given attention in Identity Theory (Burke, 2004). If two identities, and their respective self-meanings, are to remain congruent and undisturbed, they must be either orthogonal (completely unrelated) or aligned. If they are not aligned cognitively (internal self-meanings) then conflict will occur. For example, a student-athlete may not believe they can be both a student and an athlete. This may be because they do not think they can learn the life management skills to cope or simply because they have internalised a peer group idea that studying is not 'cool' (internal expectation role conflict). As Burke (2004) comments,

> When different identity standards require oppositional meanings, the system is put into an impossible situation in

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14 Burke and colleagues only describe this model. This visual version is therefore original to the author and, due to it being an interpretation, may be slightly different from that conceived by Burke and colleagues.
which one or both identity standards cannot be verified. To the extent that this happens, the standards themselves shift... People re-identify themselves, changing their self-meanings as held in their identity standards (p.199).

However, even if roles are appraised internally as orthogonal and are therefore cognitively aligned, they may be situationally related or unaligned. For example, others may see role behaviour as unaligned (external expectation role conflict). (Burke, 2004) again,

The self exists in a situation in which others also perceive and act on meanings, for coordinated behaviour to occur, the meanings must also become shared over time (p.199).

Therefore, when the self-meaning of identities is in opposition role conflict will occur. This in turn will create some change to cope, depending on one's role commitment. If an individual has high commitment in an unaligned role they are more likely to use a behaviour change to cope. However, when the individual is less committed to the unaligned role, identity attenuation is more likely. Therefore the goal of student-administrators is to enable identity standards to be as congruent as possible.

On the other side of the coin, for multiple identities that do share common meaning, the control of relevant self-perceptions on a shared dimension of meaning helps both identities, e.g. getting a scholarship will help both student and athlete roles. This also points to the benefits of educating student-athletes in transferable life skills so that they understand the overlapping meanings that sport and study share.

As the two main protagonists of the area suggest, 'Identity Theory has the potential to illuminate a wide range of sociological and social psychological arenas and issues' (Stryker and Burke, 2000, p.15). The recent theoretical and empirical advancements that have been detailed in the previous four sections provide an excellent conceptual base for the student-athlete literature. Not only do they incorporate all the constructs identified as key to the student-athlete experience, but they also unlock the process of how they interact and change. With this conceptual framework in mind, what further issues can the student-athlete researcher now tackle?
6.2.6 Further student-athlete issues

Turning again to the systematic review implications section in Chapter 4, one broad observation is for the simple need to research how student-athlete psychosocial constructs affect behaviours. Some mainstream psychology studies have looked at how identity and commitment relate to actual behaviours (e.g. Burke and Reitzes, 1991) but this has not been done in any specific way in the student-athlete literature (Implication 1).

Rather than defining a student-athlete in terms of their objective status as an enrolled student who plays university sport, we can define a student-athlete in terms of their identity to their respective roles. Thus, following Identity Theory with measures of both student and athlete identity and commitment, the psychosocial patterns of student-athletes can now be investigated in general following Snyder’s (1985) typology (Implication 6).

More specifically, as Study 3a enables the measurement of student-athlete role conflict, a test of the ‘energy expansion theory’ (Marks, 1977) can be made. Scarcity theories of time suggest that roles compete against each other for time as a finite resource. If this is true, time role conflicts between student and athlete roles will encourage a reduction in both time and/or identity to cope. However, according to the energy expansion model, time is relative to one’s role commitment. Therefore, high time role conflict, paired with high role commitment will result only in behaviour, rather than an identity change. Furthermore, there should also be differences in the cognitive or socioemotional bases of commitment between higher and lower identity student-athletes, such that those with more personal meanings/rewards and social support (from the literature males in the sport role and females in the student role) show higher role identity, regardless of role conflicts (Implication 3).

Also more specifically, as previously discussed in this thesis, the issue of career maturity has been the subject of empirical investigation in student-athletes. Most studies have found that, not only do student-athletes have lower career maturity compared to non-athletic peers, but that revenue-sport and/or male student-athletes also have the lowest career maturity (Blann, 1985; Kennedy and Dimick, 1987; Murphy et al., 1996; Martens and Cox, 2000). Only one study found no differences between student-athletes and a matched sample of non-student-athletes (Smallman and Sowa, 1996). However, when the hypothesis of a negative association between
athletic identity and career maturity was investigated, although Murphy et al. (1996) found this result, three other studies found no association. Brown and Hartley (1998) suggest that academic identity may be moderating the relationship. This relationship has yet to be tested (Implication 3 also).

More recently on this issue, Sandstedt, Cox, Martens, Ward, Webber, and Ivey (in press) have recognised that there exists no sound and reliable measure of a student-athlete's career/developmental maturity. They comment that inventories previously used with student athletes were designed to be used with members of the general population and as a result 'may not address the demands and the resulting influence of a student-athlete's dynamic athletic environment on his or her career attitudes, beliefs, and interests' (p.6). Thus they developed a five-factor measure of the career situation of student-athletes (Implication 5).

The final implication of the systematic review concluded that there has been no psychological functional research on the British university context and, as a consequence, there has also been no comparative literature between British and U.S. populations. However, the author is aware of one previous comparative study that looked at the value priorities in American and British students (not student-athletes) (Ryckman and Houston, 2003). The 207 participants from the two countries completed a value survey consisting of various individualistic and collectivistic values. American students were found to assign greater importance to individualistic values of achievement, hedonism, self-direction, and stimulation than British students did. This suggests that the American students were more ambitious, choose their own goals more, enjoyed themselves more and led lives that were more exciting. The evidence from the American student-athlete literature would perhaps point to American student-athlete's identifying more with their athlete role and less with their student role than British student-athletes.
6.2.4 Study aims

Combining the reviewing process of the thesis thus far with the conceptual developments discussed in this introduction, Studies 3b and 3c, comprise several broad aims. By including all the psychological variables suggested by the conceptual commentaries, the studies aim to undertake the following:

Firstly, to investigate the associations between student and athlete role identity, commitment and conflict.

Secondly, to investigate the associations between these psychological variables and objective student-athlete outcomes.

Thirdly, to assess whether the career maturity of student-athletes is moderated by student identity and to do so using a student-athlete specific measure of career maturity.

Fourthly, to replicate and extend Study 1 by testing demographic differences between objective and psychological outcomes.

Fifthly, to examine the properties of the student-athlete role conflict scale by assessing whether it can discriminate between different levels of student-athlete

Sixthly, to investigate the differences between higher and lower student and athlete identity groups on psychological and objective outcome measures. This will also enable the energy expansion theory of time conflict to be tested.

Seventhly, to undertake exploratory student-athlete objective and psychological outcomes research in a British context.

Finally, Study 3c in particular aims to undertake comparative student-athlete research between the U.K.\textsuperscript{15} and the U.S.

\textsuperscript{15} The terms ‘U.K.’, ‘G.B.’, and British are used interchangeably throughout the study
6.3 Study 3b

6.3.1 Introduction

In Study 3b the following hypotheses are tested (Note: ‘student-related’ variables include GPA, A levels, hours in student role student identity, academic commitment, student to athlete role conflict, and career maturity. ‘Athlete-related’ variables include hours in athlete role, athletic identity, sport commitment, and athlete to student role conflict):

1. Regardless of athletic identity, student identity is positively associated with student-athlete career maturity
2. The objective and psychological measures related to the student role positively associate with each other, and negatively associate with those of the athlete role
3. The objective and psychological measures related to the athlete role positively associate with each other, and negatively associate with those of the student role
4. Females will score significantly differently from males on both student-related (higher) and athlete-related (lower) variables
5. Individual sport athletes will score significantly differently from team sport athletes on both student-related (higher) and athlete-related (lower) variables
6. Older students (aged 20+) will score significantly differently from younger (aged 19 or below) students on both student-related (higher) and athlete-related (lower) variables
7. Higher sport level students (international/national standard) will score significantly differently from lower sport level students (county standard or below) on both student-related (lower) and athlete-related (higher) variables
8. Higher university sport team students (1st team) will score significantly differently from lower university sport team (2nd team or lower) on both student-related (lower) and athlete-related (higher) variables
9. Non-sport science department students will score significantly differently from sport science department students on both student-related (higher) and athlete-related (lower) variables
10. Sport Scholars will score significantly differently from non-Sport Scholars on both student-related (lower) and athlete-related (higher) variables

11. Students at the end of their degree will score higher on student-related variables than students nearer the start of their degree

12. There will be differences between ‘types’ of student-athlete. In particular, those who maintain both identities will have higher commitment regardless of conflict (energy expansion hypothesis)

6.3.2 Methodology

6.3.2.1 Procedure

An ‘internet-mediated research’ (IMR) procedure was used. Although this is a relatively new medium for conducting research, the benefits and validity of such a procedure are already quite well documented (Hewson, 2003). For example, in her study involving five personality scales, Pettit (2002) found that World-Wide Web (WWW) data may be comparable to paper-and-pencil (PP) data and that the WWW is a potentially useful and valid data collection tool. More specifically, she concluded that,

Carrying out data collection over the WWW means that the potentially high cost of paper and stamps is eliminated, the questionnaire can be aesthetically pleasing, typographic or grammatical errors can be corrected without reprinting the entire set of questionnaires, data entry and the associated errors are completely eliminated, and volunteers are recruited extraordinarily quickly. Clearly, these advantages, combined with the fact that PP data are not qualitatively different from WWW data, indicate that the WWW can be a good place to recruit volunteers and to administer psychological questionnaires for experiments (p.54).

Furthermore, Schmidt (1997) found that WWW users were more likely to be younger and to have a higher education status. Combined with the fact that all students at the universities studied are given email addresses when they enrol, these studies suggest that IMR is an ideal medium for research on a student-athlete population.
The questionnaire was constructed online using an Internet research service provider\textsuperscript{16}. For clarity and to encourage responses the design used an aesthetic colour scheme, each page included one area of questioning, all fields were compulsory (missed fields prompted respondent completion) and each page could be saved should respondents choose to complete the questionnaire in parts. The questionnaire could be reached by clicking on an URL web-link, which could be ‘cut and paste’ into any email or Word document (Appendix 5).

Various sources from a leading British sporting university were asked to provide information on potential outlets for distributing the questionnaires. Firstly, the university Athletic Union president was approached to provide names and emails of sports Club Captains. These people were then contacted and asked for the email list of their club. Of the total emailed (29) some responded with a list (6), one responded that they would pass on my questionnaire (1), and some did not respond (22). This created a pool of 587 emails. Secondly, the university Scholarship Scheme administrator was approached for emails of all university Scholars (88 email addresses). (All these were also members of at least one university sports club). Thirdly, the academic Sports Science department was approached for emails of Sports Science students (as many are currently active in sports) (940 email addresses). Finally, a further group of email addresses from another leading British sporting university was collected. These included those from their Sports Studies department and from their Scholarship Scheme (72). This gave a total pool of 1687 email addresses.

\subsection*{6.3.2.2 Participants}

1687 students from two sporting universities were emailed (either directly or through their Club Captain) at the end of the academic year once exam results were published. The students were either members of one of the university sports clubs and/or from the university Sport Science Department. A total of 389 students responded to the email and completed the online questionnaire (23\% response rate\textsuperscript{17}). The participants were male and female (206 male, 181 female), with an average age of 20.15 (SD = 1.96). They came from different years (197 1\textsuperscript{st} years, 112 2\textsuperscript{nd} years, 69 3\textsuperscript{rd} years and

\footnotesize{\textsuperscript{16} www.surveymonkey.com

\textsuperscript{17} This response rate seems quite low. No research is currently available to suggest whether response rates of online questionnaires are lower or higher than paper-and-pencil questionnaires. Perhaps they may be higher on average as responding may be easier online, or perhaps they may be lower on average due to the indiscriminate ‘blanket’ email approach the technology provides the researcher with.}
above), from different departments (280 Sports Science, 106 non-Sports Science), and were of varying scholarship levels, (43 sports scholars, 242 non-sports scholars), sporting levels (74 international level, 75 national level, 102 county level, 34 below county level) university team status (209 1st team, 125 2nd team, 53 3rd team or below) and sport type (152 individual sports, 235 team sports).

6.3.2.3 Demographics

The demographic section of the questionnaire is appended (Appendix 6). In addition to the information mentioned in the Participants section above, the demographics page also asked for current GPA, total A level points, intention to pursue sport full-time after graduation (yes, no, or maybe) and hours per week lectures/tutorials/labs, personal studying, team training, individual training, and competition (including travel). Heading this section was an introduction to the purposes of the study, instructions and an assurance of participant confidentiality. The instructions asked the participants to complete the questionnaire by reflecting on their experiences over the past year as a student-athlete.

6.3.2.4 Instrumentation

Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, and Linder, 1993; Brewer and Cornelius, 2001) and modified student-AIMS

The AIMS (Appendix 7) is a measure of athletic identity, 'the degree to which an individual identifies with the athlete role' (Brewer et al., 1993, p.237). The original 10-item scale reflected both strength and exclusivity of this identity. Item content was designed to assess social (e.g. "Most of my friends are athletes"), cognitive (e.g. "I have many goals related to sport") and affective (e.g. "I feel bad about myself when I do poorly in sport") elements of athletic identity. (High scores on the 10-item Likert questionnaire represent a greater degree of identification with the athletic role and lower scores are associated with a lesser degree of identification). This is consistent with Burke's internalised self-meanings approach to identity as the scale taps the thoughts and feelings central to the daily experience of student-athletes. Over 100 studies have used the AIMS to date to investigate athletic identity (Brewer, 2003).

Research has provided general support for the psychometric integrity of the scale. Internal consistency has been reported to be high with an alpha coefficient of .93 and the test-retest reliability coefficient was .89 over a two-week lapse period
(Brewer et al., 1993). In terms of validity, AIMS scores have been found to increase with level of sport involvement (i.e. non-athlete, recreational athlete, competitive athlete), perceived importance of sports competence, and other constructs conceptually related to athletic identity (Brewer et al., 1993), including Curry and Weiss’s (1989) Self-Role Scale that has also been used with student-athletes (e.g. Curry and Parr, 1988).

There has been some doubt over time as to whether the AIMS is unidimensional or multidimensional. Although, Brewer et al. (1993) found the scale to be unidimensional in the initial validation study, exploratory factor analysis in other studies (Brewer, 1990; Brewer, Boin and Petitpas, 1993; Hale, 1995) has pointed to the possibility that the AIMS is comprised of three factors labelled ‘social identity’, ‘exclusivity’, and ‘negative affectivity’. These results have been replicated by Hale, James and Stambulova (1999) in a more recent exploratory factor analysis. Brewer and Cornelius (2001) suggest that research on the dimensionality of the AIMS ‘has been hampered by the use of small samples from specific sports or with specific characteristics (e.g., athletes with disabilities (Martin et al., 1994, 1997))’ (p. 5). Their exploratory factor analysis study of 2,856 participants, assembled from the multiple administrations of the AIMS over the previous 10 years, confirmed the three-factor model. Their solution also reduced the scale to 7 items as three items performed poorly in the factor analysis. This version has been used successfully in more recent by Brewer and colleagues (Bitsko, Brewer, and Stern, M., 2002; Brewer, Buntrock, Linder, and Petitpas, in press).

To enable measurement of the student-athlete’s student identity, the AIMS wording was modified by replacing sporting meanings with academic meanings, e.g. ‘I consider myself a student’, ‘I would be very depressed if, for some reason, I could not continue my studies’, etc. (Appendix 8). (This modification of the AIMS follows Horton and Mack (2000) in their study of identity in marathon runners).

**Sport Commitment Model Scale (SCMS; Carpenter, Scanlan, Simons and Lobel, 1993; Scanlan, Carpenter, Schmidt, Simons, and Keeler, 1993) and modified student-SCMS**

The SCMS is a measure of sport commitment, defined as ‘a psychological state representing the desire or resolve to continue sport participation’ (Carpenter, et al. 1993, p.1). The development of items for the SCMS has been an ongoing process
since the 1993 articles were published. According to the initial Sport Commitment Model, three classes of commitment determinants (attraction, alternatives, and barriers) were identified in the literature. This has since been refined such that commitment is theoretically a positive function of enjoyment (e.g. ‘playing sport is enjoyable’), personal investments (e.g. ‘how much effort have you put into playing sport’), social opportunities (e.g. ‘If I were to stop playing sport I would miss the opportunity to be with my sport friends’), recognition opportunities (e.g. ‘If I were to stop playing sport I would miss the opportunity to win awards’), social constraints (e.g. ‘I feel I have to keep playing sport to please others’) and social support (e.g. ‘significant others encourage me to play sport’), and a negative function of involvement alternatives (e.g. ‘I would be happier if I was doing something else instead of sport’). The most recent 30-item version of the SCMS is currently in press (Carpenter, in press). The internal consistency of all factors has been found to be acceptable (Alphas: commitment = .90, enjoyment = .89, involvement alternatives = .78, personal investments = .86, recognition opportunities = .83, social opportunities = .86, social constraints = .92, social support = .89) (Appendix 9).

To enable measurement of the student-athlete’s student commitment, as with the AIMS above, the SCMS wording was modified by replacing sporting meanings with academic meanings (e.g. ‘significant others encourage me to study’, ‘I am dedicated to continue my academic studies’, etc.) (Appendix 10).

As the model includes both cognitive and socioemotional components it is similar to Burke’s (1991) conceptualisation of commitment as the ‘the sum of the forces, pressures, or drives that influence people to maintain congruity between their identity setting and the input of reflected appraisals from the social setting’ (p.243). In line with Carpenter et al.’s model (1993), a lack of commitment to the sporting identity would lead to the reduction or even termination of sports participation. Conversely,

The more athletes enjoy playing, the more they have invested in their sport, the more opportunities they feel involvement offers, the more constrained they feel to continue playing, and the less attractive their alternatives to involvement (and the more their social support), the greater their commitment (Scanlan, et al. 1993, italics added from Carpenter, in press).
Student-Athlete Role Conflict Scale (SARCS; Cross, 2004)

The Student-Athlete Role Conflict Scale constructed and validation in Chapter 5 was used to measure both student to athlete and athlete to student inter-role conflict. The scale consists of 23 items and measures time-based (e.g. ‘the time I must devote to studying keeps me from participating fully in my sport’), strain-based (e.g. ‘due to stress in my sport, I am often preoccupied with sporting matters when I am studying’), internal expectation-based (e.g. ‘I worry that I am not performing as well as peers of mine who are full-time athletes due to academic demands’), and external expectation-based role conflict (e.g. ‘my tutor/lecturers dislike how I am often preoccupied with my sport’) (Appendix 11). The factor structure follows a third-order model whereby the expectation factors load directly onto role conflict and the time- and strain-based factors load onto internal expectation-based role conflict. Internal consistency of the factors from the confirmatory factor analysis was acceptable (student to athlete (SA) time = .83, SA strain = .82, SA internal expectation = .75, SA external expectation = .82; athlete to student (AS) time = .79, AS strain = .85, AS internal expectation = .83, AS external expectation = .84; SA role conflict = .92, AS role conflict = .92).

Student-athlete Career Situation Inventory (Sandstedt, Cox, Martens, Ward, Webber, and Ivey, in press)

The Student-athlete Career Situation Inventory is a student-athlete specific, five-factor, 30-item scale measuring the ‘extent of one’s career development and preparation characterised by the sophistication of one’s career attitudes, beliefs, and interests’ (Sandstedt et al., in press, (p.6)) (Appendix 12). The five factors, with acceptable reliability Alpha’s, include ‘career development self-efficacy’ (.78), ‘career vs. sport identity’ (.80), ‘locus of control’ (.70), ‘barriers to career development’ (.72), ‘sport to work relationship’ (.73). The total scale internal reliability was .83.

Career development self-efficacy is defined as ‘the degree to which a student-athlete feels confident in his or her ability to engage in career development tasks, e.g. using a campus career centre to explore a variety of career interests’ (Sandstedt et al., in press, p. 6), (e.g. ‘I am confident about my ability to find a satisfactory career’).
Career vs. sport identity is defined as 'the student-athlete’s propensity to see himself or herself more as a student seeking academic and career achievement as opposed to athletic achievement' (ibid.) (e.g. ‘I am an athlete first, student second’).

Locus of control is defined as 'the degree to which a student-athlete feels that he or she has the power to make decisions regarding his or her career development, e.g. registering for classes of interest as opposed to classes suggested by others in the athletic environment' (ibid.) (e.g. ‘I am pursuing a certain career only because others have told me I would be good at it’).

Barriers to career development is defined as 'the numerous aspects that are inherent within the role of a student-athlete that may hinder career development, e.g. time, energy, accessibility of resources’ (ibid.) (e.g. ‘it is difficult for me to think about careers because I am an athlete’).

Lastly, sport to work relationship is defined as ‘a student-athlete’s ability to recognise valuable skills that can be taken from their sport experience and used in career settings, e.g. communication and leadership skills’ (ibid.) (e.g. ‘I believe that being an athlete makes me more suitable for certain careers’).

6.3.2.5 Analysis

The data was analysed in the following ways:

1. Descriptive means and standard deviations overall for different demographic variables (gender, age, sport type, department, and sport/university/scholarship level) were used.

2. Bivariate correlations to assess which variables associate were used.

3. Independent samples t-tests were used to compare differences within the sample (gender, age, sport type, department, and sport/university/scholarship level). When the analysis tested a specific hypothesised prediction, the one-tailed probability was used. If there was no prediction, the two-tailed probability was used. Furthermore, Levene’s test for equality of variance was also employed and if found to be significant, equal variances were not assumed and the adjusted degrees of freedom significance score was used.

4. Two analyses of variance tests were used firstly to compare the objective and psychological variables over time (1st year, 2nd year, 3rd year+), and secondly to compare them by student-athlete identity type (following Snyder, 1985). Homogeneity of variance was testing using the Levene statistic and, unless
mentioned, was non-significant. Tukey’s tests were chosen for post-hoc analysis as this test controls well for Type I errors but also has more power than other tests when testing larger numbers of means (e.g. Bonferroni’s test) and in general (e.g. Dunn’s test, Scheffe test, etc.) (Field, 2000).
6.3.3 Results

6.3.3.1 Descriptives

The GPAs and A levels averages of the student-athlete group as a whole revealed that the sample was doing quite well academically. They were averaging in the 2:1 degree classification boundary and they had achieved A levels equivalent to two A grades and one C grade (Table 38).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>389</td>
<td>62.16</td>
<td>6.194</td>
</tr>
<tr>
<td>A levels</td>
<td>269</td>
<td>25.96</td>
<td>7.303</td>
</tr>
</tbody>
</table>

Table 38: Descriptive results for GPA and A levels

The results showed that overall the student-athletes in the sample spent around twice as much time per week in their student role (12.34 hours) compared to their sporting role (6.18 hours). Furthermore, even though a third of participants were from individual sports, the amount of time spent on individual training (6.35) and in team training (6.32 hours) was similar (Table 39).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hrs lectures</td>
<td>370</td>
<td>14.1135</td>
<td>4.77324</td>
</tr>
<tr>
<td>Hrs studying</td>
<td>371</td>
<td>10.4501</td>
<td>8.31603</td>
</tr>
<tr>
<td>Hrs team training</td>
<td>365</td>
<td>6.3164</td>
<td>4.97872</td>
</tr>
<tr>
<td>Hrs individual training</td>
<td>369</td>
<td>6.3455</td>
<td>5.37271</td>
</tr>
<tr>
<td>Hrs Competition (inc. travel)</td>
<td>338</td>
<td>6.1802</td>
<td>6.46014</td>
</tr>
<tr>
<td>Hrs in sporting role</td>
<td>322</td>
<td>18.5478</td>
<td>9.94377</td>
</tr>
<tr>
<td>Hrs in student role</td>
<td>361</td>
<td>24.6870</td>
<td>9.52681</td>
</tr>
</tbody>
</table>

Table 39: Descriptive results for hours in sport and student roles
The AIMS results revealed that overall the participants had strong athletic identities (Mean = 5.26). However, there is a noticeable difference in the factor means such that exclusivity (4.28) is lower than social identity (4.91), which is lower than negative affect (5.41). This suggests that, although participants would be highly distressed if they could not continue playing sport, they do not see their sporting identity as exclusive (Table 40). These means are similar to the norms for intercollegiate/national athletes found in Brewer et al. (1993) (males = 5.46, females = 5.34) and in Brewer and Cornelius (2001) (both genders = 5.46). (The internal consistency alphas for the subscales were all over .9, and the scale overall was .94).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIMS</td>
<td>360</td>
<td>5.263</td>
<td>1.11133</td>
</tr>
<tr>
<td>AIMS social identity</td>
<td>389</td>
<td>4.9066</td>
<td>1.82468</td>
</tr>
<tr>
<td>AIMS exclusivity</td>
<td>389</td>
<td>4.2751</td>
<td>1.89721</td>
</tr>
<tr>
<td>AIMS negative affect</td>
<td>389</td>
<td>5.4126</td>
<td>1.95242</td>
</tr>
</tbody>
</table>

Table 40: Descriptive results for the AIMS

The results of the modified student version of the AIMS showed that overall the participants also had quite strong student identities (Mean = 4.52). Moreover, the much lower exclusivity average (2.81) suggests that their student identity, like athletic identity, is not exclusive. (The internal consistency alphas for the subscales were all above .87 and the scale overall was .94).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-AIMS</td>
<td>340</td>
<td>4.5248</td>
<td>1.07882</td>
</tr>
<tr>
<td>Student-AIMS social identity</td>
<td>389</td>
<td>4.2913</td>
<td>1.95106</td>
</tr>
<tr>
<td>Student-AIMS exclusivity</td>
<td>389</td>
<td>2.8136</td>
<td>1.69158</td>
</tr>
<tr>
<td>Student-AIMS negative affect</td>
<td>389</td>
<td>4.5913</td>
<td>2.19829</td>
</tr>
</tbody>
</table>

Table 41: Descriptive results for the student-AIMS
The SCMS means show that the participants were on average quite highly committed to sport (Mean = 4.74). They were committed more for intrinsic reasons of wanting to (5.01), enjoyment (5.50) and because of social support (4.81), than for more extrinsic having to (3.7) or social constraints (2.88) (Table 42). (The internal consistency alphas for the subscales ranged from .86 to .99).

<table>
<thead>
<tr>
<th>Commitment</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have to</td>
<td>212</td>
<td>3.6572</td>
<td>1.87045</td>
</tr>
<tr>
<td>Want to</td>
<td>212</td>
<td>5.0110</td>
<td>2.18217</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>212</td>
<td>5.4976</td>
<td>2.31060</td>
</tr>
<tr>
<td>Involvement</td>
<td>212</td>
<td>2.1541</td>
<td>1.21529</td>
</tr>
<tr>
<td>alternatives</td>
<td>212</td>
<td>5.0425</td>
<td>2.29975</td>
</tr>
<tr>
<td>Personal</td>
<td>212</td>
<td>5.1022</td>
<td>2.21597</td>
</tr>
<tr>
<td>investments</td>
<td>212</td>
<td>4.7516</td>
<td>2.17388</td>
</tr>
<tr>
<td>involvement</td>
<td>212</td>
<td>4.4953</td>
<td>2.28118</td>
</tr>
<tr>
<td>opportunities</td>
<td>212</td>
<td>4.8050</td>
<td>2.14771</td>
</tr>
<tr>
<td>Social</td>
<td>212</td>
<td>2.8755</td>
<td>1.61907</td>
</tr>
<tr>
<td>opportunities</td>
<td>212</td>
<td>4.7416</td>
<td>1.68909</td>
</tr>
</tbody>
</table>

Table 42: Descriptive results for the SCMS

The participants were somewhat committed to being students overall. The means suggest that this commitment comes from both intrinsic ‘want to’ and also extrinsic ‘have to’ type factors. Although social support is quite high (4.35), enjoyment of being a student is quite low (3.16) (Table 43). (The internal consistency alphas for the subscales ranged from .94 to .99).

<table>
<thead>
<tr>
<th>Commitment</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have to</td>
<td>212</td>
<td>3.9230</td>
<td>2.37102</td>
</tr>
<tr>
<td>Want to</td>
<td>212</td>
<td>4.0723</td>
<td>2.44131</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>212</td>
<td>3.1604</td>
<td>1.99709</td>
</tr>
<tr>
<td>Involvement</td>
<td>212</td>
<td>3.3852</td>
<td>2.15852</td>
</tr>
<tr>
<td>alternatives</td>
<td>212</td>
<td>3.4733</td>
<td>2.20770</td>
</tr>
<tr>
<td>Personal</td>
<td>212</td>
<td>3.8255</td>
<td>2.31383</td>
</tr>
<tr>
<td>investments</td>
<td>212</td>
<td>3.8569</td>
<td>2.36304</td>
</tr>
<tr>
<td>involvement</td>
<td>212</td>
<td>3.7618</td>
<td>2.41561</td>
</tr>
<tr>
<td>opportunities</td>
<td>212</td>
<td>4.3538</td>
<td>2.52175</td>
</tr>
<tr>
<td>Social</td>
<td>212</td>
<td>3.5538</td>
<td>2.22019</td>
</tr>
<tr>
<td>opportunities</td>
<td>212</td>
<td>3.7322</td>
<td>2.11863</td>
</tr>
</tbody>
</table>

Table 43: Descriptive results for student-SCMS
Overall, participants did not report very high levels of conflict occurring when their student role interrupts their athlete role (Mean = 2.42). In particular, external expectation was very low (2.42) suggesting that lecturers/tutors did not expect participants to pay more attention to studies by reducing their sport focus (Table 44). (This is perhaps due to the hours in role results in Table 39, which found that participants are spending twice as much time in their student role compared to their sporting role).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA Time</td>
<td>341</td>
<td>2.7204</td>
<td>1.91401</td>
</tr>
<tr>
<td>SA Strain</td>
<td>341</td>
<td>2.4936</td>
<td>1.83281</td>
</tr>
<tr>
<td>SA Internal</td>
<td>341</td>
<td>2.5230</td>
<td>1.81187</td>
</tr>
<tr>
<td>SA External</td>
<td>341</td>
<td>1.9296</td>
<td>1.51386</td>
</tr>
<tr>
<td>SARC</td>
<td>341</td>
<td>2.4167</td>
<td>1.65628</td>
</tr>
</tbody>
</table>

Table 44: Descriptive results for student to athlete role conflict

The descriptive results of overall athlete to student role conflict show that the participants did not perceive their athlete roles as interrupting their student role to a great extent (Mean = 2.62). Similar to student to athlete conflict, time-based role conflict was highest (3.15) and external expectation was lowest (2.08) (Table 45).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS Time</td>
<td>341</td>
<td>3.1510</td>
<td>2.26350</td>
</tr>
<tr>
<td>AS Strain</td>
<td>341</td>
<td>2.7097</td>
<td>1.92730</td>
</tr>
<tr>
<td>AS Internal</td>
<td>341</td>
<td>2.7253</td>
<td>2.01833</td>
</tr>
<tr>
<td>AS External</td>
<td>341</td>
<td>2.0762</td>
<td>1.62398</td>
</tr>
<tr>
<td>ASRC</td>
<td>341</td>
<td>2.6214</td>
<td>1.79305</td>
</tr>
</tbody>
</table>

Table 45: Descriptive results for athlete to student role conflict
Overall the participant’s results on the SACSI (rated out of 5) showed that they had reasonably high career maturity and development (Mean = 3.22). In particular, participants perceived they had high locus of control over career development (3.85) but relatively lower awareness of how their sport related to their potential careers (2.89) (Table 46). (The internal consistency alphas for the subscales ranged from .97 to .98).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career self-efficacy</td>
<td>314</td>
<td>2.6863</td>
<td>1.66993</td>
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<tr>
<td>Career identity</td>
<td>314</td>
<td>3.3659</td>
<td>2.06687</td>
</tr>
<tr>
<td>Career LOC</td>
<td>314</td>
<td>3.8487</td>
<td>2.45783</td>
</tr>
<tr>
<td>Career barriers</td>
<td>314</td>
<td>3.3668</td>
<td>2.05740</td>
</tr>
<tr>
<td>Career sport-work</td>
<td>314</td>
<td>2.8892</td>
<td>1.78627</td>
</tr>
<tr>
<td>Career Maturity</td>
<td>314</td>
<td>3.2151</td>
<td>1.93700</td>
</tr>
</tbody>
</table>

**Table 46: Descriptive results for student-athlete career situation**

Results from the question, ‘Do you intend to play sport full-time after graduation?’ are in Table 47 below. Well over half of the participants (59.6) were considering a career in full-time sport.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>116</td>
<td>29.6</td>
</tr>
<tr>
<td>2.00</td>
<td>169</td>
<td>43.1</td>
</tr>
<tr>
<td>3.00</td>
<td>102</td>
<td>26.0</td>
</tr>
</tbody>
</table>

**Table 47: Results from the question ‘Do you intend to play sport full-time after graduation?’ (1 = yes, 2 = no, 3 = maybe)**

6.3.3.2 Correlations

Table 48 shows the associations between both objective (GPA, A levels, hours in role) and psychological (student-athlete identity, commitment and conflict, and career maturity) of the sample. (Sentences in bold relate to the study hypotheses).

Firstly, although there is no correlation between career maturity and athletic identity, there is a significant positive association between career maturity and student identity (p<0.05). Therefore, regardless of athletic identity, student identity is positively associated with student-athlete career maturity (p<0.05) (Hypothesis 1).
GPA positively associates with the other 'academic' measures, including A levels, hours in student role, student identity, and career maturity (all $p<0.01$).

One's A levels, as well as positively associating with student identity ($p<0.05$) and commitment ($p<0.01$) and career maturity ($p<0.01$), also negatively associate with hours as an athlete ($p<0.01$), and athletic identity ($p<0.05$).

The hours one spends in the student and athlete roles positively associates with student and athletic identity respectively (both $p<0.01$), and negatively associates vice versa ($p<0.05$ and $p<0.01$). Interestingly, not only does hours in the athlete role associate with both sporting ($p<0.01$) and academic commitment ($p<0.05$), but it also associates with both student to athlete and athlete to student role conflict (both $p<0.01$). Hours in student role, however, associates with neither sporting nor academic commitment and negatively associates with athlete to student conflict ($p<0.05$). Therefore, the more time the participants spent in their sporting role the more committed and the more conflict they felt in, and between, these roles.

While athletic identity positively associates with sporting commitment and athlete to student role conflict, student identity positively associates with academic commitment and student to athlete role conflict (all $p<0.01$).

Sporting commitment, student commitment, student to athlete and athlete to student role conflict, and career maturity all strongly positively associate (all $p<0.01$).

In sum, when significant, student-related variables positively correlate with each other and negatively correlate with athlete-related variables (Hypothesis 2). Athlete-related variables generally associate vice versa (Hypothesis 3). However, there are a number of important anomalies, especially concerning role commitment.

<table>
<thead>
<tr>
<th>GPA</th>
<th>A levels</th>
<th>Hrs Student</th>
<th>Hrs Athlete</th>
<th>AIMS</th>
<th>Student AIMS</th>
<th>SCMS</th>
<th>Student SCMS</th>
<th>SA role conflict</th>
<th>AS role conflict</th>
<th>Career maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A levels</td>
<td>.241**</td>
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<td></td>
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<tr>
<td>Hrs Student</td>
<td>.155**</td>
<td>-.045</td>
<td>1</td>
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</tr>
<tr>
<td>Hrs Athlete</td>
<td>-.102</td>
<td>-.274**</td>
<td>-.101</td>
<td>1</td>
<td></td>
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<tr>
<td>AIMS</td>
<td>-.094</td>
<td>-.134*</td>
<td>-.136*</td>
<td>.325**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Stu AIMS</td>
<td>.237**</td>
<td>.196**</td>
<td>.332**</td>
<td>-.203*</td>
<td>-.022</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCMS</td>
<td>.056</td>
<td>-.042</td>
<td>-.124</td>
<td>.259*</td>
<td>.584**</td>
<td>.027</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stu SCMS</td>
<td>-.097</td>
<td>.144*</td>
<td>-.003</td>
<td>.167*</td>
<td>.063</td>
<td>.724*</td>
<td>.684**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA conflict</td>
<td>.024</td>
<td>.085</td>
<td>-.021</td>
<td>.177**</td>
<td>.039</td>
<td>.201*</td>
<td>.485*</td>
<td>.696*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>AS conflict</td>
<td>.053</td>
<td>-.021</td>
<td>-.123*</td>
<td>.300*</td>
<td>.166*</td>
<td>-.016</td>
<td>.512*</td>
<td>.655*</td>
<td>.859**</td>
<td>1</td>
</tr>
<tr>
<td>Career</td>
<td>.182**</td>
<td>.234*</td>
<td>.036</td>
<td>.108</td>
<td>-.030</td>
<td>.143*</td>
<td>.442*</td>
<td>.679**</td>
<td>.673*</td>
<td>.654**</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 48: Bivariate correlations between student-athlete outcomes
Comparing by student-athlete demographic

The demographic differences in the sample were compared using independent samples t-tests. These followed the study hypotheses and were all therefore one-tailed tests (at p<0.05). For each analysis, Levene’s Test for Equality of Variances was tested and, if found significant at p<0.05, the ‘equal variances not assumed’ t statistic was used. Table 49 shows only the significant results from the analyses for clarity (significantly higher demographic variable is shown in brackets).

<table>
<thead>
<tr>
<th>Gender</th>
<th>GPA</th>
<th>A level</th>
<th>Hrs Study</th>
<th>Hrs Sport</th>
<th>AIMS</th>
<th>Stu AIMS</th>
<th>SC MS</th>
<th>Stu SCMS</th>
<th>SA RC</th>
<th>AS RC</th>
<th>Career Mat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>-3.53</td>
<td>-4.27</td>
<td>2.51 (Male)</td>
<td>2.07 (Male)</td>
<td>-3.81 (Female)</td>
<td>-1.70 (Female)</td>
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<td>Male</td>
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<tbody>
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<td>A level</td>
<td>Hrs Study</td>
<td>Hrs Sport</td>
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<td>Stu AIMS</td>
<td>SC MS</td>
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<td>SA RC</td>
<td>AS RC</td>
<td>Career Mat.</td>
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<tr>
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<tbody>
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<td>Hrs Sport</td>
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<table>
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<td>Gender</td>
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<td>A level</td>
<td>Hrs Study</td>
<td>Hrs Sport</td>
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<tbody>
<tr>
<td>Gender</td>
<td>GPA</td>
<td>A level</td>
<td>Hrs Study</td>
<td>Hrs Sport</td>
<td>AIMS</td>
<td>Stu AIMS</td>
<td>SC MS</td>
<td>Stu SCMS</td>
<td>SA RC</td>
<td>AS RC</td>
<td>Career Mat.</td>
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<td>-1.70 (Female)</td>
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</tbody>
</table>

Table 49: Independent samples t-test significant results.

Gender (Hypothesis 4)

Females were found to score more highly on the student-related variables of GPA, A levels, student identity and commitment. Males scored higher than females on the sport-related variables of hours in sporting role and athletic identity. A further analysis of the academic commitment subscale differences revealed that females scored higher on 'want to commitment' (t(202.75), p<0.05), 'enjoyment' (t(208),
p<0.05), personal investments (t(208), p<0.05), social opportunities (t(203.98), p<0.05), and recognition opportunities (t(204.66), p<0.05).

**Sport type (Hypothesis 5)**
There were no significant differences on any student- or athletic-related variable.

**Age (Hypothesis 6)**
Younger (19 or below) students had achieved significantly better A levels, whereas older (20+) students spent more time in the student role, felt more athlete to student role conflict and had higher career maturity.

**Sport level (Hypothesis 7)**
Lower sport standard (county standard or below) students scored significantly higher on the academic-related variables of GPA, A levels, and student identity. Higher sport standard (international/national standard) students scored significantly higher than lower sport standard students on hours in sporting role, athletic identity, and both directions of role conflict. This final result provides evidence of the discriminant validity of the student-athlete role conflict scale.

**University sport level (Hypothesis 8)**
Lower university sport level (2nd team and below) students scored significantly higher on the student-related variables of A levels, hours in student role, and student identity. Higher university sport level (1st team) students scored significantly higher on the sport-related variables of hours in sporting role, athletic identity and sporting commitment and athlete to student role conflict. However, they also scored significantly higher than the lower university sport group on academic commitment, career maturity, and student to athlete role. This final result provides evidence of the discriminant validity of the student-athlete role conflict scale.

**Department (Hypothesis 9)**
Non-sport science department students spent significantly more time in their student role and had higher student identity than sport science department students, whereas the latter spent significantly more time in their sporting role and had achieved higher A levels.
Scholarship level (Hypothesis 10)

Non-Sport Scholars had achieved significantly higher A levels, spent more time in their student role, and had a higher student identity. Sport Scholars spent more time in their sporting role, had higher athletic identity, and felt more role conflict in both directions. Again, this final result provides evidence of the discriminant validity of the student-athlete role conflict scale.

6.3.3.4 Comparing over time and by student-athlete identity type

Two analyses of variance tests were used firstly to compare the objective and psychological variables over time (1st year, 2nd year, 3rd year+), and secondly to compare them by student-athlete identity type (following Snyder, 1985). Homogeneity of variance was testing using the Levene statistic and, unless mentioned, was non-significant. Tukey’s tests were chosen for post-hoc analysis as this test controls well for Type I errors but also has more power than other tests when testing larger numbers of means (e.g. Bonferroni’s test) and in general (e.g. Dunn’s test, Scheffé test, etc.) (Field, 2000).

By time (Hypothesis 11)

Table 50 shows the descriptive means and standard deviations for the objective and psychological variables over time. Time point 1 is Year 1, time point 2 is Year 2, and time point 3 is Year 3 or above.
There were five significant results from the analysis of variance. Including post-hoc analyses these were as follows:

- GPA increased significantly over time (F(2) = 5.59, p<0.05), from time points 1 to 3
- Hrs spent in student role increased significantly over time (F(2) = 8.20, p<0.01) between time points 1 and 2, and 1 and 3 (Levene’s test was
significant, however the p value is significant at p<0.01, suggesting the result is valid)

- Student to athlete role conflict increased significantly over time (F(2) = 4.32, p<0.01) between time points 1 and 3, and 2 and 3
- Athlete to student role conflict increased significantly over time (F(2) = 4.09, p<0.05) between time points 1 and 3, and 2 and 3
- Career maturity increased significantly over time (F(2) = 4.94, p<0.05) between time points 1 and 3 (Levene’s test was significant, however p=0.008, suggesting the result is valid)

**By student-athlete identity type (Hypothesis 12)**

Table 51 shows the descriptive means and standard deviations for the objective and psychological variables for student-athlete identity type. Using a median split, four student-athlete types were created (label in brackets):

- **Type 1** = Low student identity, low athletic identity (‘non student-athlete’)
- **Type 2** = Low student identity, high athletic identity (‘athlete’)
- **Type 3** = High student identity, low athletic identity (‘student’)
- **Type 4** = High student identity, high athletic identity (‘student-athlete’)

215
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**Table 51**: Descriptive results for variables by student-athlete type
All analyses of variance, except for career maturity, showed significant results. Including the post-hoc analyses group differences these were as follows:

- **GPA (F(3) = 7.05, p<0.001)**
  - ‘Student’ significantly higher than all other types

- **A levels (F(3) = 5.02, p<0.05)**
  - ‘Student’ significantly higher than ‘athlete’

- **Hours in student role (F(3) = 13.12, p<0.001)** (Levene’s statistic was significant (p<0.05). However, the F statistic is highly significant suggesting the result is valid)
  - ‘Student’ significantly higher than ‘non student-athlete’ and ‘athlete’

- **Hours in sporting role (F(3) = 13.68, p<0.001)**
  - ‘Athlete’ significantly higher than ‘non student-athlete’ and ‘student’
  - ‘Student-athlete’ significantly higher than ‘student’

- **Sporting commitment (F(3) = 27.22, p<0.001)**
  - ‘Student-athlete’ and ‘athlete’ both significantly higher than ‘student’ and ‘non student-athlete’

- **Academic commitment (F(3) = 41.20, p<0.001)**
  - ‘Student-athlete’ and ‘student’ both significantly higher than ‘athlete’ and ‘non student-athlete’

- **Student to athlete role conflict (F(3) = 3.07, p<0.05)**
  - ‘Student’ significantly higher than ‘non student-athlete’

- **Athlete to student role conflict (F(3) = 4.57, p<0.05)**
  - ‘Athlete’ significantly higher than both ‘student’ and ‘non student-athlete’
Energy expansion theory

There are two further important points of interest to extract from the above analysis that can provide an indication of the ‘energy expansion’ theory (Marks, 1977):

1. There is no student to athlete role conflict difference between ‘student-athletes’ (Mean = 3.08) and ‘students’ (3.03). Therefore, they both feel similar amounts of this direction of role conflict. However, when we look at the sport commitment scores, ‘students’ score significantly lower (5.07) than ‘student-athletes’ (5.82). Therefore, it is one’s role commitment to sport and not the amount of conflict of study on sport that dictates one’s athletic role identity (Hypothesis 12). This suggests that the energy expansion theory is correct and that if one’s sport commitment is high enough one will cope with conflict through behaviour change and not identity change. Interestingly, when the differences between ‘student-athletes’ and ‘students’ on the sport commitment subscales are analysed, all are significant except ‘have to’ commitment, ‘social constraints’ and ‘social opportunities’ (p<0.05). Therefore, the higher sporting commitment of ‘student-athletes’ seems to come (‘social opportunities’ withstanding) from more personal intrinsic choice.

2. Similarly, there is no athlete to student role conflict difference between ‘student-athletes’ (Mean = 3.36) and ‘athletes’ (3.46). Therefore, they both feel similar amounts of this direction of role conflict. However, when we look at the academic commitment scores, ‘athletes’ score significantly lower (4.32) than ‘student-athletes’ (5.43). Therefore, it is one’s role commitment to academics and not the conflict of sport on study that dictates one’s student role identity (Hypothesis 12). This, again, shows evidence for the efficacy of energy expansion theory. Again, when the difference between ‘student-athletes’ and ‘athletes’ on the academic commitment subscales is analysed, *all twelve are significant (p<0.05)* except ‘have to’ commitment, suggesting that it is perhaps the more intrinsic elements that constitute the higher student commitment of ‘student-athletes’.
6.3.4 Conclusions

6.3.4.1 Introduction

The hypotheses that this study was testing were numerous due to the combination of various objective and psychological student-athlete variables:

1. Irrespective of athletic identity, student identity is positively associated with student-athlete career maturity
2. The objective and psychological measures related to the student role positively associate with each other, and negatively associate with those of the athlete role
3. The objective and psychological measures related to the athlete role positively associate with each other, and negatively associate with those of the student role
4. Females will score significantly differently from males on both student-related (higher) and athlete-related (lower) variables
5. Individual sport athletes will score significantly differently from team sport athletes on both student-related (higher) and athlete-related (lower) variables
6. Older students (aged 20+) will score significantly differently from younger (aged 19 or below) students on both student-related (higher) and athlete-related (lower) variables
7. Higher sport level students (international/national standard) will score significantly differently from lower sport level students (county standard or below) on both student-related (lower) and athlete-related (higher) variables
8. Higher university sport team students (1st team) will score significantly differently from lower university sport team students (2nd team or lower) on both student-related (lower) and athlete-related (higher) variables
9. Non-sport science department students will score significantly differently from sport science department students on both student-related (higher) and athlete-related (lower) variables
10. Sport Scholars will score significantly differently from non-Sport Scholars on both student-related (lower) and athlete-related (higher) variables
11. Students at the end of their degree (years 3 or more) will score higher on student-related variables than students nearer the start of their degree (years 1 and 2)

12. There will be differences between ‘types’ of student-athlete. In particular, those who maintain both identities will have higher role commitment to both roles regardless of student-athlete role conflict (energy expansion hypothesis)

6.3.4.3 Intention to play sport full-time

There was no hypothesis for the results showing the frequencies of answers to the question, ‘Do you intend to play sport full-time after graduation?’ However, the results are worthy of a brief mention. Kennedy and Dimick (1987) found that 48% of their basketball and American football sample believed they would enter professional sport after they graduated. As the reality was that only eight players had ever played sport professionally, the authors concluded that the high expectations of the student-athletes were wildly unrealistic, often ‘nurtured by the lure of monetary and recognition gains’ (p. 239). Similarly, nearly two thirds (59%) of the current British sample was considering a full-time career in sport. Even without the post-graduation data, this number also seems unrealistically high and suggests that these student-athletes may not therefore have the appropriate career preparation when they graduate. Why and whether this outcome is the case, may become apparent from the discussion of the student-athletes psychosocial patterns expanded upon below.

6.3.4.4 Discussion of overall patterns of British student-athletes

In general, the students in the sample showed high identification to their sport role in comparison with a medium-to-high identification with their student role. (Hence identity scores were higher on the social and negative affect subscales and not the exclusivity subscales). This high-athlete/medium-high student trend was also reflected in the commitment and hours in role results. These results are to be expected as the group have all made a decision to study and have had to at least commit to achieving minimum entry standards and passing yearly assessments to guarantee their future eligibility. However, whilst the socioemotional aspects (e.g. social support, social opportunities, etc.) of the student role were lower than the athlete role commitment, the cognitive aspects were not only lower but also stemmed from more external ‘have to’ and less intrinsic ‘want to’ reasons for participation. This suggests that, for most
students who are members of university teams, sport is the more compelling and interesting role. Overall, student to athlete role conflict was low and athlete to student role conflict was found to be medium, but both showed lower external expectation basis for conflict. Contrary to the U.S. literature then, these British student-athletes did not feel that too many external demands were being placed upon them, particularly by significant others from sport who have the potential to interrupt their student role. Career situation scores were medium indicating a 'somewhat' career maturity. The lowest subscale scores were for career self-efficacy and sport-to-work relationship suggesting that the students did not feel very able to, nor could see how to, plan for their futures.

The correlations results add another layer of explanation to these conclusions. Student-related variables positively correlated with each other and negatively correlated with athlete-related variables, and athlete-related variables generally associated in the same way vice versa. However, role commitment did not follow these patterns as student and athlete commitment positively associated. Like those 'idealistic' freshman from Adler and Adler's (1985, 1987) longitudinal college basketball team study, this British sample can, at least to begin college with, be committed to both roles. Perhaps due to this, both student and athlete commitment positively associated with role conflict. This dual commitment forces the student-athlete to cope by making either behavioural change to maintain one's dual identity or a reduction in one or other role identity and associated behaviours. The further consequences of this second choice is the effect of identity on both GPA and career maturity. Unlike some studies from the literature (e.g. Murphy et al., 1996), there was no correlation between athletic identity and career maturity. However, there was a positive correlation between career maturity and student identity, as suggested by Brown and Hartley (1998). Furthermore, student identity also positively correlated with GPA. Therefore, it can be concluded that the strength of one's athletic identity was not found to be detrimental. Instead, the consequences of change in a student-athlete's academic identity is more important than academic identity when considering the links between identity and these academic outcomes.
6.3.4.5 Discussion of demographic differences

Gender
Females were found to score more highly on the student-related variables of GPA, A levels, student identity and commitment. However, males scored higher than females on the sport-related variables of hours in sporting role and athletic identity. These results not only reflect those findings from the literature and from Study 1a and 1b that suggest females do better academically, but they also point to the importance of the underlying influencing psychological factors of role identity and commitment and the possible mediating behaviour of hours in role. In particular, the higher commitment females show towards the student role suggests that their sporting social groups are more likely to accept and support academic-related behaviours, similar to the suggestions by Meyer’s (1990) qualitative study on female student-athletes. This is reinforced by the subscale differences from the student commitment scores analysis. Females scored higher on ‘want to commitment’, ‘enjoyment’, ‘personal involvement’, and ‘social/recognition opportunities’. Therefore, the more academically oriented female sporting groups are more likely to accept and recognise student achievement, which may in turn engender a greater ‘want’ to study and enjoyment of the student role.

Sport type
Unlike Study 1a and 1b, there were no significant differences on any student- or athletic-related variable. The male/female ratio of this sample was more evenly split (53%: 47%) compared with Study 1a and 1b’s (61%: 39%). As mentioned above, the fact that female teams socialise in very different ways to male teams may account for this.

Age
The results found that younger (19 or below years) students had achieved significantly better A levels, whereas older (20+ years) students spent more time in the student role, felt more athlete to student role conflict and had higher career maturity. The last three of these four results seem quite intuitive; older students are more likely to be nearing their final exams and the transition to work, hence they spend more time studying, feel the conflict from sport more because of this, and are more aware of
what their next step is. However, that the younger group achieved higher A levels, is less expected. There are a couple of possible reasons for this. Firstly, and most simply, students who fail and then retake A levels will be at least one year older than their peers at university. Secondly, there is a tendency in a variety of sports, not often found in the U.S. system, for promising sportsmen and women to go full-time after secondary education. The often-intensive sporting preparation that anticipates this period may be at the expense of A level grades. Therefore, those student-athletes who are older, who may have been full-time athletes and experienced this, are more likely to have achieved lower A level results.

Sporting level
Lower sport standard (county standard or below) students scored significantly higher on the academic-related variables of GPA, A levels, and student identity. Higher sport standard (international/national standard) students scored significantly higher on hours in sporting role, athletic identity, and both directions of role conflict. This final result, whereby higher level sportsmen and women feel more role conflict, provides evidence of the discriminant validity of the student-athlete role conflict scale. Again, the role identity results are in line with the objective outcomes of the student-athlete. The fact that there is no significant difference in role commitment may explain why the higher sporting level group experiences role conflict in both directions. This group may be committed to both their student and athlete roles, and hence feel conflict between both, but as the commitment to the student role is likely to be slightly weaker this is the identity that suffers.

University level
The results comparing the different university sporting levels, paints a similar picture. The lower university sport level (2nd team and below) students scored significantly higher on the student-related variables of A levels, hours in student role, and student identity, whilst the higher university sport level (1st team) students scored significantly higher on the sport-related variables of hours in sporting role, athletic identity, sporting commitment and athlete to student role conflict. However, they also scored significantly higher than the lower university sport group on academic commitment, career maturity, and student to athlete role conflict (The higher bi-directional role conflict again provides evidence of the discriminant validity of the
student-athlete role conflict scale). These results are very interesting for those protagonists of elite sport in university settings as they suggest that playing sport at a high university level does have a beneficial effect on the important academic-related outcome of career maturity. Furthermore, if not for the significantly higher role conflict these higher-level student-athletes face, their underlying academic commitment also has the potential to translate into other positive student outcomes.

**Department**

Non-sport science department students spent significantly more time in their student role and had higher student identity than sport science department students, whereas the latter spent significantly more time in their sporting role and had achieved higher A levels. The sport science department, by its very nature, is likely to attract more active sportmen and women than most others. Thus, once at university, the socialising effect of department may play a part in shaping one’s identity similar to the different socialising effects between male and female sports team. The ‘anomalous’ higher A levels result for sport science student-athletes is due to the popularity and associated high admissions offers at the two universities in the sample.

**Scholarship level**

Non-Sport Scholars achieved significantly higher A levels, spent more time in their student role, and had a higher student identity. Sport Scholars spent more time in their sporting role, had higher athletic identity, and felt more role conflict in both directions. Firstly, this final result again provides evidence of the discriminant validity of the student-athlete role conflict scale as it would be expected that role conflict would be felt more by Scholars than non-Scholars. Secondly, because these results compare Scholars with non-Scholars (albeit student-athlete non-Scholars) they can be linked back to those found in Study 1a and 1b.
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**Table 52:** Comparison academic outcomes between Studies la/1b and Study 3b

By linking Study 1a/1b and study 3b we can therefore conclude that, either the self-report measures in this study led to inflated GPA and A level scores or, more likely (due to guarantees of anonymity) the Scholars have improved in recent years, possibly due to a more structured support system. Furthermore, student-athletes in general (non-Scholar student-athletes) achieved better A levels and GPAs than the non student-athletes from Study 1a/1b. This comparison is limited by the fact that as it does not contrast student-athletes to a matched non student-athlete group as Study 1a/1b did. However, it does provide some evidence to suggest that British university student-athletes as a whole perform no worse, and may even perform better, than non student-athletes. The Sport Scholars are at the most extreme end of the sporting spectrum so the results showing that they have significantly lower academic identities, higher athletic identities, spend more time in the sporting role and less in the academic role, and suffer from more role conflict, are no less than would be expected.

**Time points**
The results show that, as expected, the academic-related variables of GPA, hours in student role, student to athlete role conflict and career maturity significantly increased over time. Although this may not be the pattern expected in a U.S. student-athlete sample (revenue male athletes have shown the reverse pattern (Adler and Adler, 1985, 1987)), it does mirror the process dynamics experienced by Canadian student-athletes in a study by Miller and Kerr (2003). This study identifies two stages of student-athlete role experimentation; *over-identification with the athlete role*, where athletics is the main focus and academic participation is limited, and *deferred role experimentation*, in which there is a shift to an increased academic investment. However, although sporting-related variables may have decreased in the British
student-athletes, they were not found to significantly decrease. This accounts for the finding that athlete to student role conflict was also found to increase significantly over time.

By identity status

The results that compared the four different combinations of student-athlete identity status (following Snyder, 1985) found that in the traditionally pre-eminent outcomes measure, GPA, the pure ‘student’ (high student identity, low athlete identity) achieved significantly higher grades than all other types. It may be tempting to conclude that having only a high student identity may result in better academic outcomes. However, when we consider that there is no difference between ‘students’ and ‘student-athletes’ in hours in student role but that there is a difference between them in A levels (‘students’ significantly higher), a more rational conclusion might be that these two student-athlete types differ on GPA due to disparities existing before university.

This argument is strengthened by the two role conflict results. Although pure ‘students’ and pure ‘athletes’ feel significantly more role conflict (student to athlete and athlete to student respectively) compared to each other and ‘non student-athletes’, ‘student-athletes’ do not differ significantly on role conflict with any other type. Therefore, the difference between ‘student-athletes’ and ‘students’ in A levels is probably not due to any difference in role conflict felt during university. Instead it seems like the balance of high student and high athlete identity, as suggested by Linville (1987), may have served as a ‘buffer’ against conflict. In addition to this, the results found that ‘student-athletes’ had a significantly higher commitment to their student role compared to ‘athletes’ and a significantly higher commitment to their sporting role compared to ‘students’. Following Marks (1977), this suggests that it is the difference in role commitment, and not the differences in perceptions of conflict, which enable ‘student-athletes’ to maintain their dual roles; something the ‘student’ and ‘athlete’ types were not able to do as their commitment was not strong enough to weather the conflict. This dual benefit of a strong and balanced self was mentioned previously in Snyder’s conclusion that,

Rather than assuming that the respective role spheres will automatically lead to strain and conflict because of scarcities of time and energy, we might consider time and
energy as products of role bargains, negotiations, and accommodations based on the level of commitment to the respective role spheres. Additionally, the benefits in terms of feelings of personal well-being accrued from both the academic and athletic roles may have an additive effect when compared to an involvement in only one role (p. 212).

Snyder also suggests that this commitment arises from the three factors of social support, intrinsic and extrinsic motivation. The analysis of the differences between 'student-athletes' and 'athletes' on the academic commitment subscales, and 'student-athlete' and 'students' on the sport commitment subscales, revealed that the only non-significant results were more extrinsic-related commitment factors. Therefore, the social support and intrinsic factors, rather than the extrinsic factors, seem to be the most important in dictating the sporting and academic commitment of these British student-athletes.

6.3.4.6 Analysis using the Identity Theory (Burke, 2004) framework

The analysis above has shown that 'better' outcomes, especially in terms of career maturity and managing role conflict, come from an individual who has strong and balanced student and athlete role identities. However, the discussion also pointed to the fact that one's commitment to an identity is a vital component in the process.

Using Burke's (1991) model of identity as part of a feedback system, we can conceive of a British student-athlete entering university with a high commitment to their sporting identity and at least a medium commitment to their student identity. These identities will begin to influence behaviours and so the individual begins to spend some time in both student and athlete roles. The individual then receives reflected appraisals on these behaviours from others in each role, which they compare with their identity standard. However, because of the differing demands and expectations each role is soon found to have, these appraisals from others may not be comfortably integrated into each identity. For example, the possible reflected appraisals of the sporting role, that 'studying is not "cool... (from sporting peers) or that 'you must miss lectures to travel to competitions' (from coaches), may interrupt possible opposing self-meanings from the student identity, e.g. 'studying is good for
my future' (academic peers) or 'you must attend all lectures' (lecturers). If the individual is not able to cope with this conflict behaviourally, by becoming more organised or socialising less for example, then a reduction in identity and ensuing identity-related behaviours in the less committed role (in this case the student role) occurs. However, this is less likely to happen if the individual has high commitment to both roles. If sufficient dual commitment exists, then the student-athlete must 'find a way' to cope behaviourally with the role interruptions so they do not cause role conflict to be experienced.

As the study results showed, the high-student/high-athlete identity group felt no more conflict than the low-student/high-athlete or high-student/low-athlete identity types. However, they did show significantly higher role commitment. Therefore, they must have found a way of coping that did not mean they had to reduce one or other of their role identities.

Hence, there are two mechanisms of coping with role conflict at a psychological level. Firstly, one can change ones behaviours to cope. Those who promote efficiency through planning and time management skills training follow this pathway. Secondly, one can improve one's role commitments, either socioemotional or cognitive. These may be influenced by social support, extrinsic or intrinsic means, but from the conclusions of this study, it seems that increasing the social support and intrinsic factors may be most important.

This second coping mechanism therefore begs the question 'In the student-athlete environment, does one's commitment come from the university culture or from their one's own personality?' Perhaps the answer is both. Certainly in the U.S., when social support and extrinsic rewards are often more prevalent and visible in sport, the university environment plays a big part. As Shulman and Bowen (2001) suggest, 'it appears that a distinct “athletic culture” is appearing in essentially all sports and at all levels of play' (p. 82). However, in UK it does not seem as if it is so much the cultural expectations that are the problem as much as the cultural demands and personal expectations from combining roles. For example, the 1st team student-athletes were found to have higher student commitment than lower team student-athletes, but more role conflict and lower student identity. Perhaps this result shows that greater sporting success reflects an underlying committed personality trait, which is evident in academics too but not converted into student identity unless role
demands are coped with. As Hemery (1995) says of the participants in his study of high achievers from sport and business,

\[ \text{If any of these individuals had put their thoughts,} \]
\[ \text{enthusiasm and energies into another area in which they} \]
\[ \text{had a reasonably good amount of talent, they could have} \]
\[ \text{become high achievers in that area (p. 267).} \]

Thus, the U.S. college system may need to change its sporting culture to build academic commitment whereas the U.K. student-athlete university may need more to change its academic culture to free academic commitment.

6.3.4.7 Limitations and future research

The main limitation of the current study was that participants did not always complete all sections of the questionnaire. This meant that the number of data points for each variable was different. This occurred for perhaps two reasons. Firstly, when paper-and-pencil questionnaires are given out it is often possible for a researcher and/or coach to prompt a participant to complete all questions. Although there are many benefits in using online questionnaires, the researcher must trust that the participant will do this. Electronic prompts to complete missing fields were used before a participant could progress to the next page, however there was nothing to stop a participant simply closing down the web page at any time in the process. Secondly, the questionnaire was quite long. The commitment scales in particular were 35 items each. This may have led to boredom and subsequent incompletion. For a more complete response, fewer questions may have been more appropriate. However, the research potential of the study outweighed this consideration and led to the decision to include a variety of items.

In the future, a more constrained and 'narrow' examination of the variables may be more appropriate. Given the access that the researcher had to the elite student-athlete population, and given the number of implications that were suggested from the systematic review, the battery of questionnaires was deemed appropriate for this study. Also, future studies could examine the properties of the instruments used more closely, such as the SARCS with respect to its construct validity.
6.4 Study 3c

6.4.1 Introduction

There are no comparative studies in the student-athlete literature. The only study that has compared American college athletes against a sample outside of the U.S. looked at sport identity and motivation for sport participation between this group and a sample of Austrian student sport club members (Curry and Weiss, 1989). Although the Austrian participants were students and played sport, they were not student-athletes in the sense that they played that sport in the college they were studying at. However, their findings are interesting nonetheless. Measuring identity using the Sports Identity Index (SII) (Curry and Weaner, 1987; Curry and Parr, 1988), the researchers concluded that,

Motivation for sport participation is likely to be influenced by the values of the sport organisation as well as the sport and gender identities (p.257).

Study 3c therefore, using similar objective and psychosocial measures, adds to Study 3b by being both a comparative study between a U.S. and a U.K. sample and also introducing the psychological construct of motivation into the series of thesis studies. As the cultural differences are the main focus of the study, in line with Curry and Weiss's conclusion above (1989), Study 3c uses a sample of U.S. and U.K. student-athletes from only one sport (tennis) and only one gender (male).

The literature and the results from Study 3b suggest that one's student-athlete identity has a variety of consequences for one's performance and personal experience. Furthermore, it is clear from studies that have investigated the links between identity and measures of psychological well-being that a more balanced, non-exclusive identity associates with positive aspects of mental health, and vice versa (e.g. Linville, 1985, Settles, et al., 2002). Stemming from the work of deCharms (1968) on the motivational consequences of internal versus external causation, and continued by the theoretical framework of self-determination theory (Deci and Ryan, 1985, 1991), motivation has also been found to have important consequences for, not only performance and personal experience, but also well-being.
Self-determination theory is based on the premise that an individual’s behaviour is motivated by innate psychological needs of competence, autonomy and relatedness to others (Deci and Ryan, 1991). The degree to which these needs are fulfilled by social factors mediates the level of self-determined motivation an individual adopts. Social factors that allow an individual to experience competence, autonomy and relatedness increase levels of self-determination whereas factors that undermine these needs lead to less self-determined forms of motivation. As Vallerand (1997, 2001) suggests that it is inappropriate to measure motivation in general and, when considering that motivation may change over time, it is necessary to use situational measures to capture a student-athlete’s motivation during their college career.

There are several types of motivation that have been identified, on a sliding scale of more to less self-determined. The most self-determined type of motivation is ‘intrinsic motivation’, defined as behaviour engaged in for its own pleasure and satisfaction. Extrinsic motivation, however, refers to behaviours pursued for rewards that are not inherent in the activity and includes ‘identified regulation’, when an individual chooses a behaviour for their own personal goals, and ‘external regulation’, when an individual is externally controlled to choose a behaviour. The least self-determined type of motivation is ‘amotivation’, when either an individual perceives no link between their behaviour and outcomes, lacks competence, or places no value on an activity (Ryan and Deci, 2000).

Motivation from a self-determination perspective has not been looked at in the student-athlete literature. However, due to the differences between the U.S. and U.K. that were discussed at length earlier in this thesis, especially in terms of commercialism and its associated consequences, investigating the student and athletic motivation of the different cultures may yield some revealing insights.

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18 As we are concerned with ‘situational’ motivation in this study, it is therefore appropriate to follow and quote at length from Standage, et al. (2003) who footnote that ‘In addition to identified regulation and external regulation, self-determination theory (Deci and Ryan, 1985, 1991) postulates integrated and introjected regulations. Arguing that the inclusion of these two external regulations would render an exceedingly long “state” questionnaire, Guay, et al. (2000) did not include them in their scale development procedures. Specifically their aim was to develop a measure of situational motivation that was both versatile and brief to capture ongoing self-regulatory processes. Guay et al. acknowledge that a possible limitation of their measure is the non-inclusion of the introjected regulation subscale and assert that future research should ascertain whether the inclusion of this scale would enhance our knowledge of situational motivation. They made no reference to integrated regulation. Since the present version of the SIMS does not assess these constructs, we will not elaborate on the integrated and introjected regulations further in this paper’ (p.24).
A further insight concerns the relationship between motivation and role conflict. There are a number of studies that have looked at the relationship between motivation and role conflict (Senecal, et al., 2001; Senecal, et al., 2003, Sheldon et al., 1997). In these studies role conflict between the student and social role was measured using a 5-item scale (Sheldon et al., 1997). They all showed that a students’ level of self-determination toward their interpersonal relations and education was important in determining whether role conflict was experienced. In particular, a more self-determined motivation was found to be associated with lower levels of role conflict and positive outcomes, such as lower academic procrastination.

The aims of this study are therefore twofold. Firstly, the study aims to compare U.S. and U.K. student-athletes on both objective and psychological outcomes. These outcomes follow the student-athlete literature (GPA, hours in athlete role, athletic identity, career maturity), the implications from Chapter 4’s systematic review (hours in student role, student identity), and also suggestions from the literature reviewed above (student and athlete motivation).

As a consequence of these aims, there are two main hypotheses:

1. U.S. and U.K. student-athletes differ from each other in terms of their objective and psychological outcomes. Specifically, U.S. student-athletes will score higher on measures of:
   a. Hours in sporting role
   b. Extrinsic sport motivation
   c. Extrinsic academic motivation
   d. Student-athlete role conflict

2. Extrinsic motivation (either student or athletic) positively associates with student-athlete role conflict

As there is no previous literature on motivation and other objective and psychological variables of student-athlete identity, no hypotheses were set for these.
6.4.2 Methodology

6.4.2.1 Procedure

Unlike Study 3b, the questionnaire battery was constructed using a paper-and-pencil procedure. The questionnaires were given out firstly to the U.S. student-athletes. These were each completed after a college match in the presence of the researcher, but not any college staff or coaches, to ensure full completion and minimum social bias from significant others. A subsequent sample of U.K. student-athletes was then approached to complete the same questionnaire. This sample was given to a similar standard of player (at least 2.1 Lawn Tennis Association rating), at a similar time of season (Easter), to the same gender (male) and sport (tennis). Again, most of the questionnaires were completed after university matches. U.S. GPA averages were converted into a percentage (U.K. system) by multiplying by 20 (GPA of 4.0 is an A+, as is 80% in the U.K.).

6.4.2.2 Participants

The participants were all elite male student-athlete tennis players who were currently members of their university tennis team. There were a total of 97 participants (62 U.S, 35 U.K.) from 12 colleges/university (7 U.S., 5 U.K.) The U.S. colleges were all N.C.A.A. Division I colleges from the state of California (4 had previously won the National title). The U.K. universities all offered tennis scholarships and had at least reached the semi-finals of the National university championships in the previous 2 years (3 had previously won the National title). The average age of the participants was 20.76 (SD = 1.98) (U.S. mean = 20.69, SD = 1.64; U.K. mean = 20.89, SD = 2.51). 55.7% of the participants were currently receiving a sports scholarship (U.S. = 59.7%, U.K. = 48.6%). The participants were at different points in their academic careers, 20.6% were 1st years, 24.7% were 2nd years, and 51.5% were 3rd years or above. (U.S. 21.0% 1st years, 22.6% 2nd years, 53.3% 3rd years or above; U.K. 20.0% 1st years, 28.6% 2nd years, 48.6% 3rd years or above).

6.4.2.4 Measures

Demographics

19 It must be noted that there was no evidence for the 80% ceiling on grades at the five U.K universities involved in this study. Therefore, caution must be taken when comparing the results of U.K. universities grades with one another.
The demographic section of the questionnaire is appended (Appendix 9). In addition to the information mentioned in the Participants section above, the demographics page also asked for current academic degree/major, current GPA, tennis national ranking (LTA or USTA), intention to pursue sport full-time after graduation (yes, no, or maybe) and hours per week lectures/tutorials/labs, personal studying, team training, individual training, and competition (including travel). Heading this section was an introduction to the purposes of the study, instructions and an assurance of participant confidentiality. The participants were asked to rate their scores based on their student-athlete experience of the academic year so far.

**Situational Motivation Scale and modified student SIMS**

Following self-determination theory (Deci and Ryan, 1985, 1991) and originally devised by Guay et al. (2000) to assess sport situational motivation, the most recent version of the SIMS is a 14-item scale with four factors, 'intrinsic motivation', 'identified regulation', 'external regulation', and 'amotivation'. When completing the scale, respondents are asked, “Why are you currently engaged in playing tennis?” and answer on a 7-point Likert scale questions such as ‘because I think this activity is interesting’, ‘because I am supposed to do it’, etc. Internal consistency has been supported by data on a variety of physical activity samples and ranges from .7 to .9 over the different samples and factors (Appendix 13).

To enable measurement of the student-athlete's student motivation, the SIMS stem wording was modified to “Why are you currently engaged in your academic studies?” (Appendix 14).

**Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, and Linder, 1993; Brewer and Cornelius, 2001) and modified student-AIMS**

**Student-Athlete Role Conflict Scale (SARCS; Cross, 2004)**

20 A measure of academic motivation does exist, the Academic Motivation Scale (AMS; Vallerand, 1992, 1993). However, this was not used for two main reasons, Firstly, it was not used to maintain consistency of item wording in comparison to the SIMS. Secondly, the AMS is a contextual scale, like its cousins the SMS (for sport; Pelletier, et al. 1995) and the EMS (for exercise; Li, 1999). The SIMS, however, is a situational scale.
Student-athlete Career Situation Inventory (Sandstedt, Cox, Martens, Ward, Webber, and Ivey, in press) (See Study 3b for details of all the above questionnaires).

6.4.2.5 Analysis

The data was analysed in the following ways:

1. Descriptive means, standard deviations and frequencies were used for the U.S. and U.K. student-athletes on the various objective and psychological outcomes.

2. Independent samples t-tests were used to compare differences between the U.S. and U.K. student-athletes on GPA, hours in role, athletic and student identity, athletic and student motivation, and career maturity. When the analysis tested a specific hypothesised prediction, the one-tailed probability was used. If there was no prediction, the two-tailed probability was used. Furthermore, Levene’s test for equality of variance was also employed and if found to be significant, equal variances were not assumed and the adjusted degrees of freedom significance score was used.

3. Bivariate correlations were used to assess association between student and athlete motivation and role conflict, and other variables.
6.4.3 Results

The results from Study 3c follow. This section firstly shows descriptive data highlighting the mean differences between the samples, before presenting more detailed significance comparisons and associations.

6.4.3.1 Descriptive results

Academic clustering

The results showing the U.S. and U.K. student-athlete’s academic degree/major is shown below in Tables 53 and 54 (respectively). Over 90% of the U.K. student-athletes were reading degrees in sports- or business-related subjects. Business-related subjects were also the taken by more U.S. student-athletes than any other subject. (The key is as follows: 1 = Sports, exercise and associated, 2 = Economics/business-related, 3 = Social Sciences 4 = Natural Sciences, 5 = English and communications, 6 = Arts, 7 = undeclared).

<table>
<thead>
<tr>
<th>Percent</th>
<th>Valid</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>42.9</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
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</tr>
<tr>
<td>3.00</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>5.7</td>
<td></td>
</tr>
</tbody>
</table>

Table 53: Frequencies of academic subjects taken by U.K. student-athlete group

<table>
<thead>
<tr>
<th>Percent</th>
<th>Valid</th>
<th>Percent</th>
</tr>
</thead>
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<tr>
<td>2.00</td>
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<td>5.00</td>
<td>16.1</td>
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<td>6.00</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>7.00</td>
<td>9.7</td>
<td></td>
</tr>
</tbody>
</table>

Table 54: Frequencies of academic subjects taken by U.S. student-athlete group
Intention to play sport full-time after graduation

Over half (54.9% yes or maybe) of the U.S. student-athlete group were considering playing sport full-time after they graduated. Less than a third (31.4%) of U.K. student-athletes were considering the full-time sport career path and only 5.7% said ‘yes’ compared to the U.S. group’s 19.4%.

Table 55 shows the means and standard deviations for each country. The results show a remarkably similar average GPA.

<table>
<thead>
<tr>
<th>GPA</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>64.8500</td>
<td>6.95658</td>
</tr>
<tr>
<td>2.00</td>
<td>64.8846</td>
<td>5.80570</td>
</tr>
</tbody>
</table>

Table 55: GPA descriptives

Table 56 shows the hours in role means and standard deviations for the U.S. and U.K. student-athletes. Although, U.K. student-athletes spend slightly more time studying (9.51 hours compared to 9.25 hours), the U.S. student-athletes spend nearly two more hours per week on average in lectures (14.07 hours compared to 12.09 hours). This pattern is mirrored in the time in the sporting role means. Again, U.K. student-athletes spend slightly more time on individual training (4.10 hours compared to 3.46 hours), whereas U.S. student-athletes spend over double the amount of time team training (15.38 hours compared to 7.83 hours) and over treble the amount of time competing (15.59 hours compared to 5.17 hours). Thus, overall the groups spend similar amounts of time on their student role, albeit in slightly different ways, but the U.S. group spends double the amount of time in their sporting role compared to the U.K. student-athletes (34.13 hours compared to 17.14 hours).
Table 56: Hours in role descriptive results for U.S. and U.K. student-athletes

<table>
<thead>
<tr>
<th></th>
<th>1 = US</th>
<th>2 = GB</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hrs lectures</td>
<td>1.00</td>
<td>2.00</td>
<td>14.0656</td>
<td>4.23328</td>
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<tr>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td>9.2500</td>
<td>5.55062</td>
</tr>
<tr>
<td>Hrs study</td>
<td>1.00</td>
<td>2.00</td>
<td>9.5143</td>
<td>6.74045</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td>15.3790</td>
<td>3.50022</td>
</tr>
<tr>
<td>Hrs team training</td>
<td>1.00</td>
<td>2.00</td>
<td>7.8286</td>
<td>3.33860</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td>3.4554</td>
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<td></td>
<td>1.00</td>
<td>2.00</td>
<td>4.0968</td>
<td>4.90139</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td>15.5909</td>
<td>17.43668</td>
</tr>
<tr>
<td>Hrs in student role</td>
<td>1.00</td>
<td>2.00</td>
<td>23.2377</td>
<td>7.67605</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td>21.6000</td>
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<td>1.00</td>
<td>2.00</td>
<td>34.1275</td>
<td>18.18594</td>
</tr>
</tbody>
</table>

The U.S. student-athletes identify slightly more with their athletic role compared to the U.K group (5.31 compared to 5.06). The U.S. means are similar to the norms for intercollegiate/national athletes found in Brewer et al. (1993) (males = 5.46, females = 5.34) and in Brewer and Cornelius (2001) (both genders = 5.46), whereas the U.K. means are slightly lower. The subscales show that both U.S. and U.K. student-athletes see their athlete role as only moderately exclusive (U.S. = 4.31, U.K. = 4.21) but that their negative affect would be high if they were forced to give up their sporting identity (U.S. = 5.57, U.K. = 5.81). However, U.S. student-athletes gain a larger amount of their identity from their sporting social group (5.81 compared to 5.11). (The internal consistency alphas for the subscales ranged from .75 to .82 and the overall scale was .75) (Table 57).

Table 57: Athletic Identity descriptive results for U.S. and U.K. student-athletes

<table>
<thead>
<tr>
<th></th>
<th>1 = US</th>
<th>2 = GB</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<tr>
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<td>2.00</td>
<td>5.3095</td>
<td>.85479</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td>5.0571</td>
<td>.89026</td>
</tr>
<tr>
<td>Social ID</td>
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<td>2.00</td>
<td>5.8056</td>
<td>.85984</td>
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<td></td>
<td>1.00</td>
<td>2.00</td>
<td>5.1143</td>
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<tr>
<td>Exclusivity</td>
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<td>2.00</td>
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<td>1.00</td>
<td>2.00</td>
<td>4.2143</td>
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<tr>
<td>Negative affect</td>
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<td>2.00</td>
<td>5.5667</td>
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<tr>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td>5.8143</td>
<td>.74839</td>
</tr>
</tbody>
</table>
Both groups show similar, moderate levels of student identity (U.S. = 4.72, U.K. = 4.83), with higher social identity and lower exclusivity. U.K. student-athletes, however, show higher scores of negative affect (5.69 compared to 5.10) suggesting they care slightly more for their student role than the U.S. group. (The alphas for the subscales ranged from .70 to .82 and the overall scale was .71) (Table 58).

<table>
<thead>
<tr>
<th>1 = US, 2 = GB</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
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</tr>
<tr>
<td>Exclusivity</td>
<td>1.00</td>
<td>5.1048</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>5.6857</td>
</tr>
<tr>
<td>Negative affect</td>
<td>1.00</td>
<td>1.46863</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>1.89071</td>
</tr>
</tbody>
</table>

Table 58: Student Identity descriptive results for U.S. and U.K. student-athletes

Although the group’s intrinsic and identified regulation motivation was similar, the U.S. group were also more externally motivated (2.94 compared to 2.31) and amotivated (2.38 compared to 1.89). (The internal consistency alphas for the subscales ranged from .72 to .88) (Table 59).

<table>
<thead>
<tr>
<th>1 = US, 2 = GB</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic</td>
<td>1.00</td>
<td>5.6411</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>5.7143</td>
</tr>
<tr>
<td>Identified</td>
<td>1.00</td>
<td>5.4731</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>5.6000</td>
</tr>
<tr>
<td>External</td>
<td>1.00</td>
<td>2.9355</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>2.3143</td>
</tr>
<tr>
<td>Amotivation</td>
<td>1.00</td>
<td>2.3831</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>1.8929</td>
</tr>
</tbody>
</table>

Table 59: Sport motivation descriptive results for U.S. and U.K. student-athletes

The means for student motivation follows a similar pattern to those for sports motivation. Although student identified regulation and amotivation means are similar to those from sport, intrinsic motivation is a lot lower (U.S. = 4.32, U.K. = 4.21) and external regulation is a lot higher, with U.S. student-athletes being the higher group once more (4.66 compared to 3.84). (The internal consistency alpha for the subscales ranged from .82 to .87) (Table 60).
Intrinsic 1.00 4.3226 1.30681
2.00 4.2143 1.14748

Identified 1.00 5.7043 1.24152
2.00 5.8762 1.14748

External 1.00 4.6613 1.75710
2.00 3.8381 1.63374

Amotivation 1.00 2.2823 1.19037
2.00 2.0571 1.24423

<table>
<thead>
<tr>
<th>1 = US, 2 = GB</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic</td>
<td>4.32</td>
<td>1.31</td>
</tr>
<tr>
<td>Identified</td>
<td>5.70</td>
<td>1.24</td>
</tr>
<tr>
<td>External</td>
<td>4.66</td>
<td>1.76</td>
</tr>
<tr>
<td>Amotivation</td>
<td>2.28</td>
<td>1.19</td>
</tr>
</tbody>
</table>

Table 60: Student motivation descriptive results for U.S. and U.K. student-athletes

Overall, U.S. student-athletes have higher means for when their student role conflicts with their athlete role (4.09 compared to 3.77). On all subscales apart from time-based role conflict, the U.S. also experiences more student to athlete role conflict than the U.K. group, especially strain- (4.44 compared to 3.79) and internal-expectation based (4.37 compared to 3.70). Thus, U.S. student-athletes are more often worried, guilty and concerned that their studies are interfering with their sport. (The internal consistency alpha for the subscales ranged from .53 to .78 and the overall scale was .76) (Table 61).

<table>
<thead>
<tr>
<th>1 = US, 2 = GB</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA Time</td>
<td>4.13</td>
<td>1.46</td>
</tr>
<tr>
<td>SA Strain</td>
<td>4.44</td>
<td>1.34</td>
</tr>
<tr>
<td>SA Internal Expectation</td>
<td>4.37</td>
<td>1.32</td>
</tr>
<tr>
<td>SA External Expectation</td>
<td>3.69</td>
<td>1.29</td>
</tr>
</tbody>
</table>

Table 61: Student to athlete role conflict descriptive results for U.S. and U.K. student-athletes

Similarly, in relation to athlete to student role conflict, U.S. student athletes score higher overall than the U.K. group (4.53 compared to 3.82) and higher than their student to athlete role conflict score (U.K. student-athletes were similar in comparison). The U.S. group also scored higher on all subscales than the U.K. group and higher than student-athlete role conflict in the time-based and external
expectation subscales. (The internal consistency alphas for the subscales ranged from .67 to .79 and the overall scale was .77) (Table 62).

![Table 62](image)

Table 62: Athlete to student role conflict descriptive results for U.S. and U.K. student-athletes

The means for career maturity/situation showed that the U.S. and U.K. groups were similar overall (U.S. = 3.50, U.K. = 3.59) and in all subscales bar career barriers (U.S. = 2.95, U.K. = 3.2). (The internal consistency alphas for the subscales ranged from .58 to .72 and the overall scale was .80) (Table 63).

![Table 63](image)

Table 63: Student-athlete career situation descriptive results for U.S. and U.K. student-athletes

6.4.3.2 U.S. v U.K. comparison results

Table 64 shows that **U.S. student-athletes spend significantly more time in lectures, team training, competing and generally in their sporting role compared to U.K. student-athletes** (Hypothesis 1a).
Table 64: Significant $t$ statistics (and directions) comparing U.S. and U.K. student-athletes for hours in role

Table 65 shows that U.S. student-athletes have significantly higher athletic social identity than U.K. student-athletes.

Table 65: Significant $t$ statistics (and directions) comparing U.S. and U.K. student-athletes for athletic and student identity

Table 66 reveals that U.S. student-athletes are significantly more motivated in both their sporting and student roles. However, this motivation comes from a significantly higher external regulation (sport and student) and amotivation (sport) (Hypothesis 1b and 1c).
<table>
<thead>
<tr>
<th>Variable</th>
<th>( t ) statistic (and higher group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIMS (External regulation)</td>
<td>( t(92.44) = 2.16, p&lt;0.05 ) (U.S.)</td>
</tr>
<tr>
<td>SIMS (Amotivation)</td>
<td>( t(89.20) = 2.08, p&lt;0.05 ) (U.S.)</td>
</tr>
<tr>
<td>Student- SIMS (External regulation)</td>
<td>( t(95) = 2.27, p&lt;0.05 ) (U.S.)</td>
</tr>
</tbody>
</table>

**Table 66:** Significant \( t \) statistics (and directions) comparing U.S. and U.K. student-athletes for sport and student motivation

Table 67 shows that U.S. student-athletes felt significantly more strain-based student to athlete role conflict and significantly more athlete to student role conflict (overall and all subscales) than the U.K. student athletes.

<table>
<thead>
<tr>
<th>Variable</th>
<th>( t ) statistic (and higher group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student to athlete role conflict</td>
<td>( t(94) = 2.28, p&lt;0.05 ) (U.S.)</td>
</tr>
<tr>
<td>(Strain)</td>
<td></td>
</tr>
<tr>
<td>Athlete to student role conflict</td>
<td>( t(94) = 2.28, p&lt;0.05 ) (U.S.)</td>
</tr>
<tr>
<td>(Time)</td>
<td></td>
</tr>
<tr>
<td>Athlete to student role conflict</td>
<td>( t(94) = 1.97, p&lt;0.05 ) (U.S.)</td>
</tr>
<tr>
<td>(Strain)</td>
<td></td>
</tr>
<tr>
<td>Athlete to student role conflict</td>
<td>( t(94) = 2.23, p&lt;0.05 ) (U.S.)</td>
</tr>
<tr>
<td>(Internal Expectation)</td>
<td></td>
</tr>
<tr>
<td>Athlete to student role conflict</td>
<td>( t(94) = 2.28, p&lt;0.05 ) (U.S.)</td>
</tr>
<tr>
<td>(External Expectation)</td>
<td></td>
</tr>
<tr>
<td>Athlete to student role conflict</td>
<td>( t(94) = 3.07, p&lt;0.05 ) (U.S.)</td>
</tr>
</tbody>
</table>

**Table 67:** Significant \( t \) statistics (and directions) comparing U.S. and U.K. student-athletes for student-athlete role conflict

Table 68 shows that there was only one subscale significant difference between the groups on the SACSI. This was that U.K. student-athletes perceived significantly higher barriers to their career development than did U.S. student-athletes.
Variable | t statistic (and higher group)
--- | ---
SACSI (Barriers to career development) | t(94) = -1.98, p<0.05 (U.K.)

**Table 68**: Significant t statistic (and direction) comparing U.S. and U.K. student-athletes for career situation

6.4.3.3 Student-athlete motivation and role conflict

Table 69 shows the results of the bivariate correlations for student to athlete role conflict and student-athlete motivation. **Significant positive associations were found between role conflict and externally regulated sport motivation (strain at \( p<0.01 \), external expectation at \( p<0.01 \), and overall at \( p<0.05 \)) and amotivation (external expectation at \( p<0.05 \)) (Hypothesis 2).**

<table>
<thead>
<tr>
<th>Variable</th>
<th>SA Time</th>
<th>SA Strain</th>
<th>SA Int.Exp</th>
<th>SA Ext.Exp</th>
<th>SARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport Intrinsic</td>
<td>.128</td>
<td>.008</td>
<td>-.043</td>
<td>-.123</td>
<td>-.005</td>
</tr>
<tr>
<td>Sport Identified</td>
<td>.078</td>
<td>.103</td>
<td>.064</td>
<td>-.031</td>
<td>.076</td>
</tr>
<tr>
<td>Sport External</td>
<td>.095</td>
<td>.280**</td>
<td>.142</td>
<td>.299**</td>
<td>.254*</td>
</tr>
<tr>
<td>Sport Amotivation</td>
<td>-.064</td>
<td>.049</td>
<td>-.084</td>
<td>.201*</td>
<td>.008</td>
</tr>
<tr>
<td>Student Intrinsic</td>
<td>-.050</td>
<td>.008</td>
<td>.028</td>
<td>.106</td>
<td>.026</td>
</tr>
<tr>
<td>Student Identified</td>
<td>.049</td>
<td>-.011</td>
<td>.058</td>
<td>.139</td>
<td>.078</td>
</tr>
<tr>
<td>Student External</td>
<td>-.060</td>
<td>.018</td>
<td>-.004</td>
<td>.161</td>
<td>.025</td>
</tr>
<tr>
<td>Student Amotivation</td>
<td>-.092</td>
<td>.018</td>
<td>-.083</td>
<td>.128</td>
<td>-.030</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

**Correlation is significant at the 0.05 level (2-tailed).**

**Table 69**: Bivariate correlations for student to athlete role conflict and student-athlete motivation

Table 70 shows the results of the bivariate correlations for athlete to student role conflict and student-athlete motivation. **Significant positive associations were found between role conflict and externally regulated sport motivation (time at \( p<0.01 \), strain at \( p<0.01 \), internal expectation at \( p<0.01 \), external expectation at \( p<0.01 \), and overall at \( p<0.01 \)) (Hypothesis 2) and identified regulation student motivation (time at \( p<0.01 \)).**
### Table 70: Bivariate correlations for athlete to student role conflict and student-athlete motivation

<table>
<thead>
<tr>
<th></th>
<th>AS Time</th>
<th>AS Strain</th>
<th>AS Int.Exp.</th>
<th>AS Ext.Exp.</th>
<th>ASRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport Intrinsic</td>
<td>.002</td>
<td>-.004</td>
<td>-.170</td>
<td>-.103</td>
<td>-.077</td>
</tr>
<tr>
<td>Sport Identified</td>
<td>.059</td>
<td>.095</td>
<td>-.033</td>
<td>-.083</td>
<td>.015</td>
</tr>
<tr>
<td>Sport External</td>
<td>.282**</td>
<td>.353**</td>
<td>.306**</td>
<td>.303**</td>
<td>.375*</td>
</tr>
<tr>
<td>Sport Amotivation</td>
<td>-.013</td>
<td>.062</td>
<td>.126</td>
<td>.130</td>
<td>.089</td>
</tr>
<tr>
<td>Student Intrinsic</td>
<td>-.034</td>
<td>.011</td>
<td>.096</td>
<td>-.041</td>
<td>.000</td>
</tr>
<tr>
<td>Student Identified</td>
<td>.293**</td>
<td>.072</td>
<td>.137</td>
<td>.061</td>
<td>.146</td>
</tr>
<tr>
<td>Student External</td>
<td>.200</td>
<td>.090</td>
<td>.124</td>
<td>.066</td>
<td>.136</td>
</tr>
<tr>
<td>Student Amotivation</td>
<td>-.040</td>
<td>.012</td>
<td>.059</td>
<td>-.012</td>
<td>.002</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

#### 6.4.3.4 Student-athlete motivation and other variables

Table 71 shows the results of the bivariate correlations for student-athlete motivation and GPA, hour in role, student-athlete identity and career maturity. Significant positive associations were found for intrinsic sport motivation (hours in student role at p<0.01, and athletic identity at p<0.01), identified regulation sport motivation (athletic identity at p<0.01), external regulation sport motivation (athletic identity at p<0.05), amotivation (athletic identity at p<0.05), intrinsic student motivation (student identity at p<0.01, and career maturity at p<0.05), identified regulation student motivation (student identity at p<0.01, and career maturity p<0.05), and externally regulated student motivation (hours in student role at p<0.05). Significant negative associations were found for external regulation sport motivation (career maturity at p<0.05), and student amotivation (student identity at p<0.01, and career maturity at p<0.05).

Therefore, intrinsic sport motivation strongly associates with hours spent in the student role. The motivations positively associating with athletic identity are intrinsic, identified and external, whereas those associating with student identity are only intrinsic and identified. Further, regardless of role, more self-determined motivations positively associate with career maturity, whereas less self-determined motivations negatively associate with career maturity.
### Table 71: Bivariate correlations for student-athlete motivation and other student-athlete variables

<table>
<thead>
<tr>
<th></th>
<th>GPA</th>
<th>Hrs in student role</th>
<th>Hrs in athlete role</th>
<th>AIMS</th>
<th>Student identity</th>
<th>Career maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport Intrinsic</td>
<td>-.170</td>
<td>.309**</td>
<td>.020</td>
<td>.340**</td>
<td>.034</td>
<td>.188</td>
</tr>
<tr>
<td>Sport Identified</td>
<td>-.119</td>
<td>.129</td>
<td>-.047</td>
<td>.361**</td>
<td>.029</td>
<td>.017</td>
</tr>
<tr>
<td>Sport External</td>
<td>-.142</td>
<td>-.055</td>
<td>-.058</td>
<td>.235*</td>
<td>-.029</td>
<td>-.234*</td>
</tr>
<tr>
<td>Sport Amotivation</td>
<td>.023</td>
<td>-.090</td>
<td>.015</td>
<td>-.156</td>
<td>-.057</td>
<td>-.150</td>
</tr>
<tr>
<td>Student Intrinsic</td>
<td>.094</td>
<td>.116</td>
<td>.124</td>
<td>-.024</td>
<td>.381**</td>
<td>.401*</td>
</tr>
<tr>
<td>Student Identified</td>
<td>-.068</td>
<td>.232*</td>
<td>.066</td>
<td>-.069</td>
<td>.353*</td>
<td>.223*</td>
</tr>
<tr>
<td>Student External</td>
<td>-.069</td>
<td>.221*</td>
<td>-.006</td>
<td>.132</td>
<td>-.012</td>
<td>-.083</td>
</tr>
<tr>
<td>Student Amotivation</td>
<td>-.031</td>
<td>-.186</td>
<td>.013</td>
<td>.236*</td>
<td>-.378**</td>
<td>-.353*</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
6.4.4 Conclusions

6.4.4.1 Introduction
The two hypotheses that Study 3c tested were as follows:
1. U.S. and U.K. student-athletes differ from each other in terms of their objective and psychological outcomes. Specifically, U.S. student-athletes will score higher on measures of hours in sporting role, extrinsic sport motivation, extrinsic academic motivation and student-athlete role conflict
2. Extrinsic motivation (either student or athletic) positively associates with student-athlete role conflict

6.4.4.2 U.K. v U.S. student-athletes

Academic Clustering
Similarly to Study 3b, there were no hypotheses concerning academic clustering. However, the frequencies revealed some interesting patterns. Bowen and colleagues (2001, 2003) report that U.S. student-athletes consistently choose to major in social sciences or business, e.g. over half of all recruited High Profile male athletes in their 1995 entering cohort majored in the social sciences or business (as contrasted with around a third of male students at large). They have two possible explanations for this. Firstly, they suggest that, ‘one possibility is that dedication to one’s sport and competitive drive are highly correlated to market-focused attitudes and interests’ (2003, p.124). Secondly, they suggest that the sporting culture, whereby student-athletes bond together athletically, socially and academically, encourages them to ‘bunch’ together into the same majors. The results from Study 3c show that 67.8% of the U.S. student-athletes majored in business-related (35.5%) or social science (32.3%) degrees, following the trend mentioned by Bowen and colleagues. If we include Sport Science within the social sciences, the U.K. group mirror this with just over 90% of student-athletes taking degrees in these areas (48.6% in business-related subjects in particular). However, there is a difference between the U.K. and U.S. systems. In the U.K. the student-athlete will have chosen their degree before arriving at university, whereas in the U.S. the student-athlete begins with a broad base of subjects and ‘majors’ in one later. As the frequencies showed that the groups showed similar degree choice patterns, and as the U.K. group would not had the chance to
have been influenced by a college ‘culture’, the first of Bowen and colleague’s suggestions for this academic clustering seems the most likely here.

**Intention to play sport full-time**

Like the sample from Study 3b, both U.K. and U.S. student-athlete groups in this study showed unrealistic expectations of the possibility of progressing to a full-time career in sport. The U.S. group were the most unrealistic, with over half (54.9%) considering a full-time career compared to just under a third (31.4%) of the U.K. group. These figures are well above the 2% mark that is the generally (in the U.S. at least) accepted probability of a college athlete progressing into a professional sport (Kennedy and Dimick, 1987).

**GPA and time in role**

The GPAs of the U.S. and U.K. groups were very similar (64.85% and 64.88%, respectively). Although, U.K. student-athletes spent slightly more time studying (9.51 hours compared to 9.25 hours), the U.S. student-athletes spent significantly more hours per week in lectures (14.07 hours compared to 12.09 hours), which, one might assume are more externally enforced than personal study. The means suggest that this pattern is mirrored in the time spent in the sporting role. Again, U.K. student-athletes spent slightly more time on individual training (4.10 hours compared to 3.46 hours), whereas U.S. student-athletes spent *over double* the amount of time team training (15.38 hours compared to 7.83 hours) and *over treble* the amount of time competing (15.59 hours compared to 5.17 hours). Thus, overall the groups spent similar amounts of time on their student role, albeit in slightly different ways, but the U.S. group spent significantly more time in their sporting role compared to the U.K. student-athletes (34.13 hours compared to 17.14 hours). Therefore, not only do the U.S. student-athletes have to contend with the greater amount of time demand overall from both roles, they also must cope with a significantly greater amount of time spent in their roles which they have less or little choice in doing. One might say that in choosing to be a student-athlete, they have signed a more arduous ‘psychological contract’.

**Student-athlete Identity**

Both U.S. and U.K. groups showed strong and moderately exclusive athletic identities (according to norms; Brewer et al. (1993), Brewer and Cornelius (2001)) and
medium-to-strong, with medium exclusivity, student identities. The only significant difference between the groups on either identity was that the U.S. group's athletic identity came significantly more from their sporting social ties. This finding was also reported in a study by Hale et al. (1996), who found that athletes from the U.S. (national level) scored higher than U.K. athletes (international, national, local levels) on the social aspect of athletic identity. The significantly greater time spent in the sporting role by the U.S. student-athletes may account for this difference.

Student-athlete Motivation
The student and athlete motivation results are perhaps the most revealing of the inherent differences between the American and British student sport systems. The U.S. student-athletes were found to have significantly higher external regulation (sport and student role) and amotivation (sport role). We know from the literature that there are a variety of external pressures on the U.S. student athlete in both their roles. The recent evidence of an “athletic culture” (Bowen and Levin, 2003) combined with the need to (at the very least) maintain academic eligibility, provides external forces from all sides. It seems that, in this non-revenue sport sample, these motivators are greater in the U.S. than they are in the U.K., even when taking into account the elite nature of the U.K. sample and the academically oriented U.K. university system.

Student-athlete Role Conflict
Probably due to their significantly higher externally regulated student role motivation and time spend in lectures, U.S. student-athletes felt more student to athlete strain-based role conflict compared to U.K. student-athletes. Worries and stresses from their studies more often interrupted their thoughts whilst playing sport. (One can imagine a highly stressed U.S. tennis team bus, returning from an away match, full of players who know they are missing lectures and who are too tired to study). Also probably due to their significantly higher externally regulated sport role motivation, amotivation and, especially, time spent in the sporting role, the U.S. group felt significantly more athlete to student role conflict on all subscales. The U.S student-athletes therefore experience more time and mental anxiety interruption, expect more of themselves and have coaches expect more from them in their sport role. Thus, these demands and expectations may be perceived as conflicting with study not because of
their quantity, but more from the external and amotivated quality of the role motivation from which they arise.

**Student-athlete Career Maturity**

The student-athlete career situation inventory showed only one significant difference between the groups. U.K. student-athletes felt that they had more barriers to career development than the U.S. group. They felt more strongly that ‘the numerous aspects that are inherent within the role of a student-athlete may hinder career development, e.g. time, energy, accessibility of resources’ (Sandstedt et al., in press). The U.S. collegiate system, although suffering from well-documented problems, is far more advanced than the U.K. in terms of providing appropriate support and counselling. The significantly lower perception of barriers to career development by the U.S. student-athletes may be simply a product of a more rigorous and systematic career-counselling framework.

**6.4.2.3 Student-athlete motivation, role conflict and other variables**

The general psychology literature can count a few studies that examine the relationship between motivation and role conflict (Senecal, et al., 2001; Senecal, et al., 2003, Sheldon et al., 1997). These all found more self-determined motivation to be associated with lower levels of role conflict. This finding is replicated here with student-athletes.

The results showed significant positive associations between student to athlete role conflict and externally regulated sport motivation (strain, external expectation) and amotivation (external expectation). Furthermore, they also showed significant positive associations athlete to student role conflict and externally regulated sport motivation (time, strain, internal expectation, external expectation) and identified regulation student motivation (time). Thus, when student-athlete demands and expectations arise from a more external and amotivating sport motivation they are more likely to be perceived as conflicting. These results again suggest why the U.S. student-athlete experiences significantly more role conflict than the U.K. student-athlete as they are the ones who traffic in a culture of greater external sporting expectations to participate and perform.

On the academic side, identified motivation was the one student motivation that positively associated with role conflict, in this case athlete to student time-based.
How much a student-athlete views their studies as important associates with whether they think the time spent playing sport affects their studies.

The results showing the associations between student-athlete motivation and the variables of hours in role, identity and career maturity are also revealing. Most importantly, intrinsic sport motivation was found to strongly associates with hours spent in the student role. As role conflict positively associates with external sport motivation, this result provides support to suggest that a lack of role conflict (in this case from the time demands of studying) associates with intrinsic sport motivation. Thus, following the energy expansion theory (Marks, 1977), those who are more intrinsically motivated in their sport find the time to study. Further, regardless of role, more self-determined motivations positively associate with career maturity, whereas less self-determined motivations negatively associate with career maturity.

Study 3b suggested that more intrinsic, rather than extrinsic, role commitments lead to more positive outcomes. In the same way, these results also suggest that more intrinsic, rather than externally regulated, motivations for both sport and student participation link to more positive outcomes in the form of less role conflict and higher career maturity.

6.4.2.4 Limitations and future directions

The study collected data on a relatively small number of U.K. student-athletes. Unfortunately, this was an inherent fact of the differences and depths of standard between the U.K. and U.S. college sport systems. Therefore, further work could expand the study to other sports to enable larger samples to be compared. Also, a number internal consistency alphas were a little below the .70 mark usually taken to indicate acceptable levels of internal consistency in subscales of the SARCS and the SACSI. Further work on the validity of these new scales may therefore be needed.
6.5 Overall implications

6.5.1 Broad comparisons with the existing literature

This chapter has presented two related studies investigating the psychosocial patterns of U.K. and U.S. student-athletes. These studies have filled some literature gaps, tested hypotheses suggested, and extended the student-athlete theoretical and empirical base. Most notably they have combined objective and psychological variables in the same study, they have measured student as well as athlete, identity/commitment/motivation, they have investigated student to athlete and athlete to student role conflict, they have utilised a student-athlete specific measure of career maturity and they have, for the first time, compared U.S. and U.K. student-athletes.

Perhaps the most important and wide-ranging studies on student-athletes to date are those from the ‘College and Beyond’ database (Shulman and Bowen, 2001; Bowen and Levin, 2003). As mentioned earlier, one important conclusion from these studies is not just that U.S. student-athletes underperform academically compared to students at large, but that this is due to the ‘academic culture’ that has pervaded U.S. college campuses. The two studies in this chapter clarify the underlying psychological mechanisms that mediate between the college environment and the observable student-athlete outcomes. In particular, they conclude that dual role performance and successful transitions, the ultimate aims of any college sport system, are more likely to occur with balanced, strong dual role identity. In turn, this is more likely to be maintained and role conflict more likely to be minimised, by a dual role commitment and motivation that is more intrinsic than extrinsic. A college culture of conflicting demands and external expectations, such as has evolved in the U.S., is the very antithesis of what is needed to foster such a psychology.

6.5.2 Future directions

The systematic review in Chapter 4 distilled a number of theoretical and empirical implications that, if acted upon, would enable the student-athlete literature to progress. A number of those implications have been fulfilled in this chapter, which begs the question “Where next?”

Firstly, one obvious possibility is to replicate Studies 3b and 3c with larger and different samples, from a variety of cultures, university types, and sports.
Secondly, although Study 3b investigated the differences between time points on student and athlete variables, longitudinal studies that track a student-athlete's progress over time would capture this process with more rigour. The qualitative studies of Adler and Adler (1985, 1987), Meyer (1990), and Miller and Kerr (2002, 2003) suggest that different types of student-athlete follow different trajectories (U.S. male team, U.S. female, and Canadian respectively). A longitudinal British analysis would be pragmatic considering the recent moves in the U.K. towards promoting university settings as places of sporting excellence.

Thirdly, other psychological variables could be introduced and measured that may add to our understanding. In particular there are three avenues that seem immediately relevant. First of all, there exist a number of studies that have linked the constructs used in this thesis to goal orientations. For example, Baysden, Brewer, Petitpas and Van Raalte (1997) found that both athletic identity associated with levels of ego orientation, and Standage and Treasure (2002) found that a high level of task orientation singularly or in combination with ego orientation fosters a self-determined situational motivation. From a high-school student-athlete perspective, Ryska (2002) found a positive relationship between athletic identity and scholastic, social, vocational, and behavioural competence among athletes adopting a high task-low ego goal perspective, with absent or negative relationships among high ego-low task athletes. Second of all, following research into gender differences in academic performance (Woodfield and colleagues, 2003, 2004), a variety of personality variables, such as conscientiousness, adaptive and maladaptive perfectionism, agreeableness, etc., may provide further insights into the student-athlete experience. Finally, it may be interesting to link identity and commitment to psychological growth variables such as well-being, life satisfaction, and character ethics that are more 'ends-in-themselves' and perhaps more congruent with the humanistic goals of a university educational mission. Thus, all these constructs may provide a further lens through which the student-athlete experience may be usefully interpreted.

6.5.3 Final thoughts
This chapter has presented a number of conclusions based on a current reality snapshot of U.K. and U.S. the student-athlete experience. However, what is the ideal? One of the clear suggestions is that the strong but balanced identity may be more effective than the strong and exclusive identity. As the results of Study 3b showed, a
role balance actually functions to ward off the harmful affects of role conflict. However, for this balance to be maintained, it should not arise from an imposition of others. As Sheldon and Kasser (1995) suggest, personality integration occurs not just from ‘coherence’, when personal strivings help bring about each other, but also from ‘congruence’, when strivings are chosen for self-determined reasons. Both studies highlighted that the quality of a student-athlete’s motivation and commitment was related to their role congruence. Thus the ideal is the ‘integrated’ student-athlete. One who feels that, as Sheldon and Kasser (1995) conclude,

What they are striving to do in their daily lives arises from their own interests and choices, more than from feelings of being controlled by external or introjected compulsions. They believe that their everyday goals and behaviours are helping them move toward futures in which they will continue to grow..., more than toward futures in which they will attain material success or fame... They also feel positive about their different life roles and feel that they do not conflict with each other. Finally, they are more likely to engage in meaningful activities such as helping others or pondering their future (p.541).
Chapter 7: Study 4: Action research within an elite British student-athlete environment

7.1 Structure of the chapter
This chapter begins by reviewing the student-athlete applied literature, highlighting the recent trends and important considerations for student-athlete programmes and management structures in particular. In response this literature an action research methodology is chosen. The nature of action research is then discussed in detail. The action research project within an elite British student-athlete environment is then presented through the four cyclical phases of 'understanding', 'planning', 'acting', and 'evaluating'. The chapter concludes by reflecting on how well the project met its initial aims and how rigorous the process was, and also with some general thoughts on support programme efficacy.

7.2 Introduction

7.2.1 Previous student-athlete applied literature
Whitmer and Myers (1986) describe student-athletes as 'underprepared, unlikely to graduate, priority skewed, and manipulated by the demands of their sport' (p.559). Although recent research on U.S. student-athletes does not corroborate the fact that student-athletes are any less likely to graduate (Shulman and Bowen, 2001), there seems to be much truth in the overall message. They also comment that,

> Because universities accept student-athletes who are marginally prepared, it seems reasonable that they provide the special services which are necessary to reduce academic deficiencies (p. 669).

A body of literature, reviewed in the overview of literature in Chapter 2, has thus arisen to describe the applied research on student-athletes and detail the 'special services' that this group may need.
The review acknowledged the dichotomy between research interventions and descriptions of student-athlete educational models and programmes. The intervention studies detail the impact of student-athlete support, measuring student-athlete treatment groups on different outcome variables against control groups. These consistently demonstrated positive effects upon student-athlete treatment groups (Etzel et al., 1991; 1996; Holm et al., 1996). One study by Fischer (1995) is particularly relevant to this thesis in light of the conclusions in Chapter 6. Fischer found that student-athletes who learned time management principles and strategies developed greater academic identity and decreased athletic identity relative to a control condition. This is one example of how behaviour change, through employing new skills, can change identity. Other studies found that who delivered the intervention was an important factor in determining how well they are received (e.g. Perna et al. (1996) Maniar et al. (2001)). In particular, coaches were seen to be the most effective, mirroring the conclusion of Gordon and Lavallee (2003) who suggest that,

The influence of coaches... may be the most significant determinant of the effectiveness of available intervention programmes (Lavelle et al., 2004, p.227).

Many of the studies that describe the student-athlete educational models and programmes have done so from a developmental perspective (e.g. Whitmer and Myers, 1986; Chartrand and Lent, 1987; Martens and Lee, 1988; Wooten and Hinkle, 1992; Cogan and Petrie, 1996). The U.S. researcher-practitioners Al Petitpas and Steven Danish have conducted the most influential and frequently referenced research in this area. Their psychoeducational framework serves to enhance the student-athlete as a whole person and their changing developmental needs over time (e.g. Danish and Hale, 1981; Petitpas and Champagne, 1988; Petitpas, Danish, McKelvain, and Murphy, 1992). Petitpas and Champagne (1988) make the case that athletes require special attention as, like doctors, dentists, lawyers, and professional entertainers, they 'typically require early career decisions and focussed, concentrated effort' (p. 455). Moreover, they face a much shorter work life, particularly short in fact if they get injured or do not 'make it' professionally. They suggest further that student-athletes, due to their further uniqueness amongst the college population, have additional
developmental needs as they negotiate their time in college. One recent focus that Petitpas has taken along with his colleagues from Springfield College is to assist athletes to establish their own identity and not just athletic identity. This work emphasises the identity shift required for athletes upon retirement and therefore the need to encourage the athlete to have a balanced view of their identity whilst competing (e.g. Good, Brewer, Petitpas, Van Raalte, and Mahar, 1993, Murphy, Petitpas, and Brewer, 1996), mirroring the conclusions from Chapter 6.

Petitpas and Champagne also suggest that targeting programmes for student-athletes without taking into consideration the academic and athletic environment in which they exist is doomed to failure (Leach and Conners, 1984). An example of such a successfully implemented developmental student-athlete programme is detailed in Gabbard and Halischak (1993) from the University of Notre Dame. Their programme highlights the particular needs of first-year and 'high risk' student-athletes. During August, all American footballers attend a weeklong orientation programme whilst, for other sports, this runs throughout the first semester to ‘familiarize student-athletes with the academic demands of the university and to alert them to the types of challenges that lie ahead’ (p. 390). The ‘high risk’ student-athletes also receive a variety of individual programmes devised by the counselling/sport psychologists and Academic Services. These include study skills workshops, time management workshops, stress management workshops, and conflict management workshops.

Although the student-athlete programmes literature is very clear on how to assess and provide for the needs of the developing student-athlete, it mainly aims to assist personal change from a psychological level. However, social structure and environmental management also plays a large role in influencing student-athlete commitment and behaviour. As Becker (1960), comments,

> It is enough to create situations which will coerce people into behaving as we want them to and then to create conditions under which other rewards will become linked to continuing this behavior (p. 53).

In fact, it might be argued that the commercial practices and pressures of U.S. college sport have done more to change student-athlete identity than education programmes ever could. Bowen and Lewin (2003) recognise this influence and therefore the need
to reform U.S. collegiate sport from a structural level. They list a number of recommendations for reform including to:

1. Adjust admissions criteria to raise standards for the academic preparation of recruited athletes
2. Pay more attention in admissions to recruited athletes' academic interests and motivations
3. Monitor academic performance of recruited athletes
4. Hire coaches based on whether they share the goals of the institution and evaluate them based on their overall performance as teachers and campus citizens
5. Reduce playing and practice seasons and eliminate class and exam conflicts
6. Focus the success of the athletics programmes' competitive goals at local and regional levels
7. Do not give out any athletic scholarships. Instead, monitoring systems should be established to ensure that merit aid and preferential packages of need-based aid are not provided on the basis of athletic ability
8. In general, the leadership of all institutions should adhere to principles such as: (a) athletes should be truly representative of their student bodies (with academic outcomes similar to those achieved by other students), (b) opportunities to participate in intercollegiate athletics should be widely available to both men and women and not limited to "recruits", (c) athletes should be integrated into campus life and participate in a wide range of activities, (d) there should be extensive opportunities for vigorous competition structured so as to avoid a preoccupation with national rankings and national championships, and (e) bureaucratic regulation at the national level should be kept to an absolute minimum.

(Bowen and Lewin, 2003)

This list of suggestions is based on the realisation that a top-down structural change will have a major impact on individual behaviour. Perhaps due to their relative infancy, European literature on student-athlete programmes has been more savvy to the structural level influence on the student-athlete. For example, De Knop et al. (1999) describe how to plan, initiate, lead, develop, and evaluate what they called the 'Student-Athlete Program' (SAP). Although acknowledging, identifying and
providing for the particular academic, athletic and personal needs of the student-athlete, as do most of the U.S. programmes, the authors also describe how the SAP may be managed at a structural level. Mirroring Bowen and Lewin's (2003) points above, the authors suggest that the SAP must be integrated into the university educational mission so that, in the end,

The final evaluation criteria should be the rate of academic success of pupil/student-athletes. To what extent are pupil/student-athletes able to succeed academically in the subject of study of their choice and within an acceptable period of time, while maintaining or enhancing their level of athletic achievements? (p. 10)

Therefore, we might conclude from the literature that although student-athlete programmes should be student-athlete-focussed, they should be so, not just through direct and environment-specific developmental psychoeducational programming, but also through higher-level structural and policy management.

7.2.2 Purpose and rationale of study

The purpose of this study is to understand and respond to the elite (Scholarship) British student-athlete experience, firstly, in light of the conclusions found from the thesis thus far and, secondly, following the recommendations from the student-athlete literature above.

Study 1a and 1b found that although Scholarship student-athletes as a whole, perform slightly worse than their non-athletic peers (in particular younger, male, and team sports performers), this is mostly due to their lower academic preparation. In fact, rather than underperforming relative to their peers, some Scholarship student-athletes even overperform and 'catch up' with them. As Bekhradnia and Thompson (HEFCE, 2002) suggest, 'if universities are going to take students from a wider range of educational backgrounds, maintain standards, and give students a good chance of succeeding, more resources will be required' (p. 9). The process in this study should therefore go some way in providing those resources for Scholarship student-athletes.

Study 3b and 3c concluded that those U.K. student-athlete participants who cope better in their dual roles and who were more prepared for the transition out of
university, are those with a more balanced and strong dual role identity based on a more intrinsic motivation and commitment to these roles. In particular, Sport Scholars had more unbalanced student-athlete identities and suffered more role conflict. Compared to the U.S. culture, the U.K. student-athletes seemed to feel fewer conflicting expectations from significant others and therefore less ensuing external motivation to perform in their sport and student roles. Therefore, this study should not need to focus on changing sporting expectations as much as helping to reduce conflicting sporting demands. It should seek to foster structures to prevent, and also behaviours to manage, student-athlete role-conflicts to allow academic commitment to be expressed in a strong, self-determined dual role identity.

However, as Petitpas and Champagne (1988) suggest, the targeting of programmes for student-athletes without taking into consideration the academic and athletic environment in which they exist is doomed to failure. Therefore the research must first understand the needs of the particular population. It must then respond with both a developmental and psychoeducational approach, following the U.S. literature, and also a wider structural perspective, following the European literature. Such an aim, whereby knowledge is to be created and then acted upon, requires an appropriate methodology. The ‘action research’ approach, which has been gaining recognition in recent social scientific enquiry as an innovative participatory practice (Reason and Bradbury, 2002), is such a methodology.

N.B. One important point to note is that this study was carried out over two years and was therefore conducted in parallel to Studies 1, 2 and 3. However, the cyclical, reflexive and participatory nature of action research meant that the results of Study 1 were able to be introduced into the study to enable a more effective response to the demands of the context. Furthermore, although the conclusions to Study 3 provide recommendations which may inform an intervention (in particular to promote a coherent and congruent dual role identity), these results did not inform this current study.
7.3 Method

7.3.1 An introduction to Action Research

Traditional academic research postulates a split between research and action, theory and application. Scholars from the traditional hypothetico-deductive model conduct research that meets the criteria of the rigour of normal scientific enquiry but is divorced from everyday life. Further, this split is also based on view that there is clear distance between the dichotomous roles of researcher and practitioner. Action researchers do not hold that same view. For example,

I do not separate my scientific enquiry from my life. For me it is really a quest for life, to understand life and to create what I call living knowledge – knowledge which is valid for the people with whom I work and for myself (Swantz, from Reason and Bradbury, 2002, p. 1).

I am not a social scientist interested in more participatory research, but an educator and activist exploring alternative paradigm research as one tool in the multifaceted struggles for a more just, loving world (Maguire, from Reason and Bradbury, 2002, p. 1)

Action research has traditionally been defined as an approach to research that is based on a collaborative problem-solving relationship between researcher and client, which aims at both solving a problem and generating new knowledge (Coghlan and Brannick, 2002). Although the ontological and conceptual bases of some action research studies have been challenged, Hult and Lennung’s (1980) conceptualisation indicates that definitions of action research can be inclusive and wide-ranging,

Action research simultaneously assists in practical problem-solving and expands scientific knowledge, as well as enhances the competencies of the respective actors, being performed collaboratively in an immediate situation.
using data feedback in a cyclical process aiming at an increased understanding of a given situation, primarily applicable for the understanding of change processes in social systems and undertaken within a mutually acceptable ethical framework (p. 247).

Although this definition is broad, the two essential features of action research are therefore involvement and improvement (Carr and Kemmis, 1988).

The origins of this definition were developed largely from the work of Kurt Lewin and his colleagues (Lewin, 1973). Argyris et al. (1985) clearly summarises Lewin’s concept of action research:

1. It involves change experiments on real problems in social systems. It focuses on a particular problem and seeks to provide assistance to the client system.
2. Like social management more generally, it involves iterative cycles of identifying a problem, planning, acting, and evaluating.
3. The intended change in an action research project typically involves re-education, a term that refers to changing patterns of thinking and action that are currently well established in individuals and groups. A change intended by change agents is typically at the level of norms and values expressed in action. Effective re-education depends upon participation by clients in diagnosis, act finding, and free choice to engage in new kinds of action.
4. It challenges the status quo from a participative perspective, which is congruent with the requirements of effective re-education.
5. It is intended to contribute simultaneously to basic knowledge in social science and to social action in everyday life. High standards for developing theory and empirically testing propositions organised by theory are not to be sacrificed nor the relation to practice be lost.

Leppitt (1979) distinguishes three progressively precise meanings of action research reflecting the different roles played by the researcher. Firstly, diagnostic research is conducted on some part of an ongoing action process and then presented to those who are in a position to take some action. Leppitt himself does not see that this constitutes action research. The second meaning is similar except that the research is now used as feedback in a process of ongoing action in the system. In this conception, the
researcher may be acting as a data gatherer or as a member of the system. The third meaning is defined as a procedure in which participants of the social system are actually involved in the data collection process and in the subsequent reflection and remedial or developmental action that follows. In this model, the researcher and the researched are working in collaboration. In Lippitt’s view this is the purest form of action research.

7.3.2 The Action Research Cycle

Although there have been different articulations of the ‘spiral of steps’ (Lewin, 1973, 206) that comprise action research, all agree on the basic components of the cycle.

There is a first pre-step involving naming the general objective and describing the context within which the objective will be developed.

Following this there is a diagnosing or understanding phase. This involves naming what the issues are and working out what the basis upon which action will be planned and taken.

There is then a planning phase. This may focus on a first step or a series of first steps and, like the understanding phase, will be collaborative in nature. The third stage involves taking some action to implement the plans previously made.

Finally, there is an evaluation stage where both the intended, and unintended, outcomes are examined with a view to seeing if the original diagnosis was correct, if the action taken was correct and taken in an appropriate manner, and what feeds into the next cycle of diagnosis, planning and action (Figure 26).

![Figure 26: The action research cycle](image-url)
At each stage of the cycle learning must occur for action or knowledge to arise. Thus the question of how to learn in action has arisen in action research enquiry. How does a participatory researcher attend to what is being learnt as they engage in the issues of their research project? As Coghlan and Brannick (2002) comment,

The action research project on which you are working is not identical with your own research project. The project on which you are working may, for example, be going on irrespective of whether or not you are studying it. Therefore, it is important to distinguish the action research cycles of the project and the individual experiential learning cycles in which you engage as you participate in the action research cycles (p. 28).

This 'experiential learning' cycle (Kolb, 1984) is also made up of four activities; experiencing, reflecting, interpreting and taking action. As the researcher progresses through their research they may experience a great deal. This experience will be in one of three domains; cognitive, affective and body awareness (Coghlan, 1997). Reflecting upon the reasons for these experiences, and asking why they might have occurred, is the first step in learning. Interpreting is where one finds the answers posed in the reflection, often done by drawing upon theories to make sense of the experience. As a result of the reflection and interpretation it is then possible to take action, possibly in order not to repeat the previous experience or in order to create a different outcome.

As the action research project and the researcher's project are not identical, the experiential learning cycle occurs at each stage of the action research cycle. Therefore the researcher is experiencing what it is like to engage in diagnosing, planning, acting and evaluating, and continuously reflecting, interpreting and taking action within those activities (Figure 27).
7.3.3 Rigour in Action Research

One important aspect of the action research process is that it shows scientific rigour. Coghlan and Brannick (2002) suggest that rigour in action research refers to 'how data are generated, gathered, explored and evaluated, how events are questioned and interpreted through multiple action research cycles' (p.23). They suggest, that for rigour to be shown, the following four processes need to be evident:

1. How the researcher engages in the multiple and repetitious action research cycles and how these were recorded to reflect a true representation of what was studied.
2. How the researcher challenged and tested their assumptions and interpretations of what was happening continuously through the project. By means of content, process and premise reflection, so that their familiarity with and closeness to the issues are exposed to critique.
3. How the researcher accessed different views of what was happening which probably produced confirming and contradictory interpretations.
4. How the interpretations and diagnoses are grounded in scholarly theory, rigorously applied, and how project outcomes are challenged, supported or disconfirmed in terms of the theories underpinning those interpretations and diagnoses.

(Coghlan and Brannick, 2002)
7.3.4 Organisational Action Research

Although there are many contexts within which action research may function, one of those that is most relevant to this study is the notion of performing action research within one's own organisation. There are a number of special issues that the researcher must be aware of because they are a 'complete member' (Adler and Adler, 1997). A researcher has the opportunity to acquire 'understanding in use' rather than 'reconstructed understanding' but in so doing may have to learn how to look at the familiar through a fresh perspective, develop relationships with people you did not associate with previously, change the nature of pre-existing relationships with them, and become involved with the setting more broadly then hitherto in their functional role (Adler and Adler, 1997; Holian, 1999).

In particular, organisational and situational action research has been informed by 'systems thinking', referring to the practice of seeing an organisation as a whole made up of interrelated and interdependent parts. In systems thinking, linear cause and effect analysis is replaced by viewing patterns of interaction which mutually influence each other. Viewing an organisational structure in terms of a dynamic system can provide and action researcher with a clearer understanding to interpret, act and reflect upon as they move through the cyclical research process.

7.3.5 Action research in sports settings

Although action research use has been limited to date, a number of recent studies have used it in sports settings. As Biddle, Markland, Gilbourne, Chatzisarantis and Sparkes (2001) comment, action research is one of a number of alternative forms of qualitative inquiry that are now starting to appear in the sport psychology literature. Significantly in terms of this thesis, there does exist one unpublished action research study on British student-athletes (Dunstan, 2000). This study collaborated with twenty student-athletes to develop a new 'Advanced Sport Squad' programme. This programme aimed to help with difficulties in time management, living arrangements, conflict of roles, relationships with academic tutors, and the temptations of drinking and socialising to excess, mainly through a psychoeducational development programme.

As well as Dunstan (2000) with student-athletes, Evans et al. (2000) with injured athletes and Green (1997) with youth soccer players, are just some examples of studies that have utilised the action research methodology. Evans et al. (2000) cite Vealey (1994), who identified the need for reflective research to be conducted by
practitioners in the field of sport psychology in order to 'clarify patterns of understanding that are developed in practice' (p. 501).

Kellman and Beckmann (2002) suggest that research publications in sport psychology are only of limited use for the practical problems of athletes and coaches for two reasons. Firstly, 'studies in applied settings are conducted for research purposes only', and secondly, 'the transfer of sport psychological knowledge... to application is difficult since research suffers from a number of limitations such as settings, study design, artificial performance task, and non-athletic samples' (p. 100). They suggest that one way to bridge this gap is by using an action research which 'enhances the acceptance of sport psychological intervention and subsequently improves their quality' (p. 100).

7.3.6 How is Action Research relevant to this specific study?

According to Leppitt’s (1979) analysis, the purest form of action research is that in which the participants of the social system are actually involved in the data collection process and in the subsequent reflection and remedial or developmental action that follows. The position of the researcher, as a person interested in the student-athlete experience, a sport psychologist with knowledge of student-athlete constructs, a former Scholarship coach and a current lecturer and Sports Scholar himself, makes participatory action research a highly appropriate methodological choice.

As the social problem exists within the researcher’s own organisation, and there are various structural levels of stakeholders, a action research approach using a systems thinking analysis may also prove useful.

The thesis has defined real-world issues in the British student-athlete sample that require attention. In contrast to U.S. programmes that have arisen out of a perception of a need, this study arises out of empirical evidence that Scholarship student-athletes may be underperforming due to their lack of academic preparation and the role conflict they suffer. As the recent sport psychology literature has called for more reflective practice, the action research methodology provides an appropriate methodology to approach these issues.

Finally, the process that this study follows necessitates a cyclical and experiential approach. Before any action can be taken, the particular student-athlete environment must be understood. Collaborative planning, action and evaluation must take place for the process to have any chance of success. Therefore, the sections of the
study will follow the action research cycle of understanding, planning, action and evaluation (Figure 26). Furthermore, each section itself shall also follow the cycle of experiential learning (Figure 27). As the action research approach involves the researcher in the process, the reflections in this cycle shall use a first person narrative to convey the lessons learnt from the experience.
7.4 Understanding

7.4.1 Introduction – interpreting context and purpose

7.4.1.1 Literature and thesis context

The overview of literature in Chapter 2 presented a detailed description of the overall issues that student-athletes may face. These included those challenges that test their development as students, athletes, and people, in a way that any full-time student, any full-time athlete, or indeed any person at a similar developmental age might face (Etzel, et al., 1996). The review also described the various challenges that are unique to the combination of roles of student and athlete. Without going over too much ground that it covered elsewhere in the thesis, these challenges include time demands, concentration demands, conflicting expectations from different roles, social isolation, negative stereotyping and financial constraints.

Although both the objective and psychological outcomes of British Scholarship student-athletes from the institution being studied have been measured and discussed in great detail, the aetiology of these outcomes is not clear. The conclusion to Study 6 hypothesised that U.K. student-athletes did not suffer as much from conflicting external expectation demands as U.S. student-athletes. Instead they suffer more from structural conflicts creating more internal expectation and time demands.

7.1.1.2 UK context

From a contextual point of view, this thesis has used Sack’s (1988) typology of U.S. college athletics programmes to compare U.S. research to the U.K. context. As previously argued in the thesis, the U.K. context numbers perhaps two ‘Ivy league Model’ universities (historically some commercialisation but no sport scholarship) in Oxford and Cambridge. As well as many ‘Amateur Model’ universities (no commercialisation and no scholarships), the U.K. currently has 63 (BUSA, 2004) ‘Small Time Corporate Model’ universities that currently offering athletic scholarships because of their sporting traditions and/or because they also double-up as government funded centres of sporting excellence, but for no commercial gain. Although this typology is useful to make comparisons from a research point of view, due to the proliferation of the U.S. Corporate Model colleges and their influence on
the culture of U.S. college sport in general, the U.S. reality is very different from the U.K. Perhaps the main difference is that the U.K. sporting university culture, like in Europe (De Knop et al., 1999), prides itself on equality of opportunity and educational achievement.

This is not to say that the U.K. system has not tried to learn from the U.S. However, the Department of Heritage (1996) have suggested that while universities in the U.K. could certainly benefit from a similar commitment to sporting excellence, they should seek to avoid the worst excesses of the U.S. system, particularly the lowering of academic standards for athletes and the high wastage rate amongst sports scholars. In Roger Bannister’s governmental report (Department of Heritage, 1996), guidelines for the operation of U.K. scholarship schemes have been highlighted which were expected to greatly reduce the work of initiating such schemes and to help ensure that they achieved similar high standards. One important caveat in the recommendations was that,

No lowering of academic standards should be either sought or expected in accepting students of high sporting potential. Our evidence shows that there is no conflict between scholastic and sporting achievement. It also shows that for many students with sporting talent, University life has been a struggle and some have abandoned their sporting hopes (p. 13).

This message seems a little confused. If there is no conflict, why do many student-athletes struggle? (Rather than ‘there is no conflict’ perhaps the message should perhaps read ‘there can be no conflict’ between student and sport). Perhaps the report was referring to the provisions that are given through a sports scholarship, defined as,

An award to an outstanding sport person and student achieving satisfactory academic standards which provides the scholars with financial remuneration and access to necessary services including coaching, facilities, sports science and sports medicine support, while studying. Also, by flexibility in, for instance, study arrangements; a sports
scholarship provides the scholar with the best opportunity to reach the highest attainable standard of sporting performance, while allowing the scholar to further his or her education, under the guidance of a special advisor (p. 2).

In general, the report concluded that the main focus behind the scholarship proposals was to ensure that talented competitors at every level have the support necessary to allow them to exploit their talent to the full. This is important for two reasons:

1. Sporting competition should provide a ladder that talented individuals can aspire to climb. The success of the talented will encourage others to strive to improve. For the good of the whole enterprise, the ladders must not stop short and prevent the best from giving the performances of which they are capable.

2. Sport at the highest level engages the wider community. Millions of people care about the performance of our national teams and sporting superstars. We must therefore ensure that individuals with talent are identified quickly and systematically and that we make proper provision to allow sporting talent to flower.

(Department of Heritage, 1996, p.34)

Thus, the original context for U.K. sports scholarships was to provide a platform for national elite sports development.

University sport in the U.K. has recently evolved again through the development of the U.K. Sports Institute (U.K.S.I.), funded by and responsible to, the Department for Culture, Media and Sport. Some university settings have been designated 'Centres of Excellence' for sport and provide support for elite level international athletes living on or near campus. In addition to the promise of a university sport scholarship, some student-athletes are lured to a sporting university as an identified elite athlete with 'World Class Potential'. Within this scheme student-athletes only benefit from sporting and not student services, as the U.K.S.I. has no formal understanding with the university in terms of academic services. One such
service is the provision of a Performance Lifestyle (formerly Athlete Career and Education or ACE U.K.) advisor. Based on the SportLEAP and ACE programmes developed in the Victorian, and later the Australian, Institute of Sport in 1990, this programme aims to help athletes balance the demands of their sporting careers while enhancing their opportunities to develop their educational and vocational skills (Anderson and Morris, 2000).

Therefore some student-athletes currently benefit from two parallel systems; the university run Scholarship Scheme on the one hand and the U.K. Sports Institute (or one of its satellites, the English, Welsh, Northern Irish or Scottish Institutes of Sport) on the other.

7.1.1.3 University background

The research setting is a university that has a strong sporting heritage. Pre-eminent amongst other British sporting institutions, the university has won multiple overall British Universities Sports Association titles and has had many individual Olympic graduates. Although the university Mission Statement does not mention sport explicitly, the 1999 university Strategic Plan states that the University ‘Ethos’ is characterised above all by three areas; an academic environment of flourishing scholarship, a strong involvement with industry and ‘a unique contribution to the development of a wide range of sports, allowing exceptional opportunities for participation and achievement at every level’ (Wallace, 2004, p. 3). The most talented university student-athletes are members of the university Scholarship Scheme, set up originally in 1992 and managed by the Sport Scholarship Foundation committee. These student-athletes, the university website says, benefit from a financial lump sum of £1000 per year, free coaching, facilities, sport science support, academic flexibility, and preferential accommodation and parking.

Twinned with the sporting excellence evident in performances, coaching and facilities, the university also houses an equally reputed academic department for sport and exercise scientists, a department to which many of the Sports Scholars are attracted.

7.1.1.4 Researcher biography

See Chapter 1 for researcher biography.

21 Launched February 9th 2004
7.1.1.5 Opportunity

The opportunity to undertake action research arose as the researcher offered to help the Scholarship Secretary in her role. Apart from undertaking administrative duties, the Scholarship Secretary was responsible for not only organising but also devising education programmes. As the Secretary had no background in elite sport or student-athlete issues and had a large workload, she was more than glad to accept the offer of assistance.

7.1.1.6 Purpose

The purpose of the action research was initially to understand and respond to the variety of demands placed upon the Scholarship student-athletes. This response was intended to be direct, through psychoeducational programming, and indirect, through influencing the variety of stakeholders within the Scholarship student-athlete system. A successful research outcome would be based on whether there evolved, through a research cycle based on appropriate and constant evaluation:

1. A collaborative problem-solving approach to the issues and needs (ACTION research)
2. A greater understanding of the issues and needs of Scholarship student-athletes as well the student-athlete management structure (Action RESEARCH)
7.4.2 Action

To enable a greater understanding of the issues and needs of the Scholarship student-athletes and the Scholarship Scheme the following action was taken:

1. Focus group interview sessions with student-athletes (Part 1)
2. Scholarship student-athlete specific questionnaire (Part 1)
3. Academic research (Studies 1a and 1b)

To enable a greater understanding of the structural systems currently existing to manage the student-athlete:

1. Meetings with stakeholders including the Scholarship Secretary, the Director of Sport, the Head of Coaches panel, the Head of Sports Department, the Vice-Chancellor, and the E.I.S. Performance Lifestyle advisor.

7.4.3 Experiencing

7.4.3.1 Focus group interviews with student-athletes

Over a two-year period, four focus group interview sessions were undertaken in which questions were asked to find out what the personal and Scheme experiences of the student-athletes were. The following questions were asked:

1. What are the challenges you face as a student-athlete?
2. What are the strengths of the Scholarship Scheme?
3. What are the weaknesses of the Scholarship Scheme?

The general themes that emerged (with example quotes) for the question “What are the challenges you face as a student-athlete?” were as follows:

Clashes between academic staff expectations and sport expectations. (Differential departmental attitudes towards sport participation)

\[\text{22 The 'action to enable understanding' process of the action research cycle did not occur all at one time but rather continuously throughout the action research process. However, the bulk of the understanding cycle was undertaken between Autumn 2001 and Summer 2003.}\]
I know that people would say, well you're at XXXX, people will understand. I think it's more than the sporting people understanding and the environment being geared towards sport. But your tutor's have to be too. Some tutors say, when you need time off to train or for a match, "well it's only a hockey match, surely you can miss that". It's getting the whole, everybody in your department, all your tutors, all the same understanding level to allow student-athletes to have more flexibility to work. (Final year female hockey player)

I have got two supervisors and one understands about athletics and is okay but the other does not understand about athletics at all. He says, "why do you go running?" You know, that's his classic thing, what he would say. He could not understand, comprehend, what training involves or anything. He'll just say, "well you are doing a PhD and that is what you should be doing. Not many people in the world get to do a PhD". He'll say things like that and, "you shouldn't be concentrating on anything else, you should be fully concentrated on your PhD and that's that. (Postgraduate male athlete)

Not being able to cope with time demands because of multiple roles

I might have an exam at 9 o'clock and I have to get up at 6 am to run, and then coming back, doing a bit of revision for an hour, and then going to the exam, and then coming back, and then getting ready for the next exam, and then going training in the evening, not getting back in until 8/9 o'clock, revising till midnight, and then doing the same for a week/10 days. It's too demanding. (Final year male athlete)
Difficulties within halls of residence (appropriate quality and amount of food, meal times, noise disturbance, etc.).

To begin with I was sharing a room with a girl and I had morning training so she’d be getting in real late and then I’d be waking her up when I was going training. So that didn’t work so we split rooms. But I find it quite bad that people were wanting me to go out and I’d have to say no because I’d be getting up for training in the morning. (2nd year female swimmer)

Difficulties in appropriate nutrition

I remember in my 1st year getting back at 8.30 and thinking, “shit, I’ve got to cook food now, I can’t be arsed doing this, I’ll get a take away”. You can’t do that sort of stuff when you’re an athlete because you need the right food. I think that was difficult, adjusting to start with. (Final year male athlete)

General lack of funding, especially for sports science support

(No specific quote is presented for this general theme).

The general themes that emerged for the question “What are the strengths of the Scholarship Scheme?” were as follows:

- Access to facilities
- Preferential hall treatment and parking
- Access to great coaching
- Honour and recognition
- Academic flexibility of extending degree course

The general themes that emerged for the question “What are the weaknesses of the Scholarship Scheme?” were as follows:
• Lack of communication with the academic departments and support in terms of coursework and exams
• Lack of coordination and communication with the EIS system and staff leading to redundancies in support and education
• Poor access to quality nutrition in halls
• Lack of funding for sport science support
• Lack of information on resources – the induction programme could be more extensive
• Scholarship evenings tend to be repetitive and can be boring

7.4.3.2 Scholarship Questionnaire

The Scholarship Questionnaire is appended (Appendix 15).

Participants:
• 31 responses (18 female, 13 male)
• 1st years (11), 2nd years (8), 3rd years (7), and Postgraduates (5)
• 8 different academic departments and 11 different sports

Scholarship Scheme feedback summary of results:
• All current facets of the scheme received 7 out of 10 or higher
• The quality of facilities (8.6), Powerbase23 (8.7), preferential parking (9.3) and accommodation (9.2) especially received high scores
• However, Academic flexibility (extra year, exam times rearranged, etc.) received a lower score (6.7)

Helpfulness of staff summary of results:
• Coaching (8.2) and sport administration staff (8.5) scored significantly higher than tutors (6.5) and lecturers (6.3) on helpfulness when difficulties arise

7.4.3.3 Research: PhD studies

The research undertaken throughout the PhD functioned as a way of better understanding the Scholarship student-athletes. Studies 1a and 1b showed that some student-athletes (male, younger, team sports) were more ‘at risk’ academically than others and that, whilst many of the Scholars had poorer academic preparation, and therefore perhaps poorer study skills, than their peers (especially Sport Science

23 The name of the strength and conditioning gym on campus
Scholars), they were not underperforming academically based on what would be predicted by their A level grades. Study 3a showed that Scholars felt more role conflict, had higher athletic identities and spent more time playing sport than other student-athletes.

7.4.3.4 Meetings

The meetings with the various Scholarship stakeholders enabled both the processes and the structure of the Scholarship system to become more fully understood. In terms of the processes, the following was gleaned:

- Education evenings ran around 5 times a year, in a similar style as lectures with themes suggested by coaches (Scholarship Secretary)
- There had been an honorary ‘Scholarship Tutor’ role previously, whose job it was to mediate between department and Scholar if clashes occurred (Director of Sport)
- There was no formal evaluation of either scholars or coaches (Head of Coaching Panel)
- Although there is no official current policy, the Department of Sport Science does reduce its academic offers to enable talented sportsmen and women to enrol. The decisions to do this are not made centrally but are instead made at a departmental level on a case-by-case basis (Head of Sports Department)
- It is recognised that the commercialisation of elite sport may be one of the threats to the educational mission and ethos of the university (Vice-Chancellor)
- Although the English Institute of Sport was charged with providing educational workshops to educate on themes similar to those that a student-athlete may benefit from, there were no links between the Scholarship Scheme and the E.I.S.

These meetings also revealed more about the structure of the various stakeholders who have an influence on the Sport Scholars in both their sporting and the academic roles.

The immediate stakeholder is the Sport Scholarship Foundation who manages the scheme. This Foundation has a committee that includes coaches (including the Head of the Coaches Panel), sports administrators (including the Director of Sport),
academics and university administrators (including those from finance and marketing), and is chaired by a member of the Business School. The committee makes the ultimate decisions on which student-athletes receive a scholarship and how the programme functions.

Information on the standards of potential scholars is fed to the committee by the Head of the Coaches Panel. The Coaches Panel is made up of full-time university coaches and the Athletic Union President who represents those sports with no full-time coaches (the ‘non-aligned’ sports).

The link between the committee and the student-athletes is provided by the Scholarship Secretary (who is also the committee secretary). The Scholarship Secretary also negotiates sport science support with the student-athletes via the coaches and the support staff.

There is no formal link between the Scholarship Scheme and the academic departments, although some (mainly Sports Department) staff sit on the committee.

Overseeing all this is the university Vice-Chancellor who takes an active interest in the Scholarship Scheme, most conspicuously by handing out certificates to new scholarship recipients.

The English Institute of Sport staff, however, and specifically the Performance Lifestyle advisor, has no link with the Scholarship Scheme nor the academic departments.

Figure 27 depicts the stakeholder system showing how they relate to, and depend upon, each other (\(\rightarrow\) = “one way” relationship, \(\leftarrow\) = “some only” relationship, \(\leftrightarrow\) = “two-way and all” relationship).

![Diagram of stakeholder system](image)

**Figure 28:** Student-athlete stakeholder system
7.4.4 Reflecting

My goal for the understanding process of the action research cycle was to become more cognizant of both the direct student-athlete experience and the structural management system that impacted upon them. Upon reflection, it seemed that some of the most pressing issues actually arose out of structural insufficiencies. The regular complaint by scholars of a lack of understanding from their department of their sporting situation can be seen by the fact that there is no formal two-way link between academic departments and the Scholarship Committee. The lack of any link with the EIS meant that there is an overlap and redundancy in the support provided to student-athletes. More worryingly, the complete lack of awareness of how these, and other situations, have been affecting Scholars is due to the fact that there is no direct link between the Scholars and their Committee. The previous incarnation of Scholarship Tutor may have been able to provide both these links.

In general, my feeling was that the issues that the Scholars faced were somewhat different from those mentioned in the literature on U.S. student-athletes. Apart from time demand issues there was little overlap. It did not seem that coaches were a cause of any conflict, more it was the academic side that was the cause (if at all). Furthermore, unlike the highly structured lifestyle support programmes in the U.S., I was very surprised by the lack of rigour here. The education that was provided was not based on any perception of need, was completely left to chance and was not evaluated in any way.
7.5 Planning

7.5.1 Introduction
The aim of the planning phase was to involve the most important stakeholders in developing a joint solution to the issues identified in order to clarify objectives for the 2003-2004 Scholarship Scheme. Therefore, the following questions needed to be asked: How should the issues be changed? Who has the power to change them?

Following the student-athlete literature, there exist both behavioural solutions, i.e. through psychoeducational programming, and more environmental solutions, i.e. through structural changes, to the issues identified in the 'understanding' phase of the action research cycle. In collaboration with both the Scholars, and some of the key Scholarship stakeholders, a variety of solutions were identified to implement at both levels.

7.5.2 Action
To generate potential behavioural and environmental solutions to the issues identified, in order to generate a plan to respond to them, the following actions were taken:

1. Focus group interview sessions with student-athletes (Part 2)
2. Scholarship student-athlete specific questionnaire (Part 2)
3. Meetings with the Scholarship Secretary, EIS Performance Lifestyle advisor, and Head of Coaches Panel

7.5.3 Experiencing

7.5.3.1 Focus group interview sessions (Part 2)
Over a two-year period, four focus group interview sessions were undertaken. These were the same sessions as in the 'understanding' phase of the action research. Following the questions identifying the main issues faced and the Scheme strengths/weaknesses, the following question was asked:

What could be done to improve the situation?²⁴

²⁴ The question allows for either a behavioural or an environmental interpretation
The general themes that emerged to this question grouped into behavioural and environmental themes as follows:

**Behavioural solutions**
- Advice on sponsorship issues (to assist with general lack of funding)
- Financial management (also to assist with lack of funding)
- Stress management (to help Scholars cope with conflicts)
- Study skills education (to assist academically underprepared Scholars)
- Time management education (to help cope with time demands)
- Advice on nutrition and cooking (to help with nutrition problems)

**Environmental solutions**
- Get Scholarship Scheme to communicate with academic departments (to improve awareness and support of Scholars in their studies)
- Create links and involvement of the EIS with the Scheme (to limit redundancies in support and education)
- Scholar representatives to sit on Scholarship committee (to feedback issues)
- Incorporate feedback sessions into education programme (to provide feedback on appropriateness of education and to feed back to Scholarship committee)
- More in depth induction programme covering all areas of student-athlete life (to communicate resources available to Scholars as early as possible)
- Create Scholarship Tutor position (or mentor system) to liaise between stakeholders and provide support (to help Scholars overcome conflicts)
- Scholars’ accommodation to be organised (to help with difficulties within halls of residence concerning noise disturbance, etc.)
- Scholars’ restaurant to be set up to cater for needs (to assist with appropriate nutrition)
7.5.3.2 Scholarship student-athlete specific questionnaire (Part 2)

Based on the feedback from the focus groups (above), feedback on the behavioural solutions and the more contentious environmental solutions (the ‘healthy eating options/restaurant’ and ‘Scholars accommodation’) was sought through a questionnaire. (This was Section 3 from the same questionnaire used as in the ‘understanding’ process. See Appendix 15). Scholars were asked ‘How useful would you have found the following?’ (1 = Not at all useful to 10 = highly useful).

Participants:

- 31 responses (18 female, 13 male)
- 1st years (11), 2nd years (8), 3rd years (7), and Postgraduates (5)
- 8 different academic departments and different 11 sports

Summary of results:

- Most suggested education seminars were rated above 7 for how useful they would be if included in the programme
- Having ‘Healthy eating options/restaurant’ was rated highly (7.6)
- Having a Scholars/Sports performers hall was rated lower (5.5 overall)
  - Swimmers average = 5.2 (5 swimmers responded)
  - Athletes average = 4.9 (11 athletes responded)

One scholar said,

I don’t agree with putting all scholars together. A big part of university is meeting people and being stuck with a load of other scholars I don’t think is as beneficial as being around a mix of people – scholars are already seen as ‘cliquey’.

General comments:

- 7 Scholars mentioned having tutoring/mentoring would be beneficial

7.5.3.3 Meetings with the stakeholders

Scholarship Secretary

Four meetings with the Scholarship Secretary were made to discuss the feedback from the Scholars focus groups and questionnaire. At the first meeting, it was suggested
that the EIS Performance Lifestyle advisor should be invited to discuss how the EIS
and the Scholarship Scheme could collaborate, and that the researcher should discuss
the feedback issue with the Head of Coaches Panel. In subsequent meetings with these
stakeholders, the following was suggested:

- The development of an Induction Plan that introduced student-athletes to all
  sporting stakeholders. Furthermore, Heads of Department and personal
  academic tutors would be invited
- A structured Education Evening Programme 2003-2004 run and funded jointly
  by the EIS and the Scholarship Scheme
- Two Scholars to join the Scholarship Committee to communicate Scholars
  feedback
- An evaluation form to be constructed and used to evaluate Scholarship
  Coaches
- The recommendation that either a Scholarship Tutor or a mentoring scheme be
  set up to be taken to the Scholarship Committee
- Feeding back the information from thesis Study 1 to the relevant stakeholders

7.5.4 Reflecting

My impressions of the planning phase were that both the student-athletes and the
stakeholders that I dealt with were extremely open, welcoming and creative. The
Scholarship Secretary and the EIS Performance Lifestyle advisors were particularly
motivated to work together to mutually benefit each other's schemes. This was
especially pleasing for me as there had been little interaction between these two
bodies previously. It was also important to get their buy-in to the proposals as they
were the two individuals who had the power to either implement them, in the case of
the behavioural solutions, or be the mouthpiece to recommend changes, in the case of
the of the structural solutions. The Head of the Coaches Panel was also important in
influencing the Scholarship Committee but less important in influencing the content
of any psychoeducational programming.

Some of the solutions from the planning phase challenged my assumptions
that I held previously. For example, I was under the impression that all Scholars
would be in favour of having the opportunity to go into Scholars-only halls. This was
due to some favourable comments by a few Scholars, mainly from the individual
sports of swimming and athletics in the understanding phase. However, the planning
phase revealed that not all of them shared this view and many would actually choose not to live with other Scholars. Adler and Adler (1987) found that creating an all-student-athletes hall functioned to make an already strong athletic identity more exclusive,

As one junior remarked, “If an athlete was living in the dorm with just ordinary people, what do you think they’ll be talkin’ about? Ordinary things. But you got all athletes here. What are they goin’ be talkin’ about? It won’t be Reaganomics, believe me. It’ll definitely be Sports Illustrated (p. 246).

They conclude that ‘athletic dorms should be abolished and athletes should be better integrated into the larger university culture’ (p. 249). In this British context, where student-athletes are more integrated into the university culture, this conclusion may not apply. However, I did feel that many of the Scholars intuitively saw that their university experience may be limited by choosing to go into Scholars-only halls and were therefore against the idea.

One final reflection from the planning phase was the understanding that the stakeholders had already considered some of the solutions. These included the idea of a sports nutrition dining facility, reintroducing the Scholarship Tutor position and creating Scholars-only halls. However, there had been differing amounts of success implementing these. The latter two had been in the process of being ‘considered’ by the Scholarship Committee for the previous two years but their were plans to introduce the dining facility, in partnership with an external sporting National Governing Body that resided on campus, for the 2003-2004 academic year.
7.6 Acting

7.6.1 Introduction

The aim of the action phase of action research is to implement the solutions that have arisen out of the previous phases. The action agreed with stakeholders (in particular the Scholarship Secretary and the EIS Performance Lifestyle advisor) from the planning stage could be implemented in two plans;

- **Plan 1:** Assisting in the administration and delivery of psychoeducational programming through a Scholars Induction and Education Programme, and
- **Plan 2:** Making recommendations to stakeholders of structural changes that would positively impact upon the Scholars and Scholarship Scheme

Each type of action required the researcher to play a different research role. Following Leppitt (1979), as mentioned in the introduction, these roles reflect two different meanings of action research. For Plan 2, the action research is used as feedback in a process of ongoing action in the system. Therefore, the researcher’s role is as a data gatherer to feedback to other members of the system. For Plan 1 however, the action follows a procedure in which participants of the social system are actually involved in the data collection process and in the subsequent reflection and remedial or developmental action that follows. In this model, the researcher and the researched are working in collaboration and, in Lippitt’s view, this is the purest form of action research.

7.6.2 Action

7.6.2.1 What was planned

From the ‘understanding’ and ‘planning’ phases, the following was planned to take place in the academic year 2003-2004.

**Plan 1:** Assisting in the administration and delivery of psychoeducational programming through a Scholars Induction and Education Programme

- Scholars Induction (Appendix 16)
  - Jointly run by the Scholarship Scheme and the EIS
  - All stakeholders to be invited, especially personal academic tutors and Heads of Academic Departments
- Scholarship evenings (A total of 11 sessions over the year, Appendix 17)
• Jointly funded and run by the Scholarship Scheme and the EIS
• Includes all sessions recommended by scholars

• Set up Mentorship Scheme for 1st year student-athletes to be run by Sport Psychology Group

Plan 2: Making recommendations to stakeholders of structural changes that would positively impact upon the Scholars and Scholarship Scheme

• Present feedback recommendations from the ‘understanding’ and ‘planning phase’ to Scholarship Committee, including;
  • Two Scholars to join the Scholarship Committee to continually communicate Scholars feedback and to represent Scholars viewpoint
  • Scholarship Tutor to be reinstated or a mentoring scheme be set up
  • Scholar opinion on Scholars-only halls

• Discuss and jointly construct a Scholarship Coach evaluation form (Appendix 18) with the Head of the Coaches Panel

• Disseminate Study 1 Scholarship academic outcomes results
  • Agenda item in Scholarship Committee meeting
  • Present to Scholars in evaluation session
  • Meet with Head of Coaches Panel to disseminate to coaches
  • Meet with Athletic Union President

7.6.3 Experiencing

7.6.3.1 What was carried out

From the Plan 1 above, both the Scholars Induction and Education Evenings were successfully administrated and delivered by the researcher, the Scholarship Secretary and the EIS Performance Lifestyle advisor, in collaboration with invited external speakers. One particular example of how information based on the understanding phase was fed back to Scholars was in the use of the Study 1a and 1b results as part of the time and lifestyle management education session. Student-athletes were educated on the types of student-athlete who were ‘at risk’, they were cautioned that student-athletes often just miss out on a higher degree classification as they time their efforts too late, and they were advised to be aware of the benefits of taking more flexible modules. Also, the discussion from this session was consolidated and fed back to all
Scholars, including those who could not attend the session due to training commitments (Appendix 26). The practice of communicating information that arose, that was handed-out, or indeed that was fed back by Scholars, was followed after each session.

As part of Plan 2 above, two current scholars (one male, one female) were invited to deliver the Scholars feedback from the ‘understanding’ and ‘planning’ phases at the Scholarship Committee meeting. The researcher and the Head of the Coaches Panel created a Scholarship Coach evaluation form. Finally, the researcher disseminated information on Study 1 as an agenda item at the Scholarship Committee, presented the information to Scholars and met with the Head of the Coaches Panel and Athletic Union President to discuss implications of the research from their perspective.

7.6.3.2 What didn’t happen

The process of action research acknowledges the existence of unforeseen factors that may arise to prevent a complete plan execution. In this action research there were three parts of the plan that did not come to fruition. Firstly, although the Scholarship Committee invited two Scholars to their first meeting of the year they decided not to continue to invite Scholars due to the sensitive financial nature of the information that was often being discussed in meetings. Secondly, neither the Scholarship Tutor nor the contingency mentorship scheme was fully implemented. The former was due to a lack of interest from appropriate staff members (possibly due to time constraints, other priorities, or because of the honorary nature of the position). The latter was partly due to the slow committee decision-making not to appoint a Scholarship Tutor and partly due to the other commitments of the proposed mentors. However, the mentorship scheme was run for the EIS-funded student-athletes through the EIS Performance Lifestyle advisor, as this was part of this stakeholder’s job description. Finally, although the Scholarship Coach evaluation form was constructed it was the Head of the Coaches Panel who decided not to implement it in the current academic year.

7.6.3.3 What happened that wasn’t planned

Action research also recognises that there may unplanned actions relevant to the aims that also occur. There were two particular unplanned actions. The researcher was invited to discuss his research findings with both (separately) the Vice-Chancellor and
the university Head of Admissions. In the case of the Vice-Chancellor, this provided
the researcher with the opportunity to feedback to the organisational stakeholder with
perhaps most influence to change the Scholarship structure.

7.6.4 Reflecting
My experience and feelings during the academic year in which this action took place
was mixed. There was satisfaction from delivering well shaped and collaborative
Induction and Education Programmes, frustration with the slowness of change
inherent in the university committee system, and surprise in the interest gained from
the upper echelons of the university system.

One initial difficulty that took some time fine-tuning was the simple fact of
scheduling the Education Programme sessions in the week. We decided that
Wednesday (because of the university matches that would usually be played on
Wednesday afternoons) and Friday (Scholars travelling to compete at weekends)
evenings would be difficult. Monday evenings clashed with athletics training and so,
as athletes make up the largest group of Scholars, was also decided against. Therefore,
depending on other factors that arose (availability of speakers, administrators, etc.) we
decided to use Tuesdays or Thursdays. They were reminded that attendance was
expected as part of their Scholarship and the added incentive of a free meal afterwards
at the new sports-nutrition restaurant, also encouraged attendance.

The frustrating inertia causing the lack of delivery on some of the planned
actions was partly due to the uncertainty of the Stakeholders that became more
apparent as the academic year went on. I learnt that in the following year another
government-led initiative, the Talented Athlete Scholarship Scheme, was going to be
implemented on campus. Stakeholders were unsure of how this new initiative would
fit in with the other two that already existed and were therefore loathe making
changes that may become redundant in a year anyway.

I found that the interest from the Vice-Chancellor in particular was not only
personally gratifying but also important for maintaining the future ethos and integrity
of elite sport on campus. As Bowen and Levin (2003) comment,

It is the (college) president’s responsibility to provide
overall direction and leadership for his or her
institute, and this certainly includes responsibility for
articulating a proper place for athletics within it. Insisting on the right relationship between college sports and educational values is pre-eminently the job of the president. Obvious as it may seem to many, reasserting presidential control of athletics is essential. Presidents also have to be prepared to withstand internal criticism by athletic administrators, coaches, and players, who will of course resist any efforts to curtail their activities and constrain the program (p. 318)

Although I understood that the decision to reduce Scholars entry grades was not one that had been made centrally, I did feel that the Vice-Chancellor’s interest and leadership on student-athlete issues meant that university sport was in safe hands.
7.7 Evaluating

7.6.1 Introduction

Action research literature describes the aim of the evaluation stage being to examine the outcomes with a view to seeing if the original diagnosis was correct, if the action taken was correct and taken in an appropriate manner, and to assess what then feeds into the next cycle of diagnosis, planning and action. Although there was an evaluation of the whole action research process at the end of the researcher's involvement, smaller-scale evaluation of action taken was made following every occasion any plan was implemented. These evaluations were then taken forward to the next cycle of planning and action.

7.6.2 Action

The evaluation of the action plans was conducted in three ways:

1. Feedback evaluation forms completed by all participants after Education Programme sessions (Appendix 19)
2. Feedback evaluation form (Appendix 20) assessing how both the psychoeducational programming and Scholarship Scheme in general met Scholar's needs
3. Meeting with the Scholarship Secretary and EIS Performance Lifestyle advisor to evaluate the programme delivered

7.6.3 Experiencing

7.6.3.1 Individual session feedback forms

Summaries of the feedback for the following sessions is appended; Time and lifestyle management (Appendix 21), Study skills 1: Note-taking, researching and writing (Appendix 22), Nutrition: Advice for healthy living (Appendix 23), Study skills 2: Exams and revision skills, (Appendix 24), Marketing yourself (Appendix 25).

Specific feedback from individual sessions was noted and recommendations were made (if possible) to the format of the following session. This feedback included:

- The Scholars appreciated lots of group interaction and a 'workshop' rather than 'lecture' format
They liked as much practical information on skills as possible

- The appreciated details on how to get more information if they were interested in finding out more

- They wanted information that was specific to them and presented using tailored personal examples

All workshops were rated at least as ‘good’ for value, impact and overall. Therefore, they all justified their existence in the Programme.

7.6.3.2 Overall Education Programme and Scheme feedback form

This feedback form produced both qualitative and qualitative results concerning how good the Scholars perceived the different aspects of the Education Programme and the Scheme as a whole (Appendix 20). These results suggested that the Scholars felt at least relatively happy with most of the services available to them and the Education Programmes (all scores over 6 out of 10). When comparing the scores with those from the ‘understanding’ phase the most outstanding difference is in the score for how helpful departmental lecturers had been in assisting with difficulties in combining sport and study. The ‘understanding’ mean for this item was 6.3 but was 7.4 in the ‘evaluation’ questionnaire. This provides some evidence to suggest that the structural plan to involve departmental staff more in the Induction has raised their awareness of the Scholars in their department and increased their understanding of the student-athlete predicament.

The qualitative results provided some interesting and mixed evaluations, especially of the Education Programme sessions. In answer to the question “In particular, which education evenings have you found the most useful/important and why?” most sessions were very well received, for example,

“Nutritional information has helped me plan and record my diet to improve my performance. It gave me lots of new ideas for healthy meals”.

“Marketing, as I am about to (after graduation) play full time, and this is obviously very important in terms of funding my tennis”.
"Nutrition/Sainsburys and marketing. Learnt a lot, e.g. budgeting food but still being able to make nutritious meals cheaply. Marketing – really helpful in showing how to write off to potential sponsors, etc. Again learned a lot”.

"Time management evening. From my 3 years here I have found that time management is the most important and also very hard to do. It is improving!!”

"The two study skills were very beneficial, giving over people’s opinions and methods of lecture writing and exam techniques. The time management evening was also interesting and influenced my preparation for semester 2”.

However, a few scholars fed back that, although they liked the overall concept of education sessions, they were unhappy with the relevance of some evenings to their needs, for example,

"As a research student I can see how the educational evenings are relevant to the undergraduates but find the study skills, exams etc. information is not relevant to me directly any more”.

7.6.3.3 Meeting with the Scholarship Secretary and EIS Performance Lifestyle advisor

Both stakeholders were very positive about the work done over the year and especially pleased to be working together on a mutually beneficial initiative. However, in the current climate of change within the university elite support structures they were unsure of how to progress in the future. They did point out that, although the general comments to them about the Education Programme had been generally positive, there would have been a benefit in further tailoring sessions to
different year groups. Some sessions were more relevant so some year-groups than others.

7.6.4 Reflecting

The constant evaluation process made it possible to evolve the system of support as it was delivered over time. It was encouraging to see that the Programme the Scholars had collaboratively designed was well received by them.

One assumption of mine that was challenged was the lack of expressed need for career management considering the literature on student-athlete transitions in particular and athlete career transitions in general. This may have been due to the other career support services that were already in existence on campus. (When I mentioned the literature to the Scholarship Secretary and EIS Performance Lifestyle advisor, they send out email information to Scholars on these services to make sure they were aware of them). However, perhaps the literature has the benefit of hindsight that the Scholars did not. Only in retrospect, after a poor transition out of university, might the Scholars perceive a need for career transition education during their degrees. This brings up a challenge if such education is imposed – although it may seem beneficial by the programme designer, how is it possible for them to get buy-in from student-athletes who do not see a need for it? Perhaps education and awareness raising from role model graduates may be one appropriate solution.

The evaluation meeting with the Scholarship Secretary and the EIS Performance Lifestyle advisor revealed that, structurally, the collaboration between the university and the EIS had been highly successful. I learnt that the joint Induction and Education Programme initiative was apparently the first instance of collaboration between the two organisations. Furthermore, the advisor had recently presented information about the Programme at an EIS meeting and it had been taken on as a model of good practice to implement at other universities. The meeting also highlighted, reflecting some of the comments by older Scholars, that the ‘blanket approach’ to psychoeducational delivery may not be the most appropriate. This was also found by Grant and Darley (1993), who mention that in their student-athlete programme,

The response we got to our attempt to “cover-the-bases” was not often inspiring. Students were disgruntled that
they had to spend so much of their valuable time learning things they already knew or that did not apply to them. We recently changed our approach to one that we feel is more efficient and developmentally sound. Our first-year students must still participate in a series of orientation programs, but they have a choice of those they attend (p. 442).

Similarly, although the Induction would remain for all first years, the stakeholders agreed that in the future, Education Programme sessions would be optional based on the acknowledgement of different developmental needs.
7.8 Conclusion

7.8.1 Introduction

Following Petitpas and Champagne (1988), this study has used a cyclical action research approach to understand and then respond to a specific elite British student-athlete environment at both the behavioural and structural levels. At each stage of the process the principles of scientific rigour in action research were followed (see Coghlan and Brannick, 2002, in section 4.3.3). Evidence of rigour was shown in the following:

- The true representation of student-athlete concerns voiced, through providing quotes of their actual statements
- The challenging of researcher assumptions and interpretations, through reflection at each stage of the process
- The accessing of a variety of (sometimes conflicting) viewpoints, through focus groups, questionnaires and meetings with both student-athletes and key stakeholders
- The grounding of interpretations and diagnoses in scholarly theory and the challenging, supporting or disconfirming of project outcomes in terms of the theories underpinning those interpretations and diagnoses

Overall, a successful research outcome was attained as, through a research cycle based on constant evaluation, there evolved firstly, a greater understanding of the issues and needs of Scholarship student-athletes as well the student-athlete management structure, and secondly, a collaborative problem-solving approach to these issues and needs.

7.8.2 Limitations and future directions

One limitation of the action research methodology, which may also be seen by many as its strength, is its non-experimental, qualitative nature. Although the study was not intended to be a conventional intervention, there must be awareness that in these times of sports science accountability, for funding to continue, objective gains must be visible. Therefore, a clear future direction may be to implement the understanding from this study in a more rigorous, experimental framework, perhaps taking the implications from Study 3a and b as outcomes.
7.8.3 Final thoughts

Two final reflections may help orientate the conclusions of the current study in relation to the thesis as a whole. Although this study was not set up as a traditional intervention, its aims being instead to collaboratively understand and act, the following questions can be asked. Firstly, how much did the process help reduce student-athlete role conflict and secondly, how appropriate was the philosophy underpinning the action taken? Through the provision of psychoeducational programming and structural change recommendations, based entirely on an informed response to the needs of the environment, it may be concluded that in all likelihood, role conflict may have been reduced. Like Fischer’s (1995) time management intervention, may have served to increase academic identity through the education of behavioural skills to cope with conflicts. Also, some of the structural recommendations, for example including academic staff may have reduced student to athlete external expectation role conflict demands. However, it might be argued that the philosophy of creating a highly structured programme to cater for student-athlete role conflict needs may actually be self-defeating. As Grant and Darley (1993) comment,

We must guard against creating layer upon layer of special programs and personnel that will demand more of the students’ already limited time, duplicate existing university services, and diminish the power of the athlete-coach relationship (p. 443)

Instead, the authors suggest reaffirming the importance of the coach as mentor by pointing out that, due to the large amounts of time spent training, the coach is probably a student-athletes’ most viable adult relationship. Therefore, their support philosophy would be to,

Train coaches in counselling skills (achieving rapport, active listening), performance enhancement, and life
development intervention techniques rather than work
directly with a large number of student-athletes (ibid.).

The positive role of mentors in reducing work-family role conflict has been
established in the vocational setting (Nielson et al., 2001). Although classroom-based
support programmes have been found to improve a range of student-athlete life skills,
perhaps the coach as mentor would be the most effective means of reducing student-
athlete role conflict in the college sport setting. As Grant and Darley (1993) conclude,
‘Perhaps the greatest good we can do our college student-athletes is to help them
simplify their lives’ (p. 444).
Chapter 8: Conclusions, implications and future directions

8.1 Structure of the chapter

This final chapter begins by summarising and then discussing the results of the studies in this thesis and their contribution to the literature. Practical implications of the results and study limitations and strengths are then presented. The chapter then turns to a number of proposals for future research directions and concludes with some final thoughts on the value of college sport and how the psychological perspective can inform this discussion.

8.2 Introduction

In Chapter 2, the Overview of Literature, the three strands of extant student-athlete literature were presented - the objective and psychological ‘functional’ studies, the conceptual commentaries, and the applied interventions and programmes. Where does this thesis sit in relation to this current literature on student-athletes and how does it build upon previous work?

Study 1a and 1b are replications in a British context of the objective outcomes Functional Paradigm. They are also methodological extensions due to the recognition of the importance of comparing student-athletes against their exact cohort rather than simply an overall university average. These studies are therefore more sociological in nature and would be of particular interest to a sport sociology audience.

Study 2, the systematic review of psychological student-athlete outcomes, fits neatly into the conceptual commentaries literature. This study concluded that, although the literature provided the important impetus to redirect student-athlete research towards the psychological domain, it is far from complete. Therefore, the study was able to detail some eight implications for future student-athlete psychological research.

Studies 3a, 3b and 3c pick up a variety of the gauntlets thrown down by the systematic review and are therefore situated squarely in the psychological functional outcomes strand. Furthermore, recent developments in the occupational work-family

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25 In fact, the journal that was most often cited when searching this literature was the Sociology of Sport Journal.
role conflict literature and within Identity Theory could be labelled as conceptual commentaries and provide novel perspectives on the process of identity and behaviour change under role conflict stress.

Finally, Study 4 joins the ranks of the student-athlete applied literature, building upon it by employing the relatively recent methodology of action research. Furthermore, the study focuses on an elite British context at both the individual psychoeducational programming and structural management levels.

Taking a wider perspective, the studies in the thesis also overlap with and contribute to other areas of sport and social psychology. These may include the more general role conflict literature, the conceptual Identity Theory literature, the literature on career transitions in sport (especially in terms of the identity construct), and the applied sport psychology literature (particularly as action research is seen as a new ‘alternative’ methodology in this research domain). The significant benefits of looking and communicating beyond the narrow research ideas and practices of one’s own research area are strongly evidenced by these overlaps.

8.3 Summary of studies

The original purpose of the thesis was to go some way to answering the following questions. How are British student-athletes different from their non-athletic peers? Do they come into university with different academic qualifications? When they are at university, do they get different degree marks? If they do, how can this be explained in terms of their psychological characteristics or the conflicts between their dual roles? How do they compare to their American peers? And how can we use all of this information to help student-athletes successfully negotiate through their university experience? A brief review of the main findings of each study will show how these questions have been answered.

Study 1a and 1b: The academic outcomes and preparation of elite British student-athletes

There were perhaps three main conclusions from these two studies taken together. Firstly, some student-athletes, in particular those who are male, younger and who play team sports, were found to be more academically ‘at risk’ than others. Secondly, the academic patterns of student-athletes were different from non student-athletes, as
student-athletes tended to do better relatively in more flexible, yearlong modules. Finally, and most revealingly, although elite student-athletes (in this sample at least) were less well academically prepared, they did not underperform and in the case of the much lower academically prepared, they also tend to ‘catch up’. The U.S. literature reveals a pattern of lower academic preparation and also underperformance where ‘selection interacts with campus culture; the two reinforce each other’ (Bowen and Levin, 2003, p. 266). However, there is no interaction in the elite U.K. context that was studied. This revealed that the selection issues were not a reflection on a campus ‘athletic culture’ but more that ‘athletic talent is considered a proxy for other skills and attributes that serve the institution’s core educational mission’ (Shulman and Bowen, 2002, p. 42).

Study 2: Systematic Review of Student-Athlete Psychological Outcomes

The systematic review found that a great deal of research has been undertaken following the conceptual commentaries published from the mid-1980s on. However, the research was also found to be lacking in many regards. The most important implications from the review included; measuring student-athlete role conflict; linking objective and psychological outcomes in one study; measuring student outcomes as well as athletic ones; utilising a student-athlete specific measure of career maturity; researching the elite British student-athlete experience; and undertaking comparative U.S./U.K. student-athlete research.

Study 3a: Student-athlete role-conflict scale development

The product of this study was the bi-directional and multidimensional 23-item student-athlete role conflict scale. Utilising conceptual advancements from the work-family role conflict literature this scale measures both student to athlete role conflict and athlete to student role conflict as well as time, strain, internal expectation and external expectation-based dimensions of these. The exploratory and confirmatory factor analysis revealed that a third-order factor model could best explain both student to athlete and athlete to student role conflict items. In this model, time and strain load onto internal-expectation, which, with external expectation, load onto role conflict. Therefore, as a person’s appraisal of their demands will be filtered through the looking glass of their expectations, their time and strain-based demands will be dictated by the internal expectation they have for their role performance.
Study 3b and 3c: Psychosocial patterns of elite British and U.S. student-athletes

Study 3b found that objective outcomes (e.g. GPA, sporting level, hours in role), identity, role conflict and career maturity associate and differ in ways that would be anticipated, i.e. sport with sport, academic with academic (including career maturity). In particular, career maturity positively associates with student identity. However, higher non-exclusive and more intrinsically committed identities help protect against role conflict. Thus, from a personality perspective, to maintain one's identity balance one can either adopt role behaviours or increase role commitment.

Study 3b found that U.S. student-athletes, although no different overall in terms of GPA and career maturity, experienced significantly more role conflict and were motivated significantly more extrinsically in both their sport and study compared to U.K. student-athletes. Whilst highlighting the cultural differences that the literature might predict, the results also supported Study 3b that a balanced and self-determined self, one that is both 'coherent' and 'congruent' (Sheldon and Kasser, 1995), suffers less from role conflict and makes better student-athlete career transitions.

Study 4: Action research within an elite British student-athlete environment

Study 4 used a cyclical and collaborative action research approach to understand and then respond to a specific elite British student-athlete environment at both the behavioural and structural levels. Potential role conflict issues were identified and tackled by either behavioural psychoeducational programming or by structural management recommendations. The study concluded with recognition of the need for a developmental perspective when planning support and an awareness of how it can best be delivered, suggesting that the coach's role may be crucial.

One underlying theme that has framed the thesis is how the elite British samples examined differ from the U.S. sample in particular and the U.S. literature in general. It would be a truism to say that there is a difference between the average U.K. and U.S. student-athlete. In the U.K. there is no big recruitment drive, there are
no issues associated with race or ‘walk-ons’\textsuperscript{26}, there are far less student-athletes recruited as a proportion of the university total, and most importantly, there is hardly any money associated with college sport. However, there are similarities that reflect underlying issues that both cultures would do well to be aware of. Both systems show gender and sport type differences as well as academic clustering similarities. More importantly they also show evidence of role conflict, albeit to different levels and with a somewhat different aetiology.

In U.K. universities, when role conflict exists, it is more likely to be due to the lack of individual coping behaviours (time and stress management, etc.) or due to the lack of understanding and demands from academic staff. However, conflict in the U.S. system is more likely to be due to cultural sporting expectations that reinforce exclusive sports behaviours and identities. In the U.S. college system, like in the Olympic Movement, television and associated sponsorship money is the root of all evils by fostering a ‘winning is everything’ culture. This is the very antithesis of any educationally appropriate college mission and sets up any environment for conflict as sporting and academic sides vie for a student-athlete’s attention. Only when the emphasis shifts from ‘having’ to ‘being’, allowing both student and athlete roles to be used as vehicles for the higher goal of personal development, will this situation enable balanced identities to flourish. As Millman points out, ‘it’s not about dedicating your life to your training but about dedicating your training to your life’ (p. 15).

Thus, there are a variety of important considerations for any researcher interested in the student-athlete experience. However, the above analysis suggests that the issue central to understanding student-athletes is not if student-athletes succeed in sport and study, or indeed, whether they can. The most fundamental issue is more to do with the interaction between sport and life. How can both sporting and academic endeavours simultaneously contribute to helping someone become a better person?

\textsuperscript{26} Student-athletes who are unknown to coaches before they arrive at university but want to play intercollegiate sport. There is evidence to suggest that coaches in the U.S may prejudice against these student-athletes (Bowen and Lewin, 2003).
8.4 Practical Implications

This thesis suggests that the personal aims of the ideal student-athlete and the structural aims of an ideal student-athlete environment, regardless of which culture they belong to, are to enhance and maintain identity congruence and coherence, and to reduce role conflict. It is important to recognise that, following the Identity Theory model (Burke, 1991), these aims do not exist in isolation but instead interact through feedback loops that connect role identities, commitments, environmental appraisals, behaviours and conflicts. The thesis has shown that there are perhaps four ways to facilitate these aims, two at a psychological level, two at a structural level:

1. Learn life skills to enable coping behaviours (through developmentally psychoeducational programming)
2. Increase intrinsic commitment/motivation to both roles (facilitated by appropriate coach and lecturer support)
3. Reduce structural time demands (through the creation of structured schemes)
4. Change cultural expectations to encourage dual role balance (through university leadership, and lecturer/coach attitudes and behaviours)

Although there are a number of ways to maintain a balanced, self-determined dual role identity, some approaches may work more effectively than others. For example, student-athletes are not likely to maintain behaviours unless they firstly have sufficient commitment. Why would a student-athlete be bothered to implement learnt time management skills if they cannot be bothered with their studies? Furthermore, such behaviours can only cope with a certain quantity of conflict (scarcity approach to time). Increasing commitment, on the other hand, changes the quality of the role conflict so that it is not experienced as strongly (energy expansion approach to time). However, increasing one's personal commitment to a role may be difficult to maintain unless the person is ready and choosing intrinsically. Therefore, significant others, in both sporting and student roles, may need to be selected or educated in how best to support student-athletes. In turn this requires a university philosophy that values balance and autonomy support. Hence, the answer to the question "where is the point of leverage that will have the biggest impact?" will be different depending upon the environment.
Bowen and Lewin (2003) suggest that in the current U.S. context, the need is so great and the problem is so widespread that top-down college leadership is the highest priority. They comment that ‘insisting on the right relationship between college sports and educational values is pre-eminently the job of the president’ (p. 318). One of the most difficult policy decisions to make may be whether a university should reduce admissions criteria for athletes. Any academic institution must have a clear long term policy statement on this issue. Bowen and Lewin (2003) concluded that in the U.S. at least, reduced admissions was a reflection on an ‘athletic culture’ due to the underperformance of student-athletes, over and above their academic preparation. As Study 1 showed that the elite British sample did not underperform, reducing grades for promising athletes is more viable as long as the university is prepared to invest significant time and energy in supporting these under prepared students. As Bekhradnia and Thompson (HEFCE, 2002) conclude,

If universities are going to take students from a wider range of educational backgrounds, maintain standards, and give students a good chance of succeeding, more resources will be required’ (p. 9).

To the author’s knowledge, U.K. institutions with sporting aspirations select student-athletes on academic performance and, in a very limited number of cases, sporting performance. However, perhaps some psychological criteria may be useful to ascertain during the selection procedures. Kingman Brewster, former Yale president wrote in a memorandum on admissions,

Who will make the best use of Yale’s resources? This, at bottom, should determine who deserves the privilege of Yale College for four years... The motivation to stretch one’s capacity seems to me to have a special value”.

(Brewster, undated, taken from Bowen and Lewin, 2003, p.269)

The advisory board that Brewster sat on concluded that,
"Athletics is certainly one realm in which (high school students) may display qualities of leadership, cooperation, loyalty, purpose, perseverance, and integrity. We certainly should consider any light which athletic experience can shed on these important dimensions of character. But let it be perfectly clear that it is evidence of these qualities we are seeking, not evidence that the candidate will be a star performer in major intercollegiate varsity sports. The relevant evidence can be provided just as well by fencing as by football, just as well by (students) light in weight and short in stature as by the physically well-endowed, just as well by leaders in weak inter-school or intermural competition as by all-state stars, just as well by those whose Yale athletics will be only inter-collegiate competition as by those who will play in the Bowl". (Yale University, Admissions Policy Advisory Board, 1966; taken from Bowen and Lewin, 2003, p.270)

Therefore, the academic motivation of talented student-athletes may be useful additional information to inform any decision to reduce admissions criteria. Whatever the decision from this 'screening process', once enrolled, some student-athletes have been found to be more 'at risk' than others. The academic performance of those with lower academic preparation and who are male/younger/team sport athletes should be catered for and constantly monitored throughout their college careers.

Strong leadership from sports directors is also required. This is particularly needed in the recruitment and training of their coaches. Coaches should be selected if they hold values that are congruent with the educational mission and who emphasise life skill development, identity balance and who practice autonomy-supportive coaching methodologies. One general principle is that 'the criteria for selecting coaches need to be derived from the criteria used to admit students, not the other way around' (Bowen and Lewin, 2003, p. 276).

Although strong educational leadership may be paramount, if this already exists, as it tends to already do in U.K. student-athlete culture, then psychoeducational programming then becomes important. These may include practical initiatives such as
induction programmes, mentorship schemes, educational workshops, and the dissemination of student-athlete research. However, coach education workshops, whereby the coach becomes the mentor and point of reference for student-athlete support and life skills education, may be the most effective method of delivery. Supporting and educating the coach may be a relevant role for the sport psychologist. Greenspan and Anderson (1995) note that in North America,

Few university athletic departments currently employ psychologists full-time, ...(but) over time psychologists likely will become more involved with university athletic departments as sakes in major college sports continue to increase (p. 177).

However, there is also a case for appointing a member of staff full-time, similar the E.I.S. Performance Lifestyle advisor in Study 4, to manage the overall programme.

These support programmes come with one note of caution however. With the preoccupation with winning, life skills programmes may receive little support - moral, resource or financial. There have been practical problems implementation similar developmentally based life skills programmes in the past. Both Steve Danish and Al Petitpas have had,

A torrid time trying to convince U.S.A. Sport that life-skill programs for elite athletes were necessary... Although research supported the need, sport in general saw such areas as an adjunct to other services for athletes (e.g., sports science and medicine), rather than as essential to enhance both the current performance and long-term psychological development of athletes (Anderson and Morris, 2000, p. 64).

Coming full circle then, the need for strong leadership to recognise the need and allocate resources appropriately becomes all the more important in university sport settings.
8.5 Methodological Implications

8.5.1 Limitations
A number of research limitations have been mentioned at the end of each of the individual studies. As the progression through time of the student-athlete was one of the main foci of the thesis, longitudinal data that tracks individual student-athletes over time may have been particularly revealing. Although Study 1a was able to retrospectively follow the academic performance of student-athletes over the duration of their university careers, pairing these objective academic outcomes with psychological constructs would have revealed more about the 'psychological process dynamics' underlying that underpin the bare measure of grade point average.

Furthermore, from an applied perspective, it would also have been interesting to track both objective and psychological outcomes based on an appropriate intervention. This may have used as its starting point the in depth qualitative understanding from the conclusions of Study 4.

Finally, the study only used student-athletes from a limited number of U.K. and U.S. institutions. This may limit the generality of the study conclusions to the types of college that were investigated, being only the U.S. 'Corporate Model', and the equivalent 'Small Time Corporate Model' (Sack, 1988) sport scholarship universities in the U.K.

8.5.2 Delimitations
Although various broad conclusions were drawn from Studies 1, 3 and 4, it must be mentioned that the samples used in the thesis were taken from only two British universities and that these institutions were not representative of the British system as a whole. The fact that they were both institutions with very strong sporting traditions and current sporting cultures means that the results found concerning role conflict, for example, may have been found to be different if research had been conducted elsewhere in Britain.

8.5.3 Strengths
The overall strength of the thesis is that it that it replicates and extends the student-athlete literature in all the three previous strands of literature, being the objective and psychological functional research, conceptual commentaries, and
applied research. It presents perhaps the first real effort to synthesise the student-athlete literature and present all the issues in terms of one conceptual identity process framework.

This framework also incorporates the conceptual leap in defining a student-athlete as someone with a high student and high sporting identity. Instead of using the objective definitions of being enrolled on an academic course and playing for a university team, the psychological definition is a much more accurate way of assessing an individual's attitude toward their roles. Moreover, the definition also enables research methods and results to be transferable to any cultural system. Indeed, this study took advantage of this in its comparative study between U.K. and U.S. student-athletes.

Rather than limiting itself to just sport psychology literature, the study has tapped novelties and innovations from a variety of psychological research domains. In particular, sport sociology, occupational psychology, social psychology and educational psychology literature has been mined for links to the student-athlete experience. Most importantly, facilitated by occupational work-family role conflict research, the study provides the literature with a way of measuring the construct of role conflict. Although the student-athlete literature has acknowledged the centrality of role conflict, there have been precious few studies that have attempted do this in a conceptually rigorous manner.

Finally, including the process of constructing and initially validating the student-athlete role conflict scale, the thesis has used a variety of statistical methods. Not only this but the methodologies it uses provide both a quantitative and qualitative understanding. The mixing of qualitative methods may be seen as a particular strength, as Jay Gould (1997) writes,

We can only understand trends properly if we map expansions and contradictions in variation among all items in systems, and cease to focus on the march of mean or extreme values through time (p. 20).
8.6 Future Directions

8.6.1 Suggestions from studies

A variety of future research directions have been mentioned throughout the thesis. Some of these have taken study limitations as their catalyst. For example, these directions include; widening the research to different U.K., U.S., and European populations (including perhaps other highly committed non student-athletes, e.g. musicians, university journalists, etc.), undertaking longitudinal analysis of student-athletes outcomes throughout the degrees and post-degree, and using qualitative applied information as the framework to quantitatively measure the impact of student-athlete interventions.

The suggestions for further work have also arisen from the recognition that other areas of psychology and other psychological constructs may provide other means by which the student-athlete experience may be usefully interpreted. The three areas that particularly stand out as viable research avenues include achievement goal orientations, personality variables (such as conscientiousness, adaptive and maladaptive perfectionism, agreeableness, etc.) and psychological growth variables such as well-being, life satisfaction, and character ethics. This final area of character ethics is particularly important as the argument for reduced admissions rests on the hypothesised link between sport and positive character traits that may also facilitate academic excellence. As Rosenberg writes,

> A desire for excellence, a commitment to excellence, and practice are three precursors to strong character. Just as these strategies are necessary for becoming a skilful athlete, they are required for developing exemplary character (p. 129).

8.6.2 Student-athlete coping strategies

One area that has not been mentioned previously is that of coping strategies. A small number of studies (Sellers, 1993; Sellers, 1995; Giacobbi, Jr. et al, 2004) have looked at student-athlete coping strategies. However, they have done so either by comparing differences in coping style between student and athletic roles or by comparing
differences over time. It appears that no study to date has investigated the coping strategies of those student-athletes who are succeeding, i.e. those who are maintaining a balanced and high dual role identity. As Chartrand and Lent (1987) suggest,

It seems important to study those student-athletes who are coping well with the multiple demands of being both student and athlete and to identify their natural strategies for negotiating the collegiate environment. Such data will obviously contribute to the design of preventative and developmentally orientated interventions.

The importance of the social role, as suggested in the work of Miller and Kerr (2002, 2003) cannot be underestimated in relation to conflict and coping. Although this thesis has focussed mainly on the student and athlete roles, the social role may provide a highly productive avenue of future research.

8.6.3 Student-athlete life skills development

Student-athlete research and application has mostly been pitched at one of three levels of analysis. These are the social/structural level, e.g. objective functional studies (research) and the recommendations from Bowen and colleagues (application); the behavioural level, e.g. time spent in role (research) and teaching time management skills (application); and the cognitive level, e.g. student-athlete role conflict (research) and stress management (application). However, the humanistic perspective, where the meaning of the student-athlete experience is explored, has not yet attracted much research attention. Serpa and Rodrigues (2001) is the one reference that fully explores the concepts at this level of student-athlete analysis. The sport psychologist Sidonio Serpa and the Olympic athlete Joao Rodrigues explore how sport and study are both given meaning in the context of personal development. In his career as a student-athlete, Rodrigues comments that,

Sports and studies were two complementary and fundamental pieces in my personal development, which fit together within a unifying logic (p. 114).
From this perspective, only when the sports project takes on meaning can the student-athlete's potential become fulfilled. As Hemery (1991) points out,

Here is a special reminder. There's nothing wrong with striving for achievement, but at some point it will feel empty unless you hold it in conjunction with a bigger whole picture (p. 267).

From a research point of view, these ideas link closely to the transferable life skills literature. Serpa and Rodrigues again,

It is possible to make sports and academic activities complementary in using what is acquired from each one of the domains to better adapt to the other and, therefore, to life because both are meaningful in a perspective of personal development and not simply making acquisitions devoid of existential content (p. 118).

Mayocchi and Hanrahan (2000), in their recent book chapter on 'Transferable Skills for Career Change' recommend a number of questions that researchers may wish to examine. These include:

- When and how do athletes develop the skills regarded as transferable?
- Is effective skill transfer related to adjustment to the transition out of elite sporting competition?
- How do individual characteristics and work-environment characteristics affect skill transfer? That is, what is the nature of the relationship?
- For athletes who engage in a second nonathletic career while they are still pursuing their sporting career, what is the potential for skills learned at work to be transferred back to the sport setting?
These research questions are all highly applicable to the student-athlete context. In particular, significant others such as the coach and lecturer/academic tutor have a vital role to play in helping develop a student-athlete's ability to firstly learn life skills, through autonomy supporting and other educational-appropriate behaviours, and to secondly transfer them to other life roles. As the discipline of sport psychology continues to recognise the co-existence of personal excellence and performance enhancement - which some researchers suggest it has been doing to a greater extent over time (Miller and Kerr, 2002) - the recognition that developmentally appropriate sport can be used as a vehicle for enhancing overall well-being and the acquisition of transferable lifelong skills will increase.
8.7 Final thoughts

What is the point of college athletics? From a purely objective perspective, some might argue that the college sport environment provides the student-athlete with the opportunity to develop their sporting ability at the same time as becoming academically qualified. However, taking a more psychological perspective as this thesis has done, it can be seen that college athletics has the potential to be much more than just this. As one writer from the 2002 Harvard Crimson campus newspaper wrote, 'sporting experiences should be valued, mere sporting ability should not' (Bowen and Lewin, p.270). Sport, when seen from a more psychological perspective, is like any other educational exercise. In fact it may just be a more complete vehicle for self-development, for, when structured in a developmentally appropriate way, it stretches not only one's body, but also one's spirit and mind. When college leaders become more aware of the educational potential of sport, they then also avoid the threats that the commercialisation of sport brings.

What else does a psychological perspective add? However demanding a university athletic structure has evolved to be, it is likely that ambitious student-athletes will always be challenged in their ability to cultivate balance whilst striving to reach their potential in their multiple roles. A psychological approach provides a clearer understanding of this process, which in turn, will enable more appropriate support systems to be implemented. As Amy Campbell, the Director of Athletics and Physical Education at Bryn Mawr, (U.S.A.) suggests,

College athletic is a prized endeavor and one that enriches the experience of college students. The question should not be 'at what price athletics' but rather how to structure athletic programs that serve both the student athletic interest and the greater goals of liberal arts institutions (Campbell, 2002).
9. References


Department for Culture, Media and Sport (2003). Transcript of speech by Tessa Jowell, Secretary of State for DCMS, to launch the Talented Athlete Scholarship Scheme, 12 May 2003 http://www.culture.gov.uk.


Steiklein, J.E. and Dameron, L.D. (1965) Intercollegiate athletics and academic progress: A comparison of academic characteristics of athletes and nonathletes at the University of Minnesota. Bureau of Institutional Research, University of Minnesota, Minneapolis.


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10. Appendices
Appendix 1: Student-Athlete Role-Conflict Scale Initial Items

1. My studies keep me from my sport more than I would like
2. The time I must devote to studying keeps me from participating fully in my sport
3. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities
4. I often have to take work away with me when I travel for my sport
5. My tutor/lecturers dislike how I am often preoccupied with my sport
6. The time I spend playing sport often interferes with my studies
7. The time I spend training/competing often causes me not to spend time studying that could be helpful to my degree
8. I worry that I am losing ground to full-time athletes who are peers of mine because of the time I have to study
9. I worry that I am losing ground to regular students on my course because of the time I devote to my sport
10. I have to miss lectures/exams due to the amount of time I must spend on my sport
11. I feel guilty for spending too much time playing sport and not enough time on my studies
12. I feel guilty for spending too much time studying and not enough time on my sport training/competing
13. My coach/sporting peers dislike how I am often preoccupied with my studies
14. I often have to rush academic work due to the time demands of my sport
15. When I finish lectures/studying I am too frazzled to play well at my sport
16. I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport
17. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport
18. I am often preoccupied with academic worries when I am playing sport
19. Sometimes I feel overwhelmed by my academic commitments which negatively affects my sport
20. Due to stress in my sport, I am often preoccupied with sporting matters when I am studying
21. Because I am often stressed from my sport, I have a hard time concentrating on my work
22. Tension and anxiety from my sport often weakens my ability to study
23. I'm often too tired to study because of the things I have to do in sport
24. Due to all the pressures of sport, sometimes it is hard for me to do well in my studies
25. The problem-solving approaches I use during my degree work are not effective in resolving problems I have in my sport
26. Behaviour that is effective and necessary for me in my studies would be counterproductive in my sporting activities
27. The behaviours I perform that make me effective in my studies do not help me to be better at my sport
28. I am not able to act in the same way in my sport as I do in my studies
29. In order for me to be as successful in sport as I am in my studies, I must behave differently
30. The behaviours that work for me when I am playing sport do not seem to be effective when I am studying
31. Behaviour that is effective and necessary for me in my sport would be counterproductive in my studies
32. The problem-solving behaviours that work for me in my sport do not seem to be as useful in my studies
33. In order for me to succeed as a student, I must be a different person than I can be in my sport
Appendix 2: Face validity questionnaire

Student-Athlete Role-Conflict Scale Research Development

We are currently developing a scale to measure Student-Athlete Role Conflict. This will help in the assessment and education of student-athletes to successfully combine their sport and study. Please could you take the time to carefully read the instructions below and fill out the questionnaire, referring back to the instructions if at anytime anything is unclear. The results will be anonymous and you are free to cease participation if you wish. Thank you very much for your help.

Instructions

- Is the question sufficiently clear? Please circle yes or no

- Please circle either one, more than one, or the 'UNSURE' heading depending on whether you think the statements fall into any of these types of role conflict:

A. Time-based role conflict

Definition = The time spent in one role stops you from doing things in your other role. For example, time spent playing sport often interferes with studies.

B. Strain-based role conflict

Definition = The strain you experience in one role spills over into and interferes with your other role. For example, being preoccupied with academic worries whilst playing sport.

C. Expectation-based role conflict

Definition = The expectation you or others have of yourself in one role is compromised by the demands of your other role. For example, worrying that your commitment to studying is compromising your sport, or tutor/lecturers disliking your preoccupation with sport.
D. **Behaviour-based** role conflict

**Definition** = *Your behaviours or methods of behaving in one role are not compatible with behaviour patterns in your other role.* For example, having to be a different person to succeed as a student than you are in your sport.

1. My studies keep me from my sport more than I would like

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2. In order for me to succeed as a student, I must be a different person than I am in my sport

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3. I often have to take work away with me when I travel for my sport

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4. Behaviour that is effective and necessary for me in my studies would be counterproductive in my sporting activities

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5. When I finish lectures/studying I am too frazzled to play well at my sport

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6. In order for me to be as successful in sport as I am in my studies, I must behave differently

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7. The time I spend playing sport often interferes with my studies

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8. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport

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9. I worry that I am not performing as well as regular students on my course because of my commitment to my sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR

10. The behaviours that work for me when I am playing sport do not seem to be effective when I am studying

Yes No TIME STRAIN EXPECTATION BEHAVIOUR

11. The time I spend training/competing often stops me from spending time studying that could be helpful to my degree

Yes No TIME STRAIN EXPECTATION BEHAVIOUR

12. Due to stress in my sport, I am often preoccupied with sporting matters when I am studying

Yes No TIME STRAIN EXPECTATION BEHAVIOUR

13. The time I must devote to studying keeps me from participating fully in my sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR

14. The behaviours I perform that make me effective in my studies do not help me to be better at my sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR

15. I am often preoccupied with academic worries when I am playing sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR

16. I worry that I am not performing as well as full-time athletes who are peers of mine because of my commitment to study

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
17. The problem-solving behaviours that work for me in my sport do not seem to be as useful in my studies

Yes No UNSURE

18. Sometimes I feel overwhelmed by my academic commitments which negatively affects my sport

Yes No UNSURE

19. I have to miss lectures/exams due to the amount of time I must spend on my sport

Yes No UNSURE

20. Tension and anxiety from my sport often weakens my ability to study

Yes No UNSURE

21. I feel guilty for devoting too much commitment to studying and not enough to my sport training/competing

Yes No UNSURE

22. My coach/sporting peers dislike how I am often preoccupied with my studies

Yes No UNSURE

23. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities

Yes No UNSURE

24. I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport

Yes No UNSURE

25. Because I am often stressed from my sport, I have a hard time concentrating on my work


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26. My tutor/lecturers dislike how I am often preoccupied with my sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
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27. The problem-solving approaches I use during my degree work are not effective in resolving problems I have in my sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
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28. I'm often too tired to study because of the things I have to do in sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
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29. I am not able to act in the same way in my sport as I do in my studies

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
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30. Due to all the pressures of sport, sometimes it is hard for me to do well in my studies

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
UNSURE

31. I feel guilty for devoting too much commitment to playing sport and not enough to my studies

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
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32. I often have to rush academic work due to the time demands of my sport

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
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33. Behaviour that is effective and necessary for me in my sport would be counterproductive in my studies

Yes No TIME STRAIN EXPECTATION BEHAVIOUR
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### Appendix 3: Face validity through content analysis results

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<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>31</td>
<td>15</td>
<td>3</td>
<td>2</td>
<td>9</td>
<td>15</td>
<td>60</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>32</td>
<td>15</td>
<td>14</td>
<td>2</td>
<td></td>
<td>16</td>
<td>87.5</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>33</td>
<td>15</td>
<td>14</td>
<td>1</td>
<td></td>
<td>15</td>
<td>100</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

Total items accepted: 6 7 3 9

Note: The columns represent the variables being measured, with 'Q' indicating a question or item, 'Yes' and 'No' representing the response options, 'Time', 'Strain', 'Exp', 'Beh', and 'Unsure' as possible variables, 'Total' and '%' indicating the frequency and percentage of occurrence, and 'Accept', 'Reject', 'Type', and 'Fit order' for categorization purposes.
Appendix 4: Student-Athlete Role-Conflict Scale items post face validity analysis

Original Items

**Time-based student interference with sport**
1. My studies keep me from my sport more than I would like
2. The time I must devote to studying keeps me from participating fully in my sport
3. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities
4. I often have to take work away with me when I travel for my sport

**Time-based sport interference with study**
5. The time I spend playing sport often interferes with my studies
6. The time I spend training/competing often causes me not to spend time studying that could be helpful to my degree
7. I have to miss lectures/exams due to the amount of time I must spend on my sport
8. I often have to rush academic work due to the time demands of my sport

**Strain-based student interference with sport**
9. When I finish lectures/studying I am too frazzled to play well at my sport
10. I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport
11. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport
12. I am often preoccupied with academic worries when I am playing sport
13. Sometimes I feel overwhelmed by my academic commitments which negatively affects my sport

**Strain-based sport interference with study**
14. Due to stress in my sport, I am often preoccupied with sporting matters when I am studying
15. Because I am often stressed from my sport, I have a hard time concentrating on my work
16. Tension and anxiety from my sport often weakens my ability to study
17. I'm often too tired to study because of the things I have to do in sport
18. Due to all the pressures of sport, sometimes it is hard for me to do well in my studies

**Expectation-based student interference with sport**
19. My tutor/lecturers dislike how I am often preoccupied with my sport
20. I worry that I am losing ground to full-time athletes who are peers of mine because of the time I have to study
21. I feel guilty for spending too much time studying and not enough time on my sport training/competing
Expectation-based sport interference with study
22. I feel guilty for spending too much time playing sport and not enough time on my studies
23. My coach/sporting peers dislike how I am often preoccupied with my studies
24. I worry that I am losing ground to regular students on my course because of the time I devote to my sport

Behaviour-based student interference with sport
25. The problem-solving approaches I use during my degree work are not effective in resolving problems I have in my sport
26. Behaviour that is effective and necessary for me in my studies would be counterproductive in my sporting activities
27. The behaviours I perform that make me effective in my studies do not help me to be better at my sport
28. I am not able to act in the same way in my sport as I do in my studies
29. In order for me to be as successful in sport as I am in my studies, I must behave differently

Behaviour-based sport interference with study
30. The behaviours that work for me when I am playing sport do not seem to be effective when I am studying
31. Behaviour that is effective and necessary for me in my sport would be counterproductive in my studies
32. The problem-solving behaviours that work for me in my sport do not seem to be as useful in my studies
33. In order for me to succeed as a student, I must be a different person than I can be in my sport

Items kept and in fit power order

Time-based student interference with sport
1. The time I must devote to studying keeps me from participating fully in my sport
2. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities

Time-based sport interference with study
3. I have to miss lectures/exams due to the amount of time I must spend on my sport
4. The time I spend playing sport often interferes with my studies
5. The time I spend training/competing often causes me not to spend time studying that could be helpful to my degree
6. I often have to rush academic work due to the time demands of my sport

Strain-based student interference with sport
7. I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport
8. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport
9. I am often preoccupied with academic worries when I am playing sport
10. When I finish lectures/studying I am too frazzled to play well at my sport
Strain-based sport interference with study
11. Due to stress in my sport, I am often preoccupied with sporting matters when I am studying
12. Because I am often stressed from my sport, I have a hard time concentrating on my work
13. Tension and anxiety from my sport often weakens my ability to study

Expectation-based student interference with sport
14. I worry that I am losing ground to full-time athletes who are peers of mine because of the time I have to study
15. My tutor/lecturers dislike how I am often preoccupied with my sport

Expectation-based sport interference with study
16. My coach/sporting peers dislike how I am often preoccupied with my sport

Behaviour-based student interference with sport
17. The behaviours I perform that make me effective in my studies do not help me to be better at my sport
18. In order for me to be as successful in sport as I am in my studies, I must behave differently
19. The problem-solving approaches I use during my degree work are not effective in resolving problems I have in my sport
20. I am not able to act in the same way in my sport as I do in my studies
21. Behaviour that is effective and necessary for me in my studies would be counterproductive in my sporting activities

Behaviour-based sport interference with study
22. The behaviours that work for me when I am playing sport do not seem to be effective when I am studying
23. In order for me to succeed as a student, I must be a different person than I can be in my sport
24. Behaviour that is effective and necessary for me in my sport would be counterproductive in my studies
25. The problem-solving behaviours that work for me in my sport do not seem to be as useful in my studies

Items kept and in fit power order AND modified for clarity

Time-based student interference with sport
1. The time I must devote to studying keeps me from participating fully in my sport
2. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities

Time-based sport interference with study
3. I have to miss lectures/exams due to the amount of time I must spend on my sport
4. The time I spend playing sport often interferes with my studies
5. The time I spend training/competing often causes me not to spend time studying (deleted - that could be helpful to my degree)
6. I often have to rush academic work due to the time demands of my sport
Strain-based student interference with sport
7. I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport
8. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport
9. I am often preoccupied with academic worries when I am playing sport
10. When I finish lectures/studying I am too mentally and physically tired to play well at my sport

Strain-based sport interference with study
11. Due to stress in my sport, I am often preoccupied with sporting matters when I am studying
12. Because I am often stressed from my sport, I have a hard time concentrating on my academic work
13. Tension and anxiety from my sport often weakens my ability to study

Expectation-based student interference with sport
14. I worry that I am not performing as well as peers of mine who are full-time athletes due to academic demands
15. My tutor/lecturers dislike how I am often preoccupied with my sport

Expectation-based sport interference with study
16. My coach/sporting peers dislike how I am often preoccupied with my studies

Behaviour-based student interference with sport
17. The behaviours (delete - I perform) that make me effective in my studies do not help me to be better at my sport
18. In order for me to be as successful in sport as I am in my studies, I must behave differently
19. The problem-solving approaches I use during my degree work are not effective in resolving problems I have in my sport
20. I am not able to act in the same way in my sport as I do in my studies
21. Behaviour that is effective and necessary for me in my studies would be counterproductive in my sporting activities

Behaviour-based sport interference with study
22. The behaviours that work for me when I am playing sport do not seem to be effective when I am studying
23. In order for me to succeed as a student, I must be a different person than I am in my sport
24. Behaviour that is effective and necessary for me to be successful in my sport would be counterproductive in my studies
25. The problem-solving behaviours that work for me in my sport do not seem to be as useful in my studies

Order of questions for mixing in questionnaire:
1, 11, 14, 22,
3, 7, 16, 17,
Items kept but reduced to top 3 AND in fit power order AND modified for clarity AND addition items to make up at least 3 in each factor AND expectation split into internal/external

FINAL ITEMS

Time-based student interference with sport
1. The time I must devote to studying keeps me from participating fully in my sport
2. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities
3. The time I spend studying often interferes with my sport

Time-based sport interference with study
4. I have to miss lectures/exams due to the amount of time I must spend on my sport
5. The time I spend playing sport often interferes with my studies
6. The time I spend training/competing often causes me not to spend time studying

Strain-based student interference with sport
7. I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport
8. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport
9. I am often preoccupied with academic worries when I am playing sport

Strain-based sport interference with study
10. Due to stress in my sport, I am often preoccupied with sporting matters when I am studying
11. Because I am often stressed from my sport, I have a hard time concentrating on my academic work
12. Tension and anxiety from my sport often weakens my ability to study

Internal Expectation-based student interference with sport
13. I worry that I am not performing as well as peers of mine who are full-time athletes due to academic demands
14. I feel guilty for devoting too much to studying and not enough time on my sport
15. I am concerned that my studies are interfering with how well I expect to perform in my sport
Internal Expectation-based sport interference with study
16. I worry that I am losing ground to non-sporting students on my course because of the time I devote to my sport
17. I feel guilty for devoting too much to playing sport and not enough time on my studies
18. I am concerned that my sport is interfering with how well I expect to perform in my studies

External Expectation-based student interference with sport
19. My coach/sporting peers dislike how I am often preoccupied with my studies
20. My coach/sporting peers are concerned that my academic commitments are affecting my sport
21. My coach/sporting peers think that I must compromise my studies for my sport

External Expectation-based sport interference with study
22. My tutor/lecturers dislike how I am often preoccupied with my sport
23. My tutors/lecturers are concerned that my sporting commitments are affecting my studies
24. My tutors/lecturers think that I must compromise my sport for my studies

Behaviour-based student interference with sport
25. The behaviours that make me effective in my studies do not help me to be better at my sport
26. In order for me to be as successful in sport as I am in my studies, I must behave differently
27. The problem-solving approaches I use during my degree work are not effective in resolving problems I have in my sport

Behaviour-based sport interference with study
28. The behaviours that work for me when I am playing sport do not seem to be effective when I am studying
29. In order for me to succeed as a student, I must be a different person than I am in my sport
30. Behaviour that is effective and necessary for me to be successful in my sport would be counterproductive in my studies
3. Sporting identity and commitment

23. Sport Identity

Please select the number that best reflects the extent to which you agree or disagree with each statement regarding your sport participation over the academic year just gone.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Strongly agree 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I consider myself an athlete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I have many goals related to sport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Most of my friends are athletes

4. Sport is the most important part of my life

5. I spend more time thinking about sport than anything else

6. I feel bad about myself when I do poorly in sport

7. I would be very depressed if I were injured and could not compete in sport
<table>
<thead>
<tr>
<th>Appendix 6: Study 3b demographics page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. First name</td>
</tr>
<tr>
<td>2. Surname</td>
</tr>
<tr>
<td>3. Contact email address</td>
</tr>
<tr>
<td>4. Contact phone number</td>
</tr>
<tr>
<td>5. Age</td>
</tr>
<tr>
<td>6. Gender</td>
</tr>
<tr>
<td>7. Undergraduate/postgraduate</td>
</tr>
<tr>
<td>8. University currently studying at</td>
</tr>
<tr>
<td>9. Year of study</td>
</tr>
<tr>
<td>10. Degree course</td>
</tr>
<tr>
<td>11. Department</td>
</tr>
<tr>
<td>12. Current degree average</td>
</tr>
<tr>
<td>13. A level points total (A=10, B=8, C=6, etc.)</td>
</tr>
<tr>
<td>14. Main sport</td>
</tr>
<tr>
<td>15. Sport type</td>
</tr>
<tr>
<td>16. University Scholar</td>
</tr>
<tr>
<td>17. University level</td>
</tr>
<tr>
<td>18. Highest sporting level competed at</td>
</tr>
<tr>
<td>19. Do you intend to pursue sport full-time after graduation?</td>
</tr>
<tr>
<td>20. Average no. hours per week - lectures/tutorials/labs, etc.</td>
</tr>
<tr>
<td>21. Average no. hours per week - personal studying</td>
</tr>
<tr>
<td>22. Average no. hours per week - team training</td>
</tr>
<tr>
<td>23. Average no. hours per week - individual training</td>
</tr>
<tr>
<td>24. Average no. hours per week - competition (incl. travel)</td>
</tr>
</tbody>
</table>

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Appendix 7: Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, and Linder, 1993; Brewer and Cornelius, 2001)

Please circle the number that best reflects the extent to which you agree or disagree with each statement regarding your sport participation.

1. I consider myself an athlete.
   - Strongly disagree: 1 2 3 4 5 6 7
   - Strongly agree

2. I have many goals related to sport.
   - Strongly disagree: 1 2 3 4 5 6 7
   - Strongly agree

3. Most of my friends are athletes.
   - Strongly disagree: 1 2 3 4 5 6 7
   - Strongly agree

4. Sport is the most important part of my life.
   - Strongly disagree: 1 2 3 4 5 6 7
   - Strongly agree

5. I spend more time thinking about sport than anything else.
   - Strongly disagree: 1 2 3 4 5 6 7
   - Strongly agree

6. I feel bad about myself when I do poorly in sport.
   - Strongly disagree: 1 2 3 4 5 6 7
   - Strongly agree

7. I would be very depressed if I were injured and could not compete in sport.
   - Strongly disagree: 1 2 3 4 5 6 7
   - Strongly agree
Appendix 8: Modified student-AIMS (based on AIMS; Brewer, Van Raalte, and Linder, 1993; Brewer and Cornelius, 2001)

Please circle the number that best reflects the extent to which you agree or disagree with each statement regarding your academic degree.

1. I consider myself a student.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

2. I have many goals related to my academic study.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

3. Most of my friends are from my academic course.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

4. My studies are the most important part of my life.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

5. I spend more time thinking about academic studies than anything else.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

6. I feel bad about myself when I do poorly in my degree.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

7. I would be very depressed if, for some reason, I could not continue my studies.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
Appendix 9: Sport Commitment Model Scale (SCMS; Carpenter, Scanlan, Simons and Lobel, 1993; Scanlan, Carpenter, Schmidt, Simons, and Keeler, 1993)

These questions ask about how you feel right now about your participation in [sport]. Please answer each question by circling the appropriate number. There are no right or wrong answers.

<table>
<thead>
<tr>
<th>Number</th>
<th>Question</th>
<th>Not at all true for me</th>
<th>Not very true for me</th>
<th>Very true for me</th>
<th>Completely true for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am willing to do almost anything to keep playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Playing [sport] makes me happy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Significant others encourage me to play [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I am dedicated to keep playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I feel pressure from significant others to keep playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Compared to playing [sport] there are other things I could be doing which would be more enjoyable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I feel I should keep playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I like playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Significant others support my playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>I want to keep playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>Significant others would be upset if I were to stop playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>I would be happier if I was doing something else instead of [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>I am determined to keep playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>Playing [sport] is enjoyable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>Significant others think it is okay for me to be playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>I feel I have to keep playing [sport]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Number</td>
<td>Statement</td>
<td>Rating Options</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Significant others would be disappointed if I were to quit playing [sport]</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>I would like to do something else instead of playing [sport]</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>I am committed to keep playing [sport]</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Playing [sport] is fun</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>I feel I have to keep playing [sport] to please others</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>It would be hard for me to quit playing [sport]</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>I feel I have to keep playing [sport] so others do not think I am a quitter</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>I feel an obligation to keep playing [sport]</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**If I were to stop playing [sport] I would miss the opportunity...**

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>of having a good time playing [sport]</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>26</td>
<td>to be with my [sport] friends</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>27</td>
<td>to make new friends</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>28</td>
<td>to be physically active</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>29</td>
<td>to play at a higher level</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>30</td>
<td>to win awards</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>31</td>
<td>to be a winner</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>32</td>
<td>to do something exciting</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>33</td>
<td>How much time have you put into playing [sport]</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Question</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>How much energy have you put into playing [sport]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much effort have you put into playing [sport]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 10: Modified student-SCMS (Based on SCMS; Carpenter, Scanlan, Simons and Lobel, 1993; Scanlan, Carpenter, Schmidt, Simons, and Keeler, 1993)

These questions ask about how you feel right now about your degree. Please answer each question by circling the appropriate number. There are no right or wrong answers.

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<td>7</td>
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<td>15</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
16 I feel I have to keep studying
17 Significant others would be disappointed if I were to quit my academic degree
18 I would like to do something else instead of studying
19 I am committed to keep studying
20 Studying is fun
21 I feel I have to keep studying to please others

<table>
<thead>
<tr>
<th></th>
<th>Not at all true for me</th>
<th>Not very true for me</th>
<th>Very true for me</th>
<th>Completeness true for r</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>It would be hard for me to quit my degree</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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</tr>
<tr>
<td>23</td>
<td>I feel I have to keep studying so others do not think I am a quitter</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>I feel an obligation to keep doing my degree</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**If I were to stop my academic degree I would miss the opportunity...**

<table>
<thead>
<tr>
<th></th>
<th>Not at all true for me</th>
<th>Not very true for me</th>
<th>Very true for me</th>
<th>Completeness true for r</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>of having a good time studying</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>to be with my friends from my academic degree</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>to make new friends</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>to be mentally active</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>to study at a higher level</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>to gain recognition from others</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>to be a high flyer</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>to do something exciting</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
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<tr>
<td>Question</td>
<td>1</td>
<td>2</td>
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<tr>
<td>How much time have you put into studying</td>
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<tr>
<td>How much energy have you put into studying</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>How much effort have you put into studying</td>
<td></td>
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</tbody>
</table>
### Appendix 11: Student-Athlete Role-Conflict Scale (SARCS)

Please circle the number that best reflects the extent to which you agree or disagree with each statement regarding your experience as a student-athlete over the last semester.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The time I must devote to studying keeps me from participating fully in my sport</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>2.</td>
<td>Due to stress in my sport, I am often preoccupied with sporting matters when I am studying</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>3.</td>
<td>I worry that I am not performing as well as peers of mine who are full-time athletes due to academic demands</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>4.</td>
<td>My tutor/lecturers dislike how I am often preoccupied with my sport</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>5.</td>
<td>I am often so emotionally drained from lectures/studying that it prevents me from playing well at my sport</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tr>
<tr>
<td>6.</td>
<td>I worry that I am losing ground to non-sporting students on my course because of the time I devote to my sport</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>7.</td>
<td>My coach/sporting peers dislike how I am often preoccupied with my studies</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</tbody>
</table>
8. I have to miss sporting activities due to the amount of time I must spend on academic responsibilities

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

9. Because I am often stressed from my sport, I have a hard time concentrating on my academic work

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

10. I feel guilty for devoting too much to studying and not enough time on my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

11. My tutors/lecturers are concerned that my sporting commitments are affecting my studies

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

12. The time I spend playing sport often interferes with my studies

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

13. Due to all the pressures of studying, sometimes I am too stressed out to play/train well at my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

14. I feel guilty for devoting too much to playing sport and not enough time on my studies

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

15. My coach/sporting peers are concerned that my academic commitments are affecting my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree
16. The time I spend studying often interferes with my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

17. Tension and anxiety from my sport often weakens my ability to study

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

18. I am concerned that my studies are interfering with how well I expect to perform in my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

19. My tutors/lecturers think that I must compromise my sport for my studies

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

20. The time I spend training/competing often causes me not to spend time studying

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

21. I am often preoccupied with academic worries when I am playing sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

22. I am concerned that my sport is interfering with how well I expect to perform in my studies

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

23. My coach/sporting peers think that I must compromise my studies for my sport

Strongly disagree 1 2 3 4 5 6 7 Strongly agree
Appendix 12: Student-athlete Career Situation Inventory (Sandstedt, Cox, Martens, Ward, Webber, and Ivey, in press)

INSTRUCTIONS: Please CIRCLE the number that corresponds with the extent to which you agree or disagree with each item.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</table>

1. I do not have enough time to explore potential career opportunities.  
   SD  D  N  A  SA
   1  2  3  4  5

2. I have enough career-related information to make informed decisions about potential careers.  
   SD  D  N  A  SA
   1  2  3  4  5

3. I am confident about my ability to find a satisfactory career.  
   SD  D  N  A  SA
   1  2  3  4  5

4. My athletic involvement limits me from exploring potential careers until my season is over.  
   SD  D  N  A  SA
   1  2  3  4  5

5. I have a good understanding of the steps I need to take to find a satisfactory career.  
   SD  D  N  A  SA
   1  2  3  4  5

6. I have a strong interest in at least one potential career.  
   SD  D  N  A  SA
   1  2  3  4  5

7. I am often too tired to explore my career interests.  
   SD  D  N  A  SA
   1  2  3  4  5

8. I would be willing to explore the university’s career center.  
   SD  D  N  A  SA
   1  2  3  4  5

9. Excelling in academics is as important to me as excelling in my sport.  
   SD  D  N  A  SA
   1  2  3  4  5

10. I am an athlete first, student second.  
    SD  D  N  A  SA
     1  2  3  4  5
11. Many job-related skills can be learned from experiences in sport.

12. I have many personal goals outside of sport.

13. It is difficult for me to think about careers because I am an athlete.

14. I believe that being an athlete makes me more suitable for certain careers.

15. My main reason for being at this university is to participate in my sport.

16. My commitments as an athlete do not hinder me from exploring potential career opportunities.

17. The time I have spent being an athlete has kept me from doing other things that might help me explore possible careers.

18. Being an athlete has helped me develop skills that will help me be successful in my desired career.

19. Being an athlete has influenced my thinking about what I might want to do for a career.

20. In choosing a degree, I am more concerned about what is easiest to manage with my athletic commitment than about what really interests me.

21. Most of the academic decisions I make are strongly influenced by what others may suggest.

22. Being a professional athlete is the only career that interests me.

23. I have a good sense of what interests me academically.

24. I am more concerned with just graduating, rather than the field in which I actually get my degree in.
25. I am happy with my current degree.  

26. I feel pressure from others to pursue a particular career.  

27. I am pursuing a certain career only because others have told me I would be good at it.  

28. I am focusing more on preparing for a career than on becoming a professional athlete.  

29. Because I am an athlete, I have a mental edge that others might not have.  

30. I feel that in my sport, I am encouraged more to achieve success in academics than in athletics.
Appendix 13: Situational Motivation Scale and modified student SIMS (SIMS; Guay, Vallerand, and Blanchard, 2000; Standage, Treasure, Duda, and Prusak, 2003)

Please circle the number that best describes the reason why you are currently engaged in playing tennis according to the following scale:

1=correspond not at all, 2=correspond a very little, 3=correspond a little, 4=correspond moderately, 5=correspond enough, 6=correspond a lot, 7=correspond exactly.

Why are you currently engaged in playing tennis?

1. Because I think that this activity is interesting
   1  2  3  4  5  6  7

2. Because I am doing it for my own good
   1  2  3  4  5  6  7

3. Because I am supposed to do it
   1  2  3  4  5  6  7

4. There may be good reasons to do this activity, but personally I don’t see any
   1  2  3  4  5  6  7

5. Because I think this activity is pleasant
   1  2  3  4  5  6  7

6. Because I think this activity is good for myself
   1  2  3  4  5  6  7

7. Because it is something that I have to do
   1  2  3  4  5  6  7

8. I do this activity but I am not sure if it is worth it
   1  2  3  4  5  6  7

9. Because this activity is fun
   1  2  3  4  5  6  7
10. I don’t know; I don’t see what the activity brings me
   1 2 3 4 5 6 7

11. Because I feel good when doing this activity
   1 2 3 4 5 6 7

12. Because I believe this activity is important for me
   1 2 3 4 5 6 7

13. Because I feel that I have to do it
   1 2 3 4 5 6 7

14. I do this activity, but I am not sure it is a good thing to pursue it
   1 2 3 4 5 6 7
Appendix 14: Modified student SIMS (based on the SIMS; Guay, Vallerand, and Blanchard, 2000; Standage, Treasure, Duda, and Prusak, 2003)

Please circle the number that best describes the reason why you are currently engaged in your academic studies according to the following scale:

1=correspond not at all, 2=correspond a very little, 3=correspond a little, 4=correspond moderately, 5=correspond enough, 6=correspond a lot, 7=correspond exactly.

Why are you currently engaged in your academic studies?

1. Because I think that this activity is interesting
   1 2 3 4 5 6 7

2. Because I am doing it for my own good
   1 2 3 4 5 6 7

3. Because I am supposed to do it
   1 2 3 4 5 6 7

4. There may be good reasons to do this activity, but personally I don’t see any
   1 2 3 4 5 6 7

5. Because I think this activity is pleasant
   1 2 3 4 5 6 7

6. Because I think this activity is good for myself
   1 2 3 4 5 6 7

7. Because it is something that I have to do
   1 2 3 4 5 6 7

8. I do this activity but I am not sure if it is worth it
   1 2 3 4 5 6 7

9. Because this activity is fun
   1 2 3 4 5 6 7
10. I don’t know; I don’t see what the activity brings me
   1 2 3 4 5 6 7

11. Because I feel good when doing this activity
   1 2 3 4 5 6 7

12. Because I believe this activity is important for me
   1 2 3 4 5 6 7

13. Because I feel that I have to do it
   1 2 3 4 5 6 7

14. I do this activity, but I am not sure it is a good thing to pursue it
   1 2 3 4 5 6 7
Appendix 15: Scholars feedback form (‘understanding phase’)

Please take a moment to fill in this form as your thoughts will make a difference! You can either fill it in electronically and attach it via email (if so, make your answers in **BOLD**) or print it out and give it back to Pat Gubb in the Sports office.

**Background information**

<table>
<thead>
<tr>
<th>University year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>Undergraduate/Postgraduate</td>
<td></td>
</tr>
<tr>
<td>Sport</td>
<td></td>
</tr>
<tr>
<td>Male/Female</td>
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</tbody>
</table>

**Scheme feedback**

How good was the following for your needs? (1=low and 10=high, or leave blank if not used/relevant)

<table>
<thead>
<tr>
<th>Scheme Service</th>
<th>Score</th>
</tr>
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<tbody>
<tr>
<td>Quality of coaching staff</td>
<td></td>
</tr>
<tr>
<td>Quality of sport facilities</td>
<td></td>
</tr>
<tr>
<td>Ease of access to sports facilities</td>
<td></td>
</tr>
<tr>
<td>Powerbase</td>
<td></td>
</tr>
<tr>
<td>LUFS</td>
<td></td>
</tr>
<tr>
<td>Scholarship money</td>
<td></td>
</tr>
<tr>
<td>Scholars Induction Day</td>
<td></td>
</tr>
<tr>
<td>Education Evenings (in general)</td>
<td></td>
</tr>
<tr>
<td>Massage service</td>
<td></td>
</tr>
<tr>
<td>Sport Psychology support</td>
<td></td>
</tr>
<tr>
<td>Physiotherapy service</td>
<td></td>
</tr>
<tr>
<td>Nutritional advice</td>
<td></td>
</tr>
<tr>
<td>Academic flexibility (extra year, exam times rearranged, etc.)</td>
<td></td>
</tr>
<tr>
<td>Preferential hall accommodation</td>
<td></td>
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<tr>
<td>Preferential parking permit</td>
<td></td>
</tr>
</tbody>
</table>

1. How helpful have you found the following when you have had difficulties combining your sport and studies? (1=Highly unhelpful to 10=Highly helpful)

<table>
<thead>
<tr>
<th>Staff Group</th>
<th>Helpfulness score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal tutors</td>
<td></td>
</tr>
<tr>
<td>Lecturers in your department</td>
<td></td>
</tr>
<tr>
<td>Coaching staff</td>
<td></td>
</tr>
<tr>
<td>Scholarship administration staff</td>
<td></td>
</tr>
</tbody>
</table>
2. How useful would you have found the following? (1=Not at all useful to 10=highly useful)

<table>
<thead>
<tr>
<th>Service type</th>
<th>Usefulness score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time management education</td>
<td></td>
</tr>
<tr>
<td>Athlete career education</td>
<td></td>
</tr>
<tr>
<td>Lifestyle planning/management education</td>
<td></td>
</tr>
<tr>
<td>Media/Sponsorship advice</td>
<td></td>
</tr>
<tr>
<td>Study skills education</td>
<td></td>
</tr>
<tr>
<td>Injury prevention education</td>
<td></td>
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<tr>
<td>Nutritional advice</td>
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<tr>
<td>Sport psychology education</td>
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<td>Training principles advice</td>
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<td>Stress management education</td>
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<tr>
<td>Financial management education</td>
<td></td>
</tr>
<tr>
<td>Scholars/Sports performers halls</td>
<td></td>
</tr>
<tr>
<td>Healthy eating options/restaurant</td>
<td></td>
</tr>
</tbody>
</table>

3. In general what other things would you like improving or adding to the Scheme?

4. Do you have any other comments related to the Scheme?

Many thanks for filling in the feedback form
Appendix 16: Scholars Induction Plan

Thursday 25 September 2003
The Ballroom, Hazlerigg

10.00am  Registration and Coffee

10.25am  Welcome: Professor Jim Saker, Chairman of Loughborough Students Sports Foundation

10.30am  Ice Breaker: Kate Goodger, School of Sport and Exercise Sciences

10.50am  Stel Grekos, Athletic Union President

10.55am  Andy Borrie, Sport Science Manager, Sports Development Centr

11.00am  The Trail: Location of Campus Services

12.30pm  LUNCH

1.00pm  Jim Saker: Welcome to Sponsors/Heads of Departments/Admission Tutors
        Dr Craig Handford, SDC Introduction to Coaches

        1.10pm  Presentation of Certificates to Scholars by Mr Michael Pearson, Bursar of Loughborough University

        1.25pm  Presentation of Certificates to College Scholars by Mr Jim Mutton, Principal of Loughborough College.

        1.30pm  Group and Individual Photos

        1.50pm  Current Scholar: Jeremy Cross, PhD Research Student Psychology, School of Sport and Exercise Sciences

                Tara Smith  English Institute of Sport Athlete Support Manager

        Questions

        2.30pm  Pat Gubb, Sports Scholarship Administrator
                Summary and Admin Issues

        2.40pm  Finish
### Appendix 17: EIS and University Scholars Induction and Education Programme 2003-4

<table>
<thead>
<tr>
<th>Date</th>
<th>Title</th>
<th>Details</th>
<th>Target group</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.9.03</td>
<td>Induction Day</td>
<td>Various presentations</td>
<td>New scholars</td>
<td>Various</td>
</tr>
<tr>
<td>14.10.03</td>
<td>Time and lifestyle management</td>
<td>Demands of SA life&lt;br&gt;Time management skills</td>
<td>All</td>
<td>Jeremy Cross&lt;br&gt;Tara Smith</td>
</tr>
<tr>
<td>3.11.03</td>
<td>Study skills 1</td>
<td>Note taking, researching, reading, writing essays/reports, memory, etc.</td>
<td>All</td>
<td>John Porteous&lt;br&gt;(EIS)</td>
</tr>
<tr>
<td>22.10.03</td>
<td>Nutrition 1: Advice for healthy living</td>
<td>Nutritional advice for athletes&lt;br&gt;Assessment of how you compare</td>
<td>All</td>
<td>Nicky Gilbert&lt;br&gt;(EIS)</td>
</tr>
<tr>
<td></td>
<td>and 20.11.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.11.03</td>
<td>Nutrition 2: Sainsburys ideas for student-athletes</td>
<td>Practical advice on buying cheaply, and cooking quick, healthy and tasty meals (free tasting session!)</td>
<td>All</td>
<td>Sainsburys</td>
</tr>
<tr>
<td>12.1.04</td>
<td>Study Skills 2</td>
<td>Revision and taking exams</td>
<td>All</td>
<td>John Porteous&lt;br&gt;(EIS)</td>
</tr>
<tr>
<td>2.2.04</td>
<td>Marketing yourself</td>
<td>What is self-marketing? What do you have to offer? Understanding what sponsorship is and why companies sponsor</td>
<td>All</td>
<td>Mel Berry</td>
</tr>
<tr>
<td>26.2.04</td>
<td>Open session and evaluation</td>
<td>Evaluation of scheme (questionnaire and group feedback)</td>
<td>All</td>
<td>JC</td>
</tr>
<tr>
<td>Mar 16</td>
<td>Financial Management</td>
<td>Managing your student-athlete budget</td>
<td>All</td>
<td>HSBC&lt;br&gt;representative</td>
</tr>
<tr>
<td>May 6</td>
<td>Sport psychology</td>
<td>What is sport psychology? How can it help you?</td>
<td>All</td>
<td>Simon Timpson&lt;br&gt;(BOA Psychologist)</td>
</tr>
<tr>
<td>May 24-27</td>
<td>Injury prevention</td>
<td></td>
<td>All</td>
<td>EIS Physio</td>
</tr>
<tr>
<td>June 7-10</td>
<td>Stress Management</td>
<td>How do you measure up? Types of SA stressors&lt;br&gt;How to cope&lt;br&gt;Creating a practical plan</td>
<td>All</td>
<td>Simon Timpson</td>
</tr>
</tbody>
</table>
Appendix 18: Loughborough University Coach Appraisal Form

Coach’s name..........................................................

Sport........................................................................

Male/female............................................................

How satisfied are you with how your coach...

1. Understands your needs as a student-athlete
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

2. Has a fair and effective system for giving out scholarship money
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

3. Gives you confidence in my ability
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

4. Is an expert in coaching in your sport
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

5. Gives you sufficient time and attention
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

6. Promotes ethical and moral sporting behaviours
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

7. Sets high standards for themselves and others
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

8. Creates a enthusiastic, motivating and challenging learning environment
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

9. Understands and respects your needs in my sport development
   Not at all satisfied 1 2 3 4 5 6 7
   Moderately satisfied
   Extremely satisfied

10. Has helped you to continue enjoying my sport
    Not at all satisfied 1 2 3 4 5 6 7
    Moderately satisfied
    Extremely satisfied
**Appendix 19: Scholars feedback form for each session ('evaluation phase')**

<table>
<thead>
<tr>
<th>Sport:</th>
<th>Age:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex:</td>
<td>Academic Year:</td>
</tr>
</tbody>
</table>

In rating this workshop, please respond to each item carefully and thoughtfully. Keep the purpose of each section in mind as you rate the workshop.

For each item, circle one response:

| 1  | = Very Poor | 3  | = Fair | 5  | = Very Good |
| 2  | = Poor      | 4  | = Good | 6  | = Excellent |

**Section 1: To provide a general evaluation.**

1. The workshop as a whole was:
   - 1 2 3 4 5 6

2. The clarity of the workshop was:
   - 1 2 3 4 5 6

3. Amount you learned was:
   - 1 2 3 4 5 6

4. Relevance & usefulness of content was:
   - 1 2 3 4 5 6

5. Enjoyability of the workshop was:
   - 1 2 3 4 5 6

6. Interest level in the workshop was:
   - 1 2 3 4 5 6

7. Conduciveness of workshop atmosphere to learning was:
   - 1 2 3 4 5 6

8. Appropriateness of level was:
   - 1 2 3 4 5 6

9. Value for athletes who will attend future workshops:
   - 1 2 3 4 5 6

**Section 2: To provide feedback to the workshop leader**

10. Workshop organisation was:
    - 1 2 3 4 5 6
II. Explanations by presenter were: 1 2 3 4 5 6
12. Use of examples were: 1 2 3 4 5 6
13. Presenter's enthusiasm was: 1 2 3 4 5 6
14. Answers to questions were: 1 2 3 4 5 6
15. Preparation for the workshop was: 1 2 3 4 5 6
16. The quality of audio-visual (if used) was: 1 2 3 4 5 6
17. The quality of handout material was: 1 2 3 4 5 6

Section 3: To provide an estimate of the impact of the workshop

18. Expected value of the workshop in assisting your performance: 1 2 3 4 5 6
19. Amount of practical methods of application of content was: 1 2 3 4 5 6
20. Your degree of motivation to apply what you learned in the workshop: 1 2 3 4 5 6

Sentence Completion:
The best thing about the course was

The worst thing about the course was

I would have liked more

I would have liked less

Please add any additional comments
Appendix 20: Scholars overall feedback form (‘evaluation phase’)

Over the last 2 years we have held feedback sessions on the scheme at the Education evenings. From your varied and insightful comments improvements have been made.

So, please take a moment to fill in this form as your thoughts will make a difference! You can either fill it in electronically and attach it via email to J.A.Cross@lboro.ac.uk (if so, make your answers in **BOLD**) or print it out and give it back to Pat Gubb in the Sports office.

**Background information**

<table>
<thead>
<tr>
<th>University year (1st/2nd/3rd/4th/Masters/PhD)</th>
<th>10 1st / 12 2nd / 7 3rd / 3 postgraduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td></td>
</tr>
<tr>
<td>Undergraduate/Postgraduate</td>
<td></td>
</tr>
<tr>
<td>Sport</td>
<td></td>
</tr>
<tr>
<td>Male/Female</td>
<td>19 male / 13 female</td>
</tr>
<tr>
<td>Age</td>
<td>Mean = 20.4</td>
</tr>
</tbody>
</table>

**Scheme feedback**

**How good was the following for your needs?**
*(1=low to 10= high, or leave blank if not used/relevant)*

<table>
<thead>
<tr>
<th>Scheme Service</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of your coaching staff</td>
<td>8.1</td>
</tr>
<tr>
<td>Quality of your sport facilities</td>
<td>8.5</td>
</tr>
<tr>
<td>Ease of access to your sports facilities</td>
<td>7.7</td>
</tr>
<tr>
<td>Powerbase</td>
<td>9.1</td>
</tr>
<tr>
<td>LUFS</td>
<td>7.1</td>
</tr>
<tr>
<td>Scholarship money</td>
<td>6.6</td>
</tr>
<tr>
<td>Scholars Induction Day (for 1st years only)</td>
<td>7.8</td>
</tr>
<tr>
<td>Education Evenings (in general)</td>
<td>7.4</td>
</tr>
<tr>
<td>• Time management evening (Oct)</td>
<td>7.1</td>
</tr>
<tr>
<td>• Study skills – lectures and essays evening (Nov)</td>
<td>6.8</td>
</tr>
<tr>
<td>• Nutrition evening (Nov)</td>
<td>7.7</td>
</tr>
<tr>
<td>• Sainsburys evening (Nov)</td>
<td>7.1</td>
</tr>
<tr>
<td>• Study Skills – exams evening (Jan)</td>
<td>7.1</td>
</tr>
<tr>
<td>• Marketing evening (Feb)</td>
<td>7.7</td>
</tr>
<tr>
<td>• Scholarship feedback evening (Feb)</td>
<td>7.6</td>
</tr>
<tr>
<td>Massage service</td>
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<td>Sport Psychology service</td>
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<tr>
<td>Service</td>
<td>Helpfulness score</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Physiotherapy service</td>
<td>8.4</td>
</tr>
<tr>
<td>Nutritional service</td>
<td>6.1</td>
</tr>
<tr>
<td>Academic flexibility (extra year, exam times</td>
<td>7.7</td>
</tr>
<tr>
<td>rearranged, etc.)</td>
<td></td>
</tr>
<tr>
<td>Preferential hall accommodation</td>
<td>8.7</td>
</tr>
<tr>
<td>Preferential parking permit</td>
<td>9.0</td>
</tr>
</tbody>
</table>

How helpful have you found the following when you have had difficulties combining your sport and studies? (1=Highly unhelpful to 10=Highly helpful)

<table>
<thead>
<tr>
<th>Staff Group</th>
<th>Helpfulness score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal tutors (in department)</td>
<td>6.1</td>
</tr>
<tr>
<td>Lecturers in your department</td>
<td>7.4</td>
</tr>
<tr>
<td>Coaching staff</td>
<td>7.8</td>
</tr>
<tr>
<td>Scholarship administration staff, e.g. Pat</td>
<td>9.0</td>
</tr>
</tbody>
</table>

5. In particular, which education evenings have you found the most useful/important and why?

6. In general what other things would you like improving or adding to the Scheme?

7. What other comments do you have any other comments related to the Scheme?

Many thanks for filling in the feedback form
Appendix 21: Time and Lifestyle management session feedback

1. Results
   a) Qualitative

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<tr>
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<td>LEARNED</td>
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<td>RELEVANC</td>
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<tr>
<td>INTEREST</td>
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</tr>
<tr>
<td>ATMOS</td>
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</tr>
<tr>
<td>MOTIVATI</td>
<td>33</td>
<td>4.0909</td>
</tr>
</tbody>
</table>

Section 1: Workshop in general = 4.3
Section 2: Presenter evaluation = 4.7
Section 3: Impact = 4

b) Qualitative

Best: Group interaction (9), Relevance (5), Ideas/awareness (5), Free food (4), Handouts (2), Tutor - Enthusiastic (1), well organised (1), similar to attendees (1)

Worst: Too long (14), Room too hot (3), Handouts (1), Heard most before (1), Room set up (1), Level too low (1)

Would like more: time man skills (6), Audio-visuals (5), Handouts (1),

Would like less: Talking (5), Time (2), Repetition

2. Conclusions

- Overall the workshop was rated as ‘good’, the Relevance to student-athletes and Value to future student-athletes was rated as ‘good’ to ‘very good’. This justifies the existence of the workshop in the Education Programme.
- The qualitative feedback suggests that group interaction (and free food, especially for the rugby boys!) is well received. However, timing the workshop at 45 minutes to an hour maximum must be kept.
• The impact scores were lower but still 'good' overall. The impact of future sessions can be greater by giving more actual TM skills/methods using an audio/visual approach.
Appendix 22: Study skills 1: Note-taking, researching and writing session feedback

1. Results: Males = 11, Females = 11, Average age = 20 yrs old
   a) Qualitative

<table>
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<tr>
<td>VALUE TO PERFORMANCE</td>
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</tr>
<tr>
<td>PRACTICAL</td>
<td>21</td>
<td>4.3333</td>
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<tr>
<td>MOTIVATION TO APPLY</td>
<td>22</td>
<td>4.3182</td>
</tr>
</tbody>
</table>

Section 1: Workshop in general = 4.4
Section 2: Presenter evaluation = 5.0
Section 3: Impact = 4.2

b) Qualitative

Best: Group interaction (6), Well presented (5), Advice (2), Usefulness (2), Handouts (1), Tutor - Enthusiastic (1)

Worst: Too late in the day (5), On Monday (2), 4th year - Level too low (1), Group presentation (1), Boring subject (1), Waffle (1), Too long (1), Too little detail (1)

Would like more: Longer session (3), Examples (3), Detailed specifics (2), Personal input (2), Info on essay writing (1)

Would like less: Powerpoint (1), Concluding (1)

2. Conclusions
   - Overall the workshop was rated as ‘good’ to ‘very good’, the Relevance to student-athletes and Value to future student-athletes was rated as ‘good’ to ‘very good’. This justifies the existence of the workshop in the Programme.
• The qualitative feedback suggests that group interaction was, again, well received. The different methods of presentation were also appreciated.
• The impact scores were lower but still ‘good’ overall. The impact of future sessions can be greater by giving further specific/personal examples and information, and perhaps by changing the time or choice of day.
Appendix 23: Advice for healthy living session feedback

1. Results
   a) Qualitative
      - Males = 16, Females = 16
      - Average age = 20.06 yrs old
      - Yr 1 (11), Yr 2 (11), Yr 3 (7), Postgraduates (3)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>VALUE</td>
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<tr>
<td>MOTIVATI</td>
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<td>4.6061</td>
</tr>
</tbody>
</table>

Section 1: Workshop in general = 4.7
Section 2: Presenter evaluation = 4.9
Section 3: Impact = 4.5

b) Qualitative
   Best: Relevance (1), Good ideas from presenter and fellow scholars (10), Practical (1), handout (1), enthusiasm (1).

   Worst: Pitched too low (2), Lack of time (3), Not sport-specific (1).

   Would like more: Practical information (5), Sport-specific advice (1).

   Would like less: Filling in forms (2)

   Additional Comments: More on supplements (1), Repeats SS course (1).
2. Conclusions

- Overall the workshop was rated as 'good' to 'very good'; the Relevance to student-athletes and Value to future student-athletes was rated as 'good' to 'very good'. This justifies the existence of the workshop in the Programme.
- The qualitative feedback suggests that practical, sports-specific nutrition ideas were well received.
- The impact scores were lower but still 'good' to 'very good' overall. The impact of future sessions could be increased by tailoring the practical advice to avoid repetition and increase relevance.
Appendix 24: Study skills 2: Exams and revision skills session feedback

1. Results: Males = 6, Females = 7, Average age = 21 yrs old

a) Qualitative

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<td>INTEREST</td>
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Section 1: Workshop in general = 4.9
Section 2: Presenter evaluation = 5.1
Section 3: Impact = 4.4

b) Qualitative

Best: The timing (2), Appropriate to exams (1), Practical work (1), Exercises (1), New ideas on how to prepare / revise (2), When it started (1), Group work (2),

Worst: Intuitive techniques (1), Too long going through responses (1), A bit long (1), When it ended (1), Got nervous about my exams (1), Flip chart presentation (1)

Would like more: More references to other literature on exam technique (1), Tasks (1)

Additional Comments: May be better to do it earlier, slightly more before exams start. The relevance to me was not high as I no longer do exams. The test at the beginning was very useful.

2. Conclusions

- Overall the workshop was rated as ‘good’ to ‘very good’, the Relevance to student-athletes and Value to future student-athletes was rated as ‘good’ to ‘very good’. This justifies the existence of the workshop in the Programme.
- The qualitative feedback suggests that group interaction was, again, well received, and new ideas were provided.
• The impact scores were lower but still 'good' overall. The impact of future sessions can be increased by changing the timing of the workshop in the academic year.
Appendix 25: Marketing education session feedback

1. Results: Males = 12, Females = 10 (1 unknown!) Average age = 20 yrs old
a) Qualitative

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</table>

Section 1: Workshop in general = 4.7
Section 2: Presenter evaluation = 4.7
Section 3: Impact = 4.4

b) Qualitative
Best: Knowledge gained (1), step by step process used by the leader to talk us through the process of applying (1), the use of examples (1), clear presentation, explained well (2), interaction (1), interesting and useful (1), gave me a new way of looking at getting sponsorship (1)

Worst: Didn’t apply to everyone (1), couldn’t see visual display (3) couldn’t hear the video at the end (2), didn’t give practical examples of how the methods had been applied in the past (1)

Would like more: Examples of appropriate companies to apply to (1), practical help on writing letters asking for sponsorship (1), interaction (2), handouts / notes (1), examples of actual people more like us & where they’ve successfully applied (1)

Would like less: General information (1), writing on overheads (1)
Additional Comments: Made me think.
Would be good to have a workshop for people to have personal help with putting together a portfolio for use in sponsorship

2. Conclusions

- Overall the workshop was rated as 'good' to 'very good'; the Relevance to student-athletes and Value to future student-athletes was rated as 'good' to 'very good'. This justifies the existence of the workshop in the Programme.
- The qualitative feedback suggests that group interaction was, again, well received and even more would have been welcomed.
- The impact scores were lower but still 'good' overall. The impact of future sessions could be increased by working through a basic framework for portfolio development and how to construct 'approach letters' i.e. More practical application
Appendix 26: Time and lifestyle management session information

How do I shape up?

- What are my most important roles?

- What is my priority order for these roles?

- Am I able to say no to things that come up in the lower priorities?

- Am I able to remain very focussed on priority role jobs even though I may not spend much time on them?

"It’s not the number of hours you put in, but what you put in the hours that matters"

- Am I a perfectionist or do I realise that most of the time being ‘good enough’ is good enough?

- Do I know exactly what is expected of me to succeed in my priority roles so I can be good enough?

- Am I able to plan things well in advance (with personal diaries, study plans, fitness diaries, etc.) to anticipate clashes between my roles?

- Am I able to cope with distractions, remember my priorities and act upon them?

- Am I aware of how my skills in one role can be transferred to my other roles?

<table>
<thead>
<tr>
<th>Possible barriers</th>
<th>Possible solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong> e.g. competition just before coursework deadlines, having a job as well as everything else</td>
<td>- Plan ahead to prevent clashes (see tutors for extension/extend your degree to 4 yrs)</td>
</tr>
<tr>
<td><strong>Lack of motivation</strong> e.g. need to work but tired after training, need to run but it’s raining</td>
<td>- Break tasks down and use free lessons/small time gaps to complete them</td>
</tr>
<tr>
<td></td>
<td>- Use less time but more focus</td>
</tr>
<tr>
<td></td>
<td>- Have a schedule and train with friends</td>
</tr>
<tr>
<td></td>
<td>- Understand how the schedule fits in with your main priorities and goals</td>
</tr>
</tbody>
</table>
| Other events and people e.g. going out with friends, birthdays, family, boyfriend/girlfriend | - Know your priorities and say “no”  
- Don’t give a reason, offer an alternative  
- Maintain a balance, social life is important too, but know when to stop |
| Distractions e.g. TV, MSN, phone/text, snacks, tidying, colouring in revision timetable | - Switch off TV, phone, internet, MSN  
- Just ‘open the file’  
- Make work a competition, time yourself |