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# Widening Participation at the University of Edinburgh (1): entry, progression and degree outcomes of SQA-qualified students

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## Summary

*The aim to increase levels of participation in higher education by disadvantaged students is a priority for the Scottish Government and Scottish Higher Education institutions. The University of Edinburgh is committed to widening participation, and has developed a number of initiatives to encourage more prospective students from under-represented groups. Since 2004 the University has pioneered the use of contextual data during the admissions process to identify disadvantage students with the potential to benefit from the academic experience it offers, and enable their entry with slightly lower prior qualifications. This report describes a statistical analysis of patterns of the entry, progression and degree outcomes of a sample of young students with Scottish qualifications entering the University at the start of this policy.*

- The contextual data indicate that around one third of the sample was from a non-traditional background relevant to widening participation policy (WP-indicated).
- All of the students had very high prior qualifications in comparison with most Scottish school leavers, but on average WP-indicated students had slightly lower prior qualifications than others.
- The majority of students, including WP-indicated students, achieved an honours degree (or equivalent) but a lower proportion of WP-indicated students achieved the highest classes of degree. The main achievement gap between WP-indicated and other students was their lower achievement of Honours class 2.1 compared with 2.2.
- Prior qualifications were the main factor predicting degree outcomes, and students with qualifications at SCQF level 7 (Advanced Higher) achieved better outcomes than those with only SCQF level 6 (Higher grade).
- Part of the explanation for the lower achievement of WP-indicated students is their lower average prior qualifications, but in addition WP-indicated students were less likely to achieve a 2.1 degree than other students with comparable prior qualifications.
- The analysis raises questions about the challenges faced by WP-indicated students entering the University, and how they can be supported to achieve their full potential.

## *Introduction*

Widening participation in higher education (HE) is a priority for the Scottish Government and Scottish HE institutions. HE provides many benefits to graduates, including access to professional occupations and higher earning potential. HE also provides benefits to society in terms of a well-educated population and highly skilled workforce (Milburn 2009). For too long the benefits of HE have been unequally distributed, with very low levels of participation among young people from low social class backgrounds or areas of deprivation (Cree et al 2006). Current policies recognise the need to widen participation in the interests of equality, fairness and social justice.

Strategies for widening participation have placed increasing emphasis on the policies and practices of individual universities. Institutions are encouraged to engage in outreach activities to raise aspirations, to develop new pathways into HE, to adopt recruitment strategies which may widen participation, to introduce 'fair admissions' procedures, to offer bursaries, fee waivers and other forms of financial support, and to organise their programmes in a way to attract members of under-represented groups. Most recently, in Scotland the Post-16 Education Bill (passed in 2013) places considerable emphasis on widening access and reinforces the duty on universities to recruit and retain more students from disadvantaged backgrounds by including clearly defined targets in the Outcome Agreements set between the Scottish Funding Council (SFC) and each individual university (Universities Scotland 2012).

The University of Edinburgh is committed to widening participation, increasing diversity and providing equality of opportunity for all prospective and current students (UofE Strategic Plan). It has developed a number of initiatives to encourage more prospective students from under-represented groups (Hood 2010). Initially, a major obstacle was the low level of applications from prospective students in the less advantaged groups, which in turn was linked to their relatively low prior qualifications (Cree et al 2006). In order to address this problem, in 2004 the University introduced the use of contextual data during the admissions process to identify disadvantaged students with the potential to benefit from the academic experience it offers, and enable their entry with slightly lower prior qualifications.

This Report describes a statistical analysis of patterns of the entry, progression and degree outcomes of a sample of young students with Scottish qualifications entering the University since the introduction of contextual data in admissions.

## *About the study*

The aim of the study was to explore patterns of entry, progression and outcomes, and identify similarities and differences between students admitted to the University on the basis of contextual data and other students. The analysis is based on student records for a sample of young students who started their degree courses in selected subjects between 2004 – 2006. The subjects included in the sample were:

| Humanities & Social Science (HSS) | Science & Engineering (SE) | Medicine & Veterinary Medicine (MVM) |
|---|---|---|
| Architecture | Biology | Medicine |
| Business Studies | Chemistry | Veterinary Medicine |
| Divinity | Mathematics | |
| English Literature | Physics | |
| History | | |
| Law | | |
| Psychology | | |
| Sociology | | |

This report focuses on Scottish-domiciled students whose main prior qualifications were from the Scottish Qualifications Authority (SQA) – 55% of the total sample – while a parallel analysis (not reported here) looks at students with General Certificate of Education (GCE) A-level qualifications, most of whom were domiciled in the rest of the United Kingdom.

The report looks first at the indicators of widening participation that are used to identify students from disadvantaged backgrounds (WP-indicated) and describes differences in entry qualifications between WP-indicated and other students. It then describes their progression and degree outcomes, and statistical models used to analyse differences in outcomes associated with prior qualifications and WP-indicators.

## *The use of contextual data to widen participation*

The use of contextual data is an attempt to make admission to the University fairer and more socially inclusive. Normal entry requirements to the University are extremely high, and the strong competition for places favours highly-qualified applicants from high social class backgrounds and schools with a strong tradition of university entry. However, applicants from disadvantaged backgrounds and schools may have academic potential that is obscured by their relatively lower entry qualifications (Admissions to HE Review 2004). Since 2004 the University of Edinburgh has contextual data to identify disadvantaged students during the admissions process. For entry to the Colleges of Humanities & Social Science and Science & Engineering, all offers are made within a range (e.g. from BBBB to AAAA). An offer made to a WP-indicated applicant may state conditions at the lower end of the range.

Three contextual measures are used as widening-participation (WP) indicators in admissions:

(1) The two most deprived quintiles of the Scottish Index of Multiple Deprivation (SIMD), linked to post-code of home address. SIMD provides key 'measures of success' for the Scottish Funding Council (SFC)'s policy on widening participation - 'Learning for All' (SFC 2011).

(2) The two lowest quintiles of a classification of schools based on average rates of progression to HE per school. There are considerable differences between schools in the average qualifications of their pupils and in the proportion who go on to HE. For example, students from independent schools have very high average qualifications and very high entry rates to the most prestigious universities, and in Scotland there are a number of comprehensive schools with similar high average performance. Studies elsewhere have identified school effects on prior qualifications, and suggested that students who enter university from low performing schools are likely to achieve more highly than would be predicted by their prior qualifications (Hoare & Johnston 2010, Naylor & Smith 2002, Ogg et al 2009).

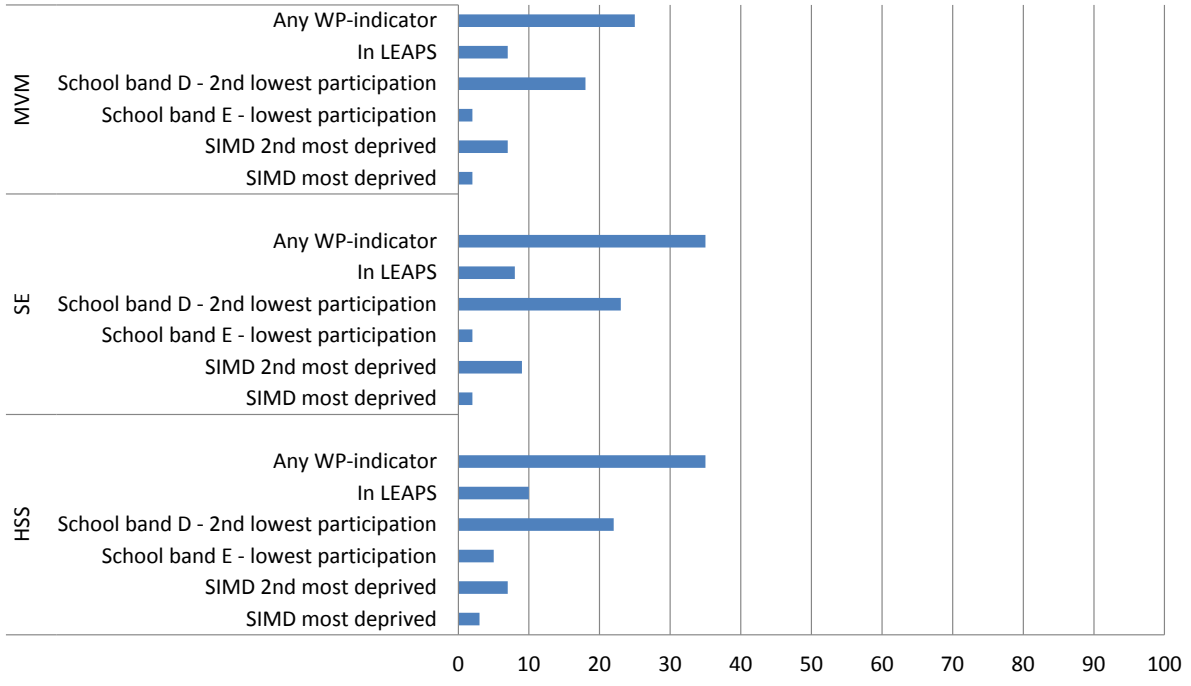
(3) Prior selection for the Lothians Equal Access Partnership for Schools (LEAPS), which takes account of family circumstances. LEAPS works with students in local schools in order to raise aspirations and attainment.

## *Patterns of entry*

The study found that one third of the SQA-qualified students in the sample had at least one WP-indicator, although the proportion was a little lower in Medicine and Veterinary Medicine (MVM: 26%) than in Humanities and Social Science (HSS: 35%) or Science and Engineering (SE: 35%). Figure

1 shows the distribution of indicators, and suggests that low-participation schools provided the largest number with WP indicators.

**Figure 1. Indicators of widening participation: % of students with each indicator by college**




## *Prior qualifications*

Prior qualifications are the main criterion for entry to the University. Most Scottish students are offered places on the basis of their achievement at level 6 of the Scottish Credit and Qualifications Framework (SCQF) ie their Higher grade results, and they are encouraged to achieve further qualifications at SCQF level 7 – i.e. Advanced Higher. In MVM, however, awards at Advanced Higher or GCE Advanced Level (A-level) are required for entry.

Analysis of the student records showed that on average entrants to MVM had achieved five Higher Grade passes at A or B by the end of the S5 school stage, entrants to HSS had 4.1 passes and SE had 4 passes. WP-indicated entrants tended to have slightly lower levels of prior qualifications than other students: WP-indicated entrants to MVM had 4.9 passes at A or B, HSS 3.9 and SE 3.8. There were also small differences between WP-indicated students and others in the proportion with Advanced Higher or A-level passes, compared with just Higher Grade; this is illustrated by Figure 2. HSS had the largest proportion of students entering with no qualifications at SCQF 7, with WP-indicated students in HSS less likely to have SCQF 7 qualifications than other students.

**Figure 2. Prior qualifications: % of students with prior qualifications by college and whether WP indicated**

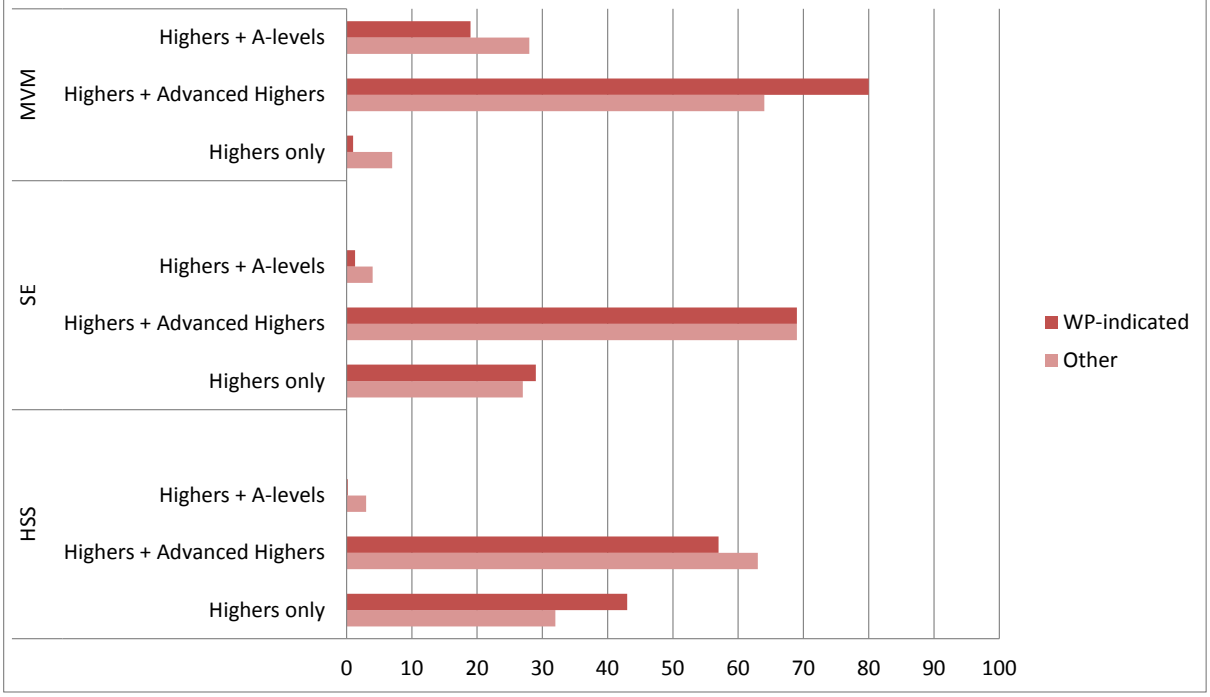



**Figure 3. Number of prior qualifications at SCQF level 7 or equivalent: % of students by college and whether WP-indicated**

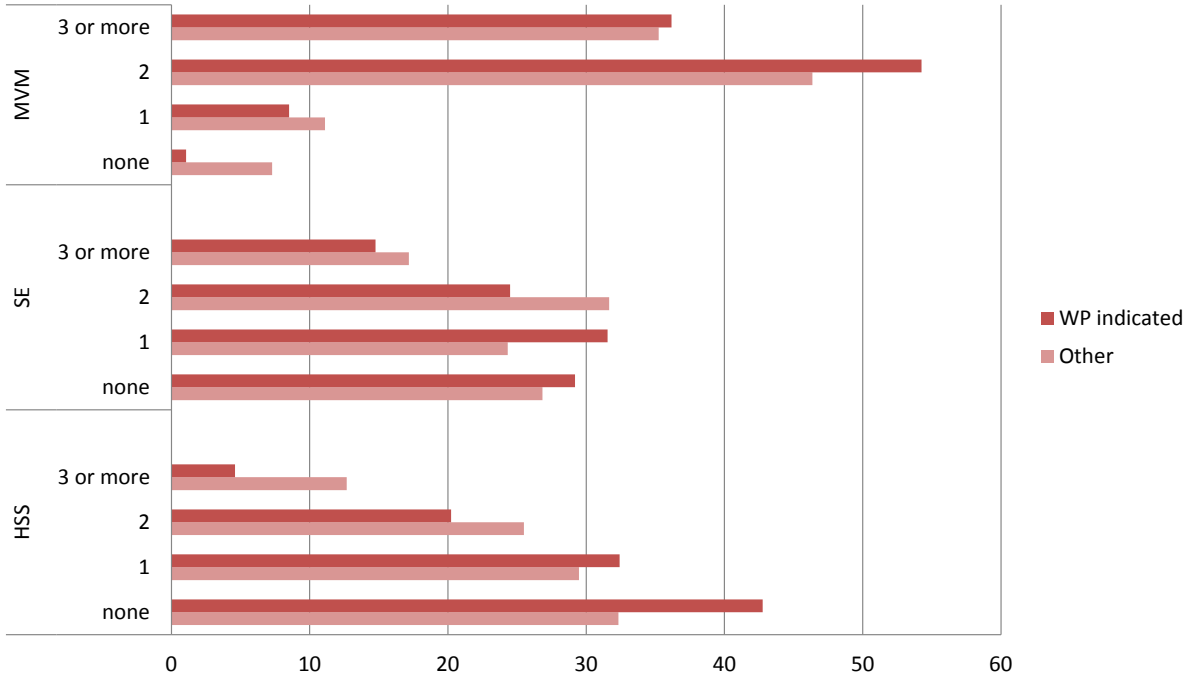


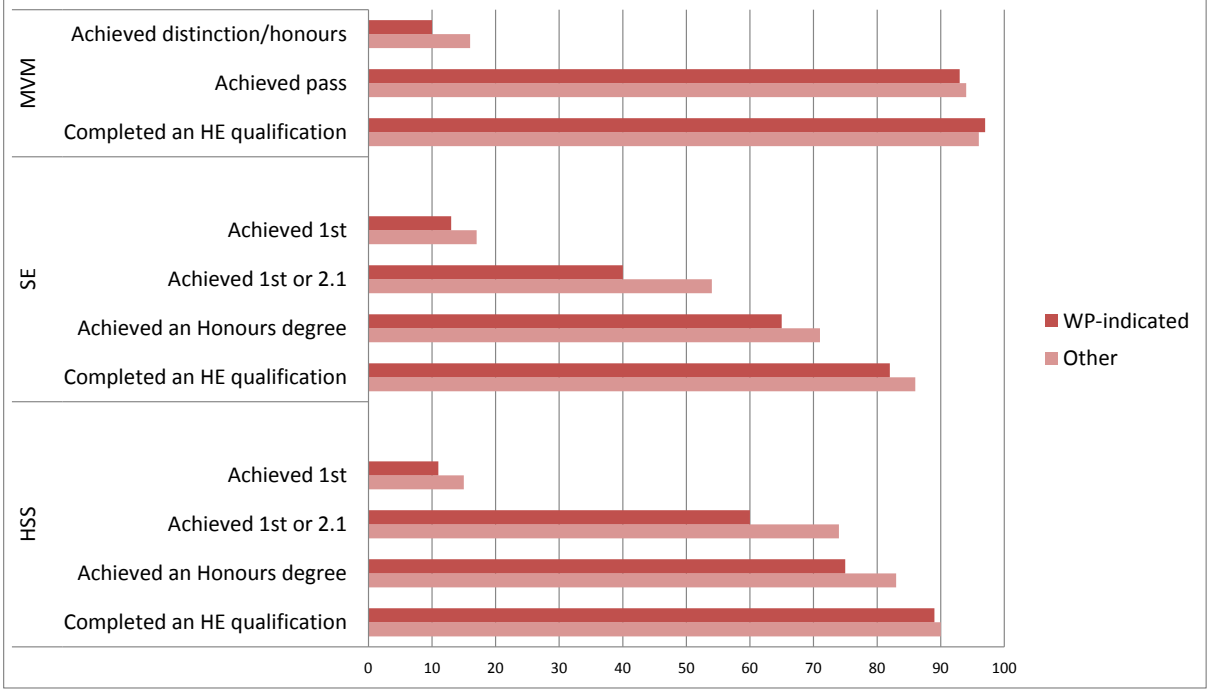

Figure 3 shows the numbers of passes achieved at SCQF level 7 (or A-level equivalent). In MVM it is clear that WP-indicated students had as many, if not more, SCQF level 7 qualifications as other students. In SE almost half of WP-indicated students had two or more qualifications at SCQF level 7,

and this was only slightly lower than other SE students. In HSS, however, only 25% of WP-indicated students had two or more qualifications at SCQF level 7, compared with 38% of other HSS students.

## *Progression and degree outcomes*

Most students, including those who were WP-indicated, successfully completed an HE qualification, but WP-indicated students were less likely to achieve the top classes of degree than other students. The types of degree awarded differed between colleges, as shown by Figure 4.

**Figure 4. Progression and degree outcomes:**
**% of students achieving each outcome by college and whether WP-indicated**




In MVM the degrees awarded to the majority of students were classed simply as a pass, with a very small minority passing "with distinction" or "honours"; fewer WP-indicated students achieved this top level of degree in MVM. In SE and HSS degrees were differentiated into classes of Honours, and WP-indicated students were less likely than other students to achieve the higher classes of Honours: the gap in achievement of the top two classes - 1st or 2.1 - is most noticeable.

## *Factors influencing progression and degree outcomes*

Statistical models enable us to analyse the effects of contextual variables and prior qualifications on students' progression and outcomes while controlling for all other factors. Detailed results of the models are shown in the Appendix. The first model looked at the overall effect of WP, and showed the following results:

- Prior qualifications were the key factors influencing each degree outcome; students with high scores at SCQF level 6 in S5 were more likely to achieve each level of degree, and there was additional advantage accruing to students with high scores at SCQF level 7.
- After taking account of prior qualifications, there was no difference between WP-indicated students and their peers in the likelihood of completing a qualification, achieving an Honours degree, or of achieving a top class degree.
- In HSS and SE only: WP-indicated students were less likely to achieve a degree in the top two classes (1st or 2.1) than other students with the same levels of prior qualifications. The relative odds of WP-indicated students achieving the top two classes were 0.7:1 "all other things being equal". Differences between the outcomes in the effects associated with the WP-indicator suggest that the gap in achievement between Honours class 2.1 and 2.2 may be an issue.

A further statistical model considered the effect of each contextual variable separately, and gave broadly similar results, with prior qualifications being the most significant factors.

- There was no difference in the outcomes of LEAPS students compared with other students, after all other factors were controlled for.
- Students from a SIMD area were less likely to achieve an Honours degree or the top two classes than their peers, but SIMD made no difference to whether they completed a qualification or gained a top class degree.
- Students from school bands D and E were less likely to achieve the top two classes than other students, but school band made no difference to whether they gained a top class degree.
- Students for whom school band is not recorded (possibly because they did not come straight from school) were more likely to achieve a top class degree.
- Students from independent schools were less likely to achieve a top class degree than their peers from state schools.

## *Issues arising from the study*

The results show that prior qualifications are the main factor determining degree outcomes, and that SCQF level 7 qualifications lead to a greater likelihood of high achievement. This raises issues concerning the interface between prior qualifications and the standards of academic study expected of students entering the University. Most Scottish students obtain their place at the University on the basis of prior qualifications at Higher Grade (SQF level 6) and traditionally the 4-year Scottish degree has been structured on the basis of Higher-grade entry. However, the majority of students entering the University now have qualifications at SCQF level 7 (Advanced Higher of A-level), as a consequence of subject-level admissions advice, as well as competition and credential inflation. What is the effect on the assumptions and expectations of teaching staff about the levels of students' prior knowledge and study skills? Are the minority of students who do not have SCQF level 7 qualifications disadvantaged by their lower depth of knowledge and skills? Since WP-indicated students are less likely to have SCQF level 7 qualifications than other students, the gap may be a source of continuing disadvantage.

We understand that some schools find it difficult to resource a range of Advanced Higher courses – especially those in school bands D and E that do not have a strong tradition of preparing students for higher education.

The use of contextual data in admissions has ensured that WP-indicated students are able to access degree courses at the University despite having slightly lower prior qualifications. The policy arose from a perception that the "potential" of these students was not adequately reflected in their prior qualifications. We might therefore have (optimistically) hoped to find that WP-indicated students would achieve better outcomes than their peers with the same level of prior qualifications. The fact that in HSS and SE WP-indicated students did not achieve as good outcomes as other students, while disappointing, is probably a reflection of the fact that WP students at university suffer the same disadvantages and adverse pressures as school students – particularly with respect to cultural, social and economic capital. This raises questions for policy and practice:

- Can we identify the barriers preventing disadvantaged students achieving their potential? And how should they be addressed?
- Do WP-students have to spend too much time in paid jobs to support themselves?
- Are teaching staff sufficiently aware of difficulties faced by WP-indicated students?
- Do WP-indicated students need more academic support during the first two years of their degree course to compensate for gaps in their prior learning?

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## *Appendix*

**Appendix Table 1. Binary Logistic regression model to predict outcomes (all students in selected programmes)**

| **Completed a qualification** | | | | |
|---|---|---|---|---|
| | B | S.E. | Sig. | Exp(B) |
| WP-indicated | -0.08 | 0.14 | 0.59 | 0.9 |
| SCQF 6 score in S5 | **0.54** | **0.08** | **0.00** | **1.7** |
| SCQF 7 score | **0.49** | **0.08** | **0.00** | **1.6** |
| % achieved outcome per subject | **0.07** | **0.01** | **0.00** | **1.1** |
| Reference category | -2.14 | 0.09 | 0.00 | 0.1 |
| | | | | |
| **Achieved Honours degree (HSS & SE only)** | | | | |
| | B | S.E. | Sig. | Exp(B) |
| WP-indicated | -0.19 | 0.11 | 0.09 | 0.83 |
| SCQF 6 score in S5 | **0.44** | **0.07** | **0.00** | **1.56** |
| SCQF 7 score | **0.57** | **0.08** | **0.00** | **1.78** |
| % achieved outcome per subject | **0.07** | **0.01** | **0.00** | **1.07** |
| Reference category | 1.71 | 0.09 | 0.00 | 5.54 |
| | | | | |
| **Achieved a degree in the top two classes** | | | | |
| | B | S.E. | Sig. | Exp(B) |
| WP-indicated | **-0.37** | **0.10** | **0.00** | **0.7** |
| SCQF 6 score in S5 | **0.57** | **0.06** | **0.00** | **1.8** |
| SCQF 7 score | **0.53** | **0.07** | **0.00** | **1.7** |
| % achieved outcome per subject | **0.05** | **0.00** | **0.00** | **1.1** |
| Reference category | 1.07 | 0.07 | 0.00 | 2.9 |
| | | | | |
| **Achieved top class degree** | | | | |
| | B | S.E. | Sig. | Exp(B) |
| WP-indicated | 0.07 | 0.14 | 0.62 | 1.1 |
| SCQF 6 score in S5 | **0.38** | **0.08** | **0.00** | **1.5** |
| SCQF 7 score | **0.68** | **0.10** | **0.00** | **2.0** |
| % achieved outcome per subject | **0.09** | **0.01** | **0.00** | **1.1** |
| Reference category | 2.41 | 0.10 | 0.00 | 11.2 |

Notes

The reference category is:

- not WP-indicated;
- has SCQF 6 and 7 scores at the mean level for the sample;
- studying a subject for which outcomes are at the mean for the sample.

SCQF 6 and 7 scores are normal scores, and the estimates represent the effect of a score that is one standard deviation above the sample mean.

"% achieved outcome per subject" is a subject-level variable, and the estimates represent the effect of a subject where the % achieving the outcome is 1% above the sample mean.

**Appendix Table 2. Binary logistic regression model to predict effects of WP indicators on outcomes (all students in selected programmes)**

| | | | | |
|---|---|---|---|---|
| **Achieved Honours degree (HSS&SE only)** | | | | |
| | B | S.E. | Sig. | Exp(B) |
| In LEAPS | -0.29 | 0.18 | 0.11 | 0.75 |
| School band D or E | -0.02 | 0.13 | 0.90 | 0.98 |
| School band unknown | -0.33 | 0.26 | 0.20 | 0.72 |
| SIMD 1 or 2 | **-0.49** | **0.16** | **0.00** | **0.62** |
| Independent school | **-0.34** | **0.16** | **0.03** | **0.71** |
| SCQF 6 score in S5 | **0.43** | **0.07** | **0.00** | **1.54** |
| SCQF 7 score | **0.58** | **0.08** | **0.00** | **1.78** |
| % achieved outcome per subject | **0.07** | **0.01** | **0.00** | **1.07** |
| Reference category | 1.81 | 0.10 | 0.00 | 6.13 |
| | | | | |
| **Achieved a degree in the top two classes** | | | | |
| | B | S.E. | Sig. | Exp(B) |
| In LEAPS | -0.21 | 0.17 | 0.22 | 0.8 |
| School band D or E | **-0.25** | **0.12** | **0.04** | **0.8** |
| School band unknown | -0.15 | 0.25 | 0.55 | 0.9 |
| SIMD 1 or 2 | **-0.33** | **0.15** | **0.03** | **0.7** |
| Independent school | **-0.27** | **0.14** | **0.05** | **0.8** |
| SCQF 6 score in S5 | **0.57** | **0.06** | **0.00** | **1.8** |
| SCQF 7 score | **0.54** | **0.07** | **0.00** | **1.7** |
| % achieved outcome per subject | **0.05** | **0.00** | **0.00** | **1.1** |
| Reference category | 1.12 | 0.08 | 0.00 | 3.1 |
| | | | | |
| **Achieved top class degree** | | | | |
| | B | S.E. | Sig. | Exp(B) |
| In LEAPS | -0.09 | 0.27 | 0.73 | 0.9 |
| School band D or E | -0.05 | 0.16 | 0.76 | 1.0 |
| School band unknown | **0.79** | **0.32** | **0.01** | **2.2** |
| SIMD 1 or 2 | -0.11 | 0.22 | 0.60 | 0.9 |
| Independent school | **-0.45** | **0.17** | **0.01** | **0.6** |
| SCQF 6 score in S5 | **0.59** | **0.09** | **0.00** | **1.8** |
| SCQF 7 score | **0.51** | **0.08** | **0.00** | **1.7** |
| % achieved outcome per subject | **0.07** | **0.01** | **0.00** | **1.1** |
| Reference category | -2.08 | 0.10 | 0.00 | 0.1 |

**Notes for Table 2**

The Reference category is:

- not in LEAPS;
- school-band-A-C;
- SIMD 3-5;
- Prior education in comprehensive school;
- has SCQF 6 and 7 scores at the mean level for the sample;
- studying a subject for which outcomes are at the mean for the sample.