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Year in Industry: who gets access and what difference does it make? Access and awarding gaps in UK university undergraduate placement programmes

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Abstract

This article explores the extent to which students of different ethnicities, (dis)abilities, sexes, POLAR groups, and academic abilities undertake Year in Industry (YINI) placements and realise post-placement academic improvements, in comparison with non-YINI students. The benefits of work placements on student employability and graduate prospects are well-documented but less is known about which student groups gain access to placements. The study analyses secondary data relating to the sex, ethnicity, disability, POLAR group, grades, and degree classifications of 31,159 undergraduates graduating from a UK Russell Group university between 2016 and 2023, representing the largest study of its kind to date. The study found that students completing YINI programmes are significantly more likely to achieve first class (70.1% YINI, 28.5% non-YINI) and good degrees (97.7% YINI, 83.6% non-YINI). Importantly, the study found that YINI completion narrows awarding gaps found in the non-YINI population in relation to sex, disability,

ethnicity, and POLAR group. The potential gains are greatest for male students, students with disabilities, Asian, Black and mixed ethnicity students, and students from low POLAR groups. However, access to placements is not proportionately distributed. Female students, students with disabilities, students from all ethnic minority groups and those of unknown ethnicity, and students from low POLAR groups are under-represented within the YINI population, suggesting placement access gaps in relation to sex, disability, ethnicity, and POLAR group. The paper concludes with strategies to encourage YINI participation amongst diverse student groups and calls for further research into lived experiences of YINI and non-YINI students.

Keywords: placements; undergraduate; access; awarding gaps.

Introduction

The study is situated within a British political context increasingly critical of the value of higher education, in which universities are increasingly assessed through metricised measures such as the proportion of graduates in highly-skilled graduate level employment in management, professions, and associated technical roles. The *Post-18 review of education and funding: independent panel report*, led by author and former equities broker Philip Augar, emphasised the need to 'bear down on low value HE' by providing 'courses better aligned with the economy's needs' (Augar, 2019, p.10). Defining the value of HE is an ongoing debate. The authors of this paper agree with those who argue that while graduate careers in some regions and sectors are likely to be paid more than others, a university education has intellectual, cultural, and social value far beyond the narrow definition of economic returns (Vignoles, 2020; Millward, 2022; *The Guardian*, 2023). Nevertheless, universities are under increasing pressure to improve student employability and graduate outcomes. Courses on which fewer students progress into graduate-level employment face threats of regulatory sanctions which may limit their capacity to recruit, or even to run at all. Developing student employability therefore continues to be a crucial aspect of higher education, with universities adopting multiple strategies to support students at all levels.

Work placements play an important role in developing student employability. The research terminology around placements – sometimes described as YINI –, internships, sandwich courses, and clinical practice, is fragmented which can make it difficult to draw comparisons across studies. However, there is a rich body of research that demonstrates conclusively, over two decades, that work placements improve graduate employment prospects (Zegwaard and Hodges, 2003; Sahama et al., 2008; Jackson, 2013, 2014). Placement graduates are more likely to be in work, find graduate positions more quickly, and earn more than non-placement students (Smith et al., 2018). Through a survey of 618 participants Hughes, Mouratidou and Donald (2023) found that students self-perceived that they improved across eight competencies between the start and end of their placements, a perception confirmed by their placement managers, who rated students' post-placement abilities even higher than the students did. A mixed methods study exploring PhD student expectations concerning employability at a UK Russell Group university found that placements enhanced transferable workplace skills and illuminated a wide range of non-academic employment pathways (Stamati and Willmott, 2022). It is also well-established that students completing work placements achieve higher grades in their final year than in their second year, and that improvements between second year and final year grades is more pronounced for placement students than for non-placement students, as shown in Table 1 (Gomez et al., 2004; Mandarilas, 2004; Reddy and Moores, 2006; Surridge, 2009; Mansfield, 2011; Blicbau et al., 2016). One study showed that placement students across all subject areas averaged a final year academic boost of 3.3% more than non-placement students (Binder et al., 2015).

Table 1. Differences in final year grades between placement and non-placement students identified in prior studies.

Student Group	Study Authors	Sample	Difference in final year grades between placement and non-placement students
Property management	Mansfield, 2011, p.944	417	5.31%
Mechanical engineering	Blicbau et al., 2016, p.37	159	4.93%
Bioscience	Gomez et al., 2004, p.378	164	3.82%

Accounting and finance	Surridge, 2009, p.482	236	3.6%
Whole institution	Binder et al., 2015, p.81	15,732	3.3%
Human Psychology	Reddy and Moores, 2006, p.555	414	1.7%
Economics	Mandarilas, 2004, p.48	124	Greater probability of 2.1 or first class degree

However, it is unclear whether it is the experience of completing a work placement that causes accelerated final year academic performance, or whether students with higher academic performance are better at securing placements and at realising the developmental opportunities they offer (McHugh, 2017). Similarly, little is known about which student groups are getting access to placement opportunities and how post-placement benefits are distributed, particularly in relation to protected characteristics such as gender, disability, and ethnicity, as well as those from varying socioeconomic backgrounds.

Some suggest placement schemes are controversial because employers can be exploitative in terms of the work and hours expected. Placement roles may be low paid, or even unpaid. Such practices exacerbate social and economic divides, since students from low-income backgrounds may be less able to accept low or no-paying opportunities than students from more affluent backgrounds (Perlin, 2012; Stewart and Owens, 2013). However, others suggest placement schemes are good for social mobility because they represent a shift from informal, nepotistic recruitment processes towards processes that are fairer, more transparent, and meritocratic (Binder et al., 2015; Crawford et al., 2016; Wang and Crawford, 2019).

Quantitative studies exploring access and benefits in relation to sex, gender, ethnicity, and socioeconomic background are scarce. In a recent study of 26,506 students from a UK university, Divan et al. (2022) found that participation in placement years was unequal amongst student groups, with young students, male students, and students with no declared disabilities more likely to complete placements than older students, female students, and students with declared disabilities. In an earlier study at a UK university,

Binder et al. (2015) found that being classed as a White student had a positive effect on academic outcomes, regardless of placement completion. However, they found that placement completion benefitted all students across all programmes, prior achievement levels, sexes, and ethnicities with 'surprisingly little variation' (Binder et al., 2015, p.82), identifying an average post-placement boost of 3.3% for placement students over non-placement students. Socioeconomic status has been shown to affect students' abilities to secure placements. A survey of 518 computing undergraduates at a large public university in the United States demonstrated that socioeconomic status was one of four factors affecting students' abilities to secure placements, alongside level of study, involvement in extra-curricular activities, and lower identity diffusion scores (i.e., low exploration and low commitment) (Wolf et al., 2022). Other studies adopted a more qualitative approach focusing on a singular protected characteristic. Ahmed et al. found that, for Black and Minority Ethnic (BAME) students transitioning to employment within the construction industry, work placements 'can smooth entry, retention and progression' (2008, p.83). Alwi (2022) found differences in student expectations of and satisfaction with undergraduate placement experiences, finding that female placement students prioritised development of technical skills and communication, whereas male placement students prioritised development of technical skills and on-the-job training. Given the small number of studies exploring access to placements and post-placement academic benefits for students of diverse backgrounds, this study aimed to explore the extent to which YINI students of different sexes, ethnicities, (dis)abilities, POLAR groups, and levels of prior academic achievement secure and complete placements, and realise improved final year academic performance, compared to non-YINI students.

Method

This section sets out the methods employed and discusses some of the key ethical issues. The study focused on one specific form of work placement, the YINI. Also known as sandwich courses, YINI programmes enable students to complete a substantial placement in a private, public, or third sector organisation relevant to their studies. YINI placements are often salaried and are commonly undertaken during a student's third year of study, before they return to university for a fourth, final year of study. YINI programmes are well-

established in UK universities, particularly in post-1992 institutions. A UCAS search of UK providers offering a YINI pathway returned 553 courses from 56 providers (UCAS, 2023).

Year in Industry focus

Many forms of placement are offered within the host institution, including language placements, part-time work experience placement modules, and internships. However, this study is specifically concerned with programmes that offer an optional YINI placement. This form of placement was selected as the main focus for design, technical and strategic reasons. From a design perspective, the substantial duration of the placement (normally full-time hours for 26-52 weeks) and the substantial weighting of the placement within the programme of study (normally 10%) suggested any distinctions between YINI and non-YINI students would be more clearly discernible than for shorter, part-time placements. From a technical perspective, it was more feasible to isolate and compare YINI placements within the dataset, since they were universally titled at the programme level '[programme] with a Year in Industry', than shorter module-level placements which were not differentiated in programme title and feature a diverse range of module titles (work placement, final project, practice project etc.). Finally, from a strategic perspective, the study was conducted within the context of institutional considerations regarding expansion of the YINI offer to a wider set of programmes.

Study design

The study employed a mixed methods sequential explanatory method (Ivankova, Creswell and Stick, 2006, p.3) involving three data collection and analysis strategies. This paper sets out the findings from the first stage, involving analysis of institutional datasets held in university management systems. Findings from other data collection strategies including online surveys, interviews, and focus groups with students and graduates from placement and non-placement programmes, will be presented separately. The purpose here was to paint a broad picture of the nature of student participation in YINI programmes and the academic outcomes of students completing them.

Data collection and analysis

The study is situated within a prominent UK Russell Group university with a large undergraduate population of more than 23,000 students. Secondary data relating to student sex, ethnicity, disability, socioeconomic background (POLAR group), programme registration, programme completion, academic achievement (GPA for each year of study), degree outcomes (classification), and graduation date were collected on an anonymised basis from the institution's centralised administration system. The dataset encompassed all undergraduate student entries from 2013 to 2023 comprising 40,397 students. The team used the university's Business Intelligence system to build a custom data source and created Tableau dashboards to assist with data analysis, visualisation, and statistical testing.

Students ineligible to engage in YINI programmes were excluded, such as international students in partner institutions matriculating directly into Year 2, producing an eligible sample of 31,159 students registered on YINI and non-YINI programmes. Additional data flags were created to indicate students completing 'YINI placements' and achieving 'good degrees' comprising both first class and upper second class honours degree outcomes, and these were cross tabulated with student sex, ethnicity, disability, socioeconomic background (POLAR) data, and average grades for each level of study, and tested for statistical significance. The paper uses the terms Year 1, Year 2, and Final Year to refer to levels of study 4, 5 and 6, respectively. Placement Years are generally categorised as level 5 study. In the case of degree programmes with multiple years of study beyond Year 2, such as medicine, the GPA for post-Year 2 levels of study were combined into one 'Final Year(s)' grade.

Ethical issues

The study received ethical approval from the host institution on 12 July 2021 prior to data collection. The team were mindful that data collection took place within the context of an ongoing data improvement programme that sought to improve integration of legacy systems, and that care was necessary to investigate and explain any anomalies arising from the dataset. The team were also mindful of the sensitive nature of some of the personal data collected and of the potential harm that participants might experience should their identities be exposed. In order to minimise the risk of harm and adhere to lawful

requirements regarding the integrity of individual identities, the team applied Higher Educational Statistics Agency (HESA) recommendations regarding statistical validity. This meant that it was occasionally necessary to aggregate groups to protect identities, particularly in relation to the protected characteristic of ethnicity, meaning that some ethnically-distinct experiences might be invisible in our data.

The team encountered further ethical issues in relation to student socioeconomic background. In relation to socioeconomic background, POLAR provides a framework for describing the community in which a student lives prior to enrolling at university. It looks at how likely young people are to participate in higher education across the UK and shows how this varies by area. POLAR classifies local areas into five groups - or quintiles - based on the proportion of young people who enter higher education aged 18 or 19 years old. Quintile one shows the lowest rate of participation, quintile five shows the highest rate of participation. The participation rate is calculated by dividing the number of young people from each area who enter higher education aged 18 or 19 by the young population of that area (Office for Students, 2023). However, it is widely recognised that POLAR is poorly correlated with family-income. In fact, Jerrim (2021) suggests that the number of years a child has been eligible for free school meals is the best available marker for childhood poverty, but verified data on free school meals eligibility is not currently available to universities. Therefore, POLAR is often used as a proxy within HE for providing a broad assessment of the socio-economic conditions in which a student grew up, including by HESA (HESA, 2021). POLAR data is therefore used, with caution, within this study as a proxy indicator of socio-economic status for UK students.

Results

Study participants

The study population comprised 31,159 students who had graduated from an undergraduate degree in the host institution between 2016 and 2023, as shown in Table 2, representing the largest study of its kind to date. YINI programmes were completed by 1,389 students, representing 4.5% of total awards.

Table 2. The number and percentage of YINI students and non-YINI students graduating between 2016/17 and 2022/23.

STUDY POPULATION					
TERM	TOTAL	YINI	NON-YINI	YINI	NON-YINI
2016/17	3,952	159	3,793	4.0%	96.0%
2017/18	4,333	140	4,193	3.2%	96.8%
2018/19	4,458	199	4,259	4.5%	95.5%
2019/20	4,698	195	4,503	4.2%	95.8%
2020/21	4,748	248	4,500	5.2%	94.8%
2021/22	4,553	208	4,345	4.6%	95.4%
2022/23	4,492	240	4,252	5.3%	94.7%
TOTAL	31,159	1,389	29,770	4.5%	95.5%

Placement programme requirements

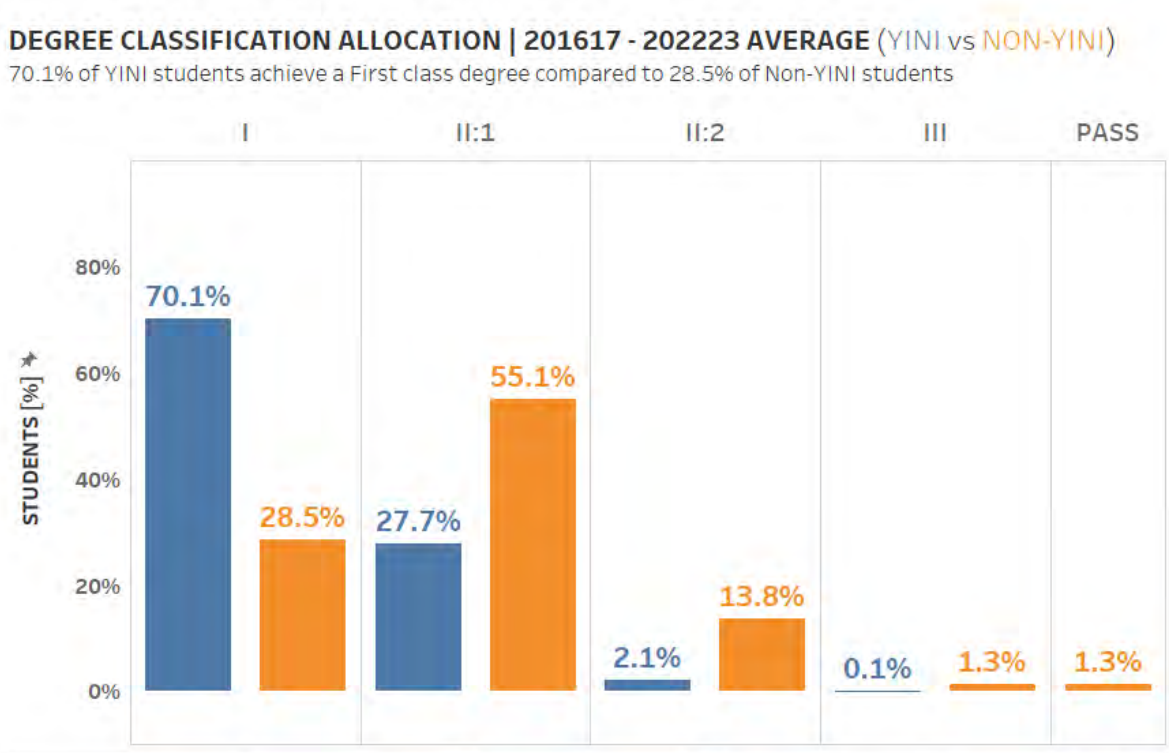
Requirements regarding the nature, length, credit value, and weighting of such placements varies across the institution. Most programmes adopt a 70/10/20% model, in which final year is worth 70%, third/placement year is worth 10% and second year is worth 20%. However, some programmes offer unweighted placement years, retaining the institutional standard 70/30% model for final and second year respectively. There is a general expectation that YINI placements should last at least 26 weeks, and some programmes require students to complete at least 40 weeks on placement, although in practice, some employers expect students to complete placements of 52 weeks or more. The expectation is that placements are full-time and that students are paid a salary by the employer. Placements may be offered in the industrial, public, and third sectors, by employers of all sizes. Most programmes support students to secure a placement through a preparatory module during first or second year, and students apply for placements directly to employers, although in a small number of cases students may receive support on an extra-curricular basis, or the institution may be involved in organising placements on behalf of students. Students who successfully secure a placement mostly complete it during their third year of study, returning to university to complete a final, fourth year of study. Students who do not secure a placement, or who for any reason choose not to apply for placements

or choose not to accept a placement offer, progress from second year directly into their final year, switching programmes to a non-YINI version where necessary.

Placements and degree outcomes

In line with earlier research, analysis of the data reveals stark differences in degree outcomes between YINI and non-YINI students, with YINI students much more likely to achieve higher overall degree classifications. Figure 1 shows that 70.1% of YINI students achieved a first class degree, compared to 28.5% of non-YINI students.

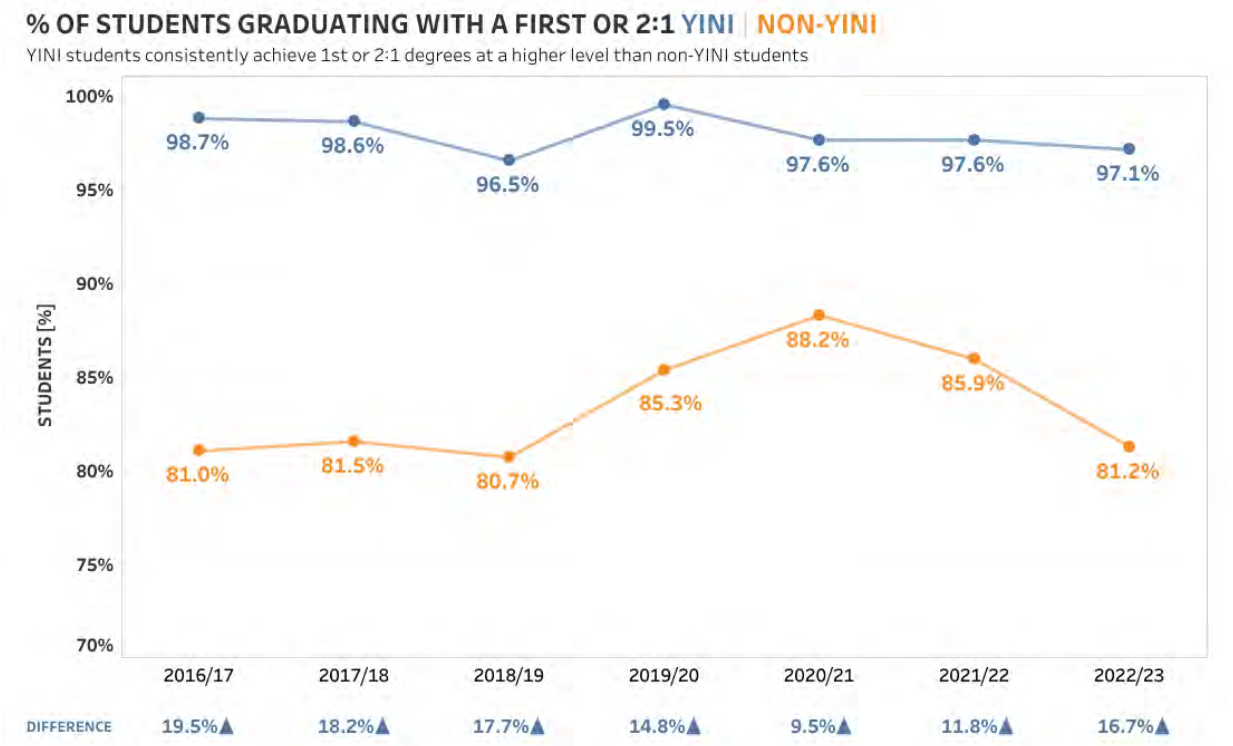
Figure 1. 70.1% of YINI students achieve a first class degree compared to 28.5% of non-YINI students.



	I		II:1		II:2		III		PASS
	YINI	NON-YINI	YINI	NON-YINI	YINI	NON-YINI	YINI	NON-YINI	NON-YINI
7 YR AVG	70.1%	28.5%	27.7%	55.1%	2.1%	13.8%	0.1%	1.3%	1.3%
201617	64.2%	26.5%	34.6%	54.5%	1.3%	15.4%		2.3%	1.3%
201718	69.3%	27.3%	29.3%	54.2%	1.4%	15.7%		1.7%	1.0%
201819	61.3%	23.8%	35.2%	56.9%	3.5%	16.3%		1.6%	1.4%
201920	69.4%	27.0%	30.1%	58.3%	0.5%	13.3%		0.9%	0.5%
202021	75.4%	35.0%	22.2%	53.3%	2.4%	10.4%		0.7%	0.6%
202122	84.6%	31.0%	13.0%	54.9%	1.9%	12.1%	0.5%	1.0%	1.0%
202223	64.6%	28.5%	32.5%	52.9%	2.9%	13.8%		1.2%	3.7%

Furthermore, Figure 2 shows that YINI students consistently outperform non-YINI students in terms of good degrees (defined as first or 2.1 degrees) by between 9.5% and 19.5% each year. Results for all graduation years were statistically significant. While the gap narrowed briefly during mitigations put in place during the Covid-19 pandemic, as those measures were removed, the gap widened again to 16.7%.

Figure 2. YINI students consistently outperform non-YINI students in terms of good degrees, defined as first or 2.1 degrees.

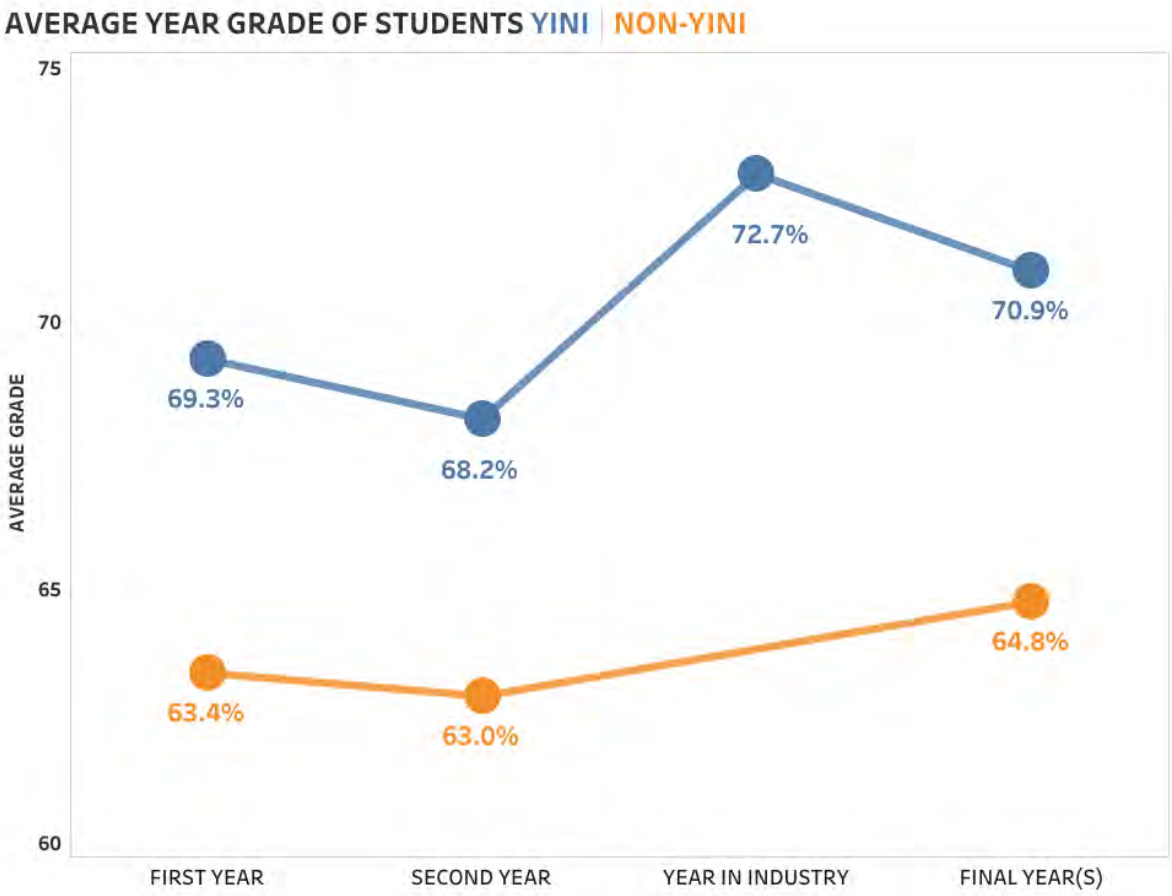


The placement student awarding gap

Analysis reveals awarding gaps between YINI and non-YINI students across all years of study, suggesting, in response to McHugh (2017), that it is students who are awarded higher academic grades who are more able to secure and complete YINI placements, and better able to realise the developmental opportunities they offer. As shown in Figure 3, students who go on to secure and complete YINI placements and programmes enjoy a stronger starting position in Year 1 (69.3% YINI, 63.4% non-YINI) and maintain their advantage throughout every year of study. On average the gap narrows from 5.9% in Year 1 to 5.2% in Year 2, possibly as a result of the additional workload involved in applying for

placements during that year of study. YINI students typically achieve their highest average grades during their placement year, with an average placement year grade of 72.7%. In their final year of study, YINI students typically achieve a final year average of 70.9%, 6.1% more than non-YINI students (64.8%). YINI students therefore typically improve their grades by 2.7% between their second and final years of study, whereas non-YINI students typically improve their grades by 1.8% between the same two points, equating to an additional final year academic boost of 0.9% for YINI students.

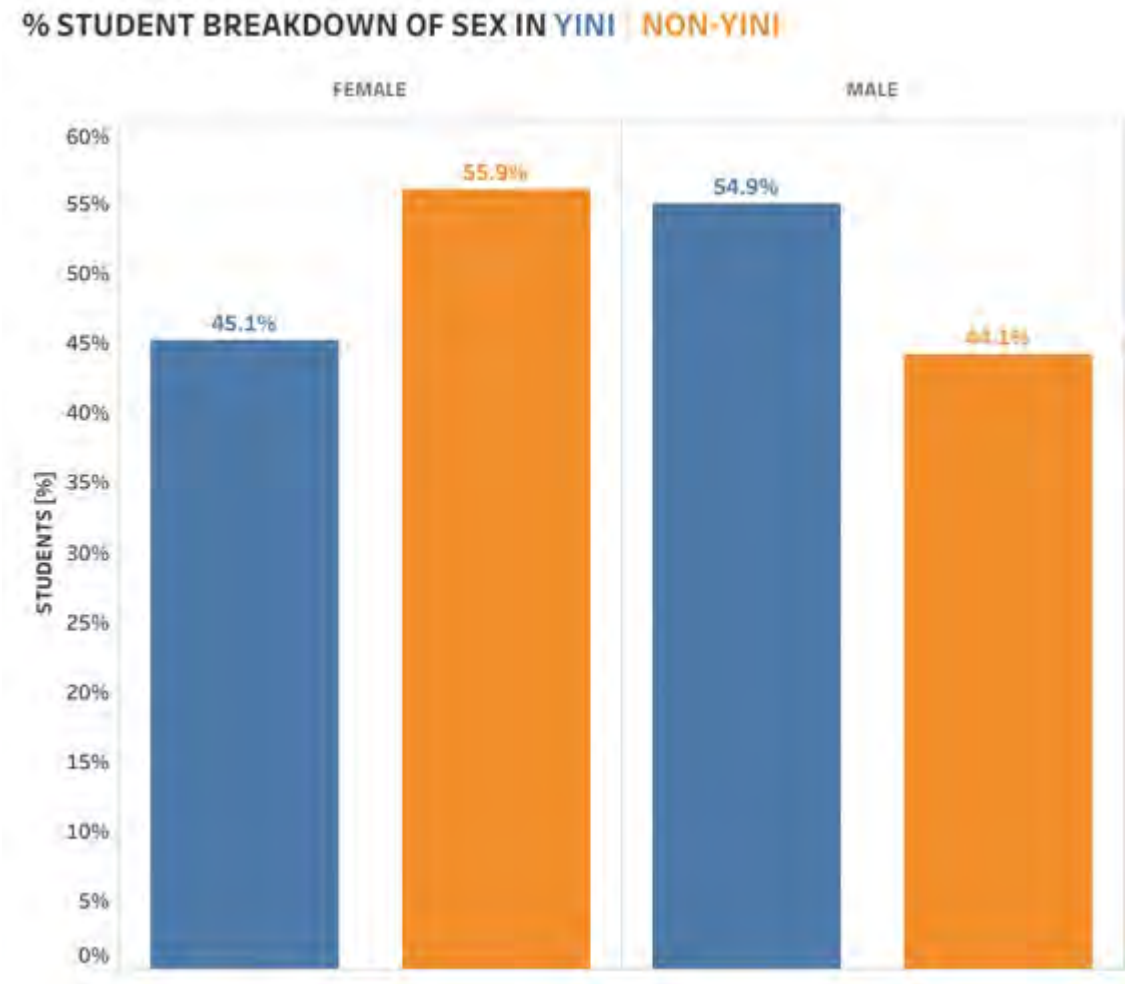
Figure 3. Students securing and completing YINI placements consistently achieve higher grades than non-YINI students, both before and after the placement.



Sex, placements access and degree outcomes

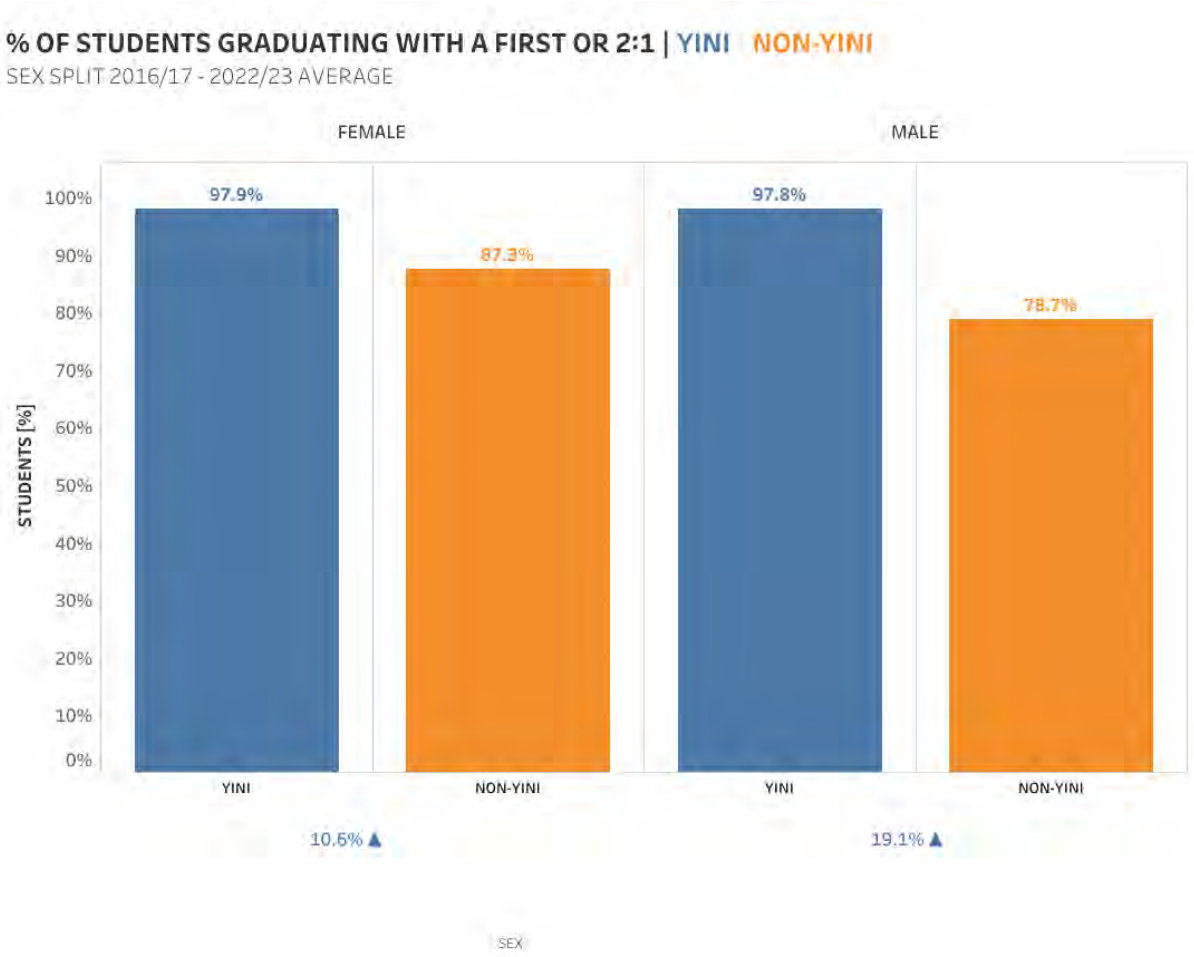
Figure 4 shows that, despite comprising 55.9% of the non-YINI population, female students constitute only 45.1% of the YINI population, suggesting a substantial, and statistically significant, placement access gap in favour of male students.

Figure 4. Female students are disproportionately under-represented in the YINI student population, suggesting sex-based access gaps.



However, regarding sex and degree outcomes, analysis shows that for students completing YINI placements, there is almost no sex-based awarding gap. Figure 5 shows that 97.9% of female YINI students achieve a good degree compared with 97.8% of male YINI students. The greatest gap between YINI and non-YINI achievement is amongst males – 19.1% compared to 10.6% for females, suggesting that YINI placements can help males more to advance their academic skills and almost close the awarding gap with females.

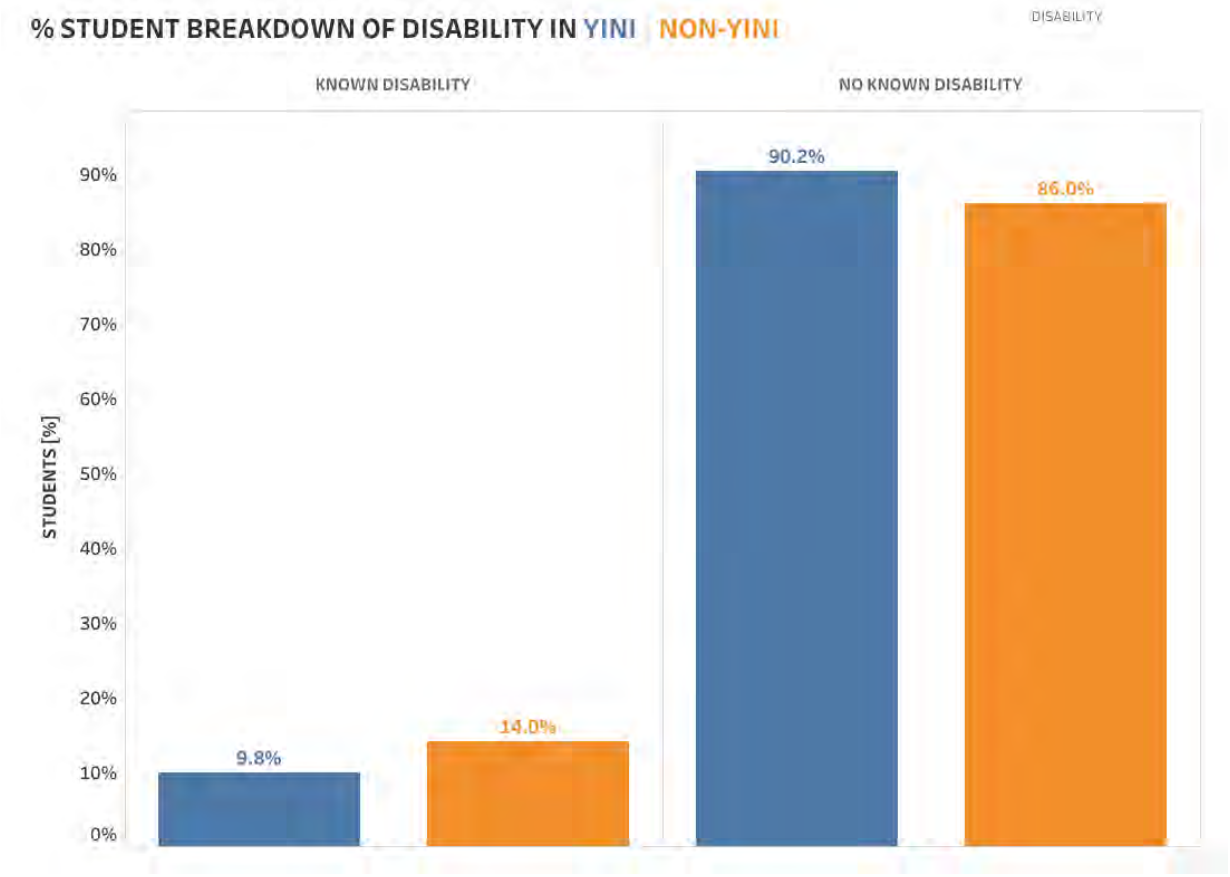
Figure 5. Students completing YINI programmes close the non-YINI sex-based awarding gap.



Disability, placements access, and degree outcomes

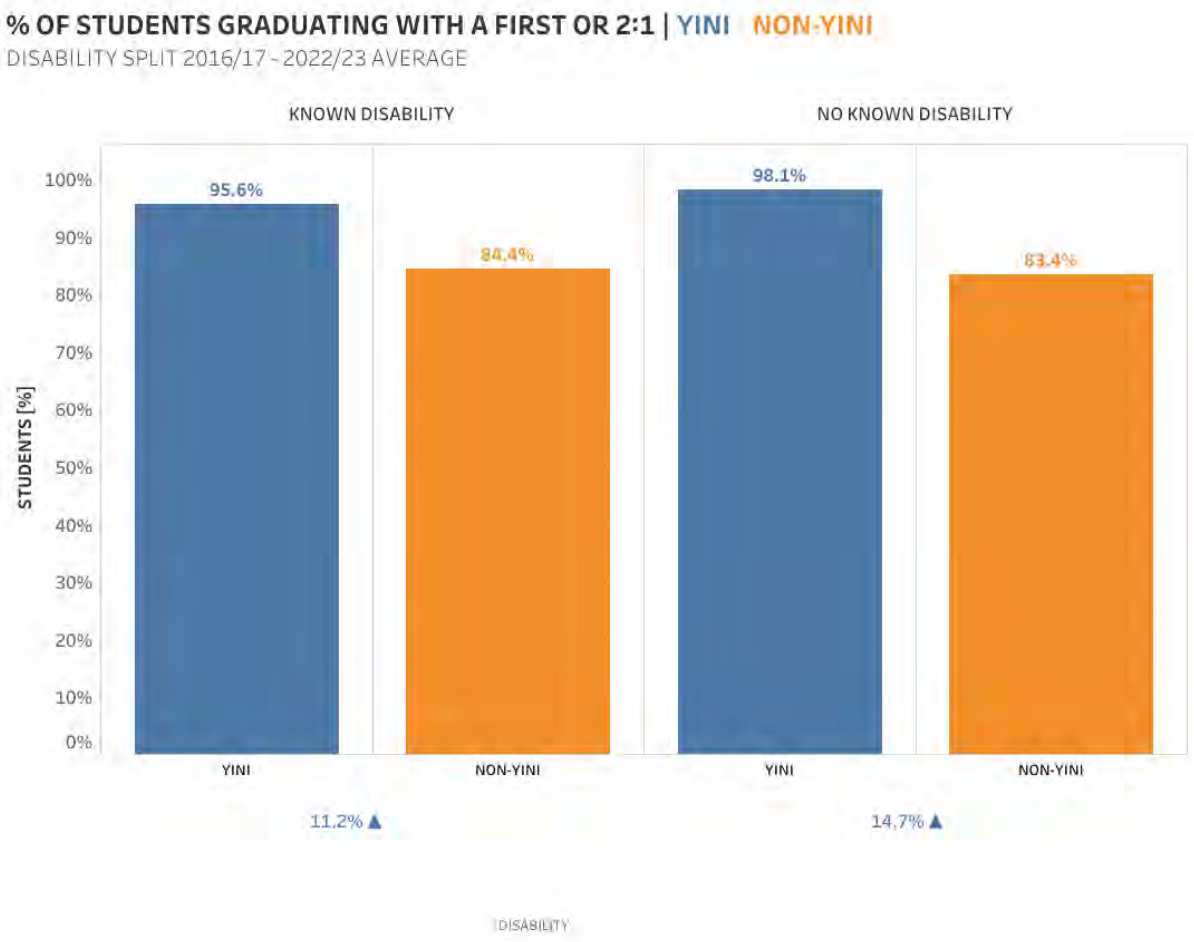
Figure 6 shows that 9.8% of YINI students have a known disability, compared to 14% of non-YINI students, suggesting that students with known disabilities face additional challenges when it comes to securing and completing placements.

Figure 6. Students with known disabilities are disproportionately under-represented in the YINI student population, suggesting disability-based access gaps.



Regarding disability and degree outcomes, analysis shows that students with known disabilities who complete a YINI programme are more likely to gain a good degree than students with known disabilities who complete a non-YINI programme. However, the proportion of YINI students with a known disability achieving good degrees (95.6%) is slightly lower than the 98.1% of YINI students with no declared disability that achieve a good degree. This contrasts with the non-YINI population, where students with known disabilities typically enjoy a positive awarding gap of 1.0% compared with students with no known disabilities, suggesting that students with known disabilities face additional challenges in realising the developmental opportunities offered by YINI placements.

Figure 7. Students with known disabilities completing YINI programmes are more likely to achieve a good degree than students with known disabilities completing non-YINI degrees, but YINI completion changes the disability awarding gap from positive to negative.

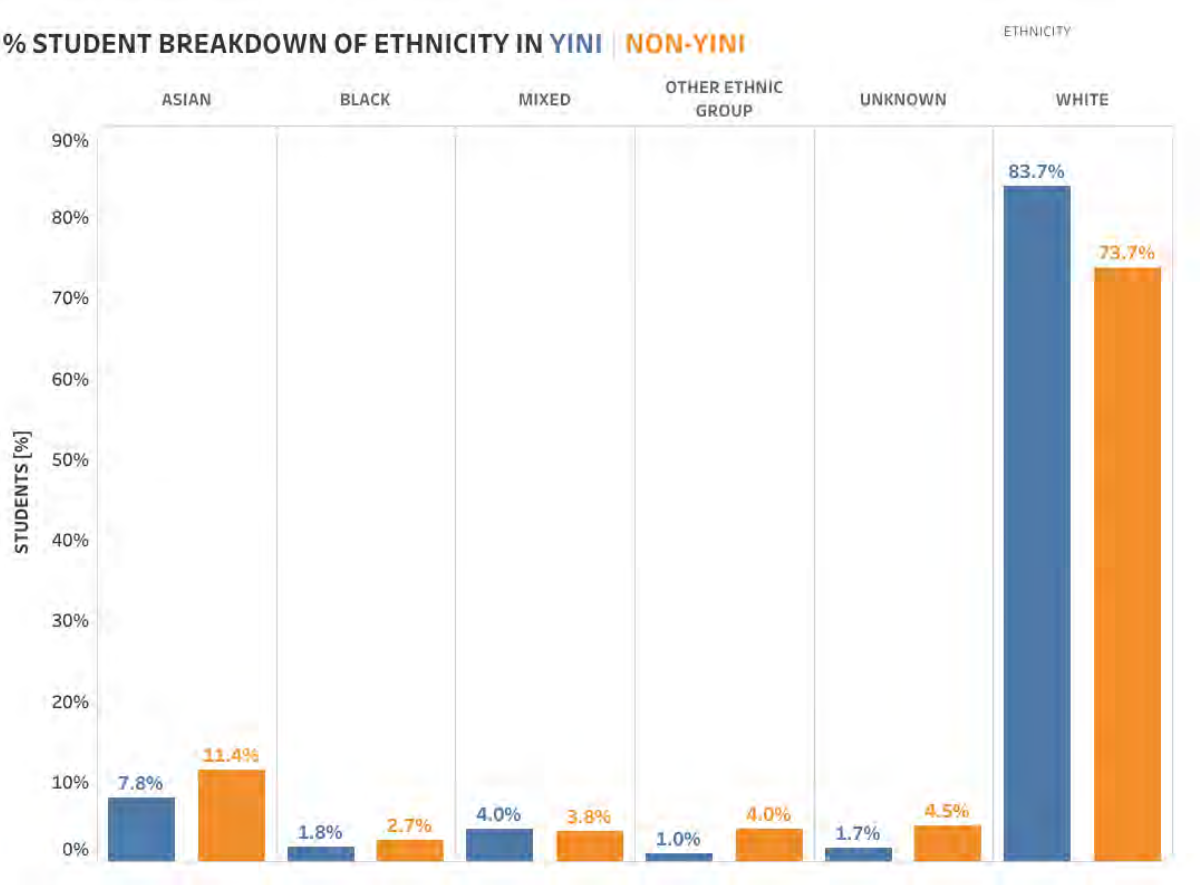


Ethnicity, placements access and degree outcomes

With regard to ethnicity, analysis using ethnicity categories consistent with HESA reporting requirements (HESA, No date) revealed that the YINI population is less diverse than the non-YINI population, suggesting the presence of a significant ethnicity-based placement access gap. Figure 8 shows that the YINI student population comprises 83.7% White students, with 7.8% Asian, 1.8% Black, 4.0% Mixed, 1.0% other ethnic groups, and 1.7% unknown ethnicity. This compares with, in the non-YINI population, 73.7% White students, with 11.4% Asian, 2.7% Black, 3.8% Mixed, 4.0% other ethnic groups and 4.5% unknown ethnicity. While results for individual ethnicity and unknown ethnicity categories were not

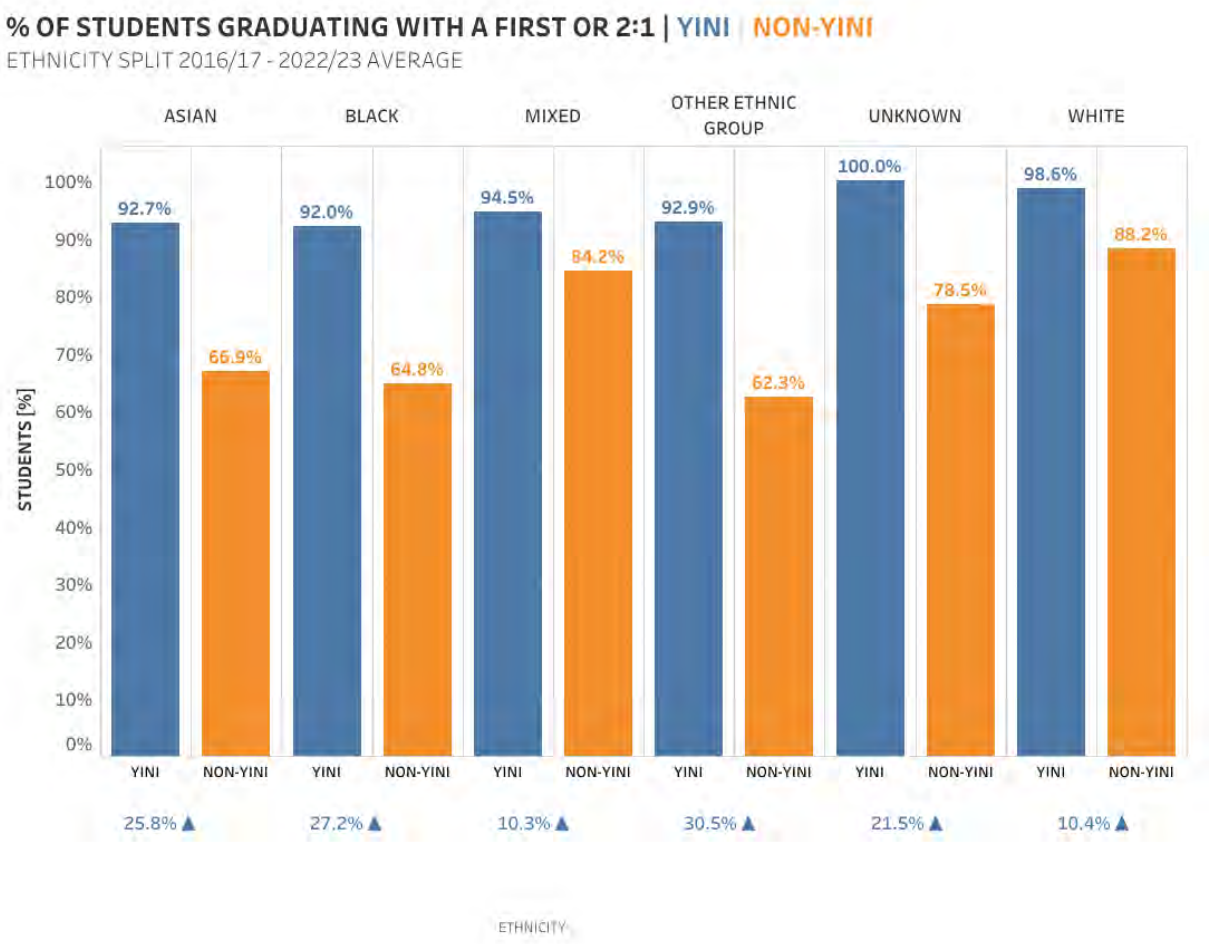
found to be statistically significant, the finding for White students was. The under-representation of Asian, Black and other ethnic groups within the YINI population is therefore of considerable concern, constituting ethnicity-based YINI access gaps across all minoritised groups.

Figure 8. The YINI student population is less diverse than the non-YINI student population, suggesting ethnicity-based access gaps.



Regarding ethnicity and degree outcomes, analysis shows that YINI students are more likely to gain good degrees than non-YINI students across all ethnic groups. However, the gaps between YINI and non-YINI achievement vary across ethnic groups. Figure 9 shows that the gap between YINI and non-YINI students is narrowest amongst Mixed Ethnicity students (10.3%) and White students (10.4%) and widest amongst Asian students (25.8%), Black students (27.2%), and other ethnic groups (30.5%), suggesting that YINI placements can offer greater benefits for students from Asian, Black and other ethnic groups. Here, all findings were statistically significant.

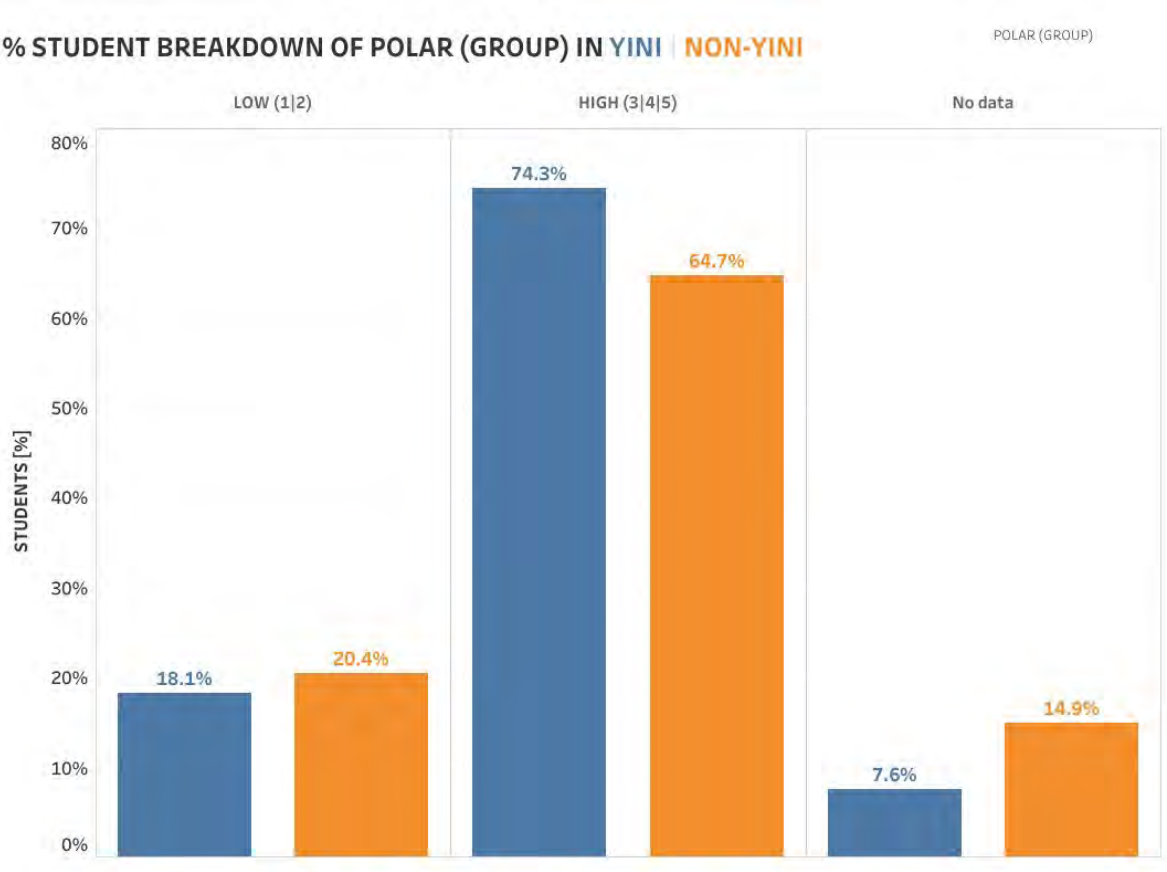
Figure 9. The awarding gaps between YINI and non-YINI students are widest amongst Asian students and Black students, and other ethnic groups, suggesting that YINI placements can offer greater benefits for students from Asian, Black and other ethnic groups.



POLAR, placements access and degree outcomes

Analysis revealed that students from POLAR groups 3, 4, and 5 are disproportionately over-represented in the YINI population, showing that students from high participation backgrounds are more likely to secure a YINI placement. Figure 10 shows a statistically significant result wherein 74.3% of students completing YINI placements are from POLAR groups 3, 4, and 5, whereas this group makes up only 64.7% of the wider, non-YINI population. Students from the lower POLAR groups (1 and 2) are under-represented within the YINI population (although this finding was not statistically significant), suggesting the presence of placement access gaps based on socio-economic background.

Figure 10. Students from the POLAR groups 3, 4 and 5 are over-represented within the YINI population, suggesting placement access gaps based on socio-economic background.



Regarding POLAR and degree outcomes, analysis shows that YINI programmes help to close the POLAR-based awarding gap present within the wider non-YINI population. In the non-YINI population, there is a POLAR-based awarding gap of 5.5% in favour of students from high participation backgrounds, whereas in the YINI population the gap shrinks to just 2.1%. Figure 11 shows that the gap between YINI and non-YINI students is widest for students in low POLAR groups (1 and 2). Here, participation in YINI leads to a 15.2% jump in the proportion of students from low POLAR groups getting good degrees, from 81.2% to 96.4%, suggesting that YINI placements can offer greater benefits for students from low participation backgrounds.

Figure 11. Participation in YINI helps to close the socio-economic awarding gap.

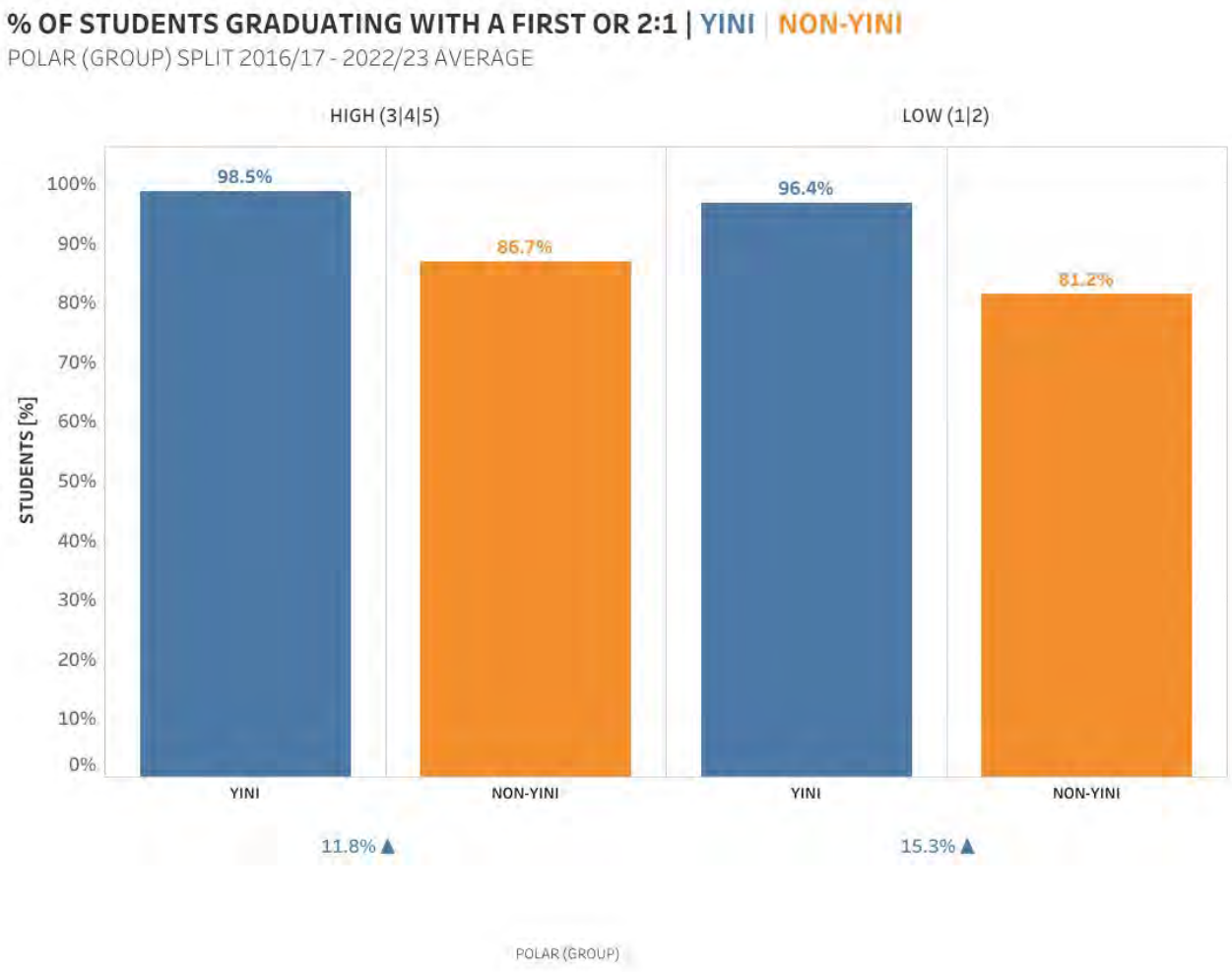


Table 3. Overall differences in student engagement in YINI and attainment of a 'good' degree (1st or 2.1), by graduation year, sex, disability, ethnicity and POLAR group.

Graduation year and engagement in YINI	YINI		Non-YINI			Confidence Interval	
	No.	%	No.	%	Significance	95%	99%
2016/17	159	4.0	3,793	96.0	***	3.12	4.09
2017/18	140	3.2	4,193	96.8	***	2.98	3.91
2018/19	199	4.5	4,259	95.5	***	2.93	3.86

2019/20	195	4.2	4,503	95.8	***	2.86	3.76
2020/21	248	5.2	4,500	94.8	***	2.84	3.74
2021/22	208	4.6	4,345	95.4	***	2.91	3.82
2022/23	240	5.3	4,252	94.7	***	2.92	3.84
Graduation year and good degree attainment							
2016/17	159	98.7	3,793	81.0	***	2.16	2.84
2017/18	140	98.6	4,193	81.5	***	2.27	2.99
2018/19	199	96.5	4,259	80.7	***	2.82	3.70
2019/20	195	99.5	4,503	85.3	***	1.43	1.88
2020/21	248	97.6	4,500	88.2	***	2.13	2.79
2021/22	208	97.6	4,345	85.9	***	2.32	3.05
2022/23	240	97.1	4,252	81.2	***	2.43	3.19
Sex and engagement in YINI							
Female	626	45.1	16,624	55.9	***	3.97	5.22
Male	763	54.9	13,084	44.1	***	3.63	4.77

Sex and good degree attainment							
Female	626	97.9	16,657	87.3	***	1.23	1.62
Male	763	97.8	13,112	78.7	***	1.25	1.65
Disability and engagement in YINI							
Known disability	136	9.8	4,162	14.0		5.11	6.71
No known disability	1,253	90.2	25,547	86.0	***	1.70	2.23
Disability and good degree attainment							
Known disability	136	95.6	4,172	84.4	***	3.62	4.75
No known disability	1,253	98.1	25,598	83.4	***	0.88	1.16
Ethnicity and engagement in YINI							
Asian students	109	7.8	3,383	11.4		5.15	6.76
Black students	25	1.8	791	2.7		5.33	7.01
Mixed ethnicity students	55	4.0	1,139	3.8		5.30	6.96
Other ethnic group students	14	1.0	1,197	4.0		5.33	7.00
Unknown ethnicity students	23	1.7	1,325	4.5		5.40	7.09

White ethnicity students	1,163	83.7	21,884	73.7	***	2.20	2.89
Ethnicity and good degree attainment							
Asian students	109	92.7	3,387	66.9	***	5.13	6.75
Black students	25	92.0	792	64.8	***	11.14	14.64
Mixed ethnicity students	55	94.5	1,132	84.2	***	6.39	8.39
Other ethnic group students	14	92.9	1,198	62.3	***	13.73	18.04
Unknown ethnicity students	23	100.0	1,325	78.5	***	2.21	2.91
White ethnicity students	1,163	98.6	21,936	88.2	***	0.80	1.05
POLAR group and engagement in YINI							
POLAR Low (1/2) students	251	18.1	6,073	20.4		4.87	6.4
POLAR High (3/4/5) students	1,033	74.3	19,221	64.7	***	2.75	3.61
POLAR group and good degree attainment							
POLAR Low (1/2) students	251	96.4	6,081	81.2	***	2.51	3.29
POLAR High (3/4/5) students	1,033	98.5	19,268	86.7	***	0.88	1.16
significance at ≤ .10 * significance at ≤ .05 ** significance at ≤ .01 ***							

Discussion

Across all groups, students completing YINI programmes are more likely to achieve first class degrees (70.1% YINI, 28.5% non-YINI) and good degrees (97.7% YINI, 83.6% non-YINI). Students completing YINI programmes typically achieve higher grades than non-YINI students throughout their respective programmes of study, from Year 1 through to Final Year, that is, students with stronger academic skills in Years 1 and 2 are more likely to secure a YINI placement.

Importantly, the study shows that completion of YINI narrows pre-existing awarding gaps found in the non-YINI population in relation to sex, disability, ethnicity, and socio-economic background. Given pre-existing awarding gaps between student groups, the potential gains are greatest for male students, students with known disabilities, Asian, Black and mixed ethnicity students, and students from low participation backgrounds.

However, access to placements is not proportionately distributed amongst the student population. Analysis shows that some groups are under-represented within the YINI population, that is, they are disproportionately less likely to secure a YINI placement. These groups include female students, students with known disabilities, students from all ethnic minorities and unknown ethnic backgrounds, and students from low POLAR groups (1 and 2), suggesting placement access gaps in relation to sex, disability, ethnicity, and socio-economic background.

In this context, the data suggests that more needs to be done institutionally and by placement employers to support under-represented and potential high-gain groups to secure and complete placements. Under-represented groups include female students, students with known disabilities, students of all ethnic minority groups, and students from low participation backgrounds. High-gain groups include male students, students with no known disabilities, Asian, Black, and mixed ethnicity students, and students from low participation backgrounds.

These findings align with earlier research on access and awarding gaps relating to ethnicity (Universities UK/National Union of Students, 2019; Advance HE, 2021; Cramer, 2021; Universities UK, 2022), gender (Divan et al., 2022) and socio-economic background

(Wolf et al., 2022), and occur within the context of national and international frameworks such as Advance HE's Athena Swan promoting gender equality and Race Equality Charter promoting ethnicity or racial equality. Socio-economic status is not listed as a protected equality characteristic in the Equality Act 2010, however the Act makes explicit reference to the duty of authorities to take regard of inequalities of outcome that result from socio-economic disadvantage. Universities have been working to address socioeconomic barriers for many years through widening participation (WP) initiatives and Advance HE included measures and analysis of students' social background for the first time in 2020 (Advance HE, 2020, pp.292-297).

Findings are most striking in relation to ethnicity, socioeconomic background, and disability. The underlying reasons for social inequalities are complex and structural – addressing them requires institutional, sectoral, and societal change that is both broad and deep. As Cramer (2021) points out, many institutions have put considerable effort into identifying what resources are needed to close awarding gaps, with nearly 200 recommendations across three reports concerning ethnicity-based awarding gaps alone. The most common recommendations concern determination of the award gap size; provision of infrastructure, leadership, or training regarding awarding gaps; addressing student experience or sense of belonging; changing teaching and learning practice or curriculum; engaging students in seeking solutions; and conducting further research on the causes. But therein lay two fundamental issues: these kinds of initiatives are time-intensive to develop and implement, both for academic and other university staff, and cost-heavy for universities. As Cramer puts it, 'the complex mix of recommendations distils to a simpler accelerated answer: increase staff ratios and remove other speed barriers' (2021, p.11).

Achieving such outcomes requires significant investment in higher education institution staffing, not only in frontline academic staff but in learning development and professional staff across institutions who support and enhance teaching, learning, and the student experience in all manner of ways, underpinned by commitments from university leaders to prioritise, recognise, and reward work on awarding gaps. Within such a context, learning developers and academic leaders can:

1. Raise awareness of placement access and awarding gaps within academic development programmes and through other initiatives.

2. Support management and academic colleagues to identify access and awarding gaps at institutional and local levels and develop action plans to address them, where they occur.
3. Encourage development of inclusive curricula and pedagogies to build confidence and self-esteem amongst students of diverse backgrounds.
4. Review marketing, recruitment, and admissions processes to help applicants from diverse backgrounds to see YINI placements as relevant, valuable, and achievable elements of their university experience.
5. Ensure the work involved with researching and applying for YINI placements is appropriately supported and rewarded with academic credit.
6. Consider targeted interventions to engage and support specific groups of under-represented students to apply for and secure YINI placements.
7. Develop communities of practice (Wenger, 1998), including pre- and post-placement students, alumni, placement employers, and other stakeholders to share experiences, perspectives, challenges, and solutions.

Limitations

The study comprises various limitations. Most importantly, the study was situated within one institutional context and may not be generalisable to other contexts. It provides a snapshot of working data using legacy systems within the context of a data improvement project – whilst every effort has been taken to avoid and minimise such risks, the data may contain inaccuracies. Furthermore, quantitative data such as this can paint a broad picture that offers evidence of placement access and degree awarding gaps, but offers little insight into the reasons why or how gaps emerged, nor how students experience and navigate placements and post-placement studies within a university context.

Suggestions for further research

Future studies should consider the use of qualitative research methods such as surveys, interviews, and focus groups to reveal insights into the lived experiences of placement and non-placement students of diverse backgrounds. Developing understanding of other stakeholder perspectives such as programme leaders and employers would be very valuable, as would comparative analysis of multiple institutions, disciplinary differences,

and intersectionality between multiple characteristics. Finally, across all these possibilities for future research, engaging students as co-researchers may help to voice fresh participant perspectives, while at the same time providing meaningful and authentic research experience for those involved.

Conclusions

The benefits of work placements with regards to student employability, graduate outcomes, and academic achievement are well-established. However, less is known about which student groups gain access to placements and the extent to which they are able to realise the developmental opportunities they offer. This paper contributes new empirical evidence that suggests that YINI schemes can reduce structural societal inequalities that underpin persistent, sector-wide awarding gaps in relation to sex, disability, ethnicity, and socio-economic background. However, access to YINI placements and their benefits are not proportionately distributed. Female students, students with disabilities, students from ethnic minority groups, and students from low POLAR groups are under-represented within the YINI population, suggesting placement access gaps in relation to sex, disability, ethnicity, and socio-economic background. Given the significant benefits of YINI completion, initiatives which broaden access to such schemes and address inequalities in placement access should be prioritised.

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References

Advance HE (2020) *Equality+ Higher Education: Students statistical report 2020.* Advance HE. Available at: https://www.advance-he.ac.uk/knowledge-hub/equality-higher-education-statistical-report-2020 (Accessed: 20 December 2023).

Advance HE (2021) *Ethnicity awarding gaps in UK higher education in 2019/20.* Advance HE. Available at: https://www.advance-he.ac.uk/news-and-views/advance-he-launches-ethnicity-awarding-gaps-uk-higher-education-201920-report (Accessed: 18 July 2023).

Ahmed V., Pathmeswaran R., Baldry D., Worrall L. and Abouen S. (2008) 'An investigation into the barriers facing black and minority ethnics within the UK construction industry', *Journal of Construction in Developing Countries*, 13(2), pp.83-99. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84861072635&partnerID=40&md5=1a893d56ba64430a62f508e5a6f4eb0b (Accessed: 18 July 2023).

Alwi A., Abidin N. Z., Hashim Z. and Yahya N. S. (2022) 'Prioritising the preference criteria for an internship undergraduate programme based on gender differences: an application of analytical hierarchy process', *AIP Conference Proceedings*: *The 5th Innovation and Analytics Conference and Exhibition (IACE 2021)*, Kedah, Malaysia 23-24 November. 2472, article no. 040004. https://doi.org/10.1063/5.0093030.

Augar, P. (2019) *Post-18 review of education and funding: independent panel report*, May. Available at: https://assets.publishing.service.gov.uk/media/5ceeb35740f0b62373577770/Review_of_post_18_education_and_funding.pdf (Accessed: 28 July 2023).

Binder J.F., Baguley T., Crook C. and Miller F. (2015) 'The academic value of internships: Benefits across disciplines and student backgrounds', *Contemporary Educational Psychology*, 41, pp.73-82. https://doi.org/10.1016/j.cedpsych.2014.12.001.

Blicbau, A. S., Nelson, T. L. and Dini, K. (2016) 'The role of work placement in engineering students' academic performance', *Asia-Pacific Journal of Cooperative Education*, 17(1), pp.31-43.

Cramer, L. (2021) 'Alternative strategies for closing the award gap between white and minority ethnic students', *eLife,* 4 August. https://doi.org/10.7554/eLife.58971.

Crawford, I., Wang, Z. and Andrews, G. (2016) 'Exploring the influence of individual and academic differences on the placement participation rate among international students', *Education + Training*, 58(4), pp.342-357. https://doi.org/10.1108/ET-04-2015-0029.

Divan, A., Pitts, C., Watkins, K., McBurney, S. J., Goodall, T., Koutsopoulou, Z. G. and Balfour, J. (2022) 'Inequity in work placement year opportunities and graduate employment outcomes: a data analytics approach', *Journal of Further and Higher Education*, 46(7), pp.869-883. https://doi.org/10.1080/0309877X.2021.2020220.

Gomez, S., Lush, D. and Clements, M. (2004) 'Work placements enhance the academic performance of bioscience undergraduates', *Journal of Vocational Education and Training*, 56(3), pp.373-385. https://doi.org/10.1080/13636820400200260.

HESA (No date) Ethnicity (ETHNIC). Available at: https://www.hesa.ac.uk/collection/student/datafutures/a/student_ethnic (Accessed: 17 July 2023).

HESA (2021) *Using Census data to generate a UK-wide measure of disadvantage – Results.* Available at: https://www.hesa.ac.uk/insight/05-10-2021/new-measure-disadvantage-05-results (Accessed: 17 July 2023).

Hughes, H. P. N., Mouratidou, M. and Donald, W. E. (2023) 'Exploring the impact of an industrial placement year on students' competency development: a three-cohort, longitudinal study', *Higher Education, Skills and Work-Based Learning*, 13(6), pp. 1218-1233. https://doi.org/10.1108/HESWBL-02-2023-0044.

Jackson, D. (2013) 'Business graduate employability – where are we going wrong?' *Higher Education Research and Development*, 32(5), pp.776-790. https://doi.org/10.1080/07294360.2012.709832.

Jackson, D. (2014) 'Modelling graduate skill transfer from university to the workplace', *Journal of Education and Work*, 29(2), pp.199-231. https://doi.org/10.1080/13639080.2014.907486.

Jerrim, J. (2021) 'Measuring disadvantage', *Sutton Trust.* 14 May. Available at: https://www.suttontrust.com/our-research/measuring-disadvantage-higher-education-polar-fsm/ (Accessed: 18 July 2023).

Mandilaras, A. (2004) 'Industrial placement and degree performance: evidence from a British higher institution', *International Review of Economics Education*, 3(1), pp.39-51. https://doi.org/10.1016/S1477-3880(15)30146-8.

Mansfield, R. (2011) 'The effect of placement experience upon final-year results for surveying degree programmes', *Studies in Higher Education*, 36(8), pp.939-952. https://doi.org/10.1080/03075079.2010.486073.

McHugh, P. P. (2017) 'The impact of compensation, supervision and work design on internship efficacy: implications for educators, employers and prospective interns', *Journal of Education and Work,* 30(4), pp.367-382. https://doi.org/10.1080/13639080.2016.1181729.

Millward, C. (2022) 'How England plans to cut back 'low value' degrees so it can reap more student loan repayments', *The Conversation*, 17 August. Available at: https://theconversation.com/how-england-plans-to-cut-back-low-value-degrees-so-it-can-reap-more-student-loan-repayments-185999 (Accessed: 28 July 2023).

Office for Students (2023) *Young participation by area.* Available at: https://www.officeforstudents.org.uk/data-and-analysis/young-participation-by-area/about-polar-and-adult-he/ (Accessed: 17 July 2023).

Perlin, R. (2012) *Intern nation: how to earn nothing and learn little in the brave new economy.* United Kingdom: Verso.

Reddy, P. and Moores, E. (2006) 'Measuring the benefits of a psychology placement year', *Assessment & Evaluation in Higher Education*, 31(5), pp.551-567. https://doi.org/10.1080/02602930600679555.

Sahama, T. R., Yarlagadda, P. K., Oloyede, A. and Willet, G. (2008) 'Impact of work integrated learning (WIL) on graduate preparation for the manufacturing industry', in Yarlagadda, P. K. and Gudmetla, P. (eds.) *Proceedings of the 9th Global Congress on Manufacturing and Management (Paper#41)*. Queensland University of Technology, Brisbane 12-14 November. Available at: https://eprints.qut.edu.au/18220/1/c18220.pdf (Accessed: 10 July 2023).

Smith, S., Taylor-Smith, E., Smith, C. and Webster, G. (2018) 'The impact of work placement on graduate employment in computing: outcomes from a UK-based study', *International Journal of Work-Integrated Learning*, 19(4), pp.359-369. Available at: http://researchrepository.napier.ac.uk/output/1258580 (Accessed: 10 July 2023).

Stamati K., and Willmott L. (2022) 'Preparing UK PhD students towards employability: a social science internship programme to enhance workplace skills', *Journal of Further and Higher Education*, 47(2), pp.151-166. https://doi.org/10.1080/0309877X.2022.2102411.

Stewart, A. and Owens, R. (2013) *Experience or exploitation? The nature, prevalence and regulation of unpaid work experience, internships and trial periods in Australia: Report for the Fair Work Ombudsman*, University of Adelaide. Available at: https://apo.org.au/sites/default/files/resource-files/2013-01/apo-nid64859.pdf (Accessed: 13 October 2023).

Surridge, I. (2009) 'Accounting and Finance degrees: is the academic performance of placement students better?', *Accounting Education: An International Journal*, 18(4-5), pp.471-485. https://doi.org/10.1080/09639280802008498.

The Guardian (2023) 'The Guardian view on 'rip-off' degrees: another low-value government intervention', Editorial, *The Guardian*, 17 July. Available at: https://www.theguardian.com/commentisfree/2023/jul/17/the-guardian-view-on-rip-off-degrees-another-low-value-government-intervention (Accessed: 28 July 2023).

UCAS (2023) *Search*: Courses, apprenticeships, information guides and more 'with a year in industry'. Available at: https://digital.ucas.com/coursedisplay/results/providers?searchTerm=year%20in%20industry&studyYear=2024&destination=Undergraduate&postcodeDistanceSystem=imperial&pageNumber=1&sort=ProviderAtoZ&clearingPreference=NextYear (Accessed: 19 July 2023).

Universities UK/National Union of Students (2019) *Black, Asian and Minority Ethnic student attainment at UK Universities: #ClosingTheGap.* Available at: https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-07/bame-student-attainment.pdf (Accessed: 22 July 2023).

Universities UK (2022) *Closing ethnicity degree awarding gaps: three years on.* Available at: https://www.universitiesuk.ac.uk/sites/default/files/uploads/Reports/closing-the-gap-three-years-on.pdf (Accessed: 23 October 2023).

Vignoles, A. (2020) 'How do we define 'value' in higher education?', *The British Academy* [Blog], 4 March. Available at: https://www.thebritishacademy.ac.uk/blog/how-define-value-higher-education/ (Accessed: 28 July 2023).

Wang, Z. and Crawford, I. (2019) 'Who are gaining the highly paid elite placements in UK higher education?', *Studies in Higher Education*, 44(11), pp.1960-1974. https://doi.org/10.1080/03075079.2018.1476482.

Wenger, E. (1998) *Communities of practice: learning, meaning, and identity (learning in doing: social, cognitive and computational perspectives)*. Cambridge: Cambridge University Press.

Wolf, M., Kapoor, A., Hobson, C. and Gardner-McCune, C. (2023) 'Modeling determinants of undergraduate computing students' participation in internships', *Proceedings of 54th ACM Technical Symposium on Computer Science Education (SIGCSE '23)*, Toronto, Canada March. New York: ACM, pp.1-7. https://doi.org/10.1145/3545945.3569754.

Zegwaard, K. E., and Hodges, D. (2003) 'Science and technology stakeholders' ranking of graduate competencies part 3: Graduate perspective', *Asia-Pacific Journal of Cooperative Education*, 4(2), pp.23-35. Available at: https://www.ijwil.org/files/APJCE_04_2_23_35.pdf (Accessed: 10 July 2023).

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