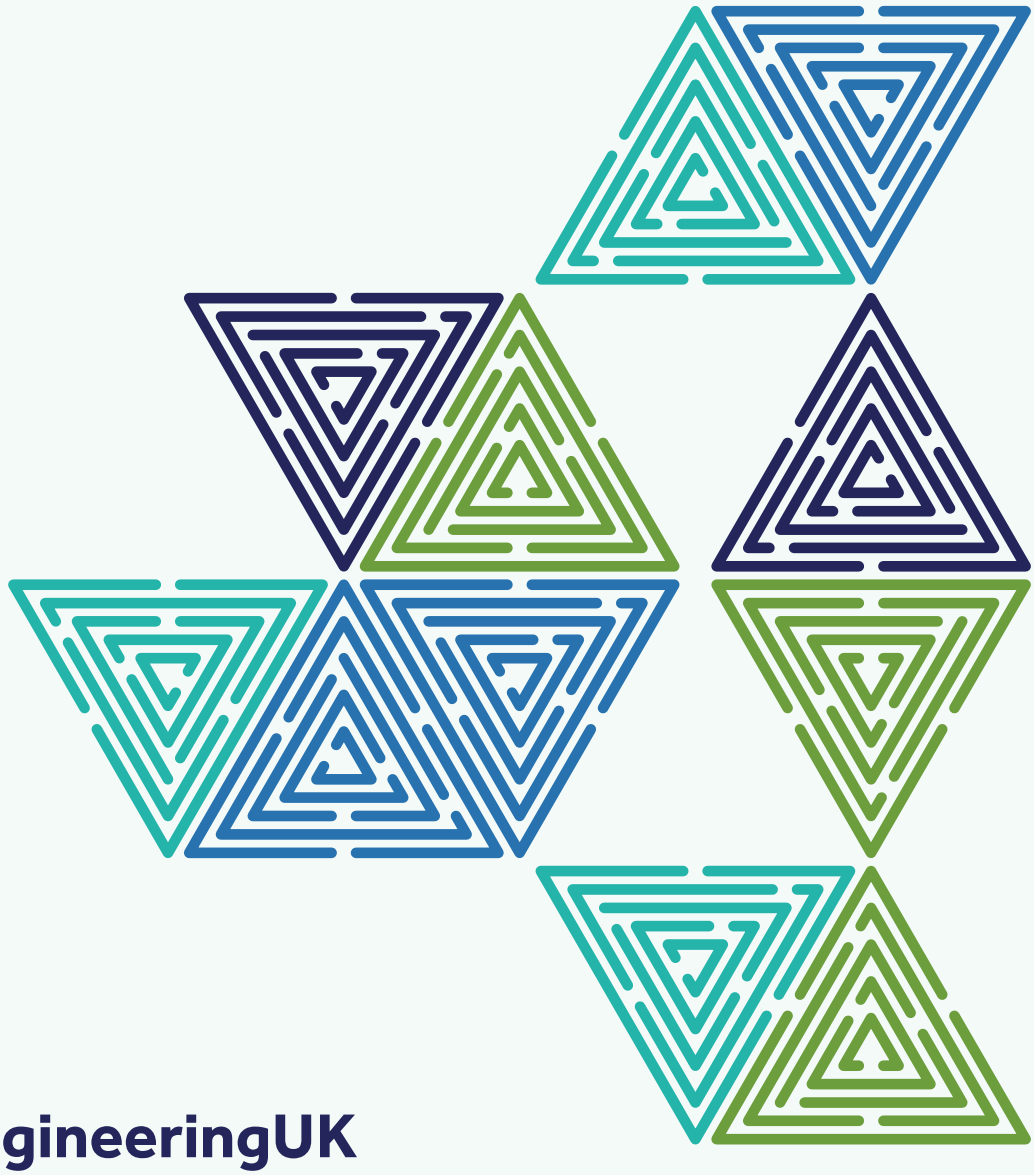
GRADUATE OUTCOMES – ENGINEERING AND TECHNOLOGY

July 2025



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Contents

Key findings

Among 2021/22 graduates surveyed 15 months after completing their qualifications:

Characteristics of engineering and technology graduates

- Women remain underrepresented in engineering and technology degrees at only 21.0%. This compares to all other subjects combined where nearly two thirds were women (63.7%)
- UK minority ethnic groups were overrepresented in engineering and technology subjects (30.7%) compared to all other subjects combined (24.4%), however, there were differences between UK minority ethnic groups with some underrepresented (e.g. 'Black or Black British – Caribbean' and 'Other Black backgrounds')
    - Over a third of women who studied engineering and technology degrees were from a UK minority ethnic group (34.6%) compared to 29.8% of men
- Engineering and technology graduates were less likely to report a disability (13.8%), compared to all other subjects combined (18.4%)
    - Women were slightly more likely to report a disability amongst engineering and technology graduates (16.6%) compared to men (13.0%)
    - 'Asian or Asian British', 'Black or Black British', Mixed and White engineering and technology graduates were less likely to report a disability compared to all other subjects combined
- Engineering and technology graduates were more likely to come from the most advantaged areas of the UK (32.5%), compared to all other subjects combined (31.2%)
    - Female engineering and technology graduates were more likely to come from the most advantaged areas (34.4%) compared to men (32.1%)
- Engineering and technology graduates were more likely to have a parent(s) with higher education qualifications compared to all other subjects combined (54.0% vs. 50.5%)

What are engineering and technology graduates doing now?

- Fifteen months after graduation, engineering and technology graduates were more likely to be in paid employment (73.2%) compared to graduates from other subjects (70.4%)
- 63.2% of engineering and technology graduates in paid employment were working in engineering and technology occupations
    - Male engineering and technology graduates were more likely to go on to work in an engineering and technology occupation (65.5%) compared to women (54.3%)
    - White engineering and technology- graduates were most likely to work in engineering and technology at over two-thirds (68.0%). This was followed by graduates from a mixed ethnicity at 64.4% and Chinese engineering and technology graduates at 63.5%.
- Computer science was the most popular engineering and technology subject, with 23.6% of engineering and tech graduates having studied this, followed by mechanical engineering (11.6%) and electrical and electronic engineering (8.3%)

- Engineering and technology graduates tended to make more money compared to all other subjects combined. 22.2% of engineering and technology graduates were earning between £30,001-£35,000 compared to 15.2% of graduates from all other subjects

Engineering and technology industry

- Over half of engineering and technology graduates (54.5%) were working in the engineering industry 15 months after graduation
    - This was more likely among men (56.1%) compared to women (48.5%)
    - More white engineering and technology graduates went on to work in the engineering industry (59.8%) compared to UK minority ethnic groups (49.9%)
- 16.4% were also working in engineering and technology occupations, but *outside* of the engineering industry.

Subjective wellbeing

- 50.8% of graduates working in engineering and technology roles said the main reason they took their current job was because 'it fitted into [their] career plan / it was exactly the type of work [they] wanted'
- A higher percentage of engineers and technicians either agreed or strongly agreed that their current activity is meaningful (87.2%) compared to graduates working in all other occupations (85.2%)
    - This figure has declined slightly, however, compared to engineers from 2017/18 (88.3%)
- Engineers were more likely to strongly agree (40.3%) and agree (44.7%) their current activity was on track (with their future plans) compared to graduates working in all other occupations (37.5% and 39.7% respectively)
    - Men were more likely to strongly agree (40.5%) their activity is on track with their future plans compared to women (39.9%)
    - Nearly half of engineers from a UK minority ethnic group (46.9%) agreed their activity is on track, compared to 41.4% working in all other occupations
- Engineers were significantly more likely to agree or strongly agree their current activity utilises their skills (70.4%) compared to all other occupations (68.8%)
    - This has declined from 72.7% of engineers in the academic year 2017/18
    - UK minority ethnic groups were less likely to strongly agree or agree (69.8%) compared to white engineers (71.8%)
- Over a third of engineers stated the level and subject of their qualification was required for their current occupations (36.6%) and this was significantly higher compared to all other occupations (33.6%)
    - This figure has declined from 39.8% in the academic year 2017/18

Introduction

Higher education (HE) is one of the key pathways into engineering and technology jobs, and each year we aim to understand what graduates are doing once they finish their degrees. The HESA Graduate Outcomes dataset allows us to explore activity 15 months on from graduation and the characteristics of those who studied engineering and technology-degrees.

In this report we explore the latest data – from those who graduated during the academic year 2021/22 and were interviewed 15 months later[1] - to identify:

1. the demographics of those who graduated in engineering and technology subjects, including:
    - gender
    - ethnicity
    - disability
    - parental education
    - socio-economic background
2. how many graduates are entering the engineering and technology industry, and which engineering occupations graduates are working in
3. whether they feel:
    - their current activity utilises the skills they learnt during their studies
    - their current activity fits with their plans for the future
    - a qualification was required for their current activity

Notes about the data

Defining engineering and technology

In previous reports, we used HESA's Common Aggregation Hierarchy (CAH) definition[2] to define 'engineering and technology' (CAH10) degrees. This year, however, we have added computing (CAH11) graduates to our definition of engineering and technology for two reasons:

1. HESA's CAH definition of engineering and technology (CAH10) did not adequately match our definition of engineering and technology in the workforce as outlined in our engineering footprint[3]
2. Because of the inclusion of computer science / software engineering jobs in the footprint, our previous results showed a similar percentage of computing graduates

[1] 355,125 students are included in this survey. They graduated in 2021/2022 and were surveyed in 2022/2023. Results were released in summer 2024.
[2] Click here for the HESA Common Aggregation Hierarchy (CAH) definitions: https://www.hesa.ac.uk/support/documentation/hecos/cah
[3] EngineeringUK. (2024). *The Engineering Footprint*. Available at: https://www.engineeringuk.com/research-policy/industry-workforce/the-engineering-footprint/

went on to work in engineering and technology roles as those who studied engineering and technology (using the CAH definition)

Throughout this report 'engineering and technology degrees/graduates/subjects' will refer to engineering, technology *and* computing. As we have updated our definition of engineering and technology degrees, our results will no longer be comparable to previous years; therefore, for a number of variables we have provided year-on-year comparisons using our new definition.

Significant differences

Throughout this report, to understand the outcomes of engineering and technology graduates, we compare these graduates to all other subjects combined. Differences mentioned throughout the report are significant unless otherwise specified.

Characteristics of engineering and technology graduates

Engineering and technology remained one of the most popular subjects in higher education, in 6th place at 6.4%. Computing was also one of the most popular degrees (in joint 7th place with psychology) at 5.3% (table 1). Across both 'engineering and technology' and computing there were approximately 41,550 graduates[4].

Table 1: Subject of study (CAH1) for the academic year 2021/22

Subject	Percentage
Business and management	13.6
Subjects allied to medicine	12.5
Social sciences	10.6
Education and teaching	8.0
Design, and Creative and Performing Arts	7.1
Engineering and technology	6.4
Psychology	5.3
Computing	5.3
Biological & sport sciences	4.8
Law	4.0
Historical, philosophical and religious studies	3.6
Language and area studies	3.5
Physical sciences	2.7
Medicine & dentistry	2.6
Architecture, building and planning	2.4
Media, Journalism and Communications	1.9
Mathematical sciences	1.8
Geography, Earth and Environmental Studies	1.5
Agriculture, food and related studies	0.8
Combined and general studies	0.7
Geography, Earth and Environmental Studies (social sciences)	0.6
Veterinary science	0.3

[4] Consistent with HESA's terms and conditions for reporting Graduate Outcomes data, all figures presented in the report are rounded to the nearest 5

Degree type

Graduates completed one of 4 main degree types:

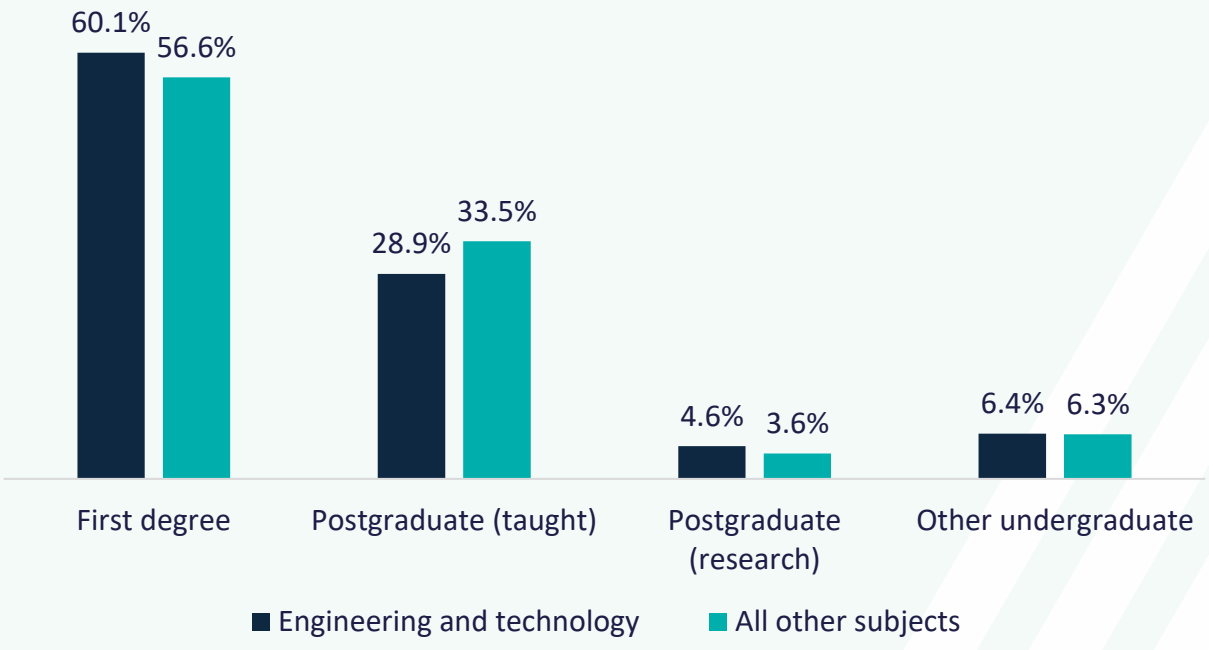
- first undergraduate degree
- postgraduate degree (taught)
- postgraduate degree (research)
- other undergraduate degree

Most graduates had received their first undergraduate degree[5]. This figure was slightly higher amongst engineering and technology graduates at 60.1%, compared to all other subjects combined (56.6%).

The second most popular degree type amongst engineering and technology graduates was post-graduate (taught) degrees at 28.9%, however, this figure was higher for all other subjects combined at a third (33.5%). This is predominantly because integrated degrees (where students study for 4 years, including a masters), which are particularly popular in engineering and technology, are included in the 'first undergraduate degree' category in HESA's coding. Specific degree types are explored later in this report on page 10.

A similar number of engineering and technology graduates and all other subjects combined had just completed a postgraduate (research) degree (4.6% and 3.6% respectively) and there were also similar numbers for 'other undergraduates' degrees at 6.4% and 6.3% respectively (figure 1).

Figure 1: Percentage of engineering and technology graduates who completed each degree type, compared to all other subjects combined for the academic year 2021/22



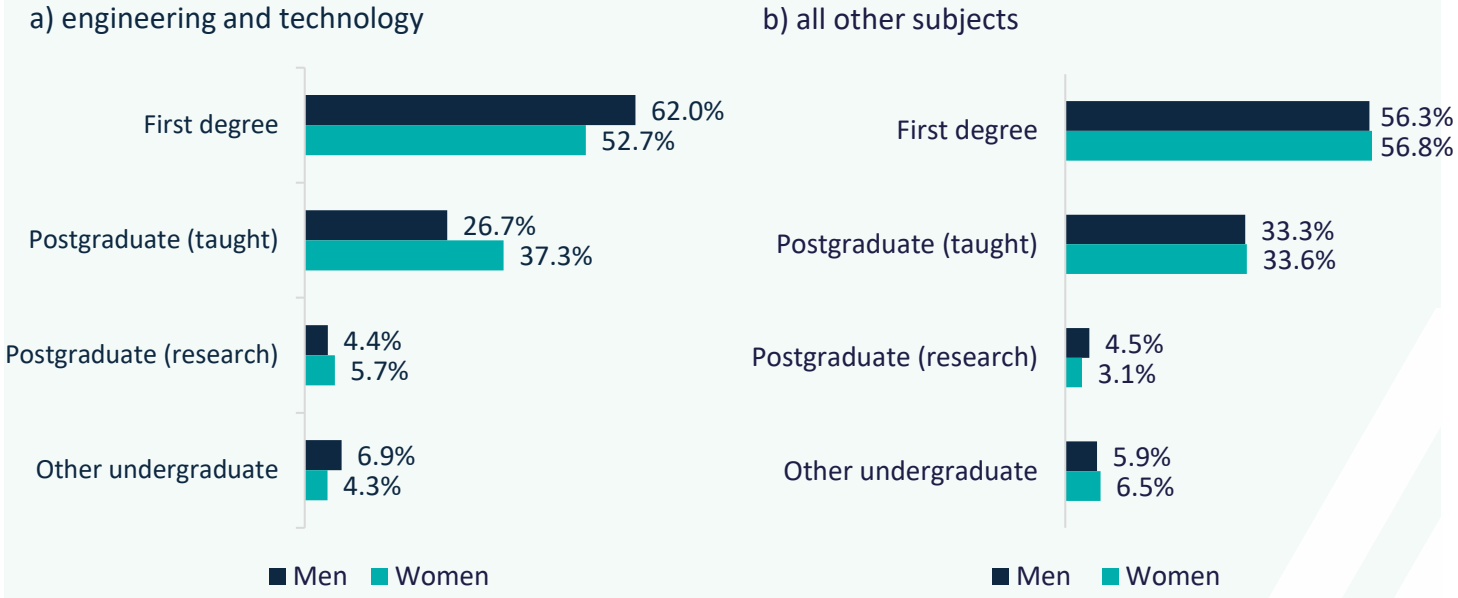
[5] An undergraduate first degree includes (but is not limited to) 'first degree with honours' and 'integrated undergraduate/postgraduate taught masters'. Click here for HESA's definition of first degrees.

Degree type and gender[6]

There were noticeable gender differences for engineering and technology graduates as to which degrees were most popular. Whilst over half of women had completed their first degree (52.7%), this figure was nearly 10 percentage points higher for men at 62.0%. In comparison, there was only a small gender difference amongst graduates from all other subjects combined (0.5 percentage points) (figure 2).

Over a third of women who studied an engineering and technology degree had obtained a postgraduate (taught) degree (37.3%) compared to only 26.7% of men. When looking at the percentage of men and women who had obtained the same degree amongst all other subjects combined there was no gender difference (33.3% and 33.6% respectively).

Figure 2: Percentage of engineering and technology graduates who completed each type of degree, compared to all other subjects combined for the academic year 2021/22, by gender



Degree type and ethnicity

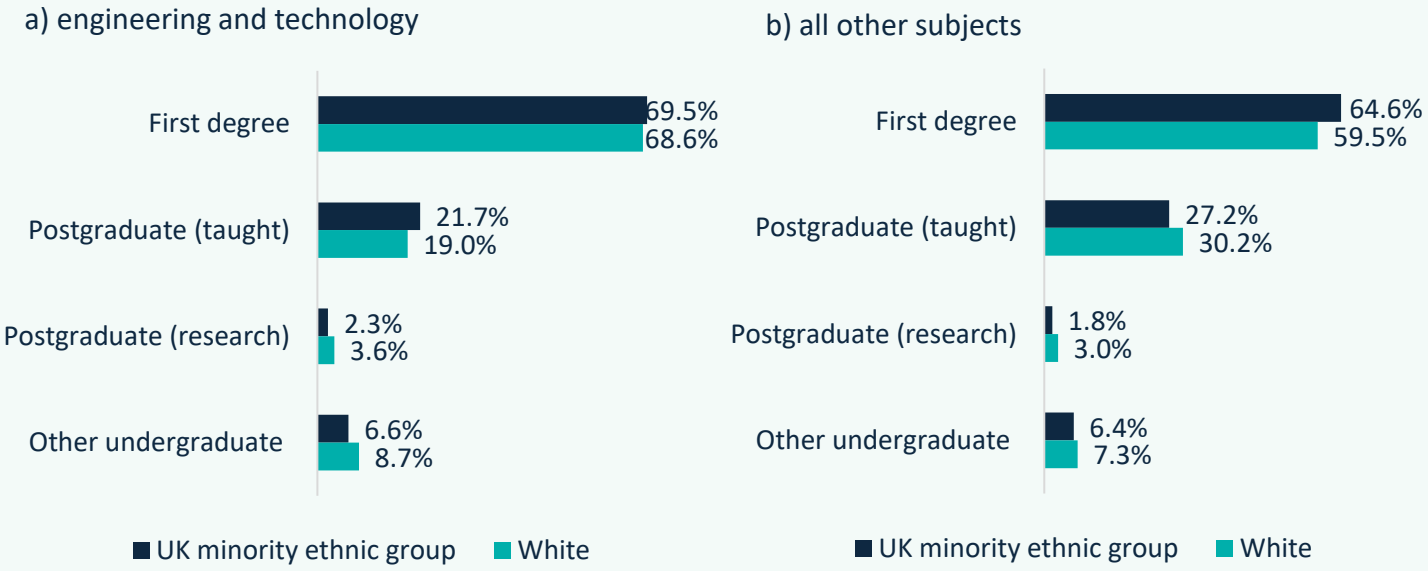
We also looked at degree type by ethnicity. Unfortunately, due to small numbers we were unable to look at each UK minority ethnic group in turn and have compared white graduates to graduates from a UK minority ethnic group.

When looking at engineering and technology graduates, there was little difference between UK minority ethnic groups and white graduates who obtained a first degree (69.5% and 68.6% respectively). There was a difference, however, amongst graduates from all other subjects. Nearly two-thirds of graduates from a UK minority ethnic group had just completed their first degree (64.6%) compared to 59.5% of white graduates.

[6] HESA also includes 'other' for graduates who do not identify as male or female. Unfortunately, we were unable to include this group due to very small numbers.

A higher proportion of engineering and technology graduates from a UK minority ethnic group had just completed a postgraduate (taught) degree (21.7%) compared to white graduates (19.0%). For all other subjects combined, however, we saw the opposite effect with a higher proportion of white graduates having completed a postgraduate (taught) degree at 30.2% compared to graduates from UK minority ethnic groups (27.2%) (figure 3).

Figure 3: Percentage of engineering and technology graduates who completed each type of degree, compared to all other subjects combined for the academic year 2021/22, by ethnicity



Highest qualification obtained

We also looked at the highest qualification obtained, the full list of which can be found in the Appendix.

The most frequent highest qualification amongst engineering and technology graduates was a 'first degree with honours', at 43.2%. A 'first degree with honours' was also the most frequently reported highest qualification for all other subjects, but this figure was slightly higher at 45.7%.

The second most frequent highest qualification for engineering and technology graduates was a 'Masters degree obtained typically'[7] at 26.9%. This was also the second most popular highest qualification for all other subjects, but at only 21.8%.

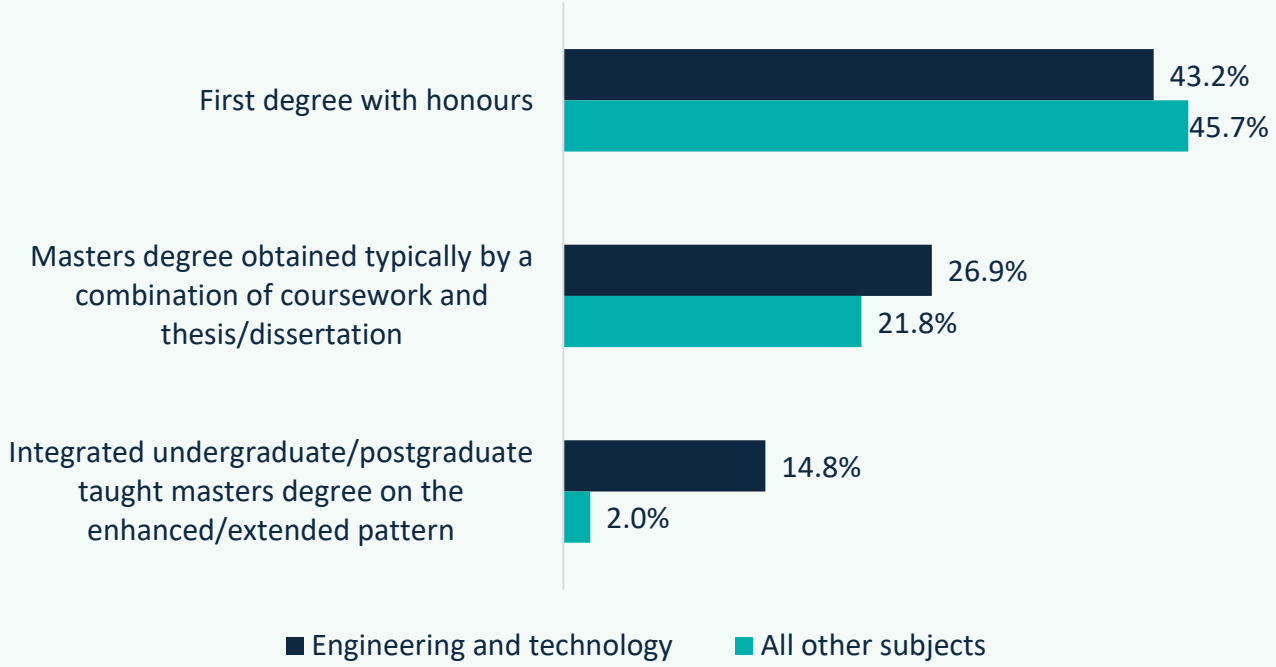
There was a big difference between engineering and technology graduates compared to all other subjects combined for the third most frequent higher qualification: 'an integrated undergraduate/postgraduate taught masters degree on the enhanced/extended pattern'. While 14.8% of engineering and technology graduates had obtained an 'integrated undergraduate/postgraduate taught masters degree' only 2.0% of graduates from all other subjects achieved the same. As integrated undergraduate/postgraduate taught masters degree

[7] Masters degree obtained typically by a combination of coursework and thesis/dissertation, that does not meet the criteria for a research-based higher degree

are classed as first degrees (figure 4). These results were also reflected in page 7 where we saw first degrees were more popular amongst engineering and technology graduates.

For all other subjects combined, the third most frequently reported highest qualification was a pre-registration first degree with honours leading towards obtaining eligibility to register to practice with a health or social care or veterinary statutory regulatory body (5.7%).

Figure 4: Highest qualification obtained as a percentage, comparing engineering and technology graduates to all other subjects



Gender

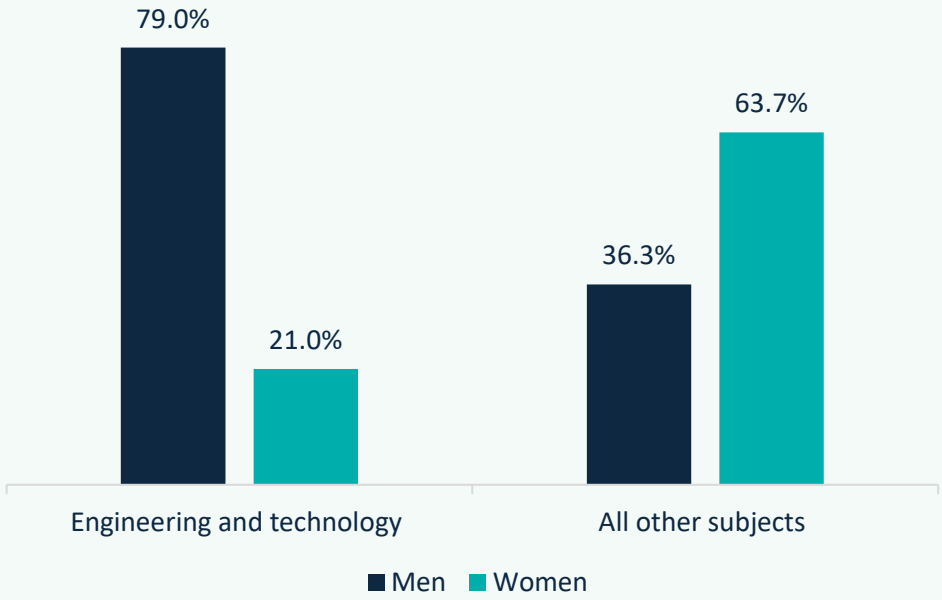
Women remain underrepresented in engineering and technology degrees at only 21.0%, compared to 63.7% for all other subjects combined (figure 5). Our findings were also consistent with the latest Global Gender Gap Report (2024) from the World Economic Forum, which found only 23.5% of engineering, manufacturing and construction graduates and 19.4% of ICT graduates were women[8].

As we used a new definition of engineering and technology subjects, we looked at previous years and found only a 0.2 percentage point increase in the percentage of women graduating with an engineering and technology degree since 2019/20.

Adding computing to our definition also had minimal impact on the share of women, adding only 0.6 percentage points.

[8] World Economic Forum. (2024). *Global Gender Gap 2024: Insight Report (June 2024)*. Available at: https://www3.weforum.org/docs/WEF_GGGR_2024.pdf

Figure 5: Gender differences in the percentage of graduates studying engineering and technology degrees, compared to all other subjects



Ethnicity[9]

All but 2 UK minority ethnic groups were overrepresented in engineering and technology subjects compared to all other subjects combined. Nearly a third of engineering and technology graduates were from a UK minority ethnic group (30.7%), compared to only 24.4% for all other subjects combined.

The greatest difference was for 'Asian or Asian British – Indian' graduates with a difference of 2.0 percentage points between engineering and technology graduates (5.5%) and all other subjects combined (3.5%)

This overrepresentation, however, is not evident across *all* UK ethnic minority groups. The only 2 UK minority ethnic groups underrepresented in engineering and technology subjects were 'Black or Black British – Caribbean' and 'Other Black backgrounds', highlighting once again important differences between ethnic groups (table 2).

[9] HESA only includes ethnicity data for UK residents, so we are unable to report on this data for graduates from the EU or the rest of the world (RoW).

Table 2: Ethnicity of graduates comparing engineering and technology to all other subjects as a percentage for the academic year 2021/22

Ethnicity	Engineering and technology	All other subjects
Asian or Asian British - Bangladeshi	1.9	1.5
Asian or Asian British - Indian	5.5	3.5
Asian or Asian British - Pakistani	4.4	3.2
Other Asian background	3.5	2.1
Black or Black British - African	6.0	5.7
Black or Black British - Caribbean	0.8	1.3
Other Black background	0.2	0.3
Chinese	1.6	0.9
Mixed	4.4	4.2
Other	2.3	1.7
White	69.3	75.6

Ethnicity and gender

It is also important to not just look at ethnicity and gender in isolation, but where possible, the intersectionality between these 2 characteristics. Unfortunately, due to small numbers we were unable to report on all 11 ethnic groups listed above. However, with the inclusion of computing to our definition of engineering and technology graduates we were able to look at ethnicity more closely than we have previously.

There was a higher percentage of women from a UK minority ethnic group studying engineering and technology subjects compared to men. Over a third of women who studied engineering and technology were from a UK minority ethnic group (34.6%) compared to 29.8% of men. When looking at ethnicity and gender for all other subjects combined there was minimal difference between men and women with 24.9% and 24.1% respectively from a UK minority ethic group.

When comparing women from engineering and technology subjects to all other subjects combined, the greatest percentage point difference was for Asian or Asian British graduates at 6.1 (15.9% and 9.8% respectively). There was a similar effect for men, with a difference of 4.0 percentage points between engineering and technology graduates (15.2%) and men from all other subjects combined (11.2%) amongst Asian or Asian British graduates (table 3).

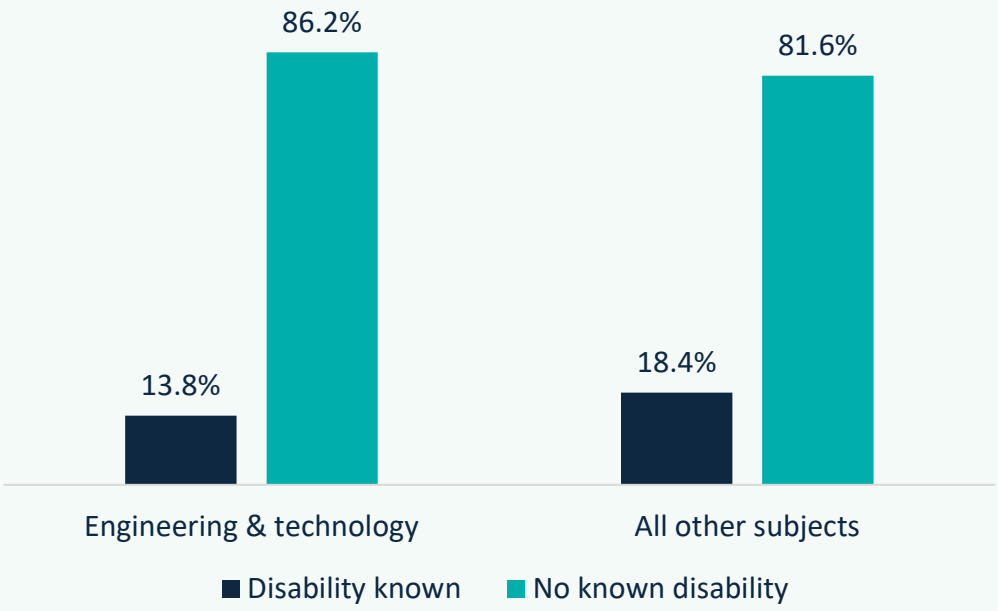
Table 3: Percentage of graduates studying engineering and technology degrees (compared to all other subjects), by gender and ethnic group

Ethnicity	Engineering and technology graduates		All other subjects	
	Men	Women	Men	Women
Asian or Asian British	15.2	15.9	11.2	9.8
Black or Black British	6.7	8.5	6.6	7.8
Chinese	1.4	2.4	0.9	0.8
Mixed	4.2	5.1	4.3	4.1
Other	2.3	2.7	1.8	1.7
White	70.2	65.4	75.1	75.9

Disability

Fewer engineering and technology graduates reported a disability (13.8%) compared to all other subjects combined (18.4%) (figure 6).

Figure 6: Percentage of engineering and technology graduates who reported a disability compared to all other subjects combined



Of those who did report a disability, the top reported disabilities for engineering and technology graduates (compared to all other subjects) were:

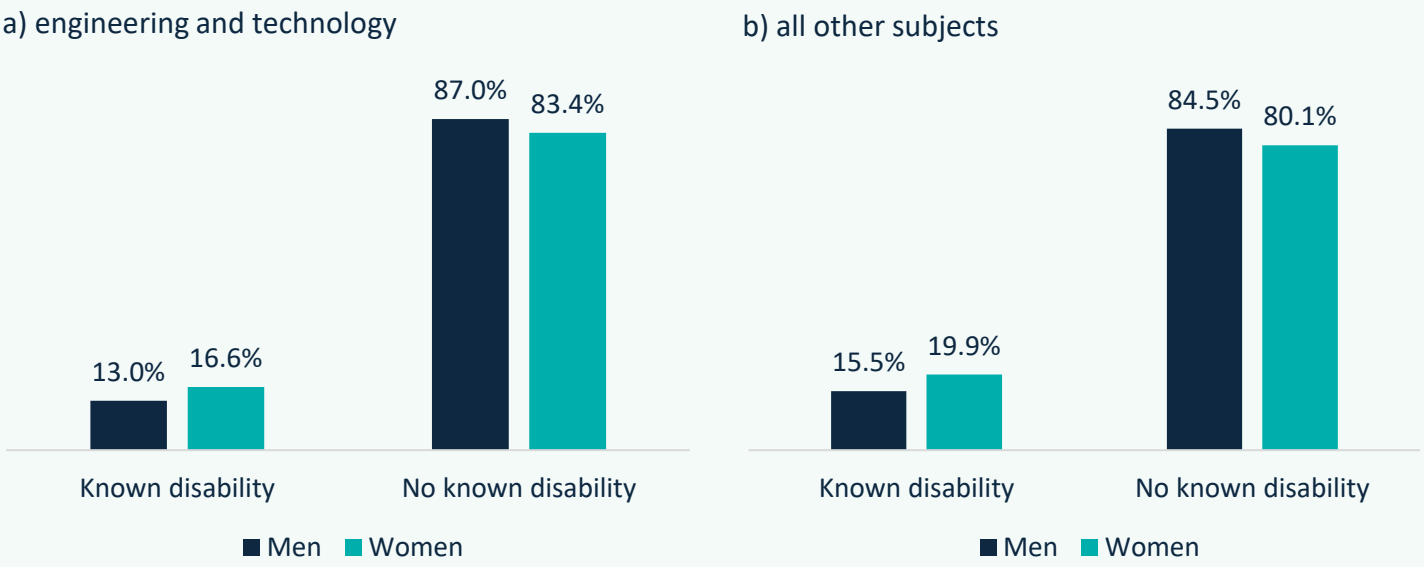
- specific learning difficulties (5.3% and 6.4% respectively)
- mental health conditions (3.0% and 5.3% respectively)
- two or more conditions (1.6% and 2.1% respectively)

The full list of disabilities can be found in the Appendix.

Disability and gender

Women were more likely to report a disability regardless of degree type, however, women studying engineering and technology subjects were slightly less likely (16.6%) compared to women studying all other subjects combined (19.9%) (figure 7)[10].

Figure 7: Percentage of graduates who reported a disability, by gender and subject type

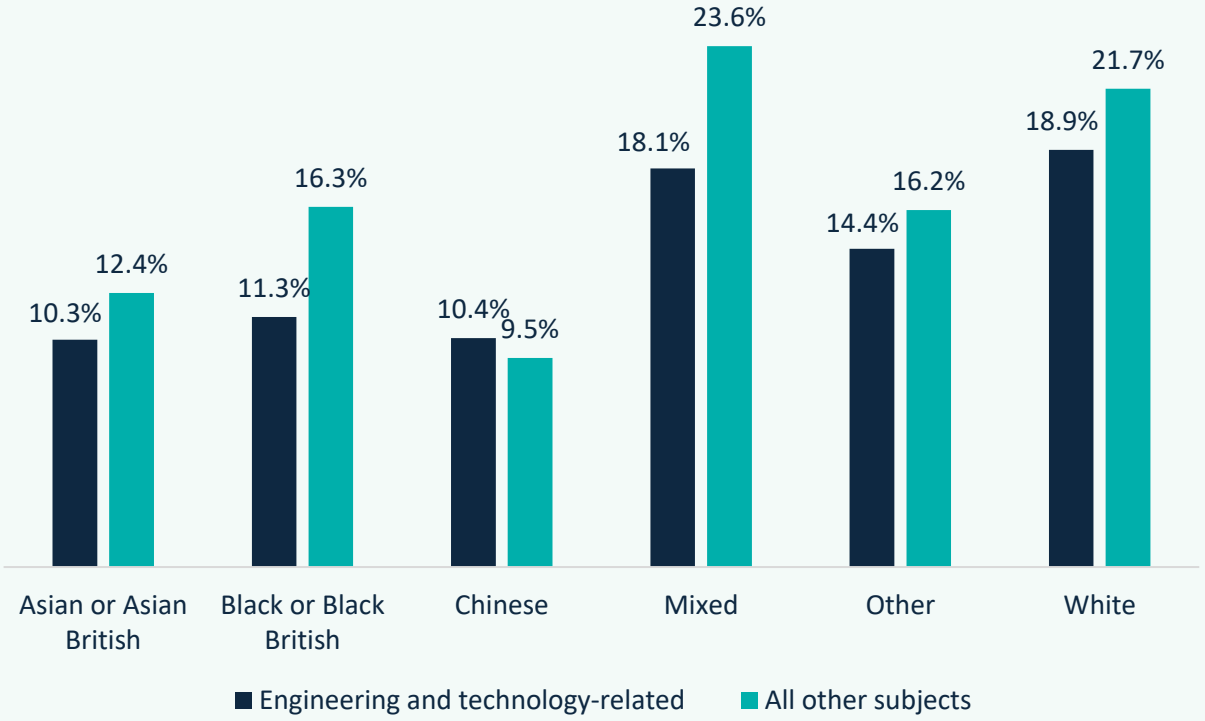


Disability and ethnicity

Whilst we weren't able to look at intersectionality for disability and the 11 ethnic groups individually due to small numbers, we were able to look at the 6 broader groups[11]. Out of these, 4 ethnic groups studying engineering and technology degrees were significantly less likely to report a disability compared to all other subjects combined. This included Asian or Asian British, Black or Black British, Mixed, and white. Asian or Asian British graduates were the least likely to report a disability – at 10.3% for engineering and technology and 12.4% for all other subjects combined (figure 8).

[10] Unfortunately, due to small numbers, we are unable to report which disabilities were the most frequently reported by gender.
[11] Asian or Asian British, Black or Black British, Chinese, Mixed, Other and White

Figure 8: Percentage of graduates who reported a disability, by ethnicity comparing engineering and technology graduates to all other subjects combined



Socioeconomic background (POLAR4)

An index created by the Office for Students[12], the POLAR4 identifies how likely young people are to participate in higher education across the UK based on where they live. If participation in HE was equal for all, then each quintile would contain 20% of the student population. While this is not a perfect comparison, we have used POLAR4 in this report as a proxy for socioeconomic background, as this is the best data available. Quintile 1 represents the lowest rate of participation ("most disadvantaged"), whilst quintile 5 shows the highest rate of participation ("most advantaged").

This data is also only collected for UK residents; therefore, we cannot present the equivalent statistics for engineering and technology graduates whose normal place of residence is the EU or the Rest of the World (RoW).

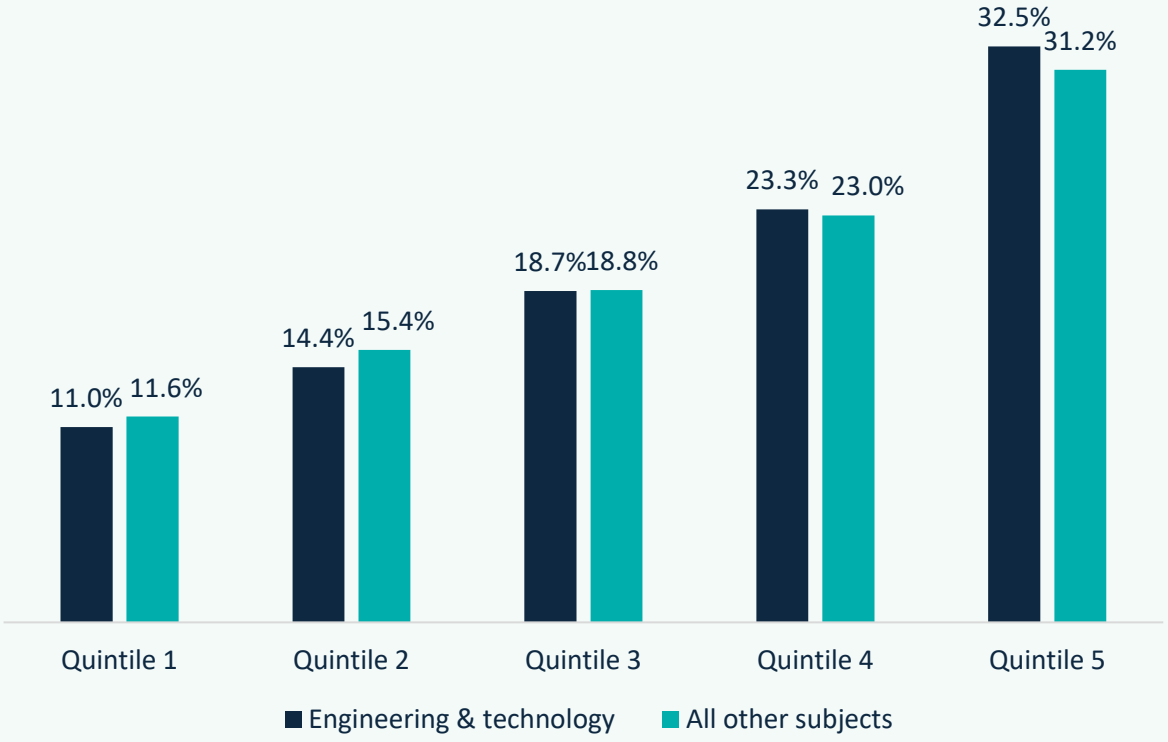
Graduates were more likely to come from the most advantaged areas of the UK regardless of whether they were studying engineering and technology degrees or not.

This effect, however, was more pronounced for engineering and technology, with these graduates more likely to come from the most advantaged areas of the UK (32.5%), compared to all other subjects combined (31.2%). Engineering and technology graduates were also less likely to come

[12] Office for Students. (2022). *Young participation by area*. Available at: https://www.officeforstudents.org.uk/data-and-analysis/young-participation-by-area/about-polar-and-adult-he/

from the lowest participation neighbourhoods (11.0%), compared to all other subjects combined (11.6%) (figure 9).

Figure 9: Low participation neighbourhood marker (POLAR4) comparing engineering and technology graduates by all other subjects, as a percentage



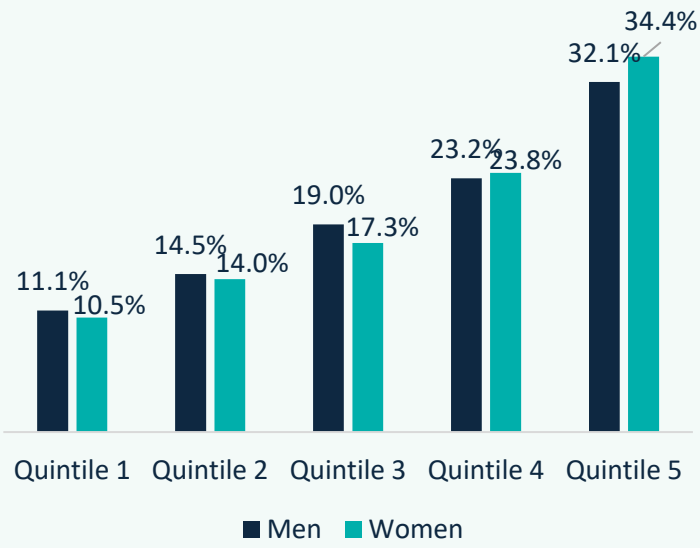
Socioeconomic background and gender

Women who studied engineering and technology degrees were more likely to come from the most advantaged areas (34.4%) compared to men (32.1%). Women were also underrepresented in the most disadvantaged areas (10.5%) compared to men (11.1%) amongst this group.

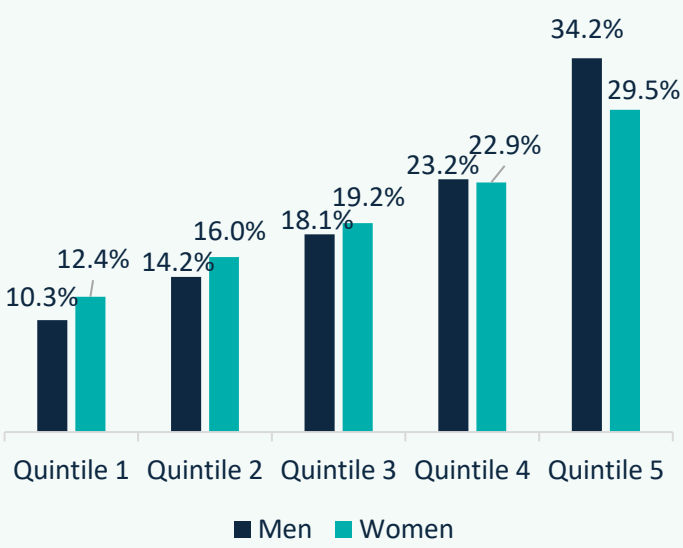
Conversely, we observed the opposite for all other subjects combined. Here, men were more likely to come from the most advantaged areas (quintile 1) compared to women (34.2% and 29.5% respectively). When looking at all other subjects combined, there was also a higher proportion of women from the most disadvantaged areas (quintile 1) compared to men (12.4% and 10.3% respectively) (figure 10).

Figure 10: Low participation neighbourhood markers, comparing engineering and technology graduates to all other subjects combined by gender

a) engineering and technology



b) all other subjects



Socioeconomic background and ethnicity

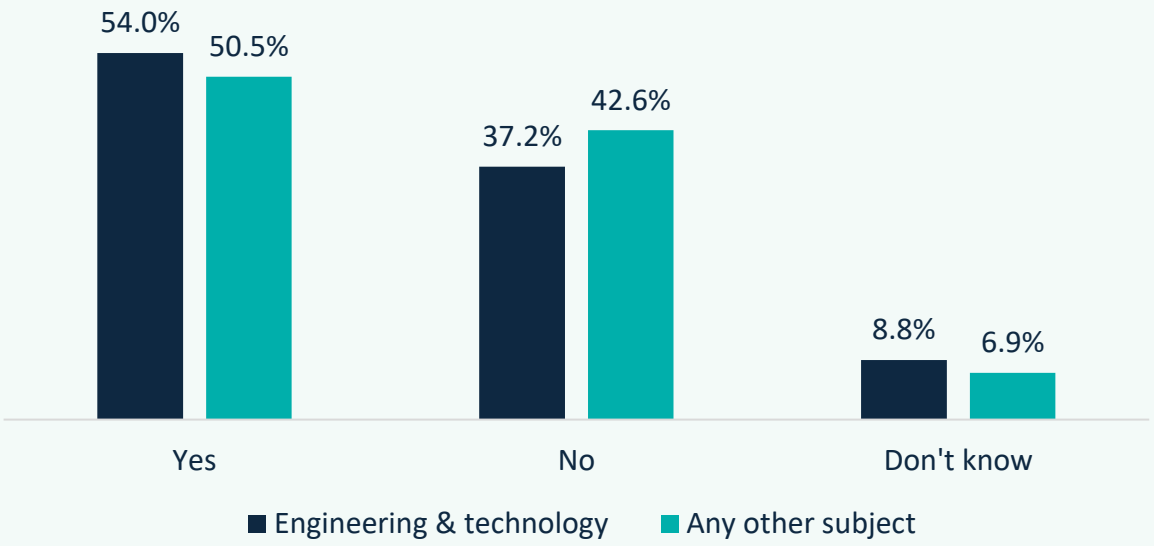
There was no statistical difference between engineering and technology graduates compared to all other subjects combined, across the 5 quintiles by ethnicity.

Parental education

Parental education refers to whether a graduate's parent or parents have a higher education qualification. Data was unavailable for 35.4% of cases and a further 4.6% of all graduates said they did not know.

Where data is available, engineering and technology graduates were more likely to have parents with higher education qualifications compared to all other subjects combined (54.0% vs. 50.5%) (figure 11).

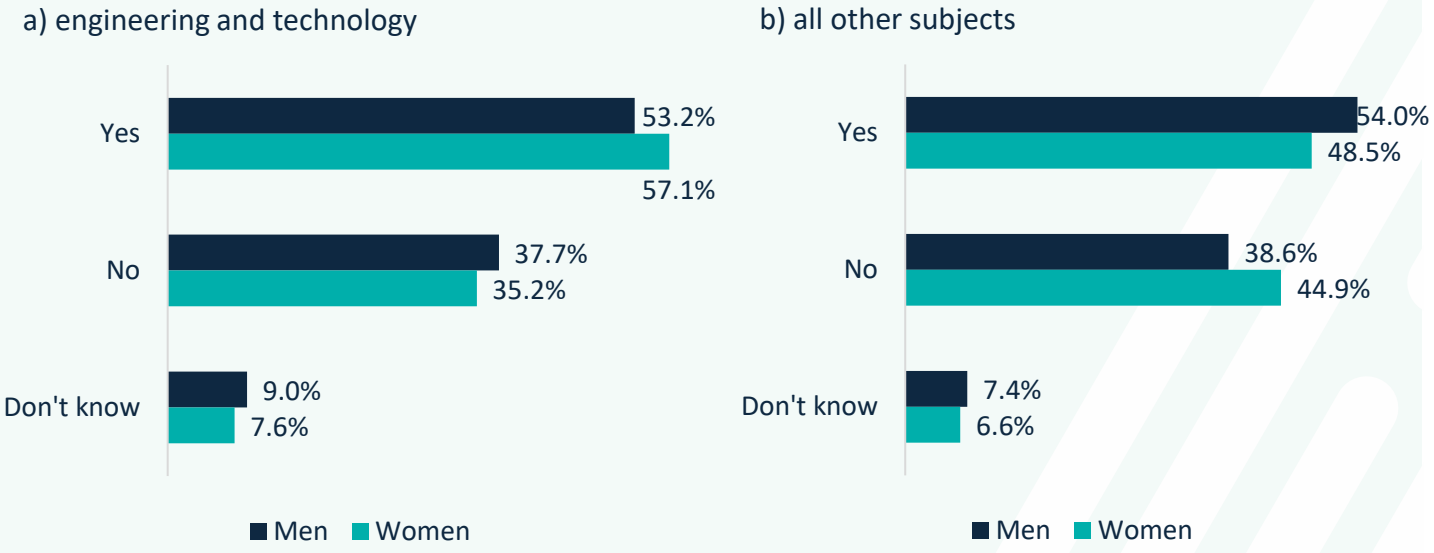
Figure 11: Parental education by graduate subject type as a percentage for the academic year 2021/22



Parental education and gender

Female engineering and technology graduates were more likely to say their parents also had a higher education qualification or similar compared to men (57.1% and 53.2% respectively). In contrast, just under half of women who graduated from all other subjects (48.5%) said their parents also had a higher education qualification or similar, compared to 54.0% of men (figure 12).

Figure 12: Parental education for graduates from engineering and technology subjects and all other subjects combined by gender



Parental education and ethnicity

Engineering and technology graduates from Asian or Asian British, Black or Black British, mixed or white were significantly more likely to have parents with a higher education qualification compared to graduates from the same ethnic group studying all other subjects.

Engineering and technology graduates who were of mixed ethnicity were the group most likely to have parents with a form of higher education at 61.9% compared to 58.3% of all other subjects. The ethnic group with the smallest (yet significant) percentage of parents with parental education was Asian or Asian British engineering and technology graduates at under half (43.3%) compared to just over a third of all other subjects combined (38.1%) (table 4).

Table 4: Percentage of parent(s) in higher education by subject type and ethnicity

	Engineering and technology			All other subjects		
Ethnicity	**Yes**	**No**	**Don't know**	**Yes**	**No**	**Don't know**
Asian or Asian British	43.3	48.9	7.7	38.1	54.8	7.1
Black or Black British	53.1	37.2	9.7	48.5	41.9	9.8
Mixed	61.9	31.1	7.0	58.3	35.8	5.9
White	54.9	37.4	7.8	50.8	43.1	6.1

What are engineering and technology graduates doing now?

Main activity

Following graduation, engineering and technology graduates were more likely to be in paid employment at nearly three-quarters (73.2%) compared to 70.4% of graduates from all other subjects combined.

A further 8.0% of engineering and technology graduates were 'engaged in a course of study, training or research', but this figure was slightly higher for graduates in all other subjects at 9.9%. Fewer than a tenth of engineering and technology graduates were unemployed or looking for work (7.6%), however, this was proportionally higher compared to all other graduates (5.4%).

As we have adjusted our definition of engineering and technology by adding computing, we checked whether computing had increased the percentage of engineering and technology graduates who were unemployed and looking for work and found this was only the case by 1.1 percentage points. Regardless of adding computing to our definition, a higher percentage of engineering and technology graduates were unemployed and looking for work compared to all other subjects combined (table 5).

Table 5: Main activity of graduates by percentage and degree type for the academic year 2021/22

Main activity	Engineering and technology	All other subjects
In paid work for an employer	73.2	70.4
Engaged in a course of study, training or research	8.0	9.9
Unemployed and looking for work	7.6	5.4
Developing a creative, artistic or professional portfolio	2.6	2.2
Self-employed/ freelancing	2.2	3.4
Doing something else	2.1	2.6
Running my own business	1.6	1.8
Taking time out to travel - this does not include short-term holidays	1.3	1.4
Caring for someone (unpaid)	0.7	1.6
Voluntary/unpaid work for an employer	0.5	1.0
Retired	0.1	0.3

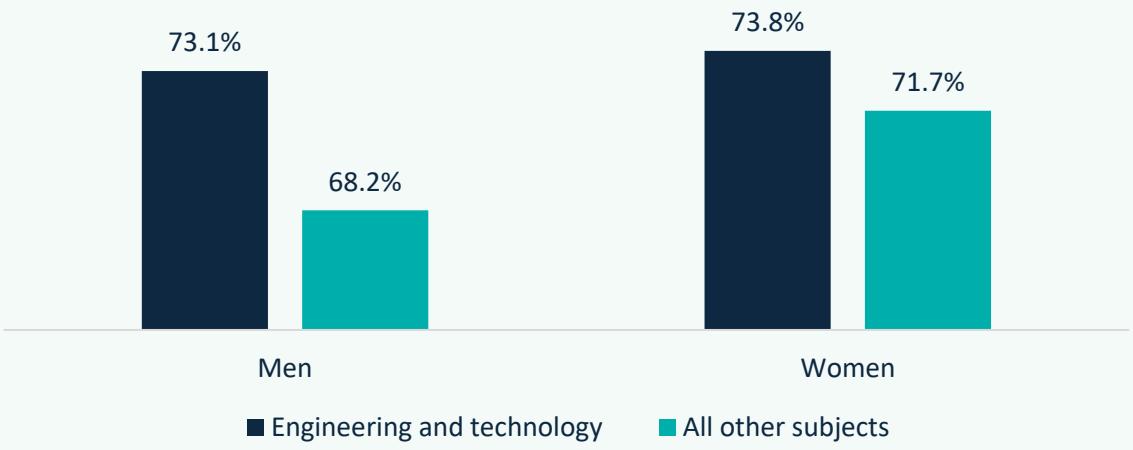
Gender

We have already seen engineering and technology graduates were more likely to report being in paid work for an employer. There were gender differences, with women more likely to report being in paid work across both engineering and technology and all other subjects.

Whilst women are underrepresented in the engineering degrees, female engineering and technology graduates were the group most likely to report being in paid work for an employer at nearly three-quarters (73.8%) with a difference of 2.1 percentage points between them and women who studied all other subjects combined (71.7%).

Amongst men, there was a greater percentage point difference of 4.9 between men who studied engineering and technology subjects (73.1%) compared to all other subjects combined (68.2%) (figure 13).

Figure 13: Percentage of graduates in paid work for an employer by gender and subject type



Ethnicity

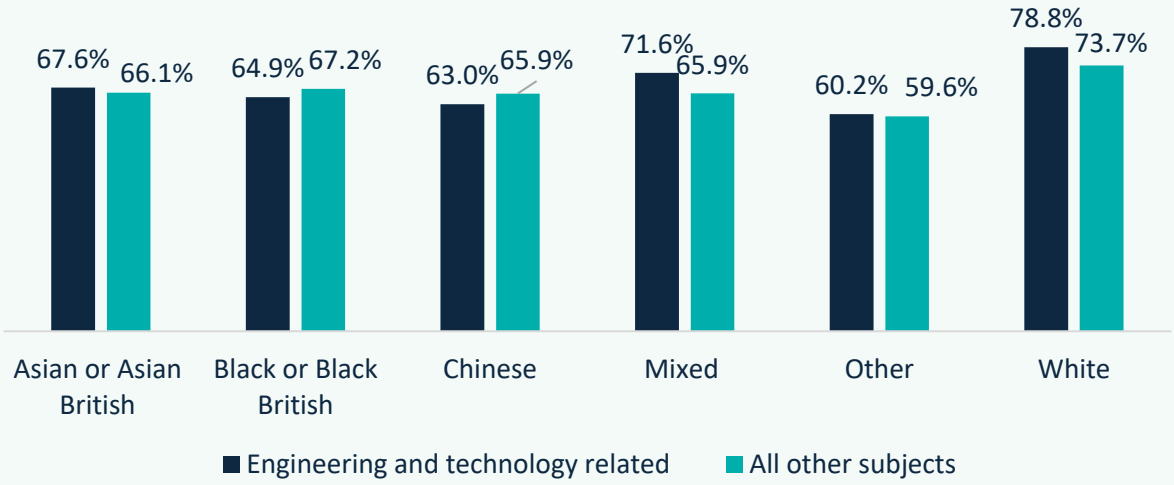
There were big differences in employment levels between ethnic groups, with white graduates far more likely to report being in paid employment compared to UK minority ethnic groups. For engineering and technology graduates, white graduates were the most likely to be in paid work (78.8%). White graduates were also more likely to be in work across all other subjects (73.7%), though this figure remains lower than engineering and technology.

Despite most UK minority ethnic groups being overrepresented in studying engineering and technology subjects, they are less likely to report being in paid work after they graduate. Fewer than two-thirds of engineering and technology graduates from an 'other' ethnicity were in paid work (60.2%) and this figure was similar for graduates from all other subjects combined (59.9%).

In addition, it is not always the case that engineering and technology graduates were more likely to be in paid work for an employer compared to all other subjects combined, with differences across ethnic groups. For example, whilst a slightly higher proportion of Asian or Asian British engineering and technology graduates reported being in paid work (67.6%) compared to all other subjects combined (66.1%), we saw the opposite effect amongst Black or Black British and Chinese

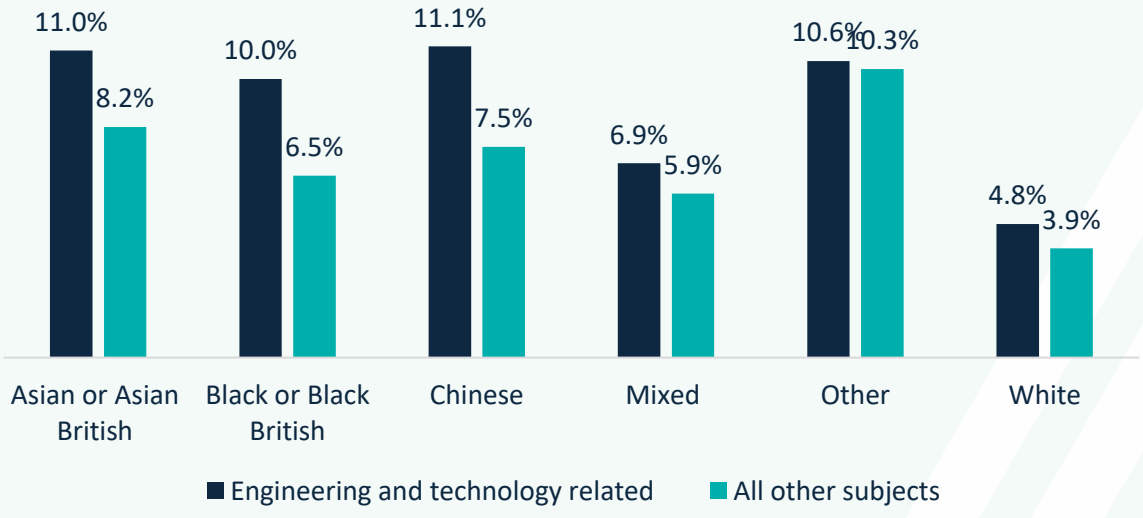
graduates. For both of these UK minority ethic groups, a higher percentage of graduates from all other subjects combined reported being in paid work (67.2% and 65.9% respectively) compared to engineering and technology graduates (64.9% and 63.0% respectively) (figure 14).

Figure 14: Percentage of graduates in paid employment by ethnicity and subject type



We have already seen that engineering and technology graduates are more likely to report being unemployed and looking for work. There were differences again, however, across ethnic groups with UK minority ethnic groups more likely to report being unemployed compared to white graduates. White graduates who studied all other subjects combined were the group least likely to report being unemployed and Chinese engineering and technology graduates were the group most likely to report being unemployed (figure 15).

Figure 15: Percentage of graduates who reported being unemployed and looking for work, by ethnicity and subject type

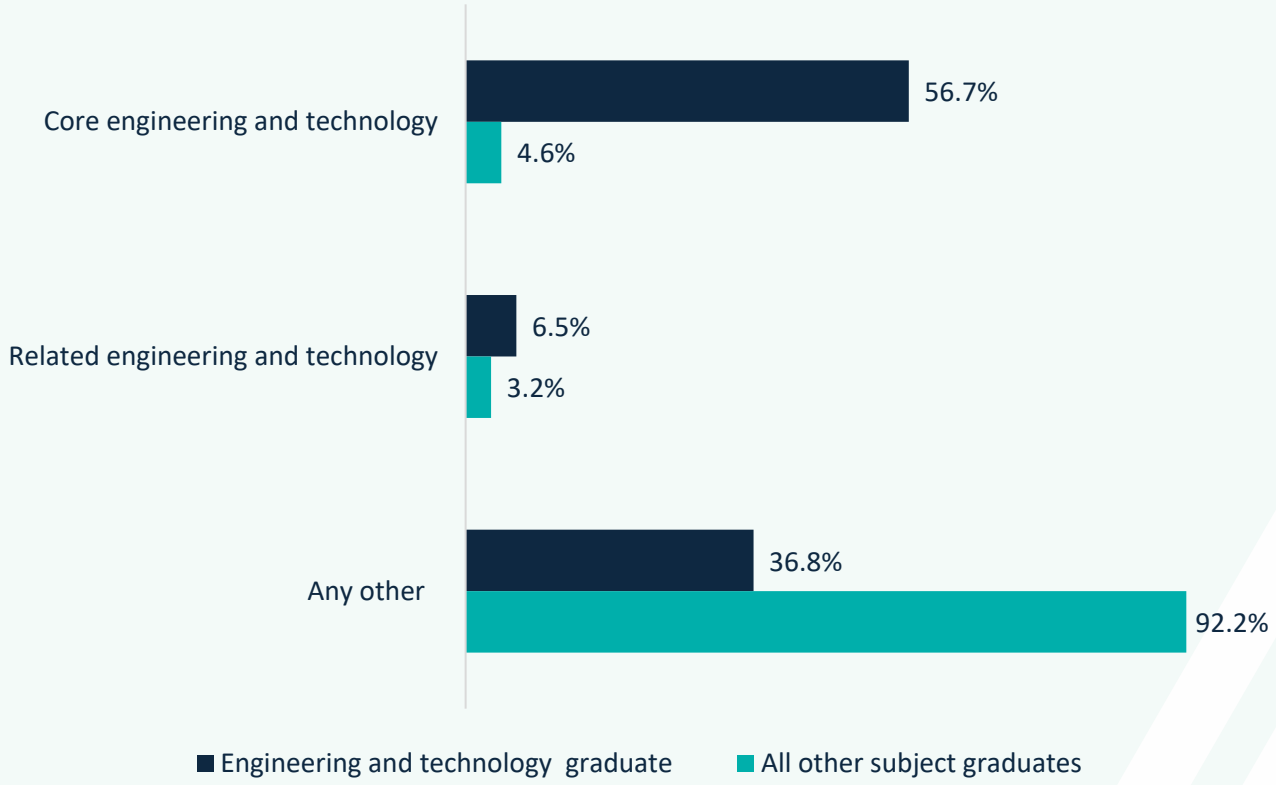


Engineering and technology occupations

Of those in paid work for an employer, nearly two-thirds of engineering and technology graduates were working in engineering and technology occupations[13] (63.2%). This compares to 7.8% of graduates who studied any other subject.

The majority of engineering and technology graduates went on to work in core engineering and technology jobs (56.7%). Interestingly a higher percentage of these engineering and technology graduates were working in non-engineering jobs (36.8%) than in related occupations (6.5%) (figure 16).

Figure 16: Percentage of graduates in paid employment for an employer who went on to work in core and related engineering and technology occupations by degree type



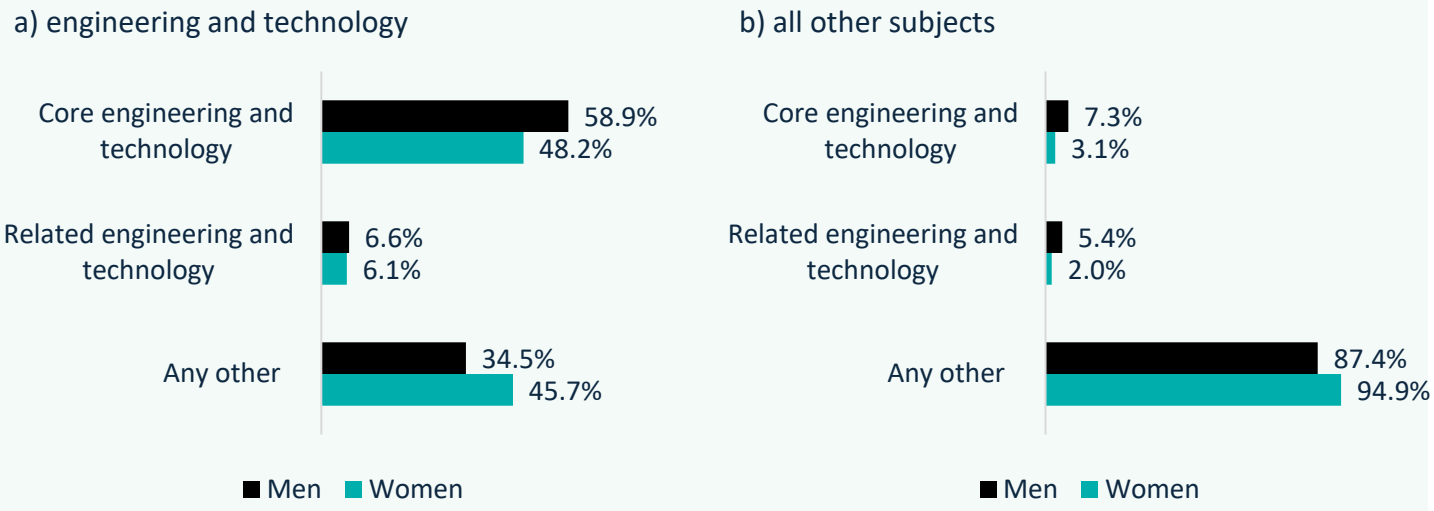
Engineering and technology occupations and gender

Women were less likely to work in engineering and technology occupations despite receiving a relevant degree. Just over half of female engineering and technology graduates went on to work in an engineering and technology occupation (54.3%), compared to two-thirds of men (65.5%).

This pattern was also mirrored in graduates who studied all other subjects, with a higher proportion of men going on to work in engineering and technology occupations (despite not having a related degree) (12.7%), compared to women (5.1%) (figure 17).

[13] As defined by our engineering footprint. Click here to find out more

Figure 17: Percentage of graduates who went on to work in core and related engineering and technology occupations as a percentage, by gender



Engineering and technology occupations and ethnicity

We also looked at the percentage of engineering and technology graduates from each of these ethnic groups who went on to work in engineering and technology occupations.

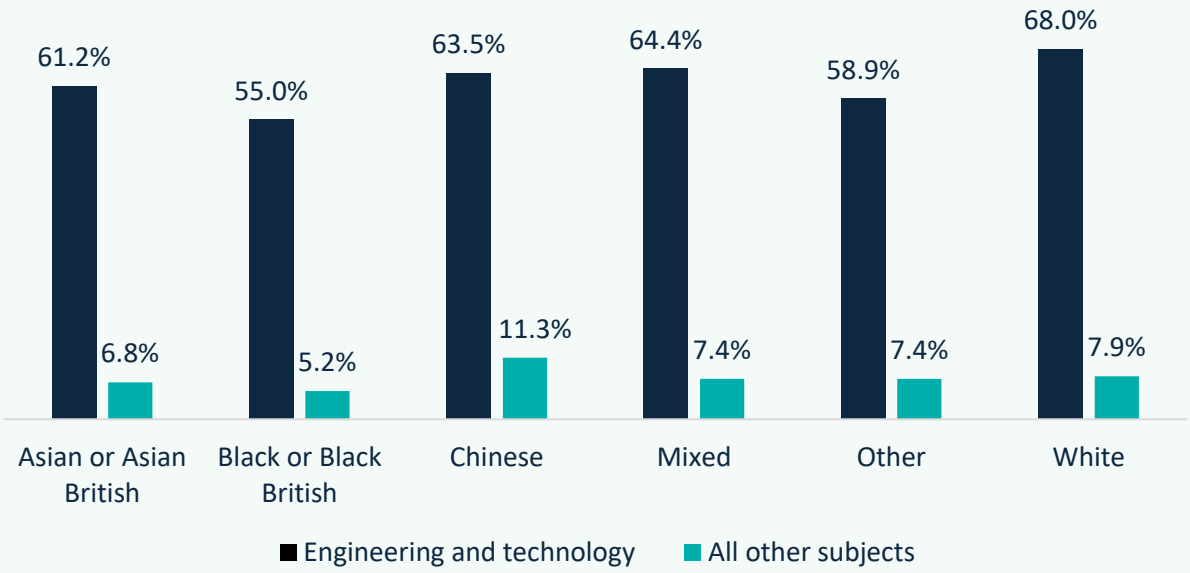
The ethnic group most likely to work in engineering (amongst engineering and technology graduates) was white at 68.0%. This was followed by graduates from a mixed ethnicity (64.4%) and Chinese engineering and technology graduates (63.5%).

The ethnic group in which the smallest proportion of engineering and technology graduates went on to work in engineering occupations was Black or Black British at just over half (55.0%)[14].

Among graduates who didn't study engineering and technology subjects, Chinese graduates were the most likely to work in engineering (11.3%), followed by White graduates (7.9%). The least likely group to go on to work in engineering having not studied it was Black or Black British (5.2%) (figure 18).

[14] We were unable to break engineering and technology occupations into core and related occupations due to small numbers

Figure 18: Percentage of graduates who went on to work in engineering and technology occupations, by ethnicity and subject type



Most common engineering and technology occupation by subject

As part of this analysis, we also looked at which occupations were most common amongst graduates for each of the 10 most popular engineering and technology subjects. The most popular subjects are:

- 23.6% - computer science
- 11.6% - mechanical engineering
- 8.3% - electrical and electronic engineering
- 8.1% - civil engineering
- 6.5% - software engineering
- 5.4% - engineering (non-specific)
- 5.2% - chemical, process and energy engineering
- 4.7% - aeronautical and aerospace engineering
- 4.7% - computer games and animation
- 4.5% - production and manufacturing engineering

The popularity of each subject was impacted by gender, with a higher proportion of women studying civil engineering (9.8%) compared to men (7.7%). Chemical, process and energy engineering and computer games and animation was also more popular amongst women (9.8% and 5.1% respectively). Women were less likely to study mechanical engineering, and 'electronic and electrical engineering' (6.6% and 6.0% respectively) compared to men (13.0% and 9.0% respectively) (table 6).

Table 6: 7 most popular engineering and technology subjects studied by gender

Rank	Subject	Men	Women
1	Computer Science	24.1	21.7
2	Mechanical engineering	13.0	6.6
3	Electrical And Electronic engineering	9.0	6.0
4	Civil engineering	7.7	9.8
5	Software engineering	6.8	5.5
6	Engineering (Non-Specific)	5.4	5.5
7	Chemical, Process and Energy engineering	4.7	7.0
8	Aeronautical and aerospace engineering	5.0	3.6
9	Computer games and animation	4.6	5.1
10	Production and manufacturing engineering	5.0	2.9

For each engineering and technology subject studied there was a real range of occupations reported, with some subjects reporting more spread than others. For example, amongst graduates who studied civil engineering, over half went on to work as civil engineers (54.1%), whereas for other degree subjects such as engineering (non-specific) there was a lot more spread, with just over 1 in 10 (11.9%) working in the most common profession (as engineering professionals n.e.c[15]) (table 7).

[15] Not elsewhere classified

Table 7: Top 3 occupations for the most popular engineering and technology subjects for the latest academic year (2021/22)

Principal subject	Top 3 occupations	% of graduates from subject
Computer science	Programmers and software development professionals	45.8
	IT business analysts, architects and systems designers	7.1
	IT user support technicians	4.2
Mechanical engineering	Mechanical engineers	31.0
	Engineering professionals n.e.c.	11.2
	Engineering project managers and project engineers	5.6
Electrical and electronic engineering	Electrical engineers	15.8
	Electronics engineers	12.5
	Programmers and software development professionals	12.3
Civil engineering	Civil engineers	54.1
	Engineering professionals n.e.c.	4.0
	Environment professionals	3.5
Software engineering	Programmers and software development professionals	31.4
	Cyber security professionals	18.5
	IT user support technicians	6.3
Engineering (non-specific)	Engineering professionals n.e.c.	11.9
	Mechanical engineers	6.4
	Programmers and software development professionals	5.7
Chemical, process and energy engineering	Production and process engineers	21.4
	Engineering professionals n.e.c.	10.1
	Management consultants and business analysts	4.5
Aeronautical and aerospace engineering	Aerospace engineers	23.6
	Engineering professionals n.e.c	12.5
	Mechanical engineers	5.6
Computer games and animation	Programmers and software development professionals	24.7
	Graphic and multimedia designers	16.1
	IT operations technicians	4.3
Production and manufacturing engineering	Engineering professionals n.e.c	15.4
	Mechanical engineers	12.6
	Programmers and software development professionals	7.6

We also looked at graduates who did **not** study engineering and technology subjects but who went on to work as engineers. For core engineering occupations, 8.2% of graduates studied management studies, followed by 7.0% who studied mathematics and 6.6% who studied physics.

When looking at related engineering and technology roles there was less spread with nearly a quarter graduating with an architecture degree (23.8%) and a further 21.0% graduated with a building degree.

Of those who graduated from engineering and technology subjects but did **not** go on to work in an engineering and technology occupation, the most common occupations were 'management consultants and business analysts' (1.7%), data analysts (1.6%) and sales and retail assistants (1.3%) (table 8).

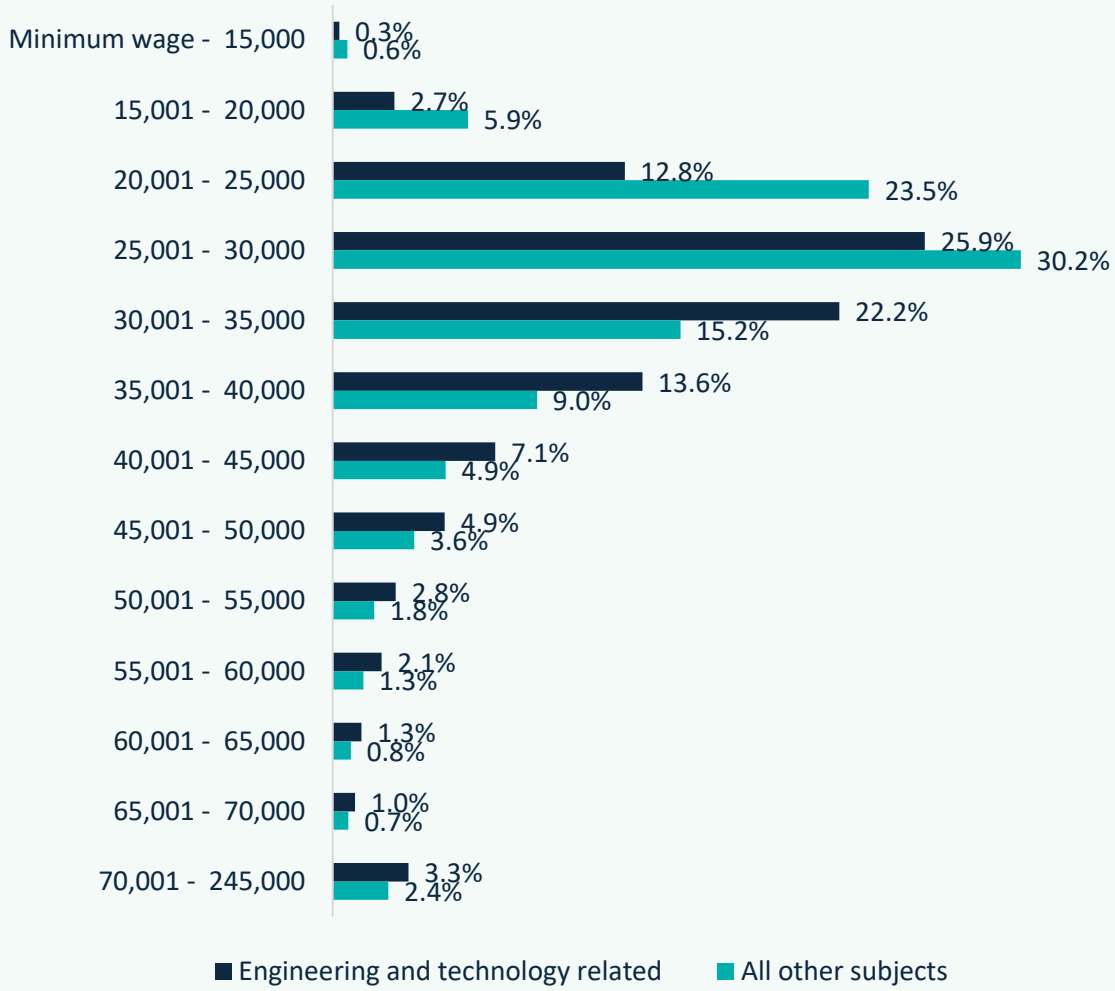
Table 8: Top 5 occupations for engineering and technology graduates in paid employment who reported working in non-engineering occupations

Rank	Occupation	%
1	Management consultants and business analysts	1.7
2	Data analysts	1.6
3	Sales and retail assistants	1.3
4	Actuaries, economists and statisticians	1.2
5	Natural and social science professionals n.e.c.	1.1

Salary

The salary band with the highest percentage of graduates (regardless of degree type) was between £25,001-£30,000. Graduates in engineering and technology occupations, however, tend to make more money than graduates in all other occupations.

Figure 19: Salary bands of graduates who were economically active by subject type



A higher percentage of engineering and technology graduates had earnings in the next salary band of £30,001-£35,000 (22.2%) compared to graduates from all other subjects (15.2%).

A smaller proportion of engineering and technology graduates also reported being on minimum wage (0.3%) compared to all other subjects combined (0.6%). This mirrors previous EngineeringUK research, which showed the median advertised salary of engineering and technology roles was higher than the national average for all occupations[16] (figure 19).

[16] EngineeringUK. (2023). *Engineering skills needs – now and into the future*. Available at: https://www.engineeringuk.com/media/318944/engineering-skills-needs-now-and-into-the-future_report_fv.pdf

Location of employment

The majority of engineering and technology graduates were working in London (23.0%), which was slightly higher for graduates of all other subjects (21.0%). The second most popular employment location for engineering and technology graduates was the South East (11.5%) and the location with the fewest was Guernsey, Jersey and the Isle of Man (0.1%).

Engineering and technology graduates are more likely than graduates from other subjects to work in London, the South East, the South West, Scotland, and Northern Ireland, as well as outside of the UK. They are less likely to be working in the North West, Yorkshire, and Wales (table 9).

Table 9: Location of employment for graduates working in engineering and technology occupations, compared to all other subjects

Location of employment	% of engineering and technology graduates	% of all other subjects	% of overall UK population
North East	2.9	3.1	4.0
North West	8.4	10.1	11.1
Yorkshire and the Humber	5.0	6.5	8.2
East Midlands	4.9	5.3	7.3
West Midlands	6.6	7.3	8.9
East of England	6.1	6.4	9.5
London	21.0	23.0	13.1
South East	11.5	10.5	13.9
South West	7.7	6.8	8.5
Scotland	9.7	8.2	4.6
Wales	3.7	4.2	8.1
Northern Ireland	3.3	2.3	2.8
Guernsey, Jersey and the Isle of Man	0.1	0.2	-
Outside of the UK	9.1	6.3	-

Engineering and technology occupations and industry

We have already seen that following graduation, nearly three-quarters of graduates who studied engineering and technology subjects (73.2%) were in paid work for an employer.

Of these engineering and technology graduates, over half (54.5%) were working in the engineering industry – 46.7% as an engineer and 7.8% in other roles. A further 16.4% were working in engineering and technology occupations, but not in the engineering industry. Finally, under a third (29.0%) were neither working in engineering and technology occupations nor in the engineering industry (table 10).

Table 10: Percentage of engineering and technology graduates working in engineering and technology occupations and/or in the engineering industry

Occupation and industry	% of engineering graduates in paid employment
working as an engineer in the engineering industry	46.7
working in the engineering industry but not as an engineer	7.8
working as an engineer in a different sector	16.4
neither working as an engineer nor in an engineering company	29.0

Engineering and technology occupations and industry - gender

We also looked at whether there was a difference by gender and found a higher proportion of men who graduated with an engineering and technology degree (56.1%) were working in the engineering industry compared to women (48.5%). However, within this, men were more likely to be working as an engineer, while women were more likely to be working within the industry but not as an engineer – for example in an HR role.

Women were also more likely to work in non-engineering and technology jobs *outside* the engineering industry (35.5%) compared to men (27.0%).

Women and men were equally likely to be working as engineers in a non-engineering and technology sector (table 11).

Table 11: Percentage of engineering and technology graduates working in engineering and technology occupations and/or in the engineering industry, by gender

Occupation and industry	% of engineering graduates in paid employment	
	Men	Women
working as an engineer in the engineering industry	49.0	38.3
working in the engineering industry but not as an engineer	7.1	10.2
working as an engineer in a different sector	16.6	16.0
neither working as an engineer nor in an engineering company	27.0	35.5

Engineering and technology occupations and industry - ethnicity

For the first time, we also looked at possible differences by ethnicity and found a higher proportion of white engineering and technology graduates went on to work in the engineering industry (59.8%) compared to those from UK minority ethnic groups (49.9%). In this case, white graduates were more likely to work in the sector whether they were in an engineering role or not.

Engineering and technology graduates from a UK minority ethnic group were slightly more likely to be working as an engineer in a non-engineering and technology sector, and significantly more likely to work in a non-engineering company, outside of the engineering industry (table 12).

Table 12: Percentage of engineering and technology graduates working in engineering and technology occupations and/or in the engineering industry, by ethnicity

Occupation and industry	% of engineering graduates in paid employment	
	UK Minority Ethnic Group	White
working as an engineer in the engineering industry	43.0	52.1
working in the engineering industry but not as an engineer	6.9	7.7
working as an engineer in a different sector	17.2	15.9
neither working as an engineer nor in an engineering company	32.9	24.2

Main reason for taking job

For the following analysis we looked at graduates working in engineering and technology occupations, regardless of whether they studied an engineering and technology subject or not.

Over half of graduates working in paid employment as an engineer or technician said the main reason they took their current job was because 'it fitted into [their] career plan / it was exactly the type of work [they] wanted' (50.8%), which was similar for graduates in all other occupations (47.7%).

Interestingly, over twice as many graduates in all other occupations said they were in their current employment mainly 'in order to earn a living' (9.7%) compared to engineers (4.4%). Whilst 10.8% of engineers and technicians said they took their current job because 'it was the best job offer [they'd] received', only 6.7% of graduates in all other occupations said the same. (table 13).

Table 13: Main reason for taking their current job as a percentage comparing engineering and non-engineering occupations

Main reason for taking job	Engineering & technology	All other occupations
It fitted into my career plan/it was exactly the type of work I wanted	50.8	47.7
To gain and broaden my experience in order to get the type of job I really want	12.4	13.0
It was the best job offer I received	10.8	6.7
It was an opportunity to progress in the organisation	9.5	10.5
To see if I would like the type of work it involved	4.9	4.6
In order to earn a living	4.4	9.7
The job was well paid	3.7	2.8
It was the right location	2.7	3.9
To work in my family business	0.6	0.8
In order to pay off debts	0.2	0.4

Socio-economic impact on reasons for taking current job

We also investigated whether socio-economic background influenced engineers' reasons for taking their current job and the full results for engineers can be found in table 14.

As mentioned on page 15, as socio-economic background data is only available for UK residents, we are unable to comment on whether this influenced the motivation of engineering graduates whose main residence is outside the UK.

Engineers from the most affluent areas of the UK were more likely to say "it fitted into my career plan/ it was exactly the type of work I wanted" at over half (52.2%), compared to engineers from the most disadvantaged areas (49.1%). In contrast, engineers from these areas were more interested in progressing within [their] organisation (12.0%) compared to engineers from the most affluent areas (8.9%). Interestingly, engineers from quintile 5 (affluent areas) were more likely to

prioritise gaining and broadening their experience in order to get the type of job they really want (10.8%) compared to engineers from quintile 1 (most deprived areas) (8.4%).

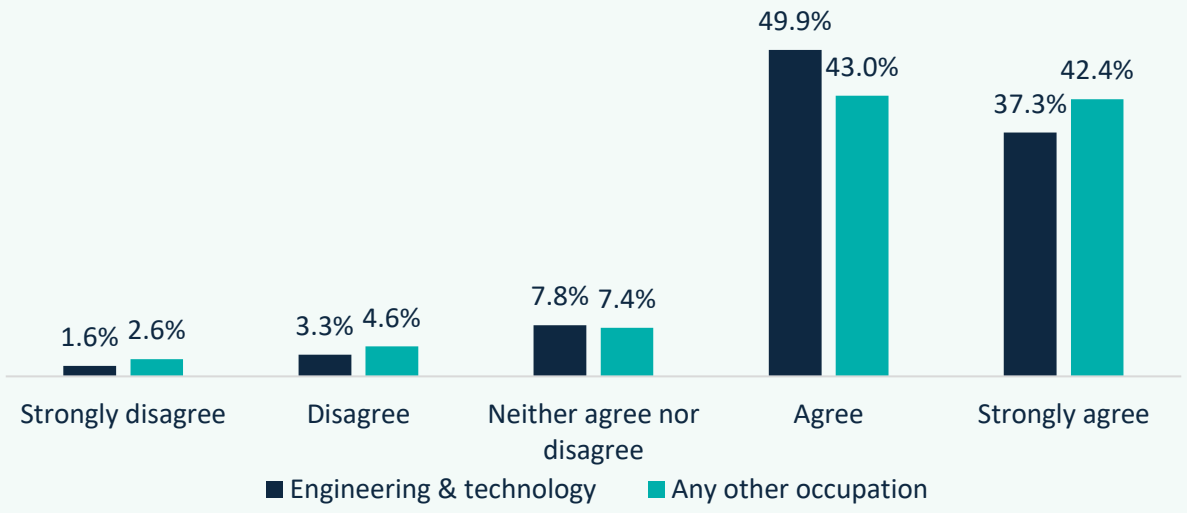
Table 14: Percentage of those working as engineers and the main reason they took their current job, by low participation neighbourhood marker (POLAR4 quintiles)

	%				
Main reason	**Quintile 1 (most disadvantaged)**	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5 (least disadvantaged)**
It fitted into my career plan/it was exactly the type of work I wanted	49.1	48.1	50.3	50.9	52.2
To gain and broaden my experience in order to get the type of job I really want	8.4	9.7	9.9	9.9	10.8
It was an opportunity to progress in the organisation	12.0	11.7	10.1	10.2	8.9
It was the best job offer I received	3.7	4.8	4.5	4.7	5.7
In order to earn a living	12.9	12.1	12.9	12.3	11.9
To see if I would like the type of work it involved	3.3	3.0	2.9	3.1	2.5
The job was well paid	5.0	4.1	4.2	3.9	3.4
It was the right location	5.0	5.8	4.3	4.4	3.8
To work in my family business	0.2	0.2	0.1	0.2	0.1
In order to pay off debts	0.5	0.6	0.7	0.4	0.6

Activity is meaningful

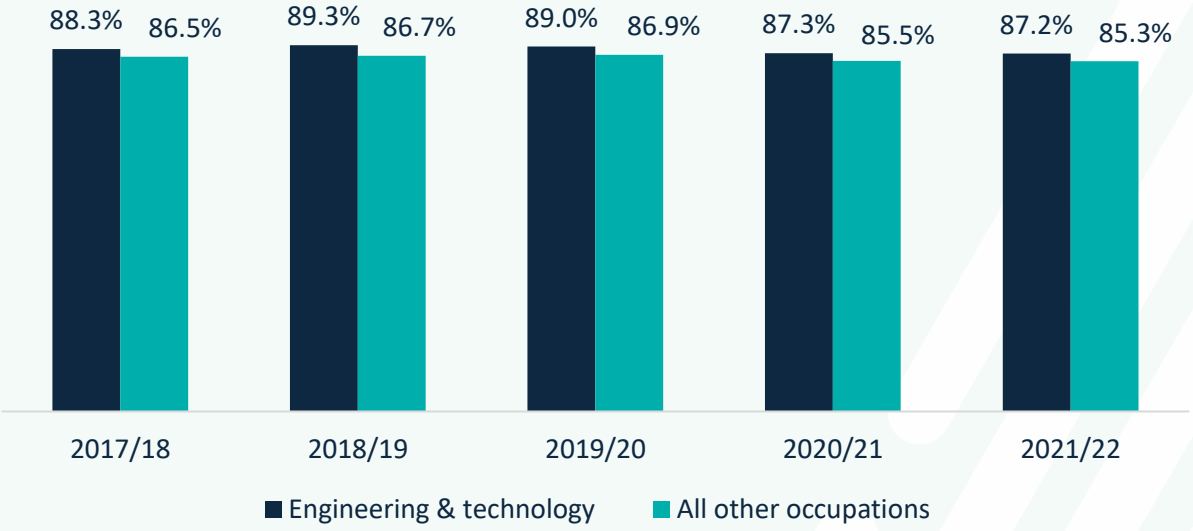
A higher percentage of engineers either agreed or strongly agreed their current activity is meaningful (87.2%) compared to graduates working in all other occupations (85.2%). Only 1.6% of engineers strongly disagreed with this statement (figure 20).

Figure 20: Activity is meaningful, as a percentage comparing engineers to all other occupations combined



The percentage of graduates who strongly agreed or agreed their current activity was meaningful has decreased a little over time from graduates in 2017/18, regardless of whether they are working as engineers or not. This is likely to be at least in part caused by the pandemic. However, graduates working in engineering and technology occupations are consistently more likely to agree compared to those working in other roles (figure 21).

Figure 21: Percentage of engineers who strongly agreed or agreed their current activity was meaningful from the academic years 2017/18 to 2021/22 compared to all other occupations

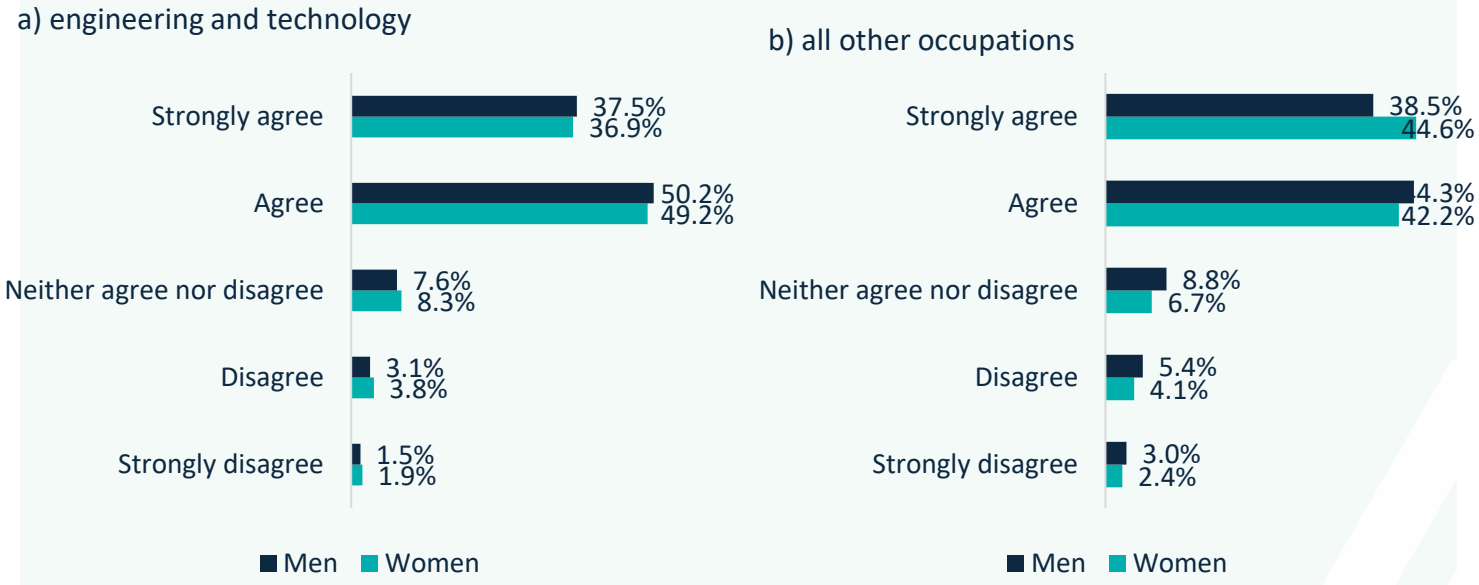


Activity is meaningful – gender

Men working as engineers were more likely to strongly agree their current activity was meaningful (37.5%), compared to women (36.9%). Amongst all other occupations combined, however, we see the opposite effect with women more likely to strongly agree (44.6%), compared to men (38.5%). This represented a percentage point difference of 6.1.

Men working as engineers were also slightly less likely to disagree or strongly disagree (4.6%) compared to women (5.7%). On the other hand, we see the opposite effect for all other occupations combined with women less likely to disagree or strongly disagree (6.5%) compared to 8.4% of men (figure 22).

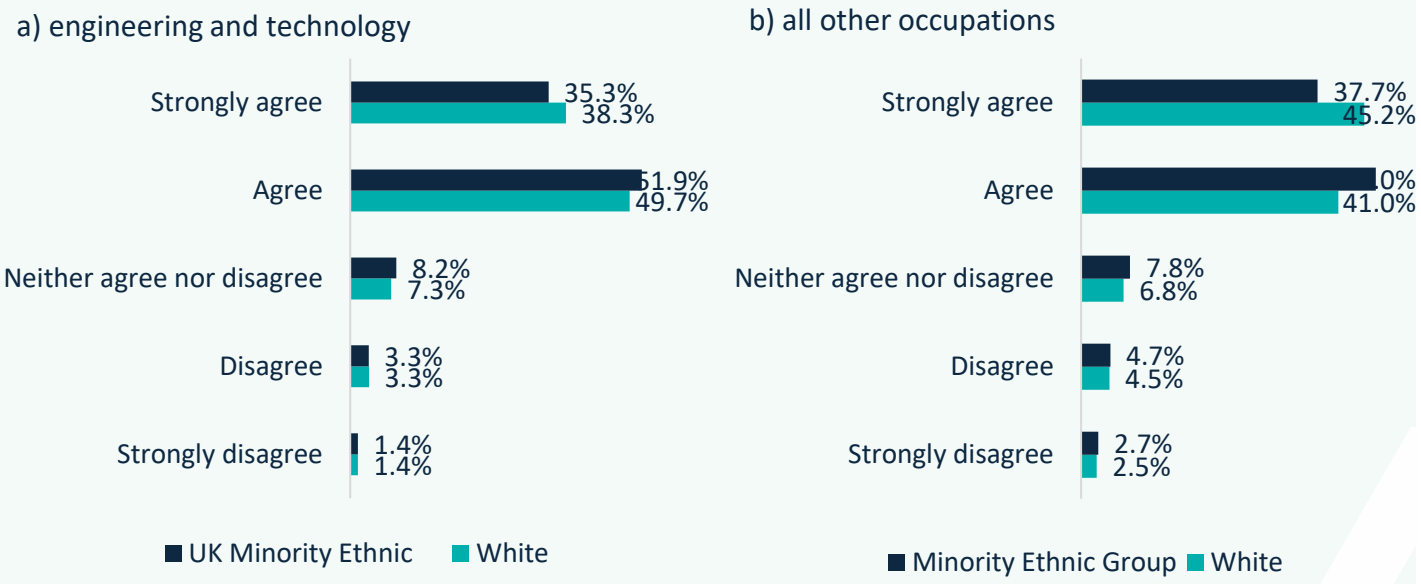
Figure 22: Graduates' responses to whether they felt their current activity was meaningful for the latest academic year, by gender



Activity is meaningful – ethnicity

We also looked at whether there were possible differences depending on ethnicity. Regardless of whether they were working as engineers or not, graduates who were White were more likely to strongly agree their current activity was meaningful (38.3% and 45.2%) compared to UK minority ethnic groups (35.5% and 37.7%). This difference was smaller, however, for graduates working in engineering and technology with a difference of 3.0 percentage points, compared to all other occupations (7.5 percentage points) (figure 23).

Figure 23: Activity is meaningful, as a percentage for graduates working in engineering and technology occupations by ethnicity

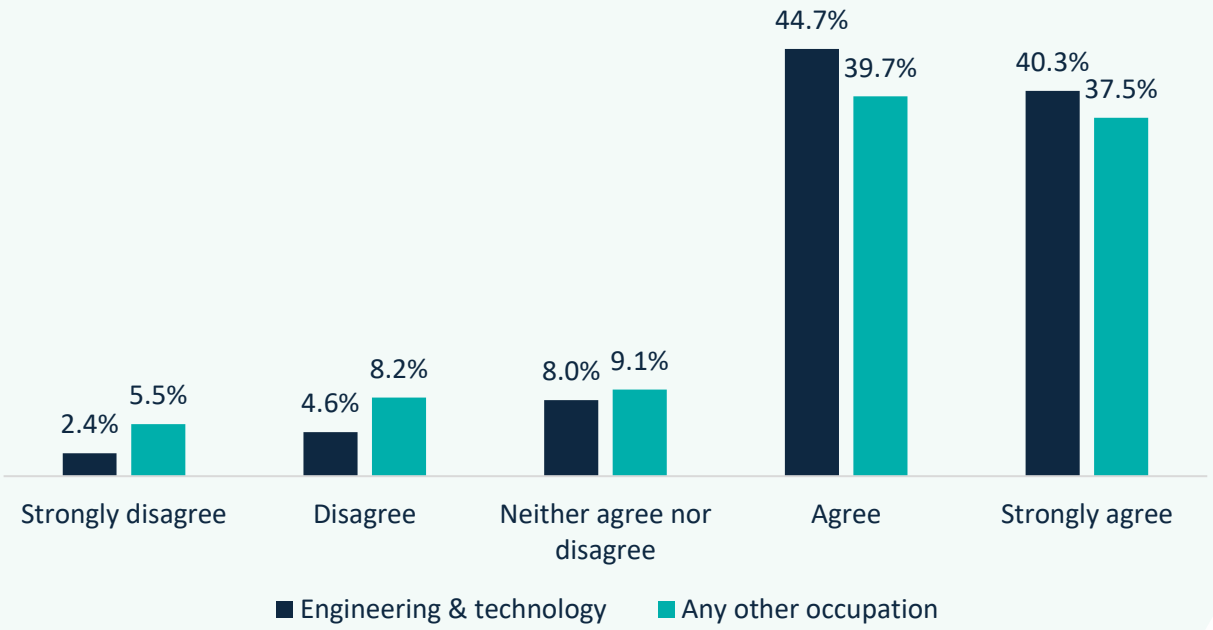


Numbers were too small to look at individual ethnic groups.

Activity fits with plans for their futures

Graduates were also asked if they felt 'on track' and the extent to which their current work fits in with their plans for the future. For the latest academic year, engineers were more likely to strongly agree (40.3%) and agree (44.7%) compared to graduates working in all other occupations (37.5% and 39.7% respectively). Engineers were also less likely to strongly disagree or disagree with this statement (7.0%) compared to all other occupations combined (12.7%) (figure 24).

Figure 24: Percentage of engineers who thought their current work fits in with their plans for the future for the latest academic year, compared to all other occupations combined

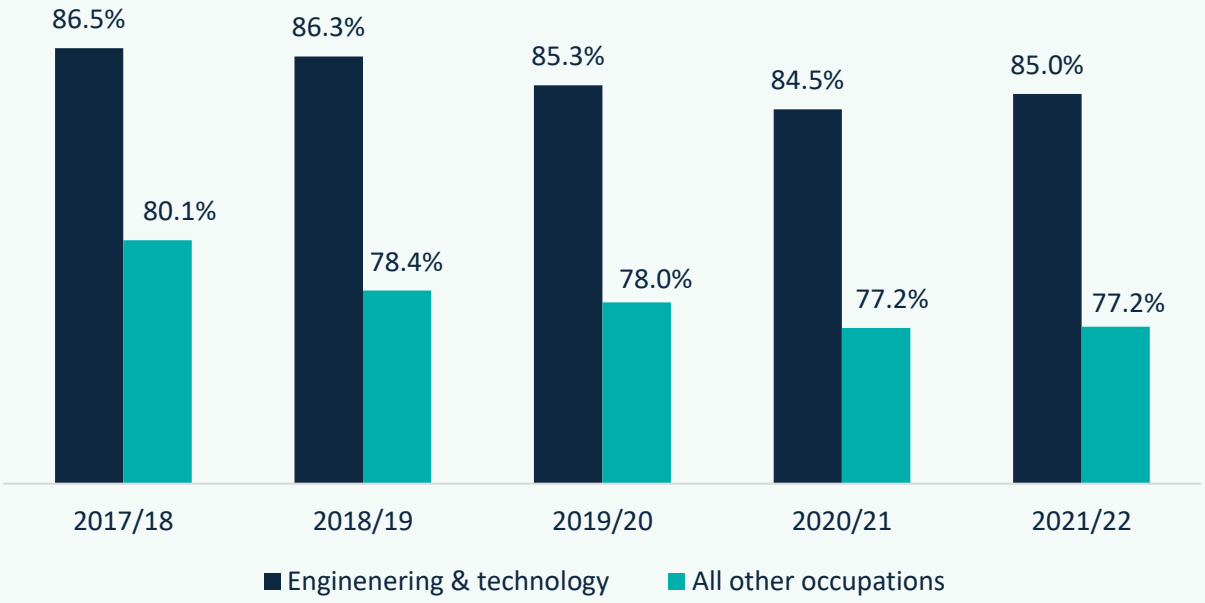


Alongside a reduction in meaningful jobs for graduates (above), the percentage of engineers who either strongly agreed or agreed their current activity is on track declined from 2017/18. 86.5% of those who graduated in 2017/18 agreed or strongly agreed, which dropped to 85.0% amongst 2021/22 graduates. This may suggest engineers are finding it slightly harder to find jobs which are both meaningful and on track with their ambitions for the future.

There was a slight increase, however, between graduates from 2020/21 and 2021/22 of 0.5 percentage points, perhaps indicating a recovery following pandemic impact.

This is not just an engineering issue. The percentage of graduates working in all other occupations who agreed with this statement also declined during this time period from 80.1% in 2017/18 down to 77.2% in 2021/22 (figure 25).

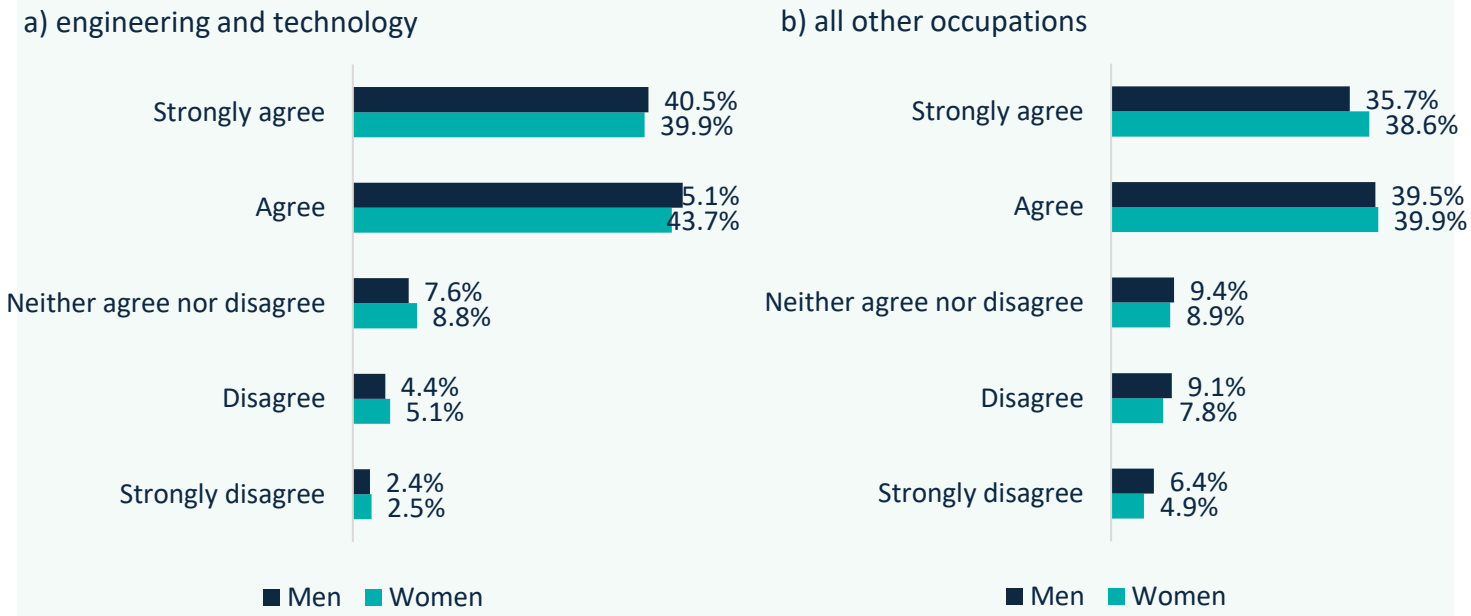
Figure 25: Percentage of engineers each academic year who either agreed or strongly agreed their current activity fits in with their plans for the future between the academic years 2017/18 to 2021/22 compared to graduates working in all other occupations



Activity is on track - gender

Men working as engineers and technicians were more likely to strongly agree (40.5%) and agree (45.1%) their activity is on track compared to women (39.9% and 43.7% respectively). Amongst all other occupations, however, we see the opposite effect with a higher percentage of women strongly agreeing with this statement (38.6%) compared to men (35.7%) (figure 26).

Figure 26: Percentage of graduates who felt their current activity is on track with their future plans, for the latest academic year by gender and occupation type

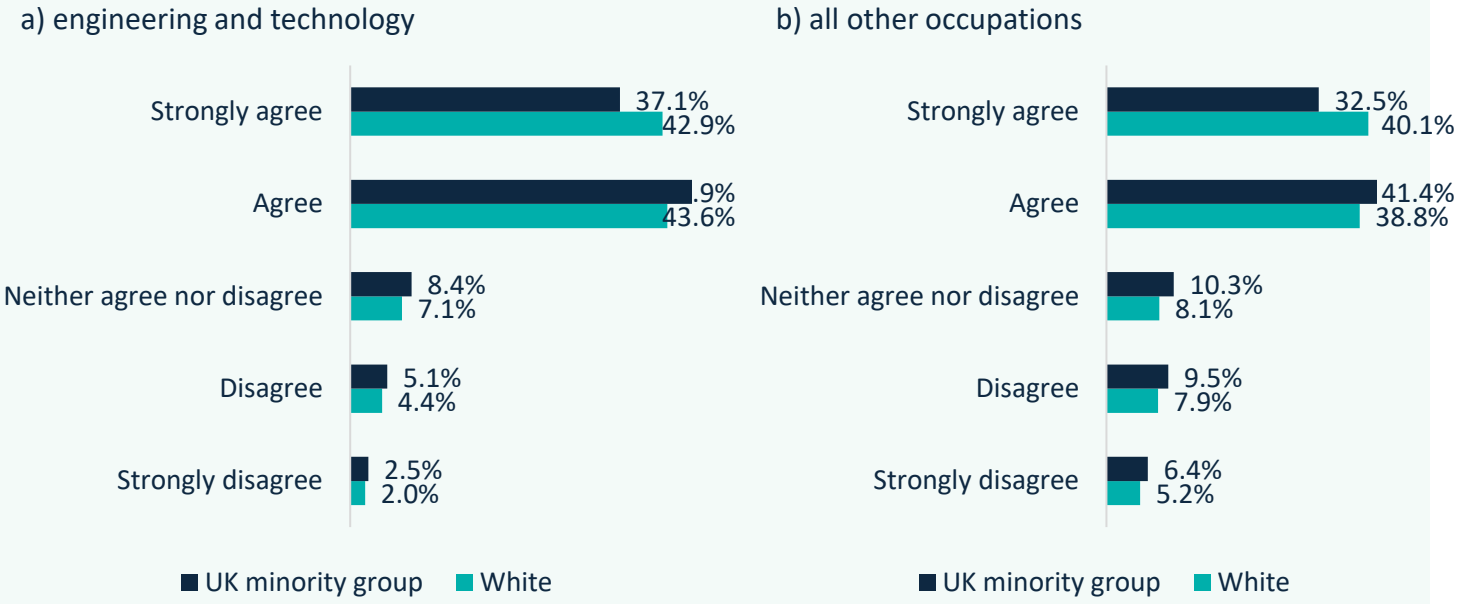


Activity is on track - ethnicity

White graduates, regardless of their occupation, were more likely to strongly agree their activity is on track compared to graduates from UK minority ethnic groups. White engineers, however, were more likely to strongly agree at 37.1% compared to white graduates working in all other occupations (32.5%). Nearly half of engineers from a UK minority ethnic group (46.9%) agreed their activity is on track, compared to only 41.4% working in all other occupations (figure 27).

Combining with earlier findings (page 21), this shows that not only are graduates from UK minority ethnic groups less likely to be in any employment, those who do find a job are less likely to find one that fits with their current plans.

Figure 27: Percentage of graduates who felt their current activity was on track with their future plans by ethnicity and occupation type for the latest academic year

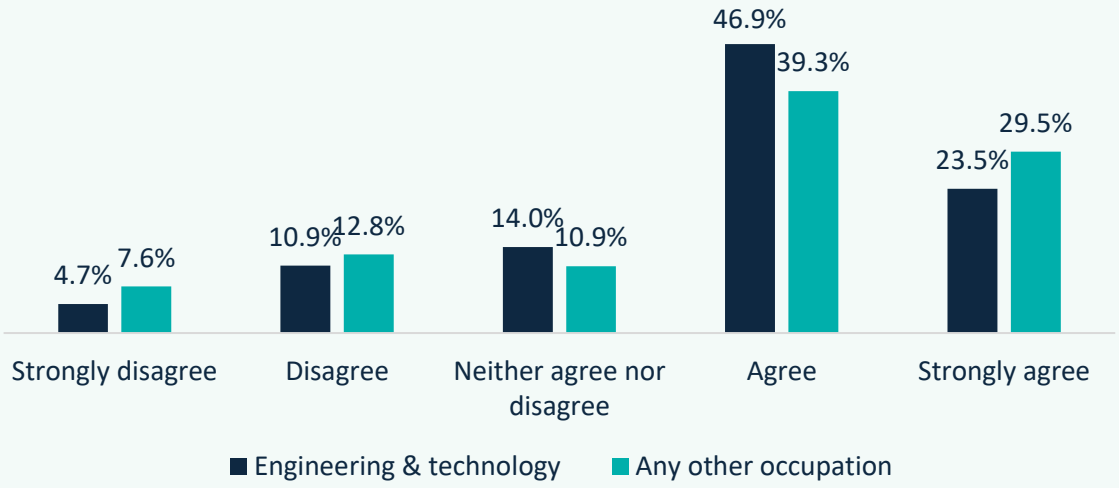


Activity uses skills learnt

Graduates were also asked if their current occupation utilises their skills and results suggested working in engineering occupations allowed graduates to employ the skills they had learnt during their degrees compared to the average across all other occupations.

Engineers were significantly more likely to agree or strongly agree (70.4%) compared to all other occupations (68.8%). Graduates working in all other occupations were also more likely to strongly disagree (7.6%) with this statement compared to engineers (4.7%) (figure 28).

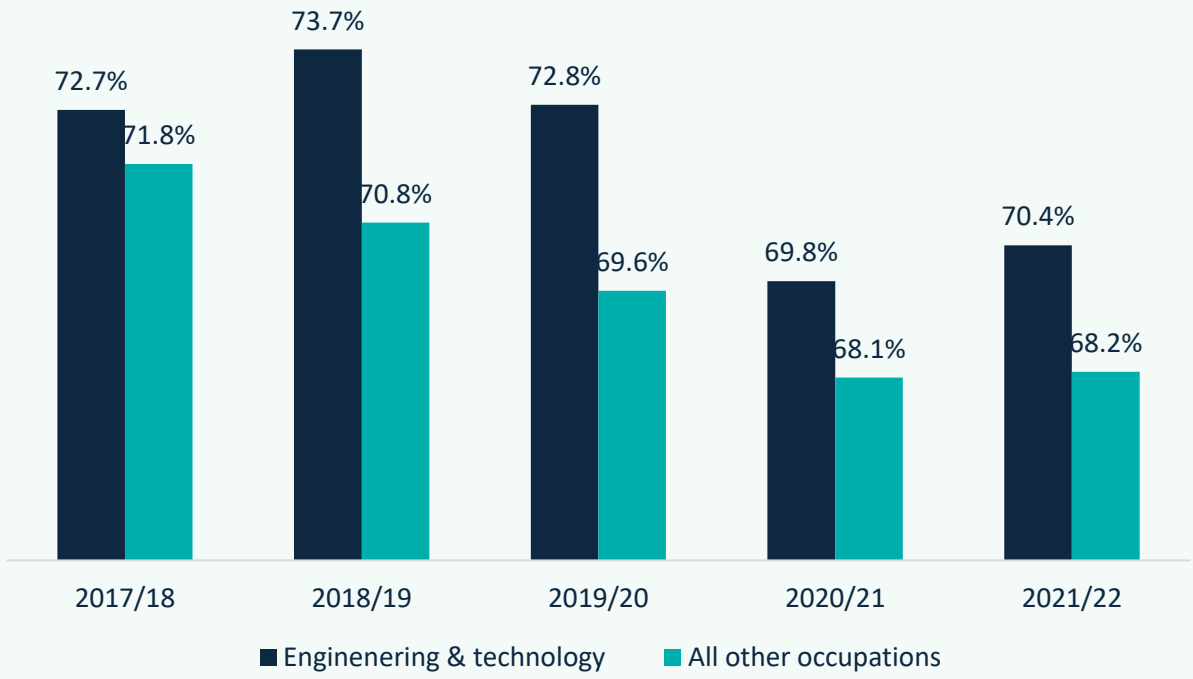
Figure 28: Percentage of engineers who agreed their current activity utilizes the skills they had learnt, compared to all other occupations combined



The proportion of engineers who strongly agreed or agreed their current activity utilised their learnt skills has decreased, however, from 72.7% for 2017/18 graduates down to 70.4% in 2021/22, having peaked at nearly three-quarters (73.7%) in 2018/19. There was a similar decline amongst graduates from all other occupations from 71.8% in 2017/18 down to 68.8% for the latest academic year. There was also no increase between 2020/21 and 2021/22 for all other occupations, unlike engineering and technology occupations which saw an increase of 0.6 percentage points (figure 29).

We have seen that since 2017/18, graduates are finding it harder to find meaningful jobs, which are consistent with their future plans and have fewer opportunities to utilize their skills. It is difficult from the data to conclude whether this is a result of the COVID-19 pandemic, the UK's exit from the EU or other socio-economic factors.

Figure 29: Percentage of engineers who agreed or strongly agreed their current activity utilizes the skills they'd learnt between 2017/18 to 2021/22, compared to all other occupations

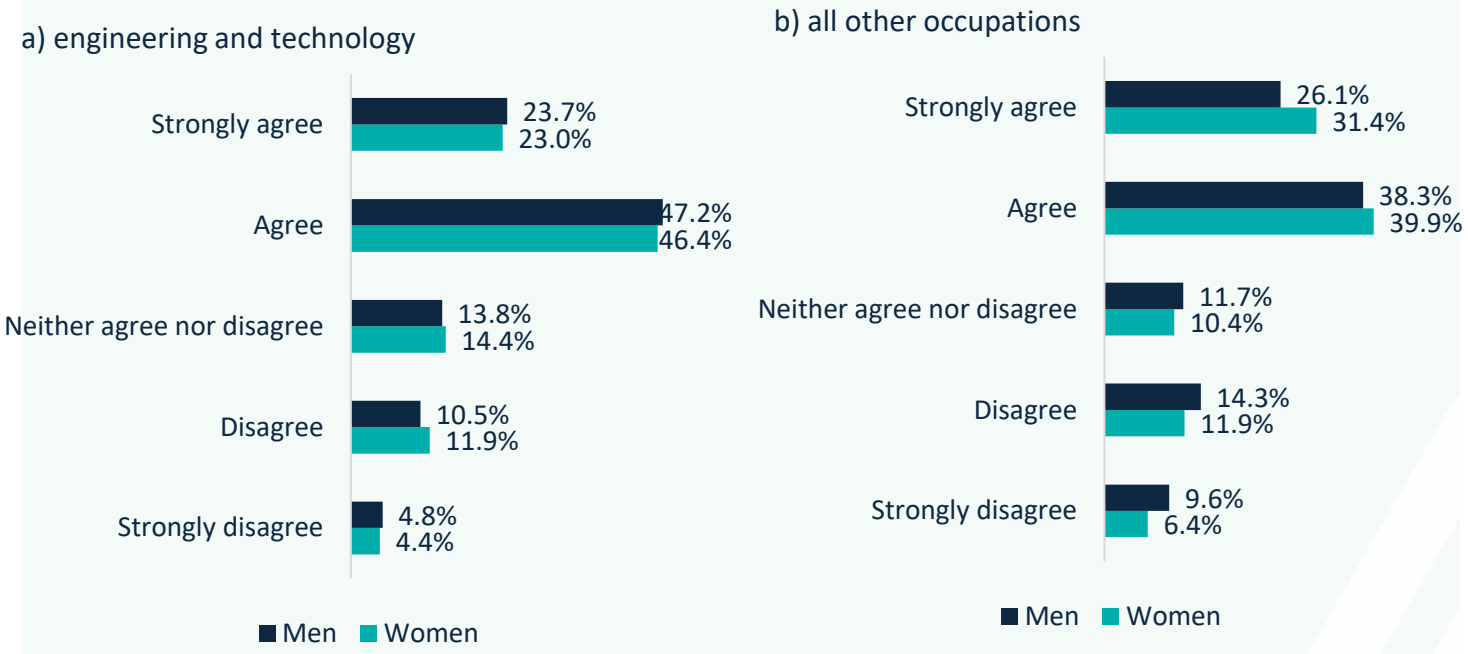


Activity uses skills learnt - gender

Amongst graduates working as engineers, men were more likely to strongly agree or agree that their current activity utilises their skills (70.8%) compared to women (69.3%). We saw the opposite effect, however, for graduates working in all other occupations combined, with a higher proportion of women agreeing or strongly agreeing with this statement (71.3%) compared to men (64.4%).

For both engineers and graduates working in all other occupations combined, men were more likely to strongly disagree with the statement (4.8% and 9.6%) compared to women (4.4% and 6.4%) (figure 30).

Figure 30: Percentage of graduates who agreed their current activity utilises their skills for the latest academic year comparing both gender and occupation type



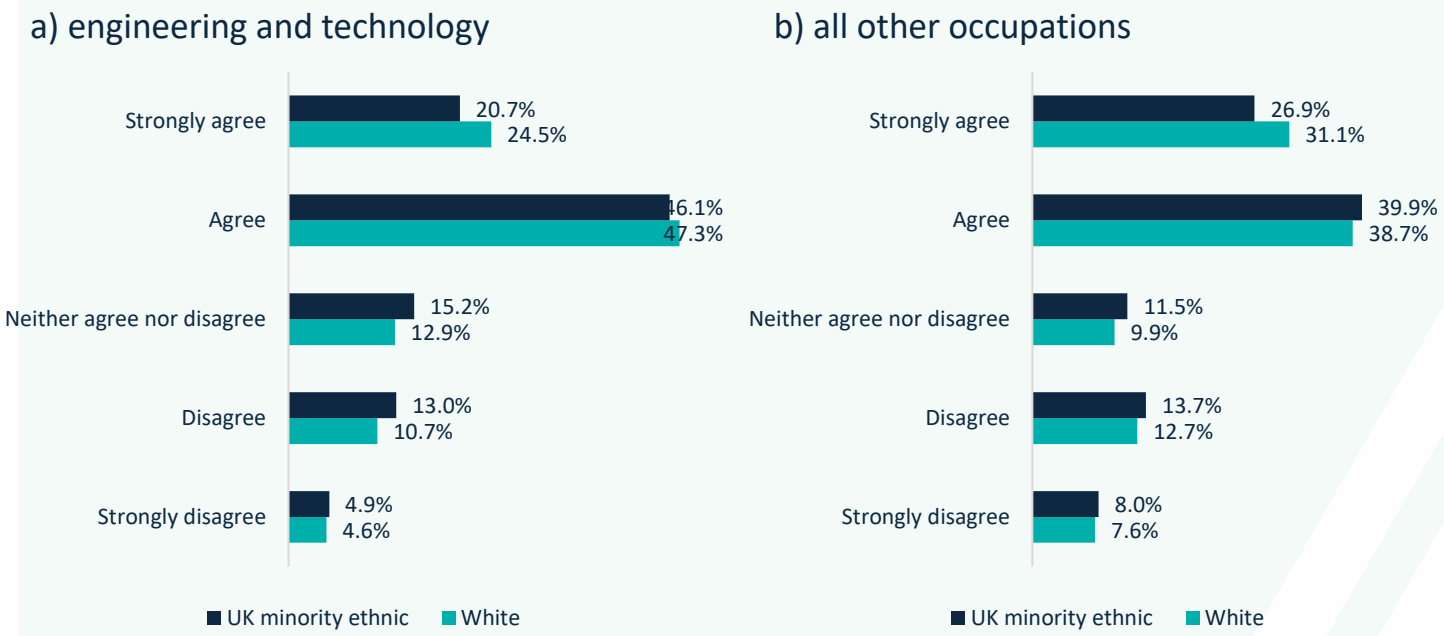
Activity uses skills learnt - ethnicity

Graduates from UK minority ethnic groups were less likely to agree their skills were being utilised compared to graduates who were white.

For the latest academic year, regardless of whether graduates were working as engineers or not, those who were white were more likely to strongly agree or agree their current activity utilises their skills (71.8% and 69.8%) compared to those from UK minority ethnic groups (66.8% and 66.7%).

Engineers from a UK minority ethnic group were also more likely to strongly disagree with the statement (4.9%) compared to white graduates (4.6%) and this effect was the same for all other occupations (8.0% and 7.6% respectively) (figure 31).

Figure 31: Percentage of graduates who agreed their current activity utilises their skills for the latest academic year comparing both ethnicity and occupation type



Qualification was required

Finally, we looked at whether graduates felt their current occupation required a qualification and found engineering and technology jobs were more likely to require a formal qualification.

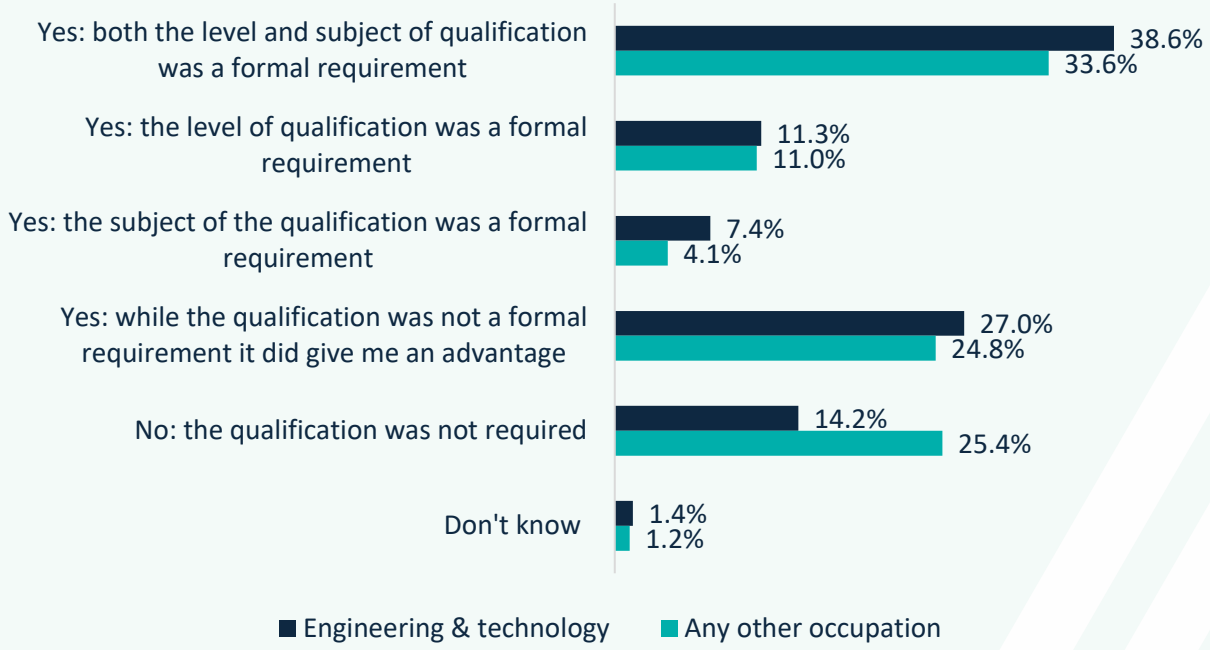
Over a third of engineers stated the level and subject of their qualification was required for their current occupation (38.6%) and this was significantly higher compared to all other occupations (33.6%).

Engineers were also more likely to agree:

- the subject of the qualification was a formal requirement (7.4% versus 4.1%)
- while the qualification was not a formal requirement it did give me an advantage (27.0% versus 24.8%)

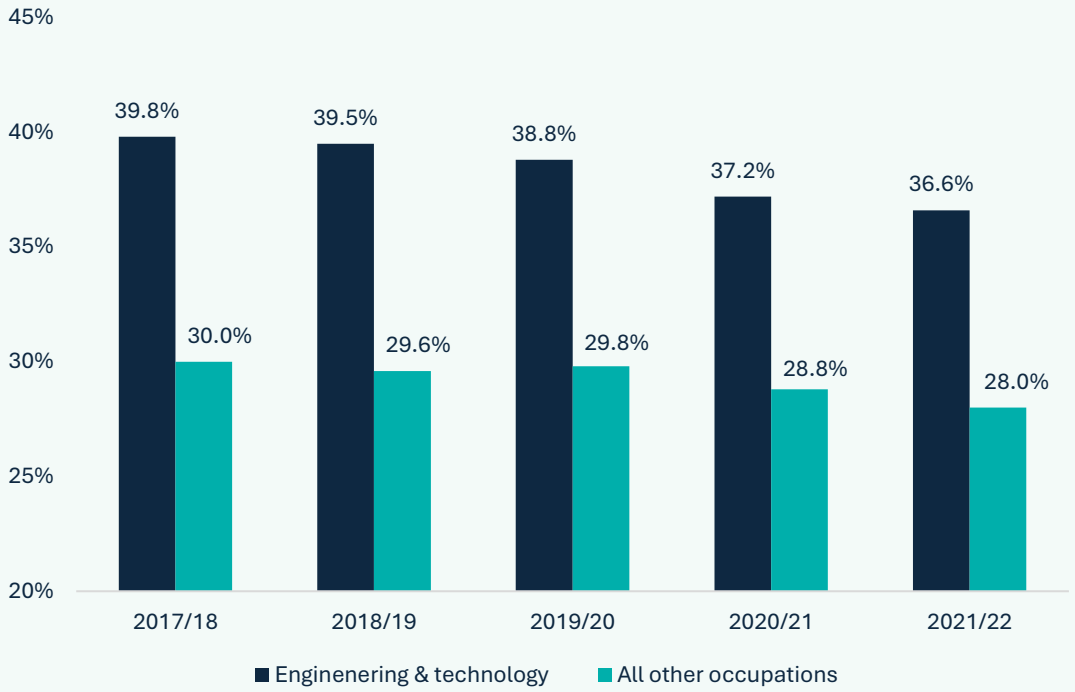
Engineers were also significantly less likely to say 'no formal qualification was required' for their occupation (14.2%) compared to over one fifth of all other occupations (25.4%). A similar percentage of engineers and non-engineers said just the level of qualification was a formal requirement (11.3% versus 11.0%) (figure 32).

Figure 32: Percentage of engineers who agreed a formal qualification was required for their current occupations, compared to all other occupations combined



The percentage of engineers who agreed both the level and subject of their qualification was a formal requirement of their current occupations declined between 2017/18 graduates from 39.8% to 36.6% in 2021/22, representing a decline of 3.2 percentage points. There was also a decline in the proportion of graduates in non-engineering occupations who agreed with this statement. This decline, however, was less steep with only a difference of 2.0 percentage points between 2017/18 and 2021/22 (figure 33).

Figure 33: Percentage of graduates who agreed both the level and subject of qualification was a formal requirement for their current occupation between 2017/18 and 2021/22 compared to all other occupations combined



Methodology

The data used in this report is from the Graduate Outcomes dataset from the Higher Education Statistics Agency (HESA).

There have been some changes to coding for subjects in the higher education dataset in recent years and HESA have developed a Common Aggregation Hierarchy (CAH) to bridge the gap between the previously used Joint Academic Coding System (JACS) coding system and the newly developed Higher Education Classification of Subjects (HECoS).

In previous years we only included CAH10 in our definition of engineering and technology, however, following the publication of our latest report in March 2024, we noticed a high percentage of computing graduates were going on to work in engineering and technology occupations. In addition, a number of the occupations featured in our engineering footprint have explicit links to computing, such as programmers and software development managers, IT network professionals and IT project managers.

Following a series of analyses, results showed a similar percentage of computing graduates (62.3%) went on to work in engineering and technology occupations 15 months after graduating compared to engineering and technology graduates (62.4%).

Therefore, in this report we used the CAH10 *and* CAH11 codes to identify engineering and technology degrees within which there are 10 separate engineering, 7 technology and 8 computing subjects (table 15).

Table 15: CAH10 and CAH11 degrees which contribute to our definition of engineering and technology subjects

Engineering	Technology	Computing
• (CAH10-01-01) engineering (non-specific) • (CAH10-01-02) mechanical engineering • (CAH10-01-03) production and manufacturing engineering • (CAH10-01-04) aeronautical and aerospace	• (CAH10-03-01) minerals technology • (CAH10-03-02) materials technology • (CAH10-03-03) polymers and textiles • (CAH10-03-04) maritime technology • (CAH10-03-05) biotechnology • (CAH10-03-06) others in technology	• (CAH11-01-01) Computer Science • (CAH11-01-02) Information Technology • (CAH11-01-03) Information Systems • (CAH11-01-04) Software Engineering

• engineering • (CAH10-01-05) naval architecture • (CAH10-01-06) bioengineering, medical and • biomedical engineering • (CAH10-01-07) civil engineering • (CAH10-01-08) electrical and electronic • engineering • (CAH10-01-09) chemical, process and energy • engineering • (CAH10-01-10) others in engineering	• (CAH10-03-07) materials science	• (CAH11-01-05) Artificial Intelligence • (CAH11-01-06) Computer Games and Animation • (CAH11-01-07) Business Computing • (CAH11-01-08) Others in Computing

Graduate data

In this report we look specifically at graduate data from students who graduated in 2022 and were surveyed in 2023, 15 months later. The data was then released in 2024.

Students were classified as studying at one of 4 levels:

1. First degree undergraduate: students participating in their first programmes of study in a subject leading to qualifications at first or foundation degree level.
2. Other undergraduate: includes qualification aims equivalent to and below first degree level, including, but not limited to, foundation degrees, diplomas in higher education, Higher National Diploma (HND), Higher National Certificate (HNC), and foundation courses at higher education level.
3. Postgraduate (taught): doctorate and masters degrees, postgraduate bachelors degrees and postgraduate diplomas or certificates not studied primarily through research.
4. Postgraduate (research): includes doctorate (incorporating New Route PhD), masters degrees and postgraduate diplomas or certificates (not Postgraduate Certificate in Education (PGCE) at level M) studied primarily through research.

Demographic data

In the report, we explore various demographics of students and graduates, comparing the

composition of the engineering and technology student population with the student population studying other subjects. Below each demographic is briefly explained to assist with understanding of the results throughout the report.

Gender

The data collected by HESA records the sex of the student, as opposed to the gender with which they identify. There are 3 categories in the dataset: male, female and other (for students whose sex aligns with terms such as intersex, androgyne, intergender, ambigender, gender fluid, polygender and gender queer).

However, due to small numbers, in this report we are only able to display results for male and female graduates. Male and female graduates were also referred to as men and women throughout the report.

Ethnicity

HESA records the ethnicity of students whose permanent address is in England, Wales, Scotland, Northern Ireland, Guernsey, Jersey and the Isle of Man. It is therefore necessary to restrict our analysis to these students when looking at ethnicity.

The data aligns to the categories used in the Census as recommended by the Office for National Statistics (ONS). Due to small numbers, when looking at each of the individual ethnic groups, in this report we looked at whether graduates were white or from a UK minority ethnic background to explore intersectionality with additional factors such as disability (for example).

Those recorded as 'unknown/not applicable' are not included in our analysis. This is used not only to denote those who do not have a permanent address in the UK, but also for those whose permanent address is unknown (2014/15 onwards), those who have refused to give ethnic information or whose ethnicity is unknown.

Disability

Students are not required to report a disability should they not wish to, and therefore in the report we categorise disability into 'known disability' and 'no known disability'. HESA specifies disabilities to include: a specific learning difficulty, blind or a serious visual impairment, deaf or a serious hearing impairment, a physical impairment or mobility issues, personal care support, mental health condition, social communication/autistic spectrum disorder or a long-standing illness or health condition.

Low-participation neighbourhoods (POLAR4)

To help assess UK students attending HE courses from disadvantaged areas, the POLAR4 classification was formed to identify where participation in HE is usually low. Areas were ranked

based on the combined participation rates of those who entered HE between the academic years 2009-10 and 2013-14, if they entered aged 18, or between 2010-11 and 2014-15 if they entered aged 19.

Five groups were then formed, each representing 20% of the UK young cohort, with quintile 1 having the lowest young participation (most disadvantaged), up to quintile 5 which are the areas with the highest participation (most advantaged). Students were allocated to the neighbourhoods on the basis of their postcode and those whose postcode falls within middle layer super output areas with the lowest participation (quintile 1) are denoted as being from a low participation neighbourhood.

Analysis

Counts displayed throughout the report are rounded to the nearest 5, as required by HESA, to avoid any potential disclosure issues. However, percentages are calculated based on unrounded data. Differences mentioned throughout the report are significant unless otherwise specified.

Who are we

Established in 2001, EngineeringUK is a not-for profit organisation, funded predominantly via the professional registration fees of individual engineers, as well as the support of a range of businesses, trusts and foundations, and a corporate membership scheme. Our ambition is to enable more young people from all backgrounds to be informed, inspired and progress into engineering and technology.

Working in partnership to inspire more young people from a greater range of backgrounds to pursue the exciting career opportunities in modern engineering and technology is at the heart of EngineeringUK's purpose. Collaboration is essential to reach our long-term vision: for the UK to have the diverse workforce needed for engineering and technology to thrive and to drive economic prosperity, improve sustainability and achieve net zero.

Driven by data

Our work is rooted in our understanding of the current and future needs of the engineering and technology workforce. We complement that understanding by establishing which activities help increase the number and diversity of young people choosing engineering, technology and technician careers, especially those in sustainability and net zero.

We base everything we do on evidence and we share our analysis and insight widely. We publish comprehensive data on all aspects of engineering and technology in the UK – providing a detailed examination of the economic contribution, the workforce composition, as well as the extent to which workforce supply through education and training is likely to meet future demand for engineering and technology skills.

We evaluate all our activity to help ensure our engagements with young people are as effective as possible. It is through evaluation that we can identify the extent to which our programmes are winning the hearts and minds of young people, increasing their understanding of engineering and technology, and changing their perceptions of a career in it as something they'd consider for themselves, regardless of background and gender.

Appendix

Sample

		Engineering and technology	Other subjects
Total number of graduates (academic year 2021/22)		41,550	313,580
Level of most recent study			
	Undergraduate first degree	24,960	177,520
	Undergraduate other	2,650	19,735
	Postgraduate taught	12,015	105,065
	Postgraduate research	1,925	11,255
Characteristics of graduates		% of engineering and technology graduates	% of other graduates
Gender			
	Men	79.0	36.3
	Women	21.0	63.7
Ethnicity*			
	Asian or Asian British – Bangladeshi	1.4	1.3
	Asian or Asian British – Indian	4.1	2.9
	Asian or Asian British – Pakistani	3.3	2.7
	Other Asian Background	2.6	1.8
	Black or Black British - African	4.5	4.8
	Black or Black British - Caribbean	0.6	1.1
	Other Black British	0.2	0.3
	Chinese	1.2	0.7
	Mixed	3.3	3.5
	Other	1.7	1.4
	White	51.5	63.9
	Unknown/Not applicable	25.6	15.5
HE participation quintile*			
	1 – least disadvantaged	8.3	9.9
	2	10.9	13.1
	3	14.1	16.0
	4	17.6	19.6
	5 - least disadvantaged	24.5	26.6

	Unknown/not applicable	24.6	14.7
Usual place of residence			
	UK	75.9	85.8
	EU	8.8	6.3
	RoW	15.2	7.9
	Not known	0.0	0.0
Disability			
	No known disability	86.2	81.6
	Blind or serious visual impairment	0.1	0.2
	Deaf or serious hearing impairment	0.2	0.3
	A physical impairment or mobility issue	0.3	0.4
	Mental health condition	3.0	5.3
	A long-standing illness or health condition	1.1	1.8
	Two or more conditions	1.6	2.1
	Social communication /ASD	1.2	0.6
	Specific learning disability	5.3	6.4
	Another	0.9	1.3
Highest qualification obtained**			
	(H00) First degree with honours	43.2	45.7
	(M00) Masters degree obtained typically by a combination of coursework and thesis/dissertation, that does not meet the criteria for a research-based higher degree	26.9	21.8
	(M22) Integrated undergraduate/postgraduate taught masters degree on the enhanced/extended pattern	14.8	2.0
	(D00) Doctorate degree that meets the criteria for a research-based higher degree	4.2	3.0
	(C20) Certificate of Higher Education (CertHE)	2.4	2.2
	(I00) Ordinary (non-honours) first degree	1.2	0.8
	(C30) Higher National Certificate (HNC)	1.1	0.2
	(J20) Diploma of Higher Education (DipHE)	1.0	0.8
	(J10) Foundation degree	1.0	1.2
	(M41) Diploma at level M	0.7	1.4
	(M80) Other taught qualification at level M	0.7	2.1

	(H23) First degree with honours and diploma	0.6	0.2
	(M44) Certificate at level M	0.5	1.8
	(J30) Higher National Diploma (HND)	0.4	0.1
	(L00) Masters degree that meets the criteria for a research-based higher degree	0.4	0.5
	(H22) First degree with honours on the enhanced/extended pattern but at level H	0.3	0.1
	(I80) Other qualification at level I	0.1	0.0
	(C42) Certificate at level C	0.1	0.2
	(H16) Pre-registration first degree with honours leading towards obtaining eligibility to register to practice with a health or social care or veterinary statutory regulatory body	0.1	5.7
	(C80) Other qualification at level C	0.1	0.0
	(H41) Diploma at level H	0.1	0.0
	(M70) Professional taught qualification at level M other than a masters degree	0.1	0.1

*UK students only due to data provided

** Where data from 'engineering and technology subjects' is greater than 0.1%