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## EDUCATIONAL ASSESSMENT & EVALUATION | RESEARCH ARTICLE

# Investigating relationships between and within entry pathways on a sport related programme and the degree outcome obtained

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**Abstract:** Research within Higher Education in the United Kingdom has reported conflicting findings when investigating the relationship between undergraduate entry routes and gender, with successful performances across the degree cycle. This paper adds to this body of knowledge and examines the relationship between entry routes and gender on student outcomes in a sport related degree at an UK HE institution. Students' demographic data, entry qualifications and grade point averages (GPAs) across the 3-year degree programme were retrospectively analysed. In relation to entry routes the findings of this study revealed that no significant difference existed between entry level qualifications and all outcomes measures. Indicating that although entry routes into HE may differ this did not impact on student success for those who completed the programme. Further findings revealed significant differences ( $p < 0.05$ ) between genders, in that females outperformed their male counterparts at levels 5, 6 dissertation and final GPA. Additionally, females were also more likely to achieve a first degree qualification. This study adds further weight to findings which have shown gender differences but in contrast adds to the complexity of predicting successful performances from entry qualifications.

### ABOUT THE AUTHORS

The authors span two institutions that have expertise in developing innovative teaching and learning environments in sport related courses. The team are active researchers within the following areas: sport coaching pedagogy, Paralympic sport, sport psychology, sport development and sport business. However, their commonality focuses on attempting to understand the needs of students in higher education and developing effective pedagogical approaches.

### PUBLIC INTEREST STATEMENT

Exploring issues in relation to student success at university is critical to the ongoing development of knowledge across the sector. Higher Education in the United Kingdom is ever evolving and through the widening participation agenda the numbers of students entering universities has increased considerably over the last two decades. Alongside this has been the expansion of vocational or non-traditional qualifications (e.g. BTECs and GNVQs) open to young people at the secondary level. The combination of the widening participation agenda alongside an increase in non-traditional courses providing access to university education changes the traditional student demographic therefore, it is imperative that universities understand the needs of different types of students that join them on their educational journey in order to maximise their development. This paper uses entry qualification and gender to analyse whether these two factors have any effect on the overall success of students. Findings show that entry qualifications do not impact on overall success whilst the female students were more successful than their male counterparts.

**Subjects: Sports and Leisure; Social Sciences; Education**

**Keywords: entry qualifications; gender; academic success; entry-routes; student pathways; widening participation**

## 1. Introduction

Choosing to study at university is a complex and difficult decision for many students and the nature of the United Kingdom (UK) educational system at school level means there are a number of different types of qualifications that students can enter university with. Through the development of educational policy, the UK has been committed to widening the access to university leading to a growing interest in the experience of young people who enter the system with qualifications other than the traditional A-Levels (Round, Brownless, & Rout, 2012). According to Conlon (2005), students from traditional backgrounds in the UK are typically white, middle class, have a lineage of university education and progress from school to sixth form to university via the successful attainment of qualifications known in England at GCSEs (usually by 15–16 year olds) and A levels (usually by 17–18 year olds). Alongside this traditional route young people have the choice to undertake what are known as non-traditional or vocational courses after they have completed their GCSEs. These courses include British Technology and Engineering Council (known as BTECs), General National Vocational Qualifications (GNVQ), Foundation Degrees (FD) and work-based learning (Kevern, Ricketts, & Webb, 1999).

Within this expanding and complex HE population that includes students with increasingly from diverse educational backgrounds, gaps still exist in our knowledge in relation to class, gender, age, ethnicity, entry route and university standings in relation to student success (Roberts, 2011; WVPC, 2014). In response this paper attempts to explore initial trends associated with entry qualifications, gender and grade point averages (GPAs) across three years. The intension here was to make a contribution to understanding potential performance gaps whilst developing the internal intelligence to ensure that student support is provided in the most appropriate way. Developing a deeper understanding of the student cohort is one of the key functions of academics, who often attempt to analyse and predict academic performances of students (Greenbank, 2006) in order to provide appropriate support (Sheard, 2009; Smith, Mahon, & Newton, 2013).

These different courses and educational environments mean that for a university sector, which has embraced the widening participation agenda in the last two decades, there needs to be an understanding of the prior study experiences of the students that are coming through the pathways. Arguably, in doing so, HE institutions could develop more effective pedagogical bridging support that helps students with an array of experiences maximise their development during their degree. This study was undertaken in what is known in the UK as a post-92 university which as a sub-sector have embraced the widening participation agenda and accommodated much of the growth in student numbers over the last two decades (McCaig, 2015). These developing scenarios mean that different questions need to be asked about what are the skills, knowledge and experiences of students who have studied different pathways? Does it matter what type of prior learning the students have done? Does the prior experience change the ability to be successful? Does the gender of the student's matter? These questions had been troubling the research team for this paper as we started to ask ourselves about whether we were effectively supporting all students from a curriculum and assessment design perspective. Or did some of our unquestioned approaches best serve those from a more traditional background? This paper therefore reports on the analysis of the data from one sport related programme as we set out to explore whether entry route and gender affected overall success in degree classification.

The Quality Assurance Agency (QAA, 2008), recognises sport as one of the largest areas of credible academic interest across the UK. Students studying in sport related degrees are exposed to applied conceptual and contextual schoolings that are applicable to the sector and tend to merge theory and practical application in order to achieve positive student outcomes. This mix of academic, industry and practical knowledge development may attract students from both traditional and non-traditional routes. However, given the relative importance of sport as a field of study, there is a dearth of

research investigating the profile of students and mechanisms that may underpin successful academic performance in this area. More broadly research within sport degree programmes may shed some insights into the contextual influences on entry routes and successful outcomes rather than develop a panacea for understanding overall success across HE.

### **1.1. UK higher education context**

The Government's pledge to increase and broaden the participation base in HE has subsequently encouraged the development of more diverse pathways into HE study (WVPC, 2014). Therefore, at this point it would be prudent to report on the trends associated with entry pathways into UK HE institutions. Historically students have followed a traditional route via the General Certificate of Education Advanced Level (A levels) with a report between 1995 and 2011 showing an 18.3% increase in student numbers (530,900–628,200) (Department for Education, 2011a), whilst simultaneously, students undertaking Level 3 vocational qualifications significantly increased by 197% (93,800–278,200) (Department for Education, 2011a). This growth in vocational qualifications has consequently resulted in a 10% increase in the number of 16–18 year olds in full time education between 1994 and 2011 (57.7–67.7%) (Department for Education, 2011b). Additionally, it has become increasingly commonplace for students to undertake a combination of A levels and vocational qualifications. For example in 2011, 51% of students aged 16–18 years undertook A Levels, whilst 28% pursued vocational routes and 21% opted for a mix of academic and vocational qualifications (Department for Education, 2011b). However, whilst 51% of students undertook more academic qualifications, this actually represents a 19% proportional decrease from 70% in 2008 (Department for Education, 2011b). These aforementioned educational pathway statistics, which indicate a decline in students taking more academic only routes in favour for more vocational options, has the potential to impact the demographic composition of the HE student population.

The increased pathway opportunities into HE has started to diversify the student population within this context as supported by more recent Universities and Colleges Admissions Service (2013) data. Universities and Colleges Admissions Service (2013) data indicated that whilst there was a 5.8% increase of 18 years old entering HE with BTEC qualifications, A'levels still continued to be the principle route taken into HE (Universities & Colleges Admissions Service, 2013), a statistic previously supported by Hoelscher, Hayward, Ertl, and Dunbar-Goddet (2008) "degrees of success" research project. Despite the welcomed increase in students entering HE with vocational qualifications these have been in relation to entry into lower tariff institutions (WVPC, 2014). Therefore, it seems apparent barriers may exist into some higher tariff institutions for those on more vocational routes and goes against the widening participation agenda (Roberts, 2011). Whatever the challenge is, statistics also reveal a correlation between high drop-out rates and students from lower-economic backgrounds (Quinn et al., 2005), which may be reflected in the white middle class demographic of higher rated institutions. Nevertheless, the reality is that a link exists between vocational routes and recruiting students from more disadvantaged backgrounds (WVPC, 2014). Consequently, increasing places in HE for students with vocational qualifications will widen access for those from less affluent communities (Hoelscher et al., 2008; Universities & Colleges Admissions Service, 2013; WVPC, 2014).

The evolving and widening landscape of UK HE environment has seen a shift from elite to mass education (Sheard, 2009). Underpinning this expanse has been a "top down" approach to cultural change by which institutions implement government policies without resistance (Greenbank, 2007). However, students may experience attitudinal barriers at the university departmental level if pressure is on staff to research as well as provide additional support to students. As Brennan and Shah (2003) argue, lecturers are cynical towards widening participation policies because they do not necessarily arise from students and staff, but government and managerial agendas.

Further debate about widening participation includes the perception that higher education has to become easier to meet the needs of students entering from a non-traditional route. However, Newby (2005) argues that widening participation is about adapting the content and delivery of higher education to make it more relevant to their needs, without any decrease in standards in order to

accommodate them. Nevertheless, esteemed universities may feel that students within the widening participation bracket will negatively affect their league table position and therefore the image of the university (Stuart, 2001). However, studies within HE have reported mixed results when exploring relationships between A-level results and degree performance, and when comparing differences in degree performance between students from widening participation groups and those who have taken a traditional route to higher education, namely GCSEs and A levels (Brimble, 2013; Howatson & Dancy, 2009; Lambe & Bristow, 2011).

A recent study by Brimble (2013) of entrants (final sample  $N = 418$  from six cohorts) onto a BA (Hons) nursing programme reported that students from non-traditional backgrounds (BTEC) achieved a higher degree classification than those with traditional qualifications (A levels). However, further examination proved that this difference was only observed at level five. In addition, when comparing age (mature and young) in this case there was no significant effect on the performance of students across all measures (Brimble, 2013). The relative homogeneity between entry routes and age in the aforementioned study could be as a result of a methodological decision to exclude data from students that had more than 240 UCAS points. However, Shaw's (2011) research examining pre-entry profiles of educational studies concluded that UCAS points were a poor predictor of undergraduate performance and age and maturity were more influential. Sheard (2009) and Naderi, Abdullah, Aizan, Sharir, and Kumar (2009) also reported an age effect, with mature students performing better on intermediate and final GPA. Moreover, the enhanced performance of the mature students was attributed to a wider life experience than their younger counterparts (Shaw, 2011). Similarly, Howatson and Dancy (2009) also reported mature students out performing their younger counterparts (59.4 and 56.9%, respectively). However, significant limitations are inherent within both studies. For example, inferential statistics were not utilized to support relationships reported by Shaw (2011), whilst Howatson and Dancy (2009) limited their study to investigating the change in entry profiles of two cohorts of students and not their impact on degree outcomes. Also, the two cohorts (graduates from 2000 and 2006) utilized by Howatson and Dancy (2009) had differing entry requirements (160 UCAS and 180 A level points, respectively) which could have further skewed the data.

In contrast the above-mentioned limitations, Lambe and Bristow's (2011) more detailed analysis of retrospective data ( $N = 142$ ) assessed the relationship between prior academic performance, interview score and performance across a medical degree course involving two cohorts that graduated from five-year medical degree. The findings indicated that good A level grades in more than one science (particularly chemistry), a high interview score and high UCAS tariff were positively associated with the likelihood of better performance. Although this could be useful in predicting future academic performance of students within this discipline, it is possible that a widening participation policy was not implemented to the programme, as the authors, when describing the qualifications taken to enter university only described A level and AS-levels. This further adds to the historically negative perception of vocational qualifications, taken as an alternative, if institutions are openly not including them as a possible entry qualification to a specific course within their published research. Furthermore, the authors specifically state that "applicants are generally required to have studied two or more sciences to A level" (p. 309), again with no explicit mention that vocational qualifications are considered here. Similarly, another study from within the medical field not only attributed lower A level scores to struggling students but also suggested that A levels were the valid qualification onto the course (Yates & James, 2006, 2007). It is therefore easy to see why such academic snobbery exists towards vocational routes, and why some people whom fall into the "widening participation category" perceive that they cannot enter into higher education. Although it could be argued that vocational qualifications may not provide a "high level of scientific knowledge" required to underpin success in medical degree programmes. This suggests that nature of the academic programme (e.g. scientific, creative or vocational) determines the type of knowledge required and that success relates to the ability to develop within the subject area. Hence why those with lower grades at A level in the sciences are shown to perform less well than those with higher grades (Lambe & Bristow, 2011).

Research that specifically investigated the relationship between academic outcomes and pre-entry qualifications found that students with non-traditional qualifications obtained slightly lower mean scores than those with traditional qualifications (Wharrad, Chapple, & Price, 2003). These differences were observed for the final year marks (58 and 61.9%, respectively), for dissertation marks (57.3 and 62.9%, respectively) and for overall GPA (58 and 60.8%, respectively). However, the limited number of non-traditional students ( $N = 14$ ) only represented 10.5% of the cohort which impacts the ability of these results to be generalised beyond the scope of the study. Similarly, Smith et al. (2013) determined the relationship between pre-entry qualifications and academic outcomes on a speech and language programme. Students entering the programme with non-traditional qualifications produced lower overall performances across the degree and on written examinations but performed on a level par on other assessment types (e.g. placement, case study and data exercise). Whilst studies show some differences between traditional and non-traditional routes, findings by Smith et al. (2013) and Wharrad et al. (2003) provide a further rationale for more extensive research in this area specifically regarding the impact of methods of assessment on providing a level playing field.

The previous reviews of key literature have presented a view of HE in which entry routes and age may or may not determine success. However, it is worth noting that research within the vocational sporting context is limited and so there may be nuanced trends that are relevant to the field. Therefore, it would be considered a reductionist approach not to investigate the impact of other identity markers on degree outcome (Cassidy, 2012). The effect of gender on undergraduate degree outcome has received continued attention. Cassidy's (2012) study on association between gender and academic achievement found no significant differences, with unequal samples of men and women offered as a possible explanation. These findings are in contrast to Sheard (2009) who reported that female students significantly outperformed their male counterparts in both final GPA and dissertation as well as on the hardiness questionnaire. Similarly, female students were also shown to have achieved a greater proportion of first and upper second-class degrees than males by Farsides and Woodfield (2007). Likewise, Sheard (2009), Farsides and Woodfield (2007) also used cognitive and personality measurements to develop a deeper understanding of the apparent gender gaps and reported that the trait "openness to experience" and a "superior application" explained the gender discrepancy. Interestingly these two factors also predicted academic performances and put simply, women had more of these qualities than men. This theme of women outperforming men continues in a larger study of undergraduates ( $N = 5,600$ ) at the University of Sussex. Barrow, Reilly, and Woodfield (2009) reported that women achieved a higher number of first class degree classifications but this was also linked to pre-entry qualifications, therefore adding to the complexity of understanding the determinates for academic success. This complexity is further highlighted by a more recent study from Oxford University whereby men outperformed women in relation to first year exams and university finals (Mellanby, Zimdars, & Cortina-Borja, 2013). Further examination of the findings revealed that first year exam grades and expectation of a "first" accounted for the reported gap (Mellanby et al., 2013). In addition, self-esteem and emotional trait measures revealed that whilst scores for anxiety, happiness and enjoyment remained stable in men, anxiety in females increased and enjoyment decreased significantly across the duration of study (Mellanby et al., 2013). With these authors suggesting that one plausible explanation for the negative experiences of women could be due to the higher prevalence of male academic staff. These findings on the effect of gender seem to highlight a dynamic relationship between entry qualifications, psychological traits and contextual nuances (e.g. staff and methods of assessment) that challenges researchers not only to identify gaps but also to provide a rationale as to why they exist.

Therefore, in the light of the presented research highlighting the gaps within the HE student population and a need to develop evidenced-based context specific solutions, this paper investigates whether entry routes and gender differences impact student performance as measured by GPAs and dissertation score. It was hypothesised that there would be no significant difference between entry routes and that female students would attain higher GPAs.

## 2. Methodology

### 2.1. Approach

When undertaking educational or pedagogical action research, declaring the researcher's ontological and epistemological assumptions provides the reader with a clear direction of travel for the study. From an ontological perspective, being immersed within HE as senior lecturers, "sport development student cohort", "contextual support mechanisms" and "methods of evaluation" are a day-to-day reality. From an epistemological perspective, the researchers acknowledge that the complex nature of HE can be studied through different positivist and interpretive paradigms. In the absence of research from within sport development courses, it seems prudent to obtain a valid picture of the current reality that could provide a launch pad for more in-depth analysis. By employing a positivist approach, the assumption is that the current cohort has some universal and underlying realities that can be verified or refuted by quantitative statistical analysis (Gratton & Jones, 2010).

### 2.2. Participants

Data from the most recent graduates on the Sport Development programme was utilized in this study. This unexplored sport specific and vocational programme could provide data that is both context specific and also meaningful for the wider HE community. Given the complex entry routes and the need to run valid statistical analysis, only complete data-sets were used which meant that 104 out of 114 possible students were analysed (Sheard, 2009). The data from 10 students were excluded on the basis of incomplete entry data ( $N = 4$ ) and early dropout ( $N = 6$ ). Of the 104 students, 58% identified themselves as being white male, 34% as white female and 4% disclosing that they were from a black and ethnic minority (BME) background. The student cohort's mean age was 19.6 years (SD 2.60) with a 95% confidence ( $\pm$ ) interval between 20.1 and 19.1 years.

### 2.3. Procedure

Retrospective student data for this quantitative study was approved and provided by appropriate university authorities (BERA, 2011; Sheard, 2009). The data from academic records was coded so that all students remained anonymous and the data stored in line with data protection. Data used within this study included student demographics (e.g. age and gender), highest qualification on entry (e.g. A Levels, BTEC, National Diplomas) and GPAs. Given that 17% of the cohort ( $N = 104$ ) were classified as having a traditional entry route a decision was made to develop a more sensitive coding strategy to reflect the diverse entry qualifications. Therefore, the following criterion was used: A levels, BTEC, Combination (A level & BTEC) and Other (National Diplomas and non UCAS registered courses). Similar to previous studies that have investigated academic achievement (Howatson & Dancy, 2009; Sheard, 2009; Wharrad et al., 2003) this research used GPAs at level 4, 5, 6, Final Degree and the dissertation module as criterion variables. The dissertation forms an integral part of the undergraduate degree programmes in the UK (Derounian, 2011) and is considered to be a substantial piece of independent work that demonstrates the student is worthy of a degree "with honours" (Rowley & Slack, 2004). Sheard (2009) reported a significant positive ( $p < 0.001$ ) correlation between Final GPA and dissertation ( $r = 0.78$ ) suggesting that the combination of both provided a reliable indicator of academic performance. Furthermore, all assessments were recorded as percentages and marked to established rubrics. These assessments were linked to learning outcomes (Biggs, 2003) and well distributed across a variety of methods (e.g. essays, exams, presentations, group work and independent study). Degree classifications were quantified as: first class honours 70% and above, upper second class 60–69%, lower second class 50–59% and third class 40–49%.

### 2.4. Data analysis

Statistical analyses were carried out using SPSS version 22 (SPSS Inc, Chicago, Ill) and descriptive data compiled using Excel version (Microsoft) where descriptive statistics were conducted across all variables. In order to support the assumption of normality and homoscedasticity, Q-Q plots of variables and standardised residuals were observed (Field, 2009). A one-way repeated measures analysis of variance (ANOVA) was conducted with pairwise  $t$ -tests to investigate specific differences between the levels (L4, L5 & L6), final GPA and dissertation for the entire sample. This was followed

by a 2 × 5 (gender × levels) ANOVA which investigated the interaction between levels and gender. To determine the effect of entry route (A level, BTEC, Combination and Other) on student outcomes across the levels, final GPA and dissertation a 4 × 5 ANOVA was employed. In addition, a  $\chi^2$  test of independence on nominal data variables was also conducted to explore the relationship between degree classification and gender. Finally, a Pearson’s correlation was conducted to investigate the relationship between final GPA and dissertation grades.

### 3. Results

A one-way correlated ANOVA showed a significant effect across the 5 levels ( $F_{2,1,214} = 23.43, p < 0.001$ ). Means and standard deviations are presented in Table 1. Paired samples t-tests with Bonferroni correction revealed significant differences between L4 and L6 ( $t = -6.07, df = 103, p < 0.05$ ), L4 and final GPA ( $t = -8.02, df = 103, p < 0.05$ ), L5 and L6 ( $t = 6.79, df = 103, p < 0.05$ ), L5 and final GPA ( $t = -11.00, df = 103, p < 0.05$ ), dissertation and L6 ( $t = 4.93, df = 103, p < 0.05$ ), dissertation and final GPA ( $t = -5.65, df = 103, p < 0.05$ ), and L6 and final GPA ( $t = -4.45, df = 103, p < 0.05$ ).

Figure 1 represents the interaction between the levels where the two gender groups were significant ( $F_{2,1,199.6} = 5.11, p < 0.01$ ). While the level 4 scores did not differ significantly between the gender groups ( $t = 0.408, df = 102, p = 0.68$ ), females scored significantly higher grades than males at level 5 ( $t = 2.07, df = 102, p < 0.05$ ), within dissertation ( $t = 2.88, df = 102, p < 0.01$ ), at level 6 ( $t = 2.99, df = 102, p < 0.01$ ) and within final GPA ( $t = 3.00, df = 102, p < 0.01$ ). Means and SD for gender across the levels, dissertation and final GPA are expressed in Table 2.

A one-way correlated ANOVA showed a significant effect across the 5 levels for females ( $F_{2,20,79.22} = 23.60, p < 0.001$ ). Paired samples t-tests with Bonferroni correction revealed significant differences between L4 and L6 ( $t = -7.21, df = 36, p < 0.05$ ), L4 and dissertation ( $t = -3.37, df = 36, p < 0.05$ ), L4 and final GPA ( $t = -8.06, df = 36, p < 0.05$ ), L5 and L6 ( $t = 6.52, df = 36, p < 0.05$ ), L5 and dissertation ( $t = -2.09, df = 36, p < 0.05$ ), L5 and final GPA ( $t = -9.42, df = 36, p < 0.05$ ), dissertation and L6 ( $t = 2.88, df = 36, p < 0.05$ ), dissertation and final GPA ( $t = -3.34, df = 36, p < 0.05$ ).

A one-way correlated ANOVA showed a significant effect across the 5 levels for females ( $F_{2,01,132.88} = 10.83, p < 0.001$ ). Paired samples t-tests with Bonferroni correction revealed significant

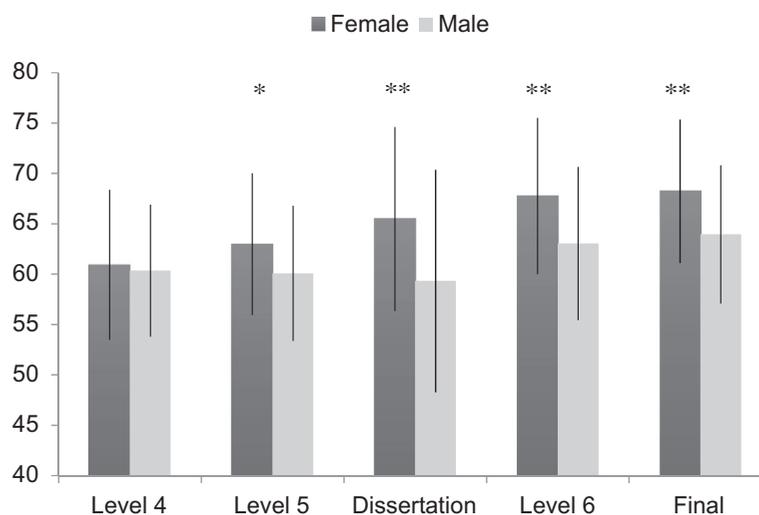
**Table 1. Mean % scores for the cohort of students over each level, dissertation and final GPA**

|          | Level 4 | Level 5 | Dissertation | Level 6 | Final |
|----------|---------|---------|--------------|---------|-------|
| Mean (%) | 60      | 61      | 61           | 65      | 65    |
| SD       | 6.86    | 6.94    | 10.78        | 7.96    | 7.23  |

Note: Scores are mean and standard deviation.

**Figure 1. Gender differences across levels, dissertation and final GPA.**

Note: Significant differences were observed at level 5, 6, dissertation and final GPA (\* $p < 0.05$ , \*\* $p < 0.01$ ).



**Table 2. Gender mean % scores and SD over each level, dissertation and final GPA**

|        | Level 4  | Level 5  | Dissertation | Level 6  | Final    |
|--------|----------|----------|--------------|----------|----------|
| Female | 60 (7.5) | 62 (7.0) | 65 (9.1)     | 67 (7.8) | 68 (7.5) |
| Male   | 60 (6.6) | 60 (6.7) | 59 (11)      | 63 (7.6) | 64 (6.9) |

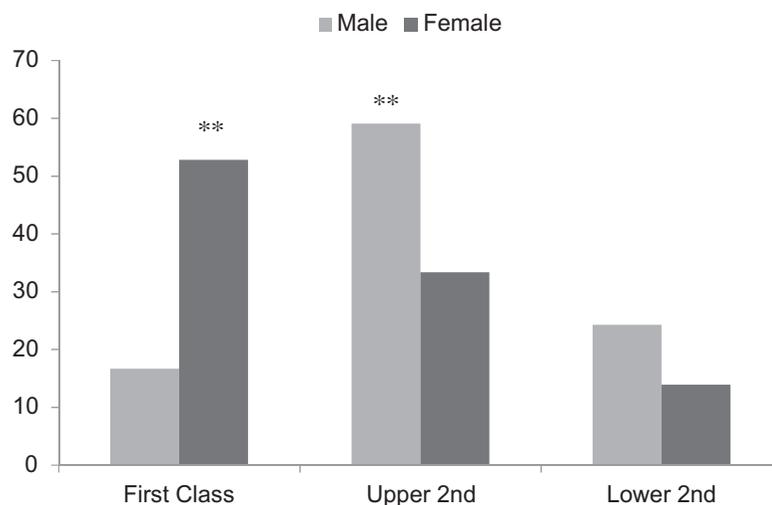
differences between L4 and L6 ( $t = -3.05$ ,  $df = 66$ ,  $p < 0.05$ ), L4 and final GPA ( $t = -4.68$ ,  $df = 66$ ,  $p < 0.05$ ), L5 and L6 ( $t(66) = 4.17$ ,  $p < 0.05$ ), L5 and final GPA ( $t = -7.36$ ,  $df = 66$ ,  $p < 0.05$ ), dissertation and L6 ( $t = 4.10$ ,  $df = 66$ ,  $p < 0.05$ ), L6 and final GPA ( $t = -4.18$ ,  $df = 66$ ,  $p < 0.05$ ), dissertation and final GPA ( $t = -4.72$ ,  $df = 66$ ,  $p < 0.05$ ).

Figure 2 shows the difference between genders in relation to degree classification. A  $\chi^2$  test of independence revealed a significant association between gender and degree classification ( $\chi^2 = 16.14$ ,  $df = 2$ ,  $p < 0.001$ ). Females were more likely than males to achieve a first class degree classification, whereas males were more likely to achieve 2.1 and 2.2 classifications.

Figure 3 represents the relationship between entry routes across the levels. The interaction between the levels and entry level was not statistically significant ( $F_{6,24,199.6} = 0.55$ ,  $p = 0.78$ ).

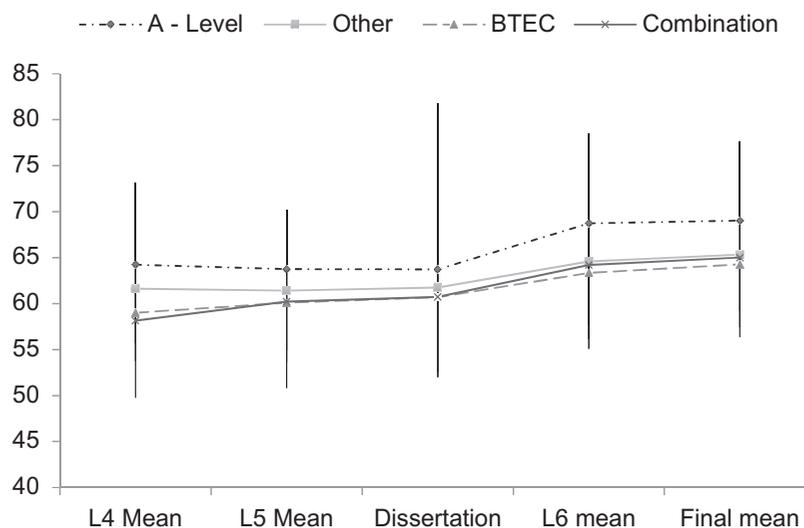
**Figure 2. Gender differences for final degree classification expressed as mean %.**

Note: Females were significantly more likely to achieve first class degrees ( $*p < 0.05$ ,  $**p < 0.01$ ).



**Figure 3. Impact of entry qualifications across levels, dissertation and final GPA.**

Note: No significant differences were observed for the effect of entry qualifications on GPAs across the levels.



**Table 3. Correlations between mean final GPA and dissertation marks for all students**

|              |                 | Dissertation | Final GPA |
|--------------|-----------------|--------------|-----------|
| Dissertation | Pearson         | 1            | 0.757**   |
|              | Correlation     |              |           |
|              | Sig. (2-tailed) |              | 0.000     |
|              | N               | 104          | 104       |
| Final GPA    | Pearson         | 0.757**      | 1         |
|              | Correlation     |              |           |
|              | Sig. (2-tailed) | 0.000        |           |
|              | N               | 104          | 104       |

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

Finally, the mean ( $\pm$ SD) scores from final GPA ( $65.46 \pm 7.23$ ) were positively and significantly correlated with dissertation means ( $61.5 \pm 10.78$ ) as depicted in Table 3.

#### 4. Discussion

The aim of this study was to attempt to identify trends that emerged from retrospective data (gender, entry qualifications, GPA across levels and dissertation mark) produced by a cohort of students across their degree programme. Descriptive statistics showed that the cohort ( $N = 104$ ) were predominately white (92%) with a gender split of 65–35% for men and women, respectively. Entry routes were propositionally distributed as follows: 17% A levels; 39% BTEC; 14% Combination and 31% Others. Finally, mean and 95% confidence intervals for age indicated that the cohort was considered to be young (below age 21 on the 30th September). Statistical analysis suggested that there were no significant difference between the entry routes (A level, BTEC, Combination & Others) and all outcome measures. However, female students statistically outperformed their male counterparts across L5 GPA onward to L6 GPA, final grade and dissertation. Females were also more likely to achieve a first class honours degree than men. Regarding the effect of levels, the results revealed that the mean GPA scores at L4, L5 and dissertation were significantly lower than L6 and final GPA.

The demographic representation of the students in this study provided some mixed results when reporting within the context of the “widening participation” agenda. The combined total percentage of students with non-traditional qualifications (83%) entering the programme is a positive indication of the wider participation agenda at work and is in line with recent reports pointing to a general increase of non-traditional students entering HE (WVPC, 2014). Further exploration of demographic data revealed that the course drew from a narrow field described as being male, white and young which seems to buck against the aim to widen the participation base. For example, the profile of BTEC students being predominantly male is in line with research but the lack of students from BME groups in this research goes against the reported norm (Universities & Colleges Admissions Service, 2013; WVPC, 2014). The predominance of white young males on this course maybe a reflection of the subject specific area being studied and the location of the university in the North West of the UK and within close proximity to Ireland. However, further research is needed to discover why disparity exists when comparing these trends against the national picture, where females outnumber male students and numbers from BME communities are increasing (Universities UK, 2014).

Continuing the “non-traditional versus traditional” debate (Brimble, 2013; Shaw 2011; Smith et al., 2013; Wharrad et al., 2003), the findings of this study reported no significant differences between entry qualifications for A levels, BTEC, Combination A level and BTEC and Others (non UCAS points) across all outcome measures. These findings are in contrast to those of Wharrad et al. (2003) and Smith et al. (2013) who reported that students with non-traditional qualification underperformed during their degree when compared to their traditional entry counterparts. However, in the case of Wharrad et al. (2003) the percentage variation that could be explained by pre-entry qualifications was 16% in year 1, and decreased to 2.6% in year four which highlights the problem of using

pre-entry at a predictor of success later on in the degree. Smith et al.'s (2013) study highlighted the need for deeper analysis as they reported that there was no difference between the two groups when looking at specific types of assessment. Interestingly, the reverse is reported by Brimble (2013) who reported students from non-traditional backgrounds achieved higher degree classifications than those with traditional qualifications when UCAS points were capped at 240 points. However, this difference was only observed at level 5. In the current study the programme required students to attain a minimum of 300 UCAS points or equivalent in order to be accepted on the course and as such could explain the equitable scores across the groups. This assumption is further supported by the small age margin of the cohort (19.1–20.1 years) meaning that the reported differences between young and mature students which influenced Shaw's (2011) data was not present in the current results.

Several studies have investigated the impact gender has on performance outcomes across degree programmes. The present study revealed a gender gap whereby females outperformed their male counterparts across all variables from level 5 onward and is consistent with other research findings (Barrow et al., 2009; Farsides & Woodfield, 2007; Sheard, 2009). In addition, current results also suggest that female students were more likely to gain first class honours, a trend also disclosed by Farsides and Woodfield (2007). These results are in contrast to Mellanby et al.'s (2013) research whereby male students gained higher scores during first year and final year exams. The statistics presented in the current paper fail to provide an explanation for the apparent gender polarisation in outcome measures, however studies have pointed to differences in application and openness to learning (Farsides & Woodfield, 2007) and "hardiness commitment" (Sheard, 2009) as determinates for female student successes. Therefore, in this instance because entry routes had no impact on outcome measures it is quite conceivable that the addition of psychological tests could have explained the difference between the genders. Furthermore, Mellanby et al. (2013) alluded to the potential negative impact a predominantly male academic staff team could have had on female students' underachievement at Oxford and provides further rationale for a more detailed analysis.

The current study also reported similarities between the GPA at "level 4 and 5 and the dissertation score" for the entire cohort but these were all significantly lower than the GPA at level 6 and the final degree GPA. This provides interesting reading because it seems that scores obtained at level 6 (GPA) maybe be somewhat elevated when compared to previous levels and dissertation results and therefore requires further investigation. Finally, the correlation between dissertation scores and final GPA revealed a significant positive correlation ( $r = 0.757, p < 0.001$ ), which was in line with that, reported by Sheard (2009) ( $r = 0.78, p < 0.001$ ) adding weight to the viability of the two as a robust measure of undergraduate success.

Considering that the current programme within the present study included a wide variety of assessment methods such as; written and multiple choice exams, practical assessments, presentations, reports, portfolios and essays, it could be appropriate to investigate whether experience within education (traditional or non-traditional) influences performance in different types of assessment (Smith et al., 2013). A similar view is supported by Mellanby et al. (2013) study whereby assessment methods were highlighted as a possible influence on the gender divide at Oxford University. Consequently, taking into account different pedagogical approaches of traditional and non-traditional qualifications and the diverse participation base; students entering HE may have varying educational experiences that predisposes them to particular styles of assessment. Obtaining this essential information could further develop higher educational teaching and learning strategies and support mechanisms. This is in line with Newby (2005), who stated that widening participation is about adapting higher education content and delivery to make it more relevant and accommodating to students' needs, without any decrease in standards.

## 5. Conclusion

The Higher Education sector in the UK, has and continues to, face the challenge of the widening participation agenda alongside a diversified qualification framework at secondary education level. Student success is an imperative for all involved and therefore exploring the determinants, as has been undertaken in this study, enables the sector to both understand and respond to the changing

landscape. The positive findings of this study are that the entry route did not impact on the final degree outcomes and adds further weight to the notion that students from non-traditional backgrounds can be equally successful as those from traditional backgrounds. This has however, not been found to be the case across course reviewed in the literature, thus suggesting that more research is needed into the finer details and different organisational contexts. Additionally, the current student demographic may prompt further discussion around common terminology associated with “entry routes” as in this context non-traditional is considered traditional. These results also support the need for a “bottom up” approach to tackle negative perceptions surrounding non-traditional qualifications by engaging teaching staff with evidence informed teaching and assessment.

On the second variable being explored in this study, gender, we confirm the findings of previous studies in that female students outperformed their male counterparts across the outcome measures. This finding all though not new confirms the need for institutions to explore how to support the whole student body, especially male underperforming students. As with the widening participation agenda, we need to ensure we have teaching and learning approaches that support all individuals regardless of their characteristics. Further research is needed to identify the underpinning mechanisms needed to support both genders with a particular need to focus on male students. By developing more sophisticated research designs such as longitudinal studies that explore sports students learning experiences as they transition from Further into High Education, universities will be best placed to provide informed support in order to maximise the potential of students.

The limitation of the present study was that it only provided a “snap shot” of a contextual reality in which some initial trends were empirically verified. A more detailed picture could have emerged by employing a mixed method approach to include an interpretive research design to capture the cohorts’ educational experiences but this was beyond the scope of this paper. In addition, the researcher acknowledges that the small data pool ( $N = 104$ ) which is similar to some studies (Cassidy, 2012; Lambe & Bristow, 2011; Sheard, 2009) when compared with the larger cohorts of 1929 (Mellanby et al., 2013), and 460 (Smith et al., 2013) limits the ability for these results to be generalised across other programme, faculty and the HE community. However, research reviewed in this paper has highlighted the complex interactions between university context, student demographic, entry routes and psychological traits and therefore it may not be prudent to seek inference wider than the cohort being studied. In this case given the paucity of research investigating trends associated with successful student outcomes in sport related degrees this study could be used as a catalyst to develop further research.

Building on the design of this research, future studies may want to identify the determining factors which underpin student performance at university such as psychological measures of “hardiness commitment” (Sheard, 2009), “self-efficacy” (Cassidy, 2012) and “self-esteem and emotional traits” (Mellanby et al., 2013). In addition, the use of qualitative approaches could further examine students’ motivations for their decisions regarding post-16 qualifications, their choice of intuitions and also their experiences of studying in HE. For example, Derounian (2011) explored student-staff relationships during the dissertation journey and highlighted the need for staff to be aware of their own emotions and those of their students and recommend that a contract be drawn up to manage expectations. The aforementioned study also highlights how institutionally, the views of academic staff regarding supporting the needs of students could highlight areas for training and the sharing of best practice. Indeed, understanding the needs of the student must be a focus for researchers, staff and institutions if quality learning experiences are going to be delivered.

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