frontier economics

Further Education workforce data for England

Analysis of the 2014-2015 Staff Individualised Record (SIR) data

June 2016

The Education & Training Foundation

Contents

Executive Summary

Frontier Economics was commissioned by the Education and Training Foundation (ETF) to carry out an analysis of the Further Education (FE) workforce in England using the 2014-15 Staff Individualised Record (SIR) dataset. The SIR dataset holds information on standard contracts of employment between FE colleges and their members of staff, including information on the contract and on the demographic characteristics of the employee.

SIR data are supplied by FE colleges for each academic year on a voluntary basis, and response rates vary between years. In 2013-14, only 84 colleges (around a quarter of all colleges) supplied information on 61,524 contracts. This year the response rate has increased to 115 colleges (a third of all colleges) and 79,049 staff contracts.

This report provides a descriptive account of the staff working in English FE colleges in 2014-15[1], and where possible draws out comparisons of the workforce across different types of FE colleges, with the results from 2013-14 [2] and with the school workforce. Comparison across college types focuses on differences between General FE colleges (GFECs), Sixth Form colleges (SFC) and Land-based colleges and all other institutions. The detailed comparative analysis across college types was enabled by the larger sample size resulting from the better response rate this year. In comparison, last year's sample allowed only for comparisons between GFECs and all other institutions. In addition to the descriptive account of the FE workforce, this year's report includes some additional analysis looking at the impact of demographic variables on pay and career progression.

The key findings from our analysis are:

- Teachers represent close to a half of the entire FE workforce. The next biggest occupational group are service staff, followed by word processing, clerical and secretarial staff; administrative and professional staff; and other managers.
- Over 60% of all FE contracts are part-time, a proportion considerably higher than in the general UK workforce (37%).
- Close to two-thirds of FE staff are female, and this proportion is higher for part-time staff. The proportion of female staff in the FE sector is higher than in the general UK workforce, but lower than in the school workforce.
- Median pay for full-time staff across all occupational groups is £26,000-£26,999, £1,000 higher than in 2013-14.
- Over half of the staff in the FE sector are over the age of 45, indicating an older workforce. The workforce is also predominantly white (89%).
- Exploratory analysis of contracts starting and ending in 2014-15 suggests that the size of the FE workforce is declining, with a net employment change [3] of around -3%. Additional analysis of net employment changes across the past three years (for colleges which consistently submitted data in this period) revealed that the decline in full-time equivalents (FTEs) was larger for men, full-time employees, and staff on annual pay of more than £40,000.

[1] Workforce issues in private training providers, Local Authorities and charitable organisations are covered in separate reports.
[2] "Further Education workforce data for England – Analysis of the 2013-14 Staff Individualised Record (SIR) data", Frontier Economics.
[3] 'Net employment change' is defined as the number of contracts starting in the teaching year less the number of contracts ending, as a proportion of all contracts. A negative figure implies that more contracts ended than started.

- Further analysis of other datasets suggests an even higher rate of workforce decline in the order of 9% over the last three years equivalent to ca. 12,000 FTEs.

Key findings from our analysis of the teaching staff data are:

- Teaching staff are older than other staff (with a lower share of staff aged under 45).
- Annual median pay for teachers was £31,000-£31,999. Average pay was £29,100, much below the average pay of £37,400 for school teachers. The highest median pay was observed for teachers in Business, Administration, Management and Professional and Science, and the lowest for Land-based provision.
- The most common subjects, provided by at least 90% of colleges are Business Administration, Management and Professional; English, Languages, and Communication; Hospitality, Sports, Leisure, and Travel; Health, Social Care, and Public Services; and Visual and Performing Arts and Media.

The key differences in findings across college types are:

- Land-based colleges on average have fewer teaching staff and more service staff, while Sixth Form colleges employ relatively fewer assessors and verifiers. Sixth Form and Land-based colleges employ fewer part-time teachers on average.
- While the proportion of female staff across college types is similar, there are generally fewer female senior managers at Sixth Form and Land-based colleges than at GFE colleges.
- Staff at Sixth Form and Land-based colleges are younger, more ethnically diverse and better paid than staff in other colleges.
- Teaching staff are generally older than the general staff population in all college types except Sixth Form and Land-based colleges.

The key findings from our extended regression analysis on pay and career progression are:

- We find no evidence of a gender, disability or ethnicity pay gap for teaching staff when relevant factors are controlled for. Subject mix is clearly an important factor for pay and women are more likely to teach in subjects which are less well-paid than the subjects predominantly taught by men.
- There is some evidence of a pay gap among non-teaching staff. Controlling for all other factors that we can account for, female non-teaching staff earn around £1,700 a year less than their male counterparts. Ethnic minority non-teaching staff also earn significantly less than White British staff, by around £1,000, but this is predominantly driven by a particular occupational category (Other Managers). Further, women and ethnic minorities are less likely to be in senior positions than men and White British staff respectively.
- We find no evidence that gender, ethnicity or disability have an effect on career progression. Our analysis shows that the probability of being a manager increases by half a percentage point for every additional year at a college and this is unaffected by gender, ethnicity, disability status.

1. Introduction

This report presents the findings from an analysis of workforce data from the Staff Individualised Record (SIR) dataset for Further Education (FE) colleges in England for 2014-2015.

This is the twelfth publication in the series of annual SIR reports English FE workforce, and the third to be produced by the Education and Training Foundation (ETF).

There are six types of colleges included in the analysis: General Further Education (GFE) colleges (including tertiary education), Sixth Form colleges, Land-based (Agriculture and Horticulture) colleges, Performing Arts colleges, Specialist Designated colleges and National Specialist colleges which focus specifically on providing young people with learning difficulties or disabilities with valuable skills for living independently.

The data contain information on all staff – teaching and non-teaching – covering staff demographics (such as age, gender, ethnicity, disability and sexual orientation), staff occupation and pay, subjects taught and geographical location.

This report provides a descriptive account of the staff working in colleges in 2014-2015 covering all aspects of the data (demographics, pay, subjects taught, etc.).

The vast majority of FE providers in England are GFE colleges. However, it is important to recognise that other types of FE institutions may have different characteristics. Response rates from colleges this year have been better than in previous years allowing us to compare results for different college types, specifically GFE, Sixth Form and Land-based colleges.

The report also comments on trends over time, by comparing the findings from the 2014-13 data with those in the 2013-14 report.

The rest of the report is organised as follows:

- Section 2 discusses our overall approach to the work including methodology and a detailed description of the data processing we have carried out.
- Section 3 contains the main description of the FE workforce in England in 2014-15.
- Section 4 describes the characteristics of the teaching workforce in English FE in 2014-15.
- Section 5 presents analysis of the influence of demographic characteristics on pay and progression.
- Section 6 provides estimates of the net employment changes in colleges over the last three years.
- Section 7 concludes.

2. Our approach to the analysis

Data processing

The original dataset we received from Texuna Technologies Ltd contained a total of 85,564 records from 182 colleges. In keeping with our approach in previous years, we cleaned the data in a number of ways:

- **Duplicates.** We removed duplicate records (where records contained duplicates in terms of all variables).

- **Protocol.** The records in the original dataset come from two sources. The vast majority (90%) were submitted by colleges themselves, with the remainder submitted by Protocol, a staffing agency. As in previous years, we dropped records where all records from a particular college were submitted by Protocol, with no records submitted by the college itself. This is because records submitted by Protocol may not be representative of the college as a whole. We have included records from Protocol where these complement other records submitted by colleges, that is, where the college itself submitted records on its staff as well.

- **Mergers and closures.** We have taken account of mergers and college closures that were not recorded in the data. In particular, Castle College Nottingham merged with Central College Nottingham in 2013, and Heart of Worcestershire College with North East Worcestershire College in 2014. Records from these merged colleges were amalgamated under the name of the new college. The original dataset also contained records from K College, which was dissolved in 2014, and taken over by West Kent and Ashford and East Kent Colleges. Because we could not split the records between these two colleges, we have not included all records from K College.

The final dataset used in our analysis consists of 79,049 records from 115 colleges. It includes information on:

- FE colleges
    - College name.
    - UK provider number.
    - College location (region).
- Members of staff
    - Personal characteristics: gender, date of birth, age, ethnicity, disability status and sexual orientation.
    - Employment contract: Date of employment, date of leaving (if applicable), category of work, main subject taught (for teachers), and gross annual pay (in bands of £1,000).
    - Terms of employment: full-time or part-time, fraction of full-time worked, proportion of

time spent providing teaching and learning, supporting teaching and learning, and providing other support.

In addition to cleaning the number of records in the dataset, we have carried out additional validations of the data in individual variables according to the SIR specifications:

- **Age.** The 'age' variable was set to missing if the recorded age was below 16 or above 100.

- **Date of employment.** The 'date of employment' variable was set to missing if the recorded date was before 1900.

- **Main subject taught.** The 'main subject taught' variable was set to missing if the staff member is recorded as being a teacher, but recorded as 'Not a teacher' under main subject taught. Further, the coding of Maths and Science teachers changed from 01 (combined) in the previous SIR 22 to 15 and 16 (separate) in SIR 23. However, as a number of colleges continued to use the previous coding, we accepted records coded as 01, in order to get a more accurate picture of the number of teachers of Maths and Science. Contracts recorded as 01 (`Maths and Science') were split between 15 and 16 based on the proportion of Maths and Science contracts that were coded correctly [4]. We also noted an increased occurrence of teaching contracts where the main teaching subject was recorded as 'unknown', which is likely to be caused by the confusion around the change in coding for these subjects.

- **Annual pay.** There were a number of cases where staff members were recorded as working for less than the minimum wage, based on their annual pay and the fraction of full-time worked. The 'annual pay' variable was set to missing for these records.

- **Fraction full-time worked.** This variable was set to missing if it exceeded a maximum of 120%.

- **Proportion of time spent providing teaching and learning, supporting teaching and learning, and providing other support.** These three variables were set to missing if their sum did not equal 100%.

[4] It was possible to take these miscoded observations into account for some results, like the number and share of teachers per subject. However, they are excluded from some results when a similar allocation was not straightforward, for example average pay per subject.

3. Profile of the English FE workforce, 2014-15

This section provides a description of the FE workforce in England based on the sample of colleges responding to the SIR 23 data return. We present analysis of occupation, types of contract, staff turnover, gender, age, ethnicity, sexual orientation, disability and salary.

Occupation types

The 2014-15 data consists of 79,049 contracts from 115 FE colleges. The largest occupational group in the sample is Teaching staff, accounting for almost 45% of all contracts. This is followed by Service staff representing close to 18% of all the contracts, and Word Processing, Clerical and Secretarial staff accounting for 10% of the contracts.

The breakdown across occupations in 2014-15 data is similar to the breakdown in 2013-14.

Table 1: Staff breakdown by occupational group in FE colleges in England, 2014-15

Occupation	Number of contracts in the sample	Share of all contracts
Senior Manager	510	0.6%
Other Manager	4,925	6.2%
Teaching staff	35,438	44.8%
Assessors and verifiers	2,622	3.3%
Technical staff	4,374	5.5%
Word processing, clerical and secretarial staff	7,822	9.9%
Service staff	13,985	17.7%
Administrative and professional staff	4,923	6.2%
Unknown	4,450	5.6%

Source: Frontier analysis of SIR 23 data. 79,049 contracts.

There were some differences in the occupation breakdown of staff across different FE college types (see Table 2). The key differences are that Sixth Form colleges have a low share of assessors and verifiers and Land-based colleges have relatively fewer Teaching and Word, Processing, Clerical and Secretarial staff, but more Service staff.

Table 2: Share of contracts by occupation across FE college types

Occupation	Share of all contracts		
	GFE	Sixth Form	Land-based
Senior Manager	0.6%	1.0%	0.6%
Other Manager	6.3%	5.1%	6.9%
Teaching staff	45.1%	49.2%	39.0%
Assessors and verifiers	3.7%	0.3%	2.4%
Technical staff	5.3%	6.4%	9.6%
Word processing, clerical & secretarial staff	9.9%	12.2%	8.6%
Service staff	16.6%	14.7%	27.7%
Administrative and professional staff	6.3%	4.9%	5.2%
Unknown	6.1%	6.2%	0.0%

Contract types

Table 3 shows a breakdown of contract types (part-time or full-time) by occupational staff group. The majority of staff (60%) are employed on a part-time basis, although this varies across occupation groups. Among senior managers the share of staff working part-time is less than 12%, while for service staff it is almost 72%.

The prevalence of part-time contracts in FE is considerably higher than in the general UK workforce, where only about 37% of contracts are part-time [5].

Table 3: Staff breakdown by occupational group and contract type in FE colleges in England, 2014-15

Occupation	% of part-time staff in the category	% of full-time staff in the category
Senior Manager	11.8%	88.2%
Other Manager	25.9%	74.1%
Teaching staff	59.7%	40.3%
Assessors and verifiers	60.0%	40.0%
Technical staff	49.5%	50.5%
Word processing, clerical and secretarial staff	57.3%	42.7%
Service staff	71.9%	28.1%
Administrative and professional staff	43.8%	56.2%
All staff	60.3%	39.7%

Source: Frontier analysis of SIR 23 data

There is some variation between college types (see

Table 4). In particular, a smaller fraction of teaching staff work part-time at Sixth Form (43.2%) and Land-based (49.6%) colleges. Sixth Form colleges also have a higher share of part-time employees among administrative and professional staff (60.5%) and service staff (82.1%), while Land-based colleges employ more part-time assessors and verifiers than other college types (77.1%).

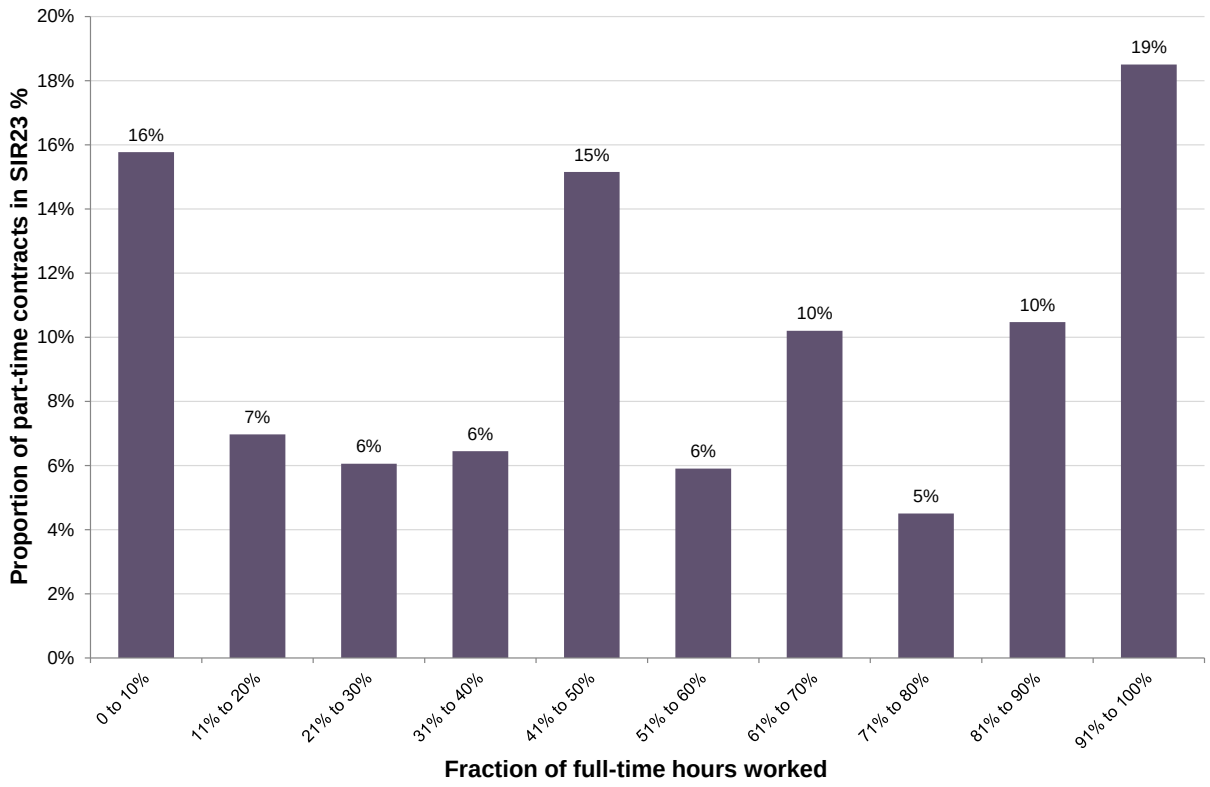
Table 4: Staff breakdown by occupational group and contract type across different FE college types in England, 2014-15

Occupation	% of part-time contracts			% of full-time contracts		
	GFE	Sixth Form	Land-based	GFE	Sixth Form	Land-based
Senior Manager	12.6%	2.2%	17.4%	87.4%	97.8%	82.6%
Other Manager	25.9%	34.1%	17.7%	74.1%	65.9%	82.3%
Teaching staff	61.1%	43.2%	49.6%	38.9%	56.8%	50.4%
Assessors and verifiers	59.3%	57.1%	77.1%	40.7%	42.9%	22.9%
Technical staff	47.5%	58.0%	59.5%	52.5%	42.0%	40.5%
Word processing, clerical & secretarial staff	55.7%	74.7%	62.0%	44.3%	25.3%	38.0%
Service staff	72.8%	82.1%	63.0%	27.2%	17.9%	37.0%
Administrative and professional staff	43.8%	60.5%	33.3%	56.2%	39.5%	66.7%
All staff	61.3%	48.1%	53.6%	38.7%	51.9%	46.4%

[5] Office for National Statistics, UK Labour Market: October 2015, Statistical Bulletin available at: http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/2015-10-14

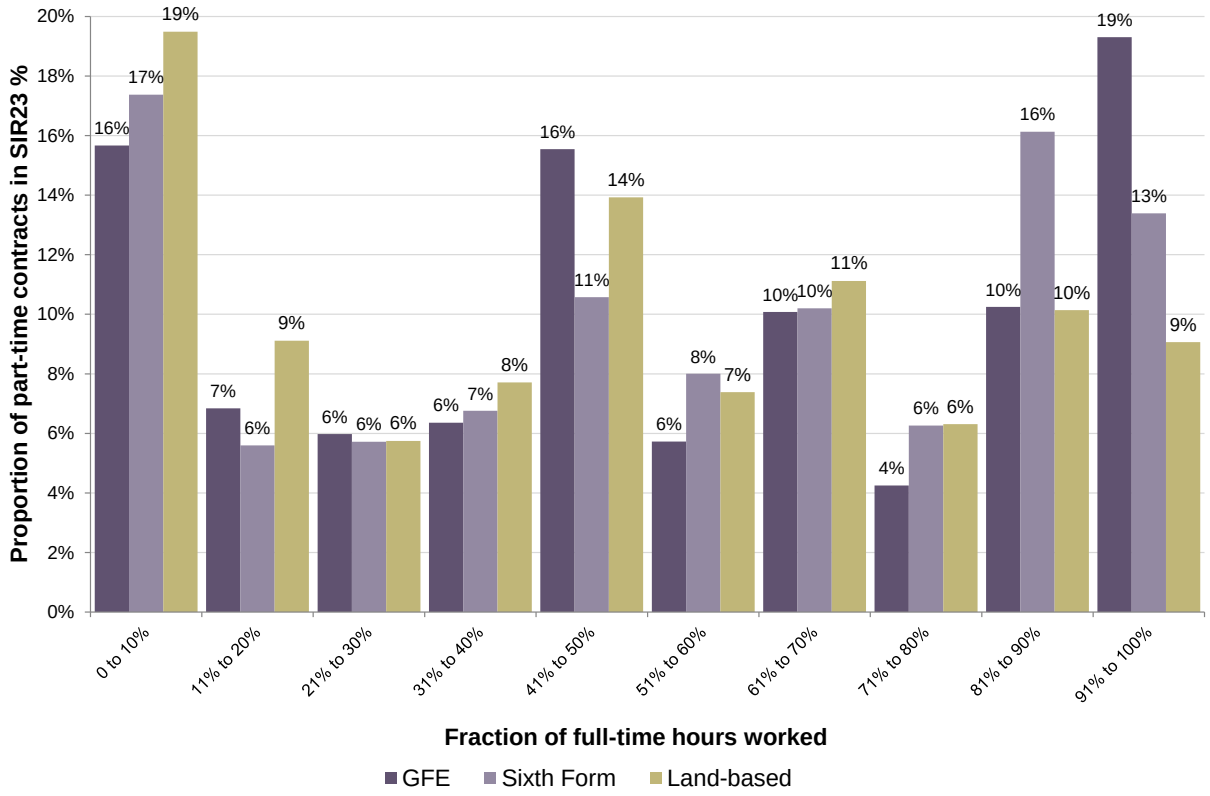
Figure 1 shows the distribution of part-time contracts by the fraction of full-time hours worked. Almost a fifth of all part-time contracts are over 90% of a full-time contract, but there is also a significant proportion of employees who work on contracts accounting for less than 10% of full-time (16%).

Figure 1: Part-time contracts by proportion of full-time hours worked, 2014-15



There is some variation in the distribution of part-time contracts across college types (see Figure 2). Relative to the general population of colleges, Sixth Form and Land-based colleges have more staff on contracts with shorter hours. For example, only 9% of staff at Land-based colleges have contracts which are 91%-100% of full-time compared with 19% of GFE colleges.

Figure 2: Part-time contracts as a proportion of full-time hours worked by college types, 2014-15



Given the high incidence of part-time working in the sector, we examine what the occupational distribution in the sector looks like in terms of full-time equivalents (FTE) – see Table 5. In FTE terms, the workforce in the sample consists of 48,713 contracts. Teaching staff make up 42.1% of FTE contracts, compared to 44.8% of all contracts, reflecting the high incidence of part-time working among teachers which is the case across all college types (Table 6).

For senior and other managers, the share of FTE contracts is higher due to the lower incidence of part-time working (0.6% and 6.2% of all contracts, respectively), a finding which applies to all college types.

These results are comparable to the findings last year.

Table 5: Proportion of full-time equivalent (FTE) staff by occupational group in FE colleges, 2014-15

Occupational group	Proportion of FTE contracts
Senior Manager	1.0%
Other Manager	8.9%
Teaching staff	42.1%
Assessors and verifiers	2.8%
Technical staff	6.3%
Word processing, clerical and secretarial staff	10.3%
Service staff	16.2%
Administrative and professional staff	7.7%
Unknown	4.6%

Table 6: Proportion of full-time equivalent (FTE) staff by occupational group across different FE college types, 2014-15

Occupational group	Proportion of FTE contracts		
	GFE	Sixth Form	Land-based
Senior Manager	0.9%	1.5%	0.8%
Other Manager	9.0%	6.4%	9.6%
Teaching staff	41.7%	55.4%	38.3%
Assessors and verifiers	3.2%	0.3%	1.6%
Technical staff	6.3%	6.8%	8.5%
Word processing, clerical and secretarial staff	10.8%	8.0%	8.1%
Service staff	15.2%	10.9%	26.5%
Administrative and professional staff	7.9%	5.2%	6.7%
Unknown	5.0%	5.5%	0.0%

Staff turnover

SIR data includes information on the leaving date for individual contracts, which can be used to compute measures of turnover.

We focus on two measures:

- The **turnover rate**, which is the number of contracts ending within the 2014-15 teaching year, expressed as a proportion of all contracts in the sample in that year.
- The **net employment change**, which is the difference between contracts starting and the ones ending in the teaching year, expressed as a proportion of all the contracts. A negative net employment change means that more contracts ended than started, suggesting a declining workforce.

A note of caution on the interpretation of these data is in order. A contract ending does not necessarily imply that a member of staff is leaving the college or the FE sector altogether. Some members of staff may be moving on from an old to a new contract. Limitations of the SIR data prevent us from disentangling these two components of turnover with confidence. The main issue with the data is that it is at the contract level. As such, it allows us to identify contracts in FE institutions, but not to attribute these to individuals.

Table 7 presents a breakdown of the turnover measures by occupational category. Across all staff, around 16% of contracts observed in the 2014-15 SIR sample report a leaving date within that year. For senior managers, teaching staff, and assessors and verifiers this proportion is slightly higher.

The lowest turnover rate is observed among other managers and service staff. All (known) occupational groups had a negative job growth rate, indicating a declining workforce in 2014-15. This change was highest among senior managers, with a decline of over 10%, followed by administrative and professional staff with a decline of almost 5%.

These results are roughly in line with the results from last year, except for a couple of differences:

- The turnover rate for all staff was one percentage point lower last year, so staff turnover is slightly higher for this year (2014/15).
- Other managers had a turnover rate much below the average level this year, at 12.8%.
- The job growth rate across all staff was less negative, at -1.7%, compared to -2.7% this year.
- The job growth rate for assessors and verifiers was positive in 2013/14, at +0.9%, as opposed to the decline in 2014/15 of -1.2%.

Table 7: Turnover and net employment change rates by occupational group in FE colleges in England, 2014/15

Occupation	Turnover rate	Job growth rate
Senior Manager	17.1%	-10.2%
Other Manager	12.8%	-3.7%
Teaching staff	17.0%	-3.5%
Assessors and verifiers	18.3%	-1.2%
Technical staff	15.0%	-3.0%
Word processing, clerical and secretarial staff	15.9%	-3.5%
Service staff	14.5%	-1.5%
Administrative and professional staff	15.6%	-4.8%
All staff	16.1%	-2.7%

Source: Frontier analysis of SIR 23 data

Table 8 illustrates how the turnover and job growth rates by occupation groups vary across college types. Sixth Form colleges have a lower turnover rate for other managers and administrative and professional staff. Some other differences emerge but these are often driven by small samples [6].

In Section 6 we present additional results from an analysis of net employment changes over the past three years (based on a sample of colleges that submitted data for SIR 21, SIR 22 and SIR 23).

Table 8: Turnover rates and net employment change by occupational groups and across FE college types [7]

Occupation	Turnover rate			Job growth rate		
	GFE	Sixth Form	Land-based	GFE	Sixth Form	Land-based
Senior Manager	19.2%	-	-	-11.9%	-	-
Other Manager	13.0%	7.1%	14.9%	-4.1%	-0.9%	-0.4%
Teaching staff	17.4%	15.1%	18.3%	-3.4%	-5.4%	-6.6%
Assessors and verifiers	19.0%	0.0%	-	-1.9%	35.7%	-
Technical staff	14.7%	19.8%	15.9%	-3.7%	-7.8%	5.4%
Word processing, clerical and secretarial staff	16.3%	13.8%	12.3%	-4.0%	-3.3%	6.0%
Service staff	14.8%	15.0%	13.6%	-1.8%	5.1%	-4.9%
Administrative and professional staff	16.2%	7.9%	17.6%	-5.6%	0.9%	0.5%
All staff	16.5%	14.4%	15.5%	-2.9%	-2.3%	-2.6%

Gender

As shown in Figure 3, more than half (64%) of the FE workforce is female. This proportion is higher for part-time staff, where close to three-quarters of staff are female. This pattern generally holds across all occupations.

[6] For example, the turnover among assessors and verifiers at Sixth Form colleges is nil and this group also experienced a high job growth rate. However, this finding is based on a very small sample size so should be interpreted with caution - there were five starting contracts and no leaving contracts.

[7] When the sample size of leaving/starting contracts was less than 10, results are not reported.

The FE workforce has more women than the general UK workforce where just under half of workers are female [8].

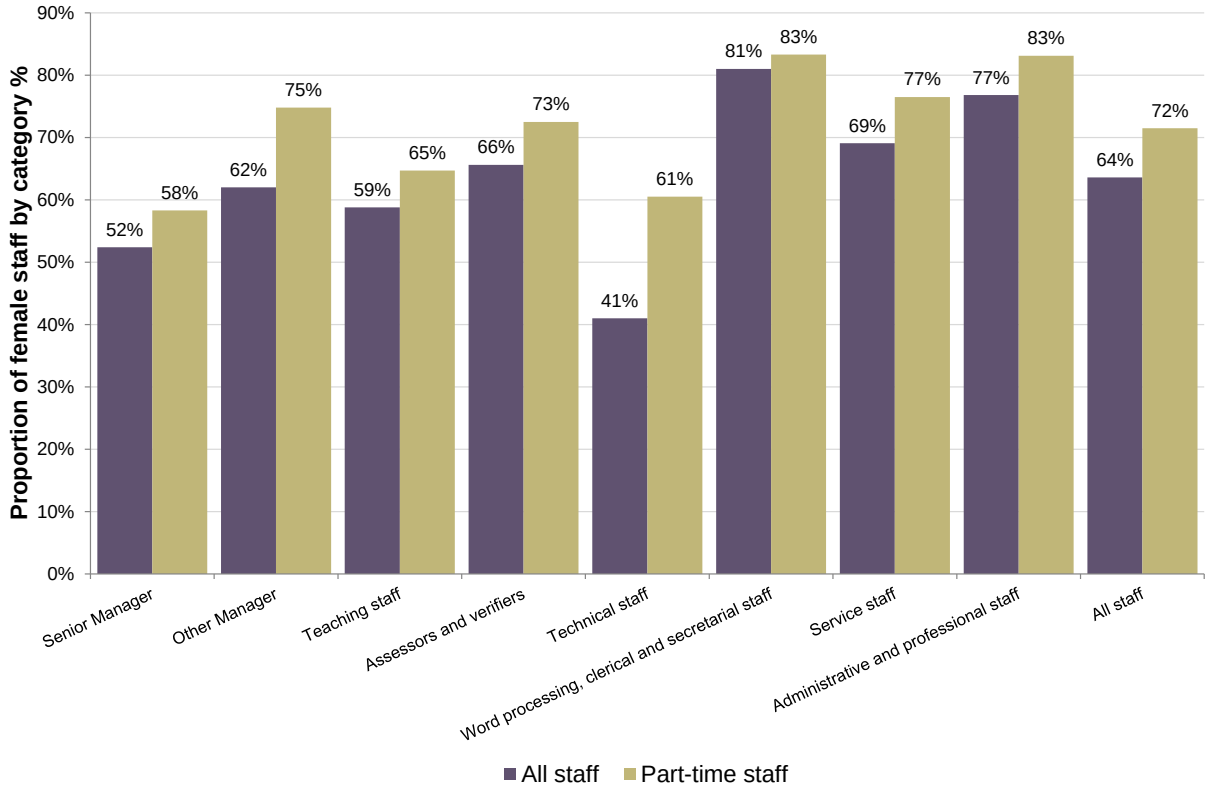
However, some variation across the occupational groups exists. The only occupational group where females are in the minority is technical staff (although among part-time technical staff around 60% were female). Senior managers are the occupation with the second lowest share of females at just over 50%. Word-processing, clerical and secretarial staff and administrative and professional staff are the two occupational groups with the highest proportion of female staff.

The above results are very similar to the results in 2013-14.

The proportion of female staff is similar across college types and it remains consistently higher among part-time staff (

Figure 4 for all staff and Figure 5 for part-time staff). It is also consistently lower among technical staff and senior managers. The share of female senior managers is much lower at Sixth Form and Land-based colleges than at FE colleges (39% and 26% respectively, compared to 55%).

Figure 3: Proportion of female staff in FE colleges in England



Source: Frontier analysis of SIR 23 data

[8] Office for National Statistics, UK Labour Market: October 2015, Statistical Bulletin available at: http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/2015-10-14

Figure 4: Proportion of all female staff by college type

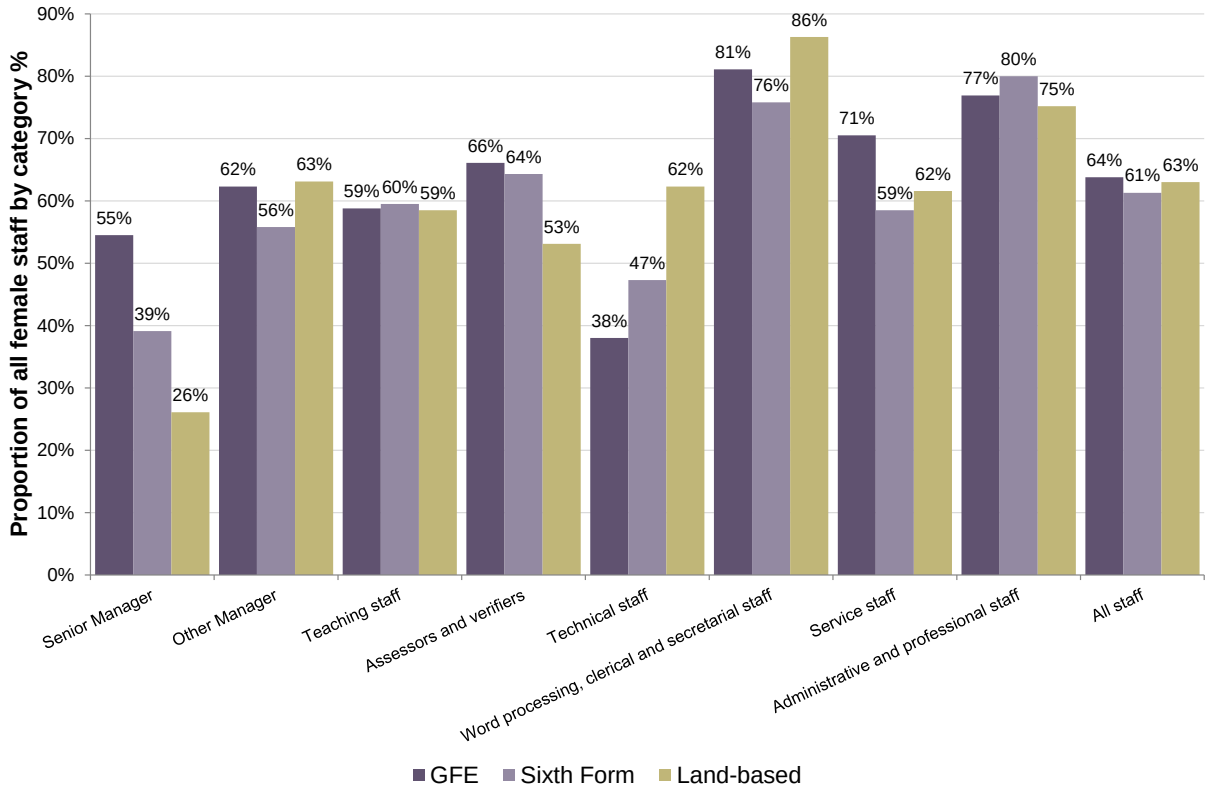
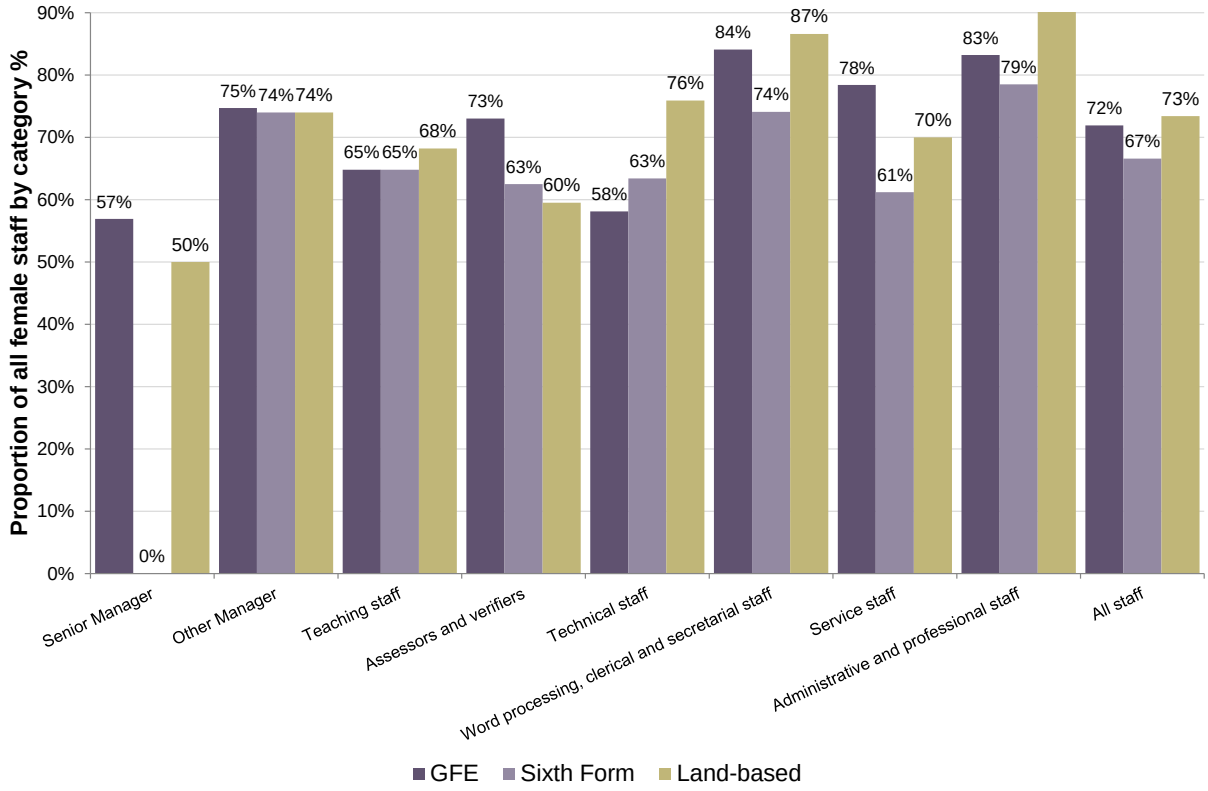


Figure 5: Proportion of part-time female staff by college type



Adjusting for the fact that women are more likely to hold part-time contracts, female staff still make up the majority of the FE workforce on a full-time equivalent (FTE) basis. Women account for 62.2% of the FTE workforce, compared to 61.3% of all contracts. This is a lower proportion than in the school workforce, where 80% of FTE staff in 2014 were female [9].

Age

The median age of FE staff in 2014-15 is 45 years, both for men and women. This is slightly different to last year's result, where the median age for men was higher, at 46 years.

Figure 6 illustrates the age distribution of FE staff, showing a workforce where the majority are 45 years or older (around 54% of all the staff). The age band with the highest proportion of staff is between 50 and 54 years, which represents 15% of employees. These results are in line with last year.

[9] Department for Education, School Workforce in England: November 2014 (the latest version available), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/440577/Text_SFR21-2015.pdf

Figure 6: Proportion of staff by age bands in FE colleges in England

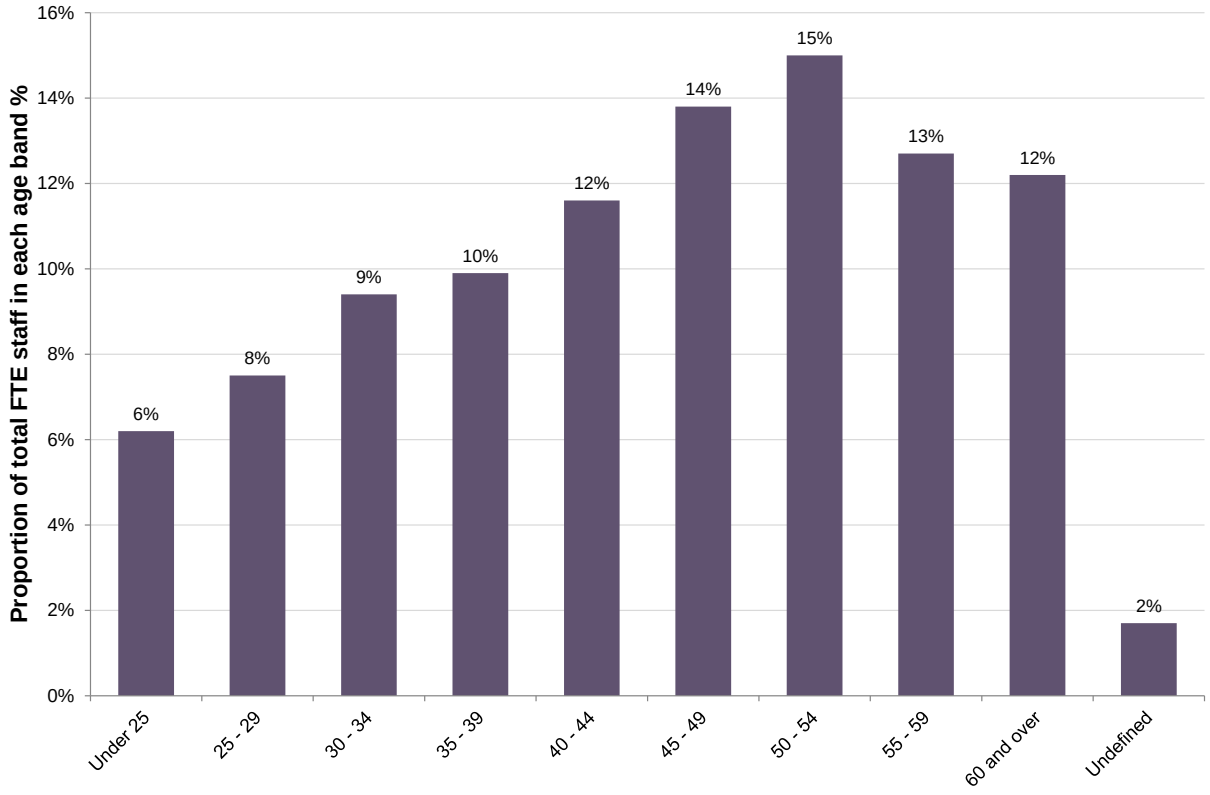


Figure 7 suggests that staff in Sixth Form and Land-based colleges are on average younger than staff in general FE (GFE) colleges – the proportion of employees under the age of 40 is close to 35% and 39% respectively, compared with 32% at GFE colleges. Land-based colleges also have a lower median age, at 43 compared to 45 for both GFE and Sixth Form colleges.

The median age for part-time staff is slightly higher than for all staff as a whole, at 46 years. This could be explained by the higher proportion of part-time staff among the age band of 60 years and older (Figure 8).

Median age of part-time staff at Sixth Form colleges is also 46 years. However, part-time working is much more common at this type of institution than the rest (see Figure 9). The median age of part-time staff at Land-based colleges is slightly lower, at 45 years.

Figure 7: Proportion of all staff by age bands across college types

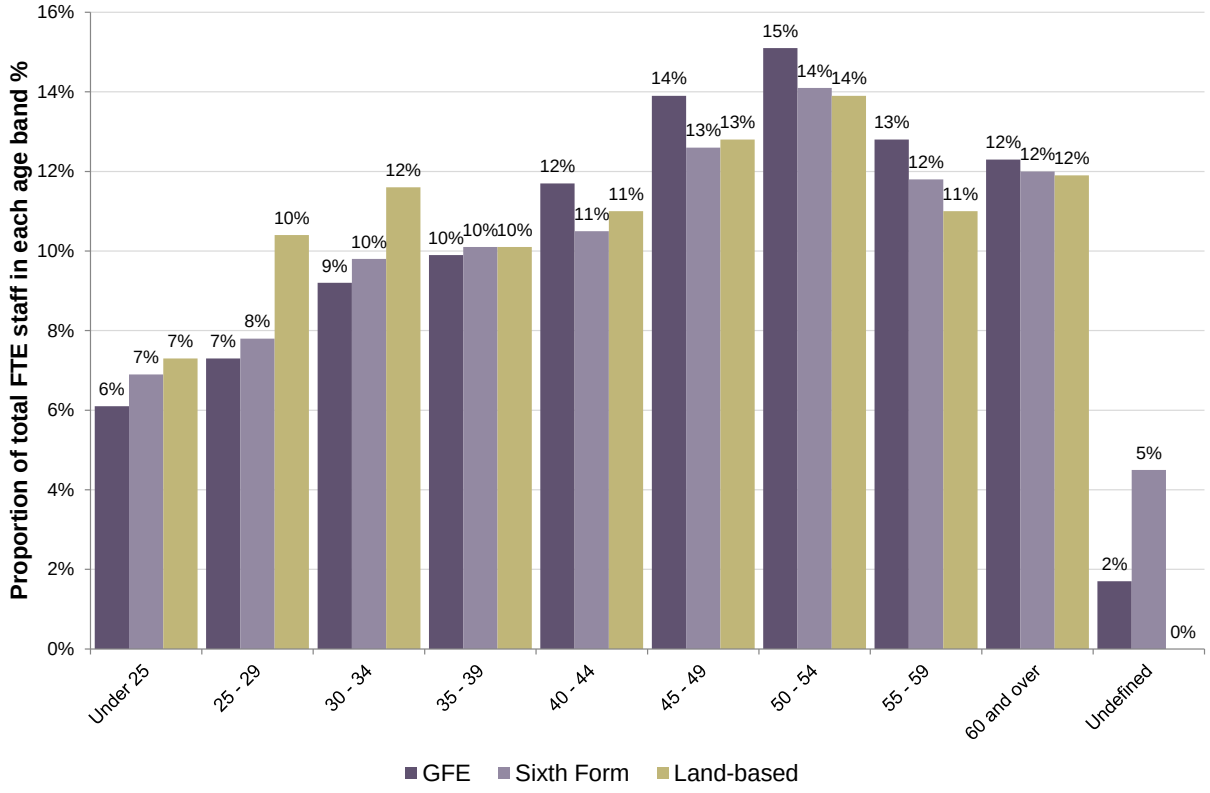


Figure 8: Proportion of part-time staff by age bands

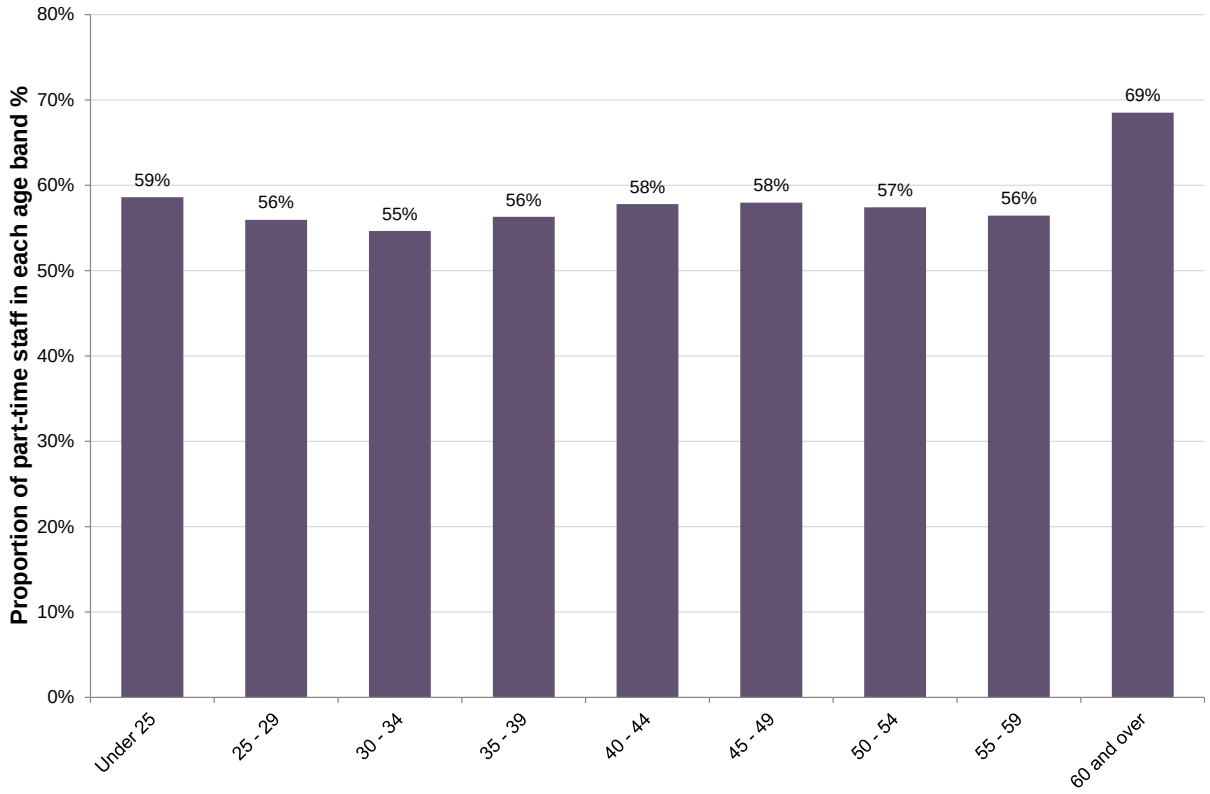
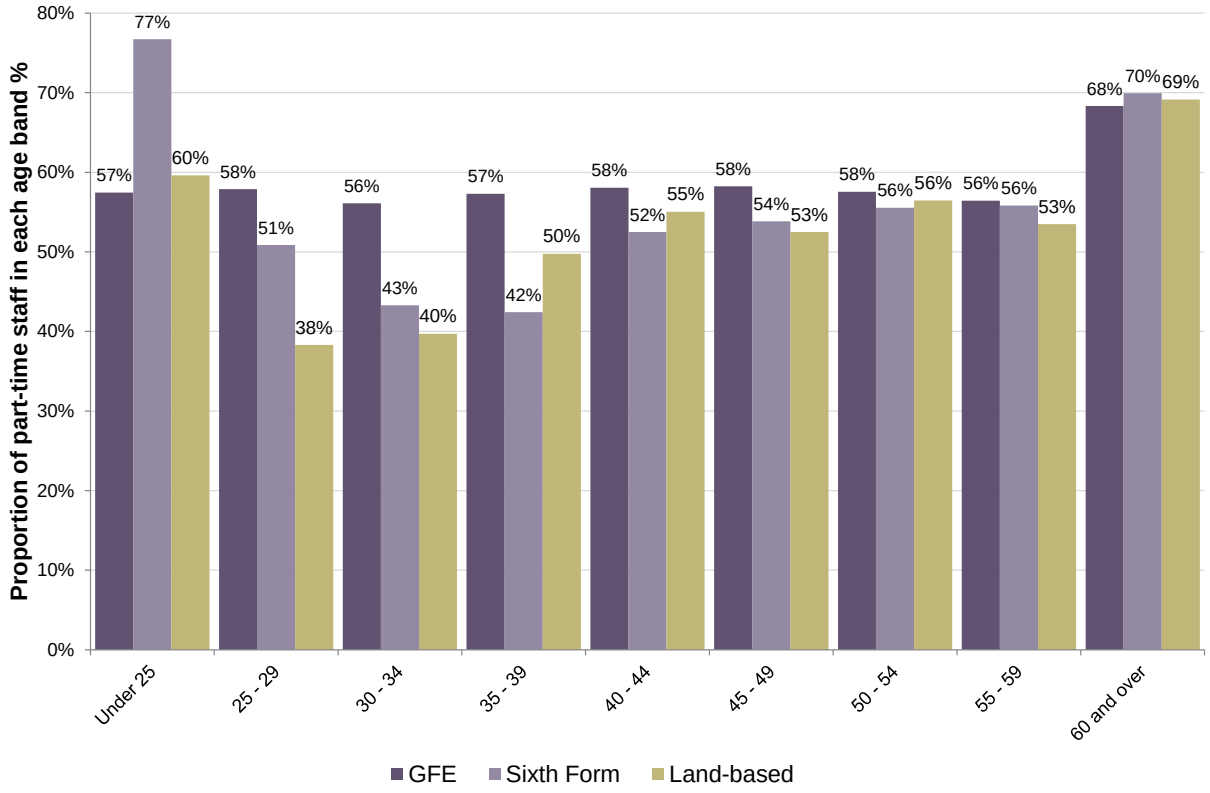


Figure 9: Proportion of part-time staff by age bands by college type



Ethnicity

As in previous years, the workforce in the FE sector is predominantly White British, with 85% of staff coming from that ethnic group (Table 9). The proportion of White British staff is slightly higher among managers, at 91%.

Table 9: Ethnicity of staff in FE colleges in England

Ethnic group	All staff	Managers
White British	85%	91%
White Other	4%	4%
Mixed	1%	1%
Asian	5%	3%
Black	4%	1%
Other	1%	0%

As illustrated in Table 10, there are some differences in the ethnic breakdown of all staff and managers across different FE college types. Namely, there are fewer White British staff at Sixth Form colleges, where instead the share of Asian staff is higher. This is reflected in a higher share of managers with an Asian ethnic background. At Land-based colleges, a higher proportion of all staff are White British [10].

[10] The result of no non-White managers at Land-based colleges should be interpreted with caution due to a small sample size.

Table 10: Ethnicity of staff in different FE college types in England

Ethnic group	All staff			Managers		
	GFE	Sixth Form	Land-based	GFE	Sixth Form	Land-based
White British	85.3%	76.8%	91.9%	92.0%	82.6%	87.0%
White Other	4.3%	6.1%	4.2%	2.7%	8.7%	13.0%
Mixed	1.4%	1.5%	0.7%	1.2%	0.0%	0.0%
Asian	4.7%	9.0%	1.2%	2.4%	8.7%	0.0%
Black	3.4%	6.1%	1.5%	1.5%	0.0%	0.0%
Other	0.9%	0.5%	0.5%	0.2%	0.0%	0.0%

Sexual orientation

Figure 10 shows that as in the previous years, sexual orientation is largely unknown either because no information was provided (55.9%), or staff members preferred not to disclose their sexual orientation (10.7%).

These results are consistent across different FE college types, with a slight variation around the share of blank and not disclosed responses (Figure 11). At Sixth Form colleges, 64.5% of responses were left blank and 5% of staff preferred not to disclose their sexual orientation. At Land-based colleges only 7.2% of staff preferred not to disclose their sexual orientation and slightly over half of responses were left blank.

Figure 10: Sexual orientation of FE staff in England

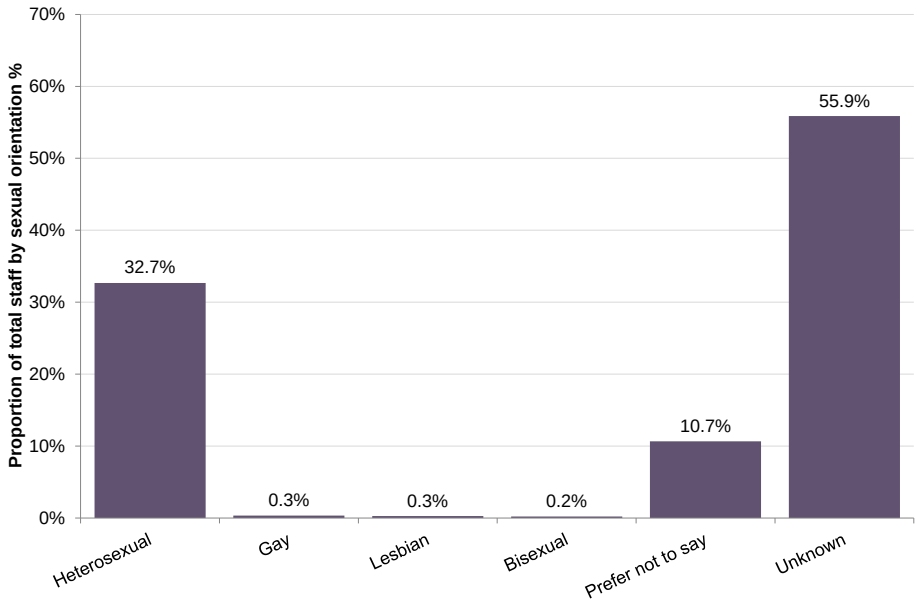
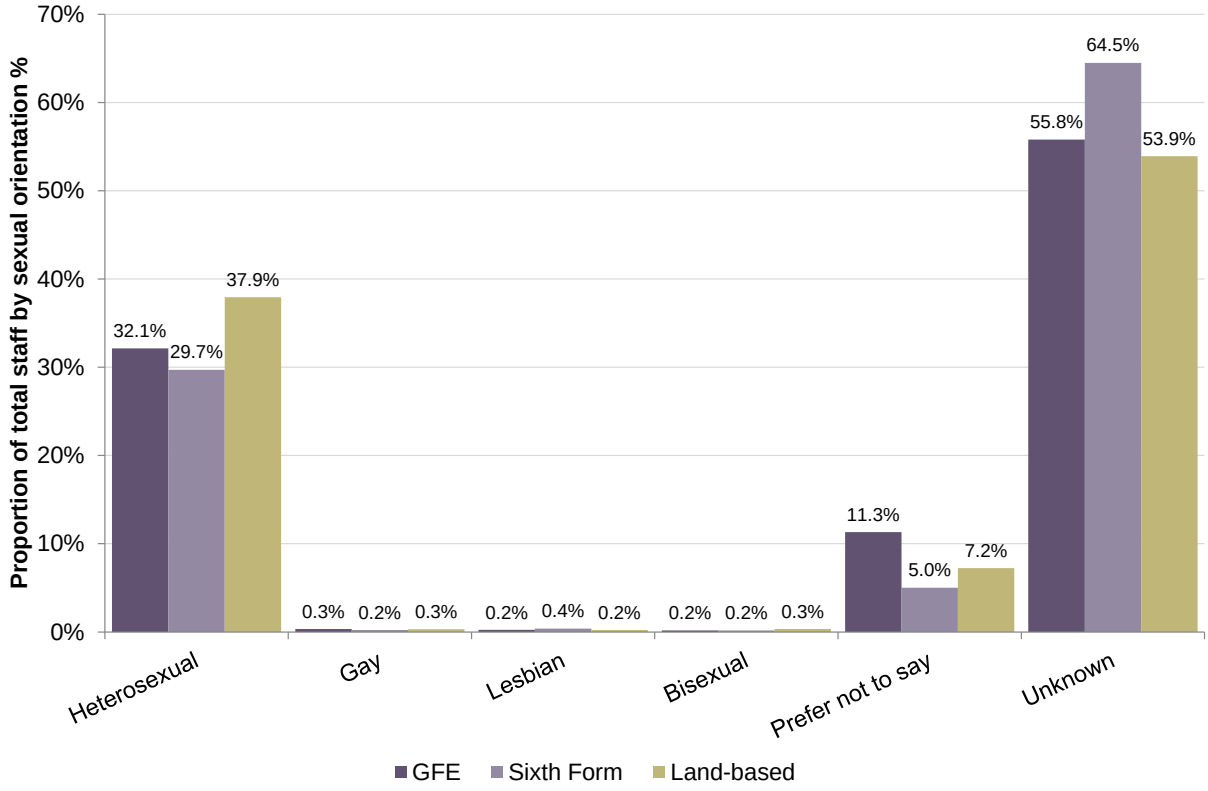


Figure 11: Sexual orientation of FE staff in England across college types



Disability

Close to 5% of FE staff reported some form of disability, but in almost half of these cases the specific type of disability was not disclosed. Among the staff indicating their form of disability, physical impairment was most common (Figure 12).

The disability breakdown of staff at GFE colleges was similar to the overall profile (Figure 13). There appears to be a higher share of staff with disabilities at Sixth Form colleges, at 8.6%, though most of them preferred not to provide further detail on their disability. Both Sixth Form and Land-based colleges have a lower number of answers recorded as unknown.

Figure 12: Disability of FE staff in England

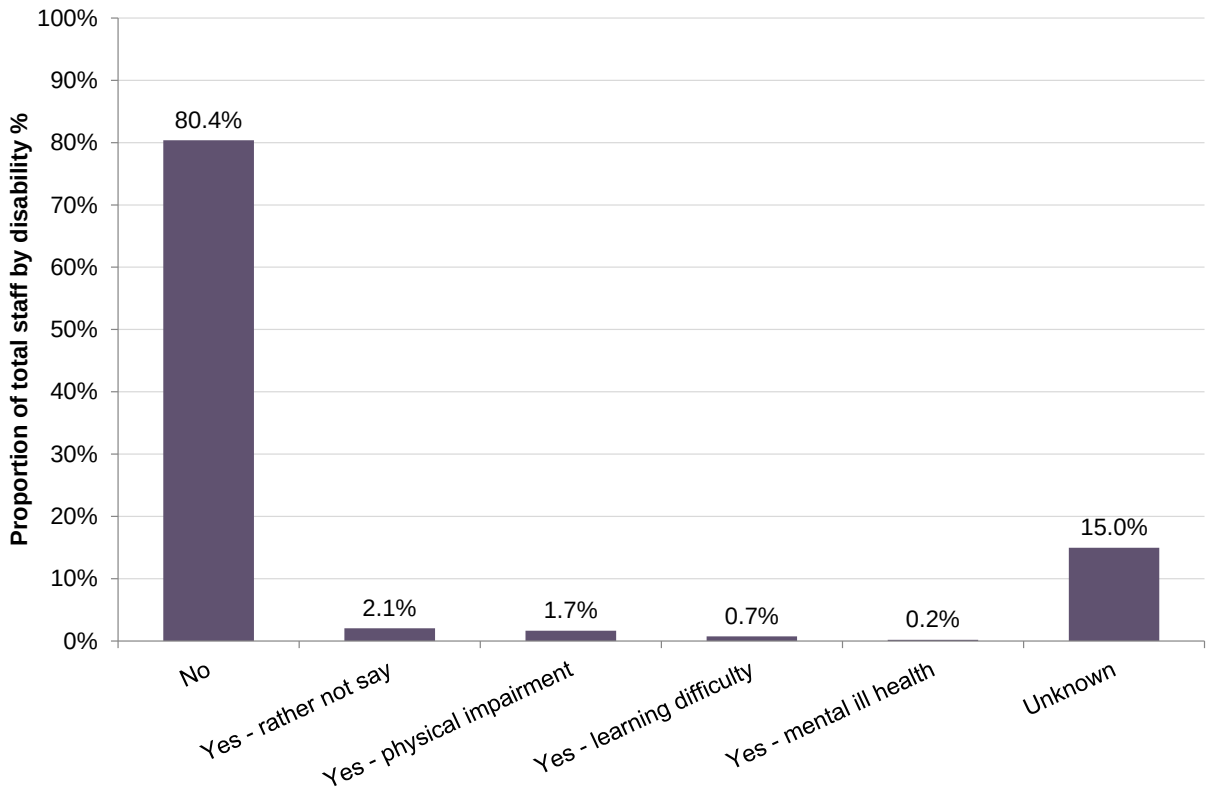
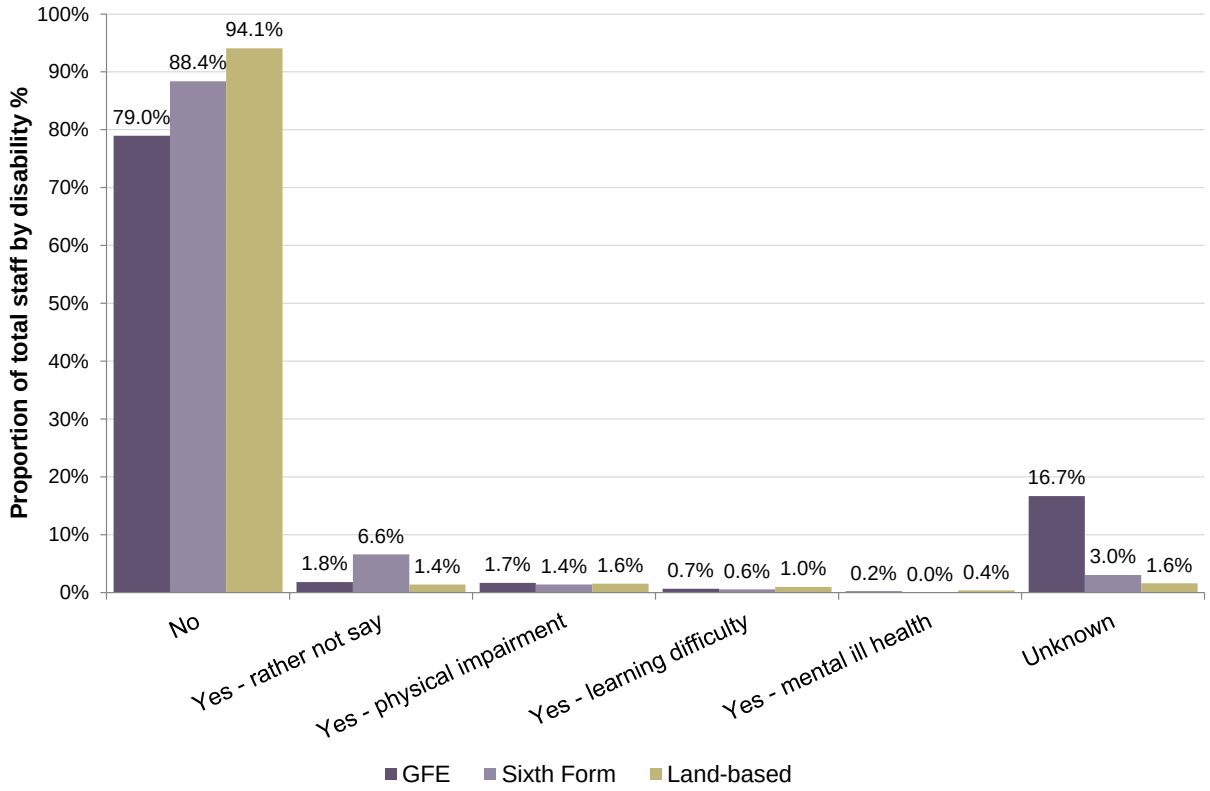


Figure 13: Disability of staff by college type



Annual pay

This section examines how remuneration in FE colleges varies by occupational category, region and college type.

In this and other sections related to pay, we focus on medians, rather than means, in part because information on pay is only available in bands, and in part because medians are less easily influenced by outliers [11].

Median pay for full-time FE staff in England is £26,000-£26,999, which is £1,000 higher than last year's result. This is below median pay for full-time staff in the wider UK economy which is £27,600 [12].

As can be seen in Table 11, this varies by occupational group. Senior managers have the highest median pay, at £66,000-£66,999, while word processing, clerical and secretarial staff and service staff both have the lowest median pay (£17,000-£17,999). This is comparable with last year's results.

[11] All median pay band results are based on full-time staff only. Outliers are defined as extreme observations which are significantly higher or lower than most other observations.

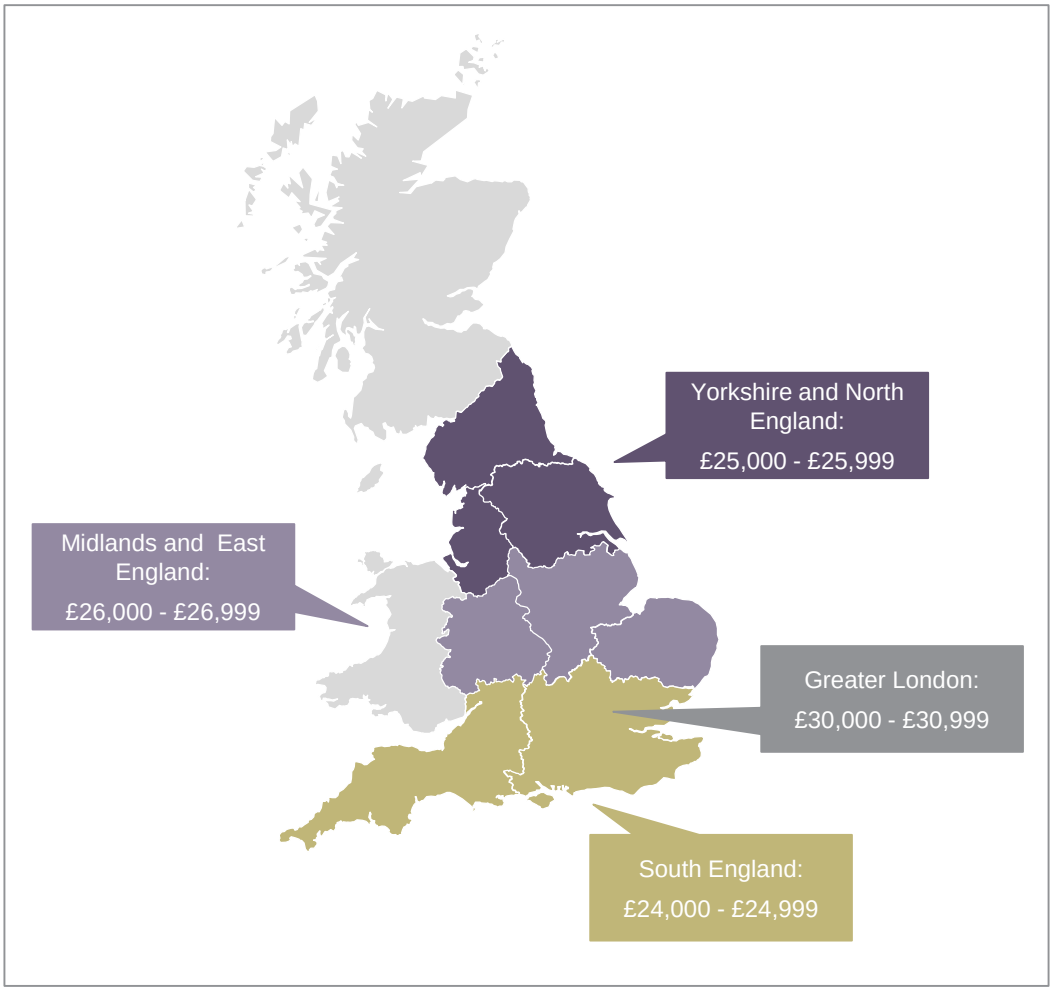
[12] Office for National Statistics, Annual Survey of Hours and Earnings: 2015 Results, gross median full-time earnings available at http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2015provisionalresults

Table 11: Median pay for full-time staff by occupation group in FE colleges in England

Occupational group	Median annual pay band	Number of contracts
Senior Manager	£66,000-£66,999	450
Other Manager	£35,000-£35,999	3,650
Teaching staff	£31,000-£31,999	14,267
Assessors and verifiers	£24,000-£24,999	1,049
Technical staff	£19,000-£19,999	2,207
Word processing, clerical and secretarial staff	£17,000-£17,999	3,339
Service staff	£17,000-£17,999	3,929
Administrative and professional staff	£22,000-£22,999	2,769

Figure 14 shows the variation in pay across regions. Median annual pay for full-time staff is considerably higher in Greater London. There is relatively little variation in the median pay bands across the remaining regions, but median pay is lowest in South England.

Figure 14: Median annual pay for full-time FE staff by region



There is variation in median pay bands across the different college types. Pay appears to be higher than average in Sixth Form colleges (£34,000-£34,999) and lower than average in Land-based colleges (£22,000-£22,999). Pay in GFECs is in line with the median for the sector.

Table 12: Median annual pay for full-time FE teaching staff by college type and region

Regions	Median annual pay band		
	GFE	Sixth Form	Land-based
Midlands and East England	£30,000 - £30,999	£36,000 - £36,999	£25,000 - £25,999
Greater London	£35,000 - £35,999	£39,000 - £39,999	£28,000 - £28,999
Yorkshire and North England	£30,000 - £30,999	£36,000 - £36,999	£25,000 - £25,999
South England	£31,000 - £31,999	£36,000 - £36,999	£29,000 - £29,999

4. Profile of the teaching workforce

In this section the analysis focuses on the characteristics of the teaching staff in FE colleges. As shown earlier (Table 1), teaching staff made up almost 45% of all the contracts in SIR 23.

We first look at some of the contract-level information analysed in the earlier section with respect to all FE staff: gender, age, ethnicity. We highlight any differences between teachers and the overall FE staff, and where possible, with the school workforce. We then analyse in more detail teachers' pay, subjects and teacher numbers across colleges, and teachers' turnover rates.

Overview of characteristics in comparison to all FE staff

- As with all FE staff, women are more prevalent in teaching staff than men, although the difference was less pronounced (58% of FTE teaching staff compared to 62% of all FTE staff). The lower share of females among teaching staff is consistent across different college types. The share of female teachers in FE (58%) is lower than in the school workforce (74%) [13].

- The share of part-time teaching staff is in line with the average for other occupations (60%), but the only group with a higher share are service staff. More teachers work part-time in FE than in schools, where the equivalent figure is 26% for primary school teachers and 18% for secondary school teachers [14].

- The age distribution of teaching staff is similar to all FE staff, except for a lower share of staff under the age of 25 (Figure 15). At Sixth Form and Land-based colleges the share of teaching staff under the age of 25 was also lower than for all FE staff, but the teaching staff were younger overall (higher share of staff in the bands of 44 years and younger) than in the case of all FE staff (Figure 16).

[13] Department for Education, School Workforce in England: November 2014 (the latest version available), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/440577/Text_SFR21-2015.pdf
[14] As above.

Figure 15: Proportion of teaching staff by age bands

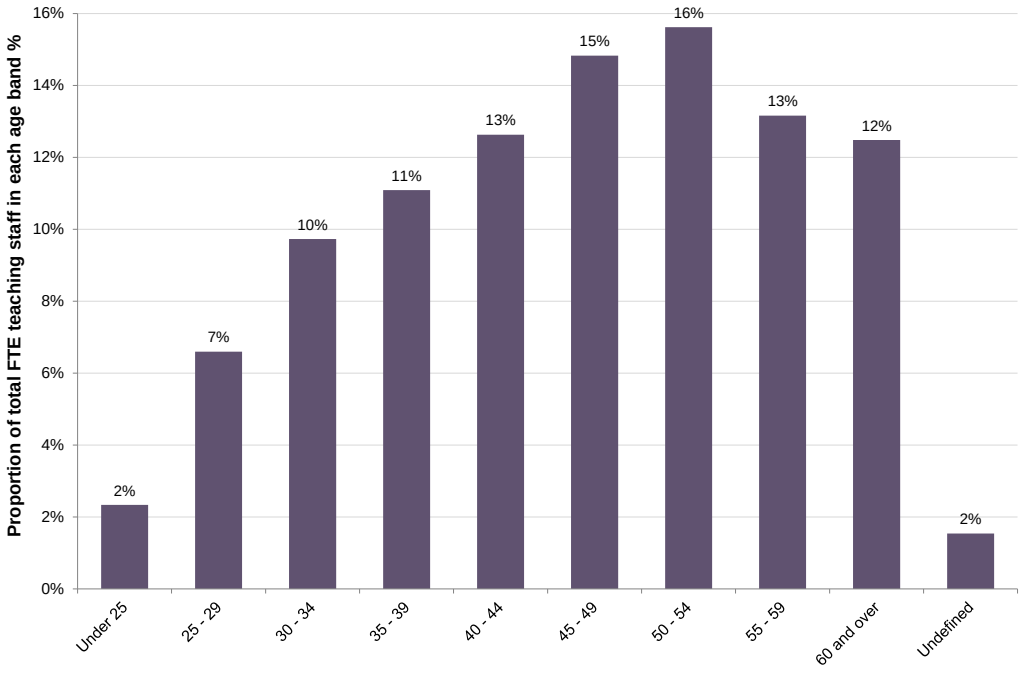
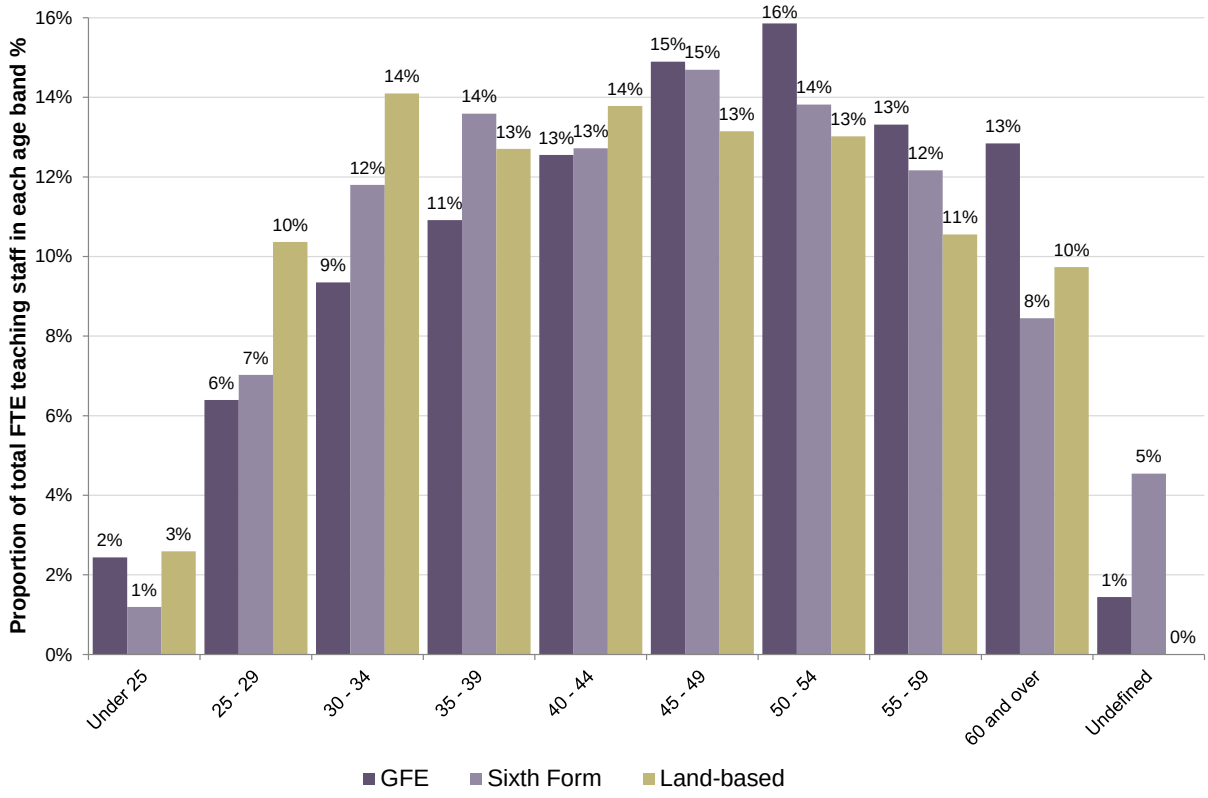


Figure 16: Proportion of teaching staff by age bands across college types



The distribution of ethnicity among teaching staff is very similar to the distribution among all FE staff, and this is consistent across different FE college types (Table 13 compared to Table 9 and Table 10).

Table 13: Ethnicity of teaching staff in FE colleges in England

Ethnic group	Teaching staff			
	All colleges	GFE	Sixth Form	Land-based
White British	85%	85.1%	77.0%	92.3%
White Other	5%	4.8%	7.2%	4.2%
Mixed	1%	1.3%	1.6%	0.5%
Asian	4%	4.4%	8.3%	1.0%
Black	3%	3.3%	5.2%	1.1%
Other	1%	1.2%	0.7%	0.9%

Annual pay for teachers

Annual median pay for teaching staff is higher than the median for all FE staff (£31,000-£31,999 relative to £26,000-£26,999). The only occupational groups that earn more are other managers and senior managers. Average (mean) pay for FE teaching staff in 2014-15 is £29,100, which is similar to last year's number (£29,400), and also below the average pay across all school teachers in England in 2014 (£37,400[15]).

Consistent with the findings for all FE staff, annual pay for teaching staff varies across regions (Figure 17) with teachers in Greater London earning significantly more than those in other areas.

Regional differences in teachers' pay across college types are broadly consistent with the differences in all FE staff (Table 14). Greater London teachers at GFE and Sixth Form colleges get paid more than teachers in other areas. At Land-based colleges, median pay is highest in South England.

[15] Department for Education, School Workforce in England: November 2014 (the latest version available), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/440577/Text_SFR21-2015.pdf

Figure 17: Median annual pay for full-time FE teaching staff by region

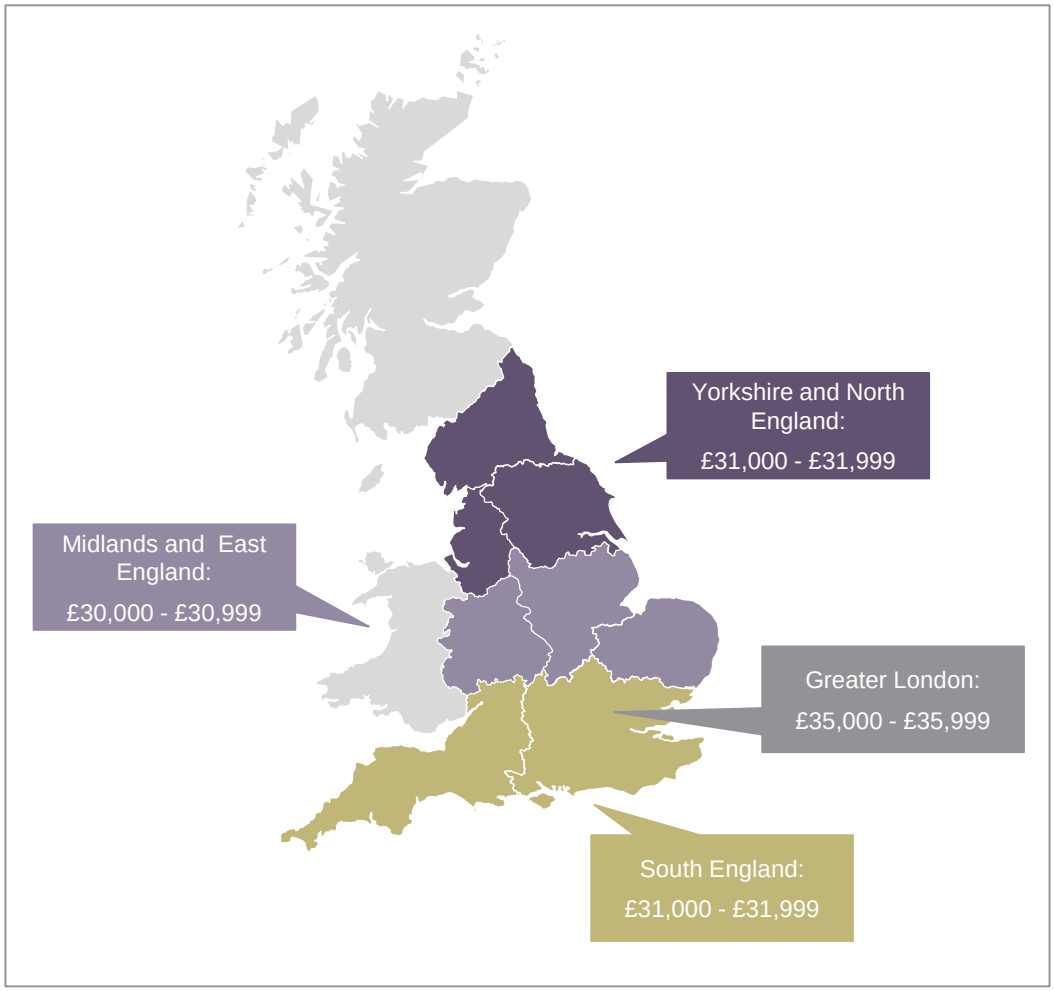


Table 14: Median annual pay for full-time FE teaching staff across regions and FE college types in England

Regions	Median annual pay band		
	GFE	Sixth Form	Land-based
Midlands and East England	£30,000 - £30,999	£36,000 - £36,999	£25,000 - £25,999
Greater London	£35,000 - £35,999	£39,000 - £39,999	£28,000 - £28,999
Yorkshire and North England	£30,000 - £30,999	£36,000 - £36,999	£25,000 - £25,999
South England	£31,000 - £31,999	£36,000 - £36,999	£29,000 - £29,999

Furthermore, there was some variation around the median pay across subject areas (Table 15). The highest median pay across all college types was observed for teachers of business, administration, management and professional, and science. Teachers of land-based provision, on the other hand, had the lowest median pay band.

Table 15: Median annual pay for full-time FE teaching staff by subject area

Subject	Median annual pay band
Land Based Provision	£25,000 - £25,999
Construction	£31,000 - £31,999
Engineering, Technology and Manufacturing	£30,000 - £30,999
Business Administration, Management, and Professional	£33,000 - £33,999
ICT	£32,000 - £32,999
Retailing, Customer Service, and Transportation	£28,000 - £28,999
Hospitality, Sports, Leisure, and Travel	£30,000 - £30,999
Hairdressing and Beauty Therapy	£31,000 - £31,999
Health, Social Care, and Public Services	£31,000 - £31,999
Visual and Performing Arts and Media	£32,000 - £32,999
Humanities	£33,000 - £33,999
English, Languages, and Communication	£31,000 - £31,999
Foundation Programmes	£31,000 - £31,999
Science	£33,000 - £33,999
Mathematics	£31,000 - £31,999

Table 16 illustrates how pay varies across college type by subject. Teachers at Sixth Form colleges have consistently higher pay than teachers in other college types for all subject areas. At land-based colleges, the best paid subjects are engineering, technology and manufacturing, and Foundation programmes. Business, administration, management and professional, and science are the best paid subjects in GFECs and Sixth Form colleges.

Table 16: Median annual pay for full-time FE teaching staff by subject area and across FE college types [16]

Subject	Median annual pay		
	GFE	Sixth Form	Land-based
Land Based Provision	£28,000 - £28,999	N/A	£25,000 - £25,999
Construction	£31,000 - £31,999	N/A	£28,000 - £28,999
Engineering, Technology and Manufacturing	£30,000 - £30,999	-	£29,000 - £29,999
Business Administration, Management, and Professional	£32,000 - £32,999	£38,000 - £38,999	£25,000 - £25,999
ICT	£31,000 - £31,999	£37,000 - £37,999	-
Retailing, Customer Service, and Transportation	£28,000 - £28,999	-	-
Hospitality, Sports, Leisure, and Travel	£30,000 - £30,999	£36,000 - £36,999	£25,000 - £25,999
Hairdressing and Beauty Therapy	£31,000 - £31,999	-	£24,000 - £24,999
Health, Social Care, and Public Services	£31,000 - £31,999	£34,000 - £34,999	£28,000 - £28,999
Visual and Performing Arts and Media	£32,000 - £32,999	£36,000 - £36,999	£26,000 - £26,999
Humanities	£31,000 - £31,999	£36,000 - £36,999	-
English, Languages, and Communication	£30,000 - £30,999	£37,000 - £37,999	£23,000 - £23,999
Foundation Programmes	£31,000 - £31,999	£36,000 - £36,999	£29,000 - £29,999
Science	£31,000 - £31,999	£36,000 - £36,999	-
Mathematics	£30,000 - £30,999	£36,000 - £36,999	-

[16] When the sample size was smaller than 10 observations, results were not reported.

Subjects by college and teacher numbers

Table 17 ranks all subjects taught in the sample FE colleges in England in 2014-15 by the share of institutions where the course is offered. The most common subjects, provided by at least 90% of colleges are:

- Business administration, management and professional
- English, languages, and communication
- Hospitality, sports, leisure, and travel
- Health, social care, and public services
- Visual and performing arts and media.

In last year's sample, the same courses were offered by over 90% of colleges, but the list also included science and mathematics. However, this year's survey split science and mathematics into separate subjects, and only around half of colleges in this year's sample report offered these individual courses. This large change is driven largely by a coding error where significant numbers of contracts previously classified as 'Science and Mathematics' are recorded as "unknown" this year.

Teachers of visual and performing arts and media (11.5% in the sample), and English, languages, and communication (10.1% in the sample) were most common in the sample. The smallest proportion of teachers taught retailing, customer services and transportation (1.3%). These results are similar to 2013-14.

One significant change relative to last year is the drop in the number of teachers of maths and science. Last year these two subjects were taught by 6.9% of teachers in the sample, and this year's that proportion fell to 3.8%. As already discussed above, this is not a genuine change but rather is largely driven by changes in the way data are recorded.

Table 17: Subjects provided in FE colleges in England [17]

Subject	Number of colleges providing the subject	Proportion of colleges providing the subject	Proportion of teachers teaching the subject
Business Administration, Management & Professional	105	95%	8.0%
English, Languages, and Communication	104	94%	10.1%
Hospitality, Sports, Leisure, and Travel	103	93%	7.8%
Health, Social Care, and Public Services	102	92%	9.2%
Visual and Performing Arts and Media	100	90%	11.5%
ICT	97	87%	4.4%
Foundation Programmes	96	86%	9.2%
Humanities	92	83%	5.0%
Engineering, Technology and Manufacturing	89	80%	6.4%
Hairdressing and Beauty Therapy	81	73%	4.4%
Construction	74	67%	5.2%
Mathematics & Science	68	60%	3.8%
Retailing, Customer Service, and Transportation	46	41%	1.3%
Land Based Provision	44	40%	3.9%

Table 18 shows the variation in the provision of subjects across college types. The subject offerings at GFE colleges are very similar to the overall results in Table 18, but there are significant differences at Sixth Form and Land-based colleges, which include:

- Construction and land-based provision is not taught at Sixth Form colleges at all, and only one Sixth Form college in the sample offers retailing, customer service and transportation.
- Engineering, technology and manufacturing is offered only by a quarter of Sixth Form colleges.
- Land-based provision is taught at every Land-based college.
- Only one in three Land-based colleges offers ICT and humanities, while these subjects are very common at GFE and Sixth Form colleges.

Table 18: Subjects provided across types of FE colleges in England

[17] Mathematics and science are reported together here because it was impossible to allocate the responses wrongly coded as 01 (Maths & Science) to Mathematics and Science as separate subjects in order to determine the number of colleges which provide them.

Subject	Number of colleges providing the subject			Proportion of colleges providing the subject		
	GFE	Sixth Form	Land-based	GFE	Sixth Form	Land-based
Business Administration, Management & Professional	81	16	6	98%	100%	86%
Hospitality, Sports, Leisure, and Travel	81	16	6	98%	100%	86%
Health, Social Care, and Public Services	81	15	5	98%	94%	71%
English, Languages, and Communication	81	16	5	98%	100%	71%
Engineering, Technology and Manufacturing	80	4	5	96%	25%	71%
Foundation Programmes	79	9	6	95%	56%	86%
ICT	77	16	2	93%	100%	29%
Hairdressing and Beauty Therapy	77	2	2	93%	13%	29%
Visual and Performing Arts and Media	77	16	5	93%	100%	71%
Humanities	72	16	2	87%	100%	29%
Construction	69	N/A	5	83%	N/A	71%
Mathematics & Science	51	10	5	55%	63%	71%
Retailing, Customer Service, and Transportation	43	1	2	52%	6%	29%
Land Based Provision	37	N/A	7	45%	N/A	100%

The popularity of subjects at specific college types is usually reflected in the proportion of teachers teaching it, as shown in Table 19. For example, visual and performing arts and media; English, languages, and communication; and humanities are all taught by at least 15% of teachers at Sixth Form colleges, and all are offered by all Sixth Form colleges in the sample. Almost half of the teachers at Land-based colleges teach land-based provision, which is offered by all of these colleges in the sample.

Table 19: Proportion of teachers by subject across different FE college types

Subject	Proportion of teachers teaching the subject		
	GFE	Sixth Form	Land-based
Visual and Performing Arts and Media	11.7%	15.0%	4.1%
English, Languages, and Communication	10.0%	17.9%	2.2%
Health, Social Care, and Public Services	9.8%	6.4%	2.8%
Foundation Programmes	9.5%	2.3%	7.8%
Business Administration, Management & Professional	8.2%	10.3%	3.4%
Hospitality, Sports, Leisure, and Travel	7.9%	6.2%	9.9%
Engineering, Technology and Manufacturing	7.2%	0.6%	2.2%
Construction	5.6%	N/A	6.4%
Hairdressing and Beauty Therapy	4.8%	0.7%	2.4%
ICT	4.6%	4.5%	0.6%
Humanities	4.4%	15.9%	0.8%
Mathematics & Science	3.4%	11.2%	1.5%
Land Based Provision	1.7%	N/A	49.3%
Retailing, Customer Service, and Transportation	1.5%	0.0%	0.1%

Number of teachers per college offering each subject

The variation between provision of subject by college and teacher numbers is reflected in the average (mean) number of teachers per college by subject offered, shown in Figure 18.

This variation by subject may be partly explained by two factors:

- The nature of the subject taught: some courses may require smaller class sizes. This may be the case for visual and performing arts and media

- The nature of the institutions in our sample. For example, land-based provision ranks high in the number of teachers per college, compared to how many colleges provide it. This is largely explained by the fact that our sample includes Land-based colleges, which focus heavily (but not exclusively) on land-based provision. Similar findings for visual and performing arts may be explained by the presence of specialist Arts colleges.

Figure 18: Mean number of teachers per college, by subject offered

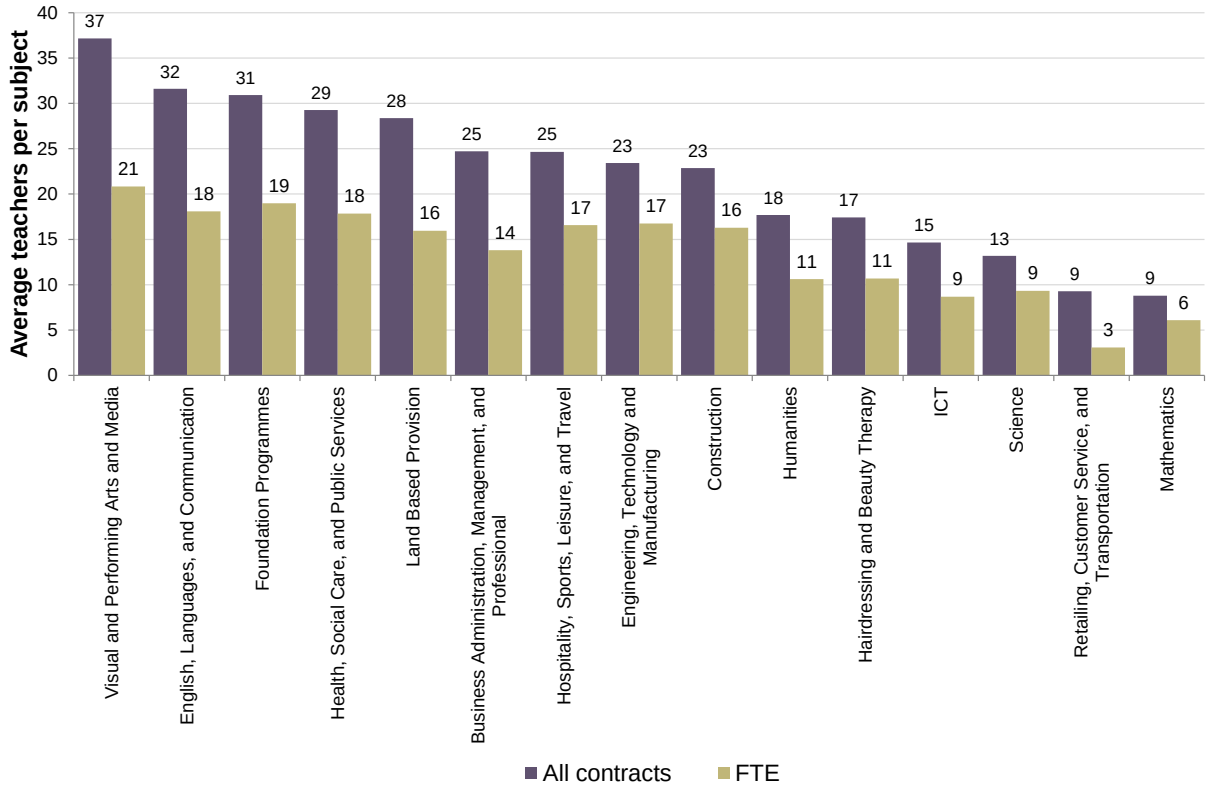


Figure 19 (all teachers) and

Figure 20 (FTE teachers) show how this varies across college types. For most subjects, GFE colleges have more teachers per subject than the other types of colleges. The exceptions to this are:

- Humanities and science for which Sixth Form colleges have the most FTE teachers per subject.
- Land-based provision and hospitality, sports, leisure and science for which Land-based colleges have more FTE teachers than other colleges.

Figure 19: Teachers (all) per college by subject offered across college types

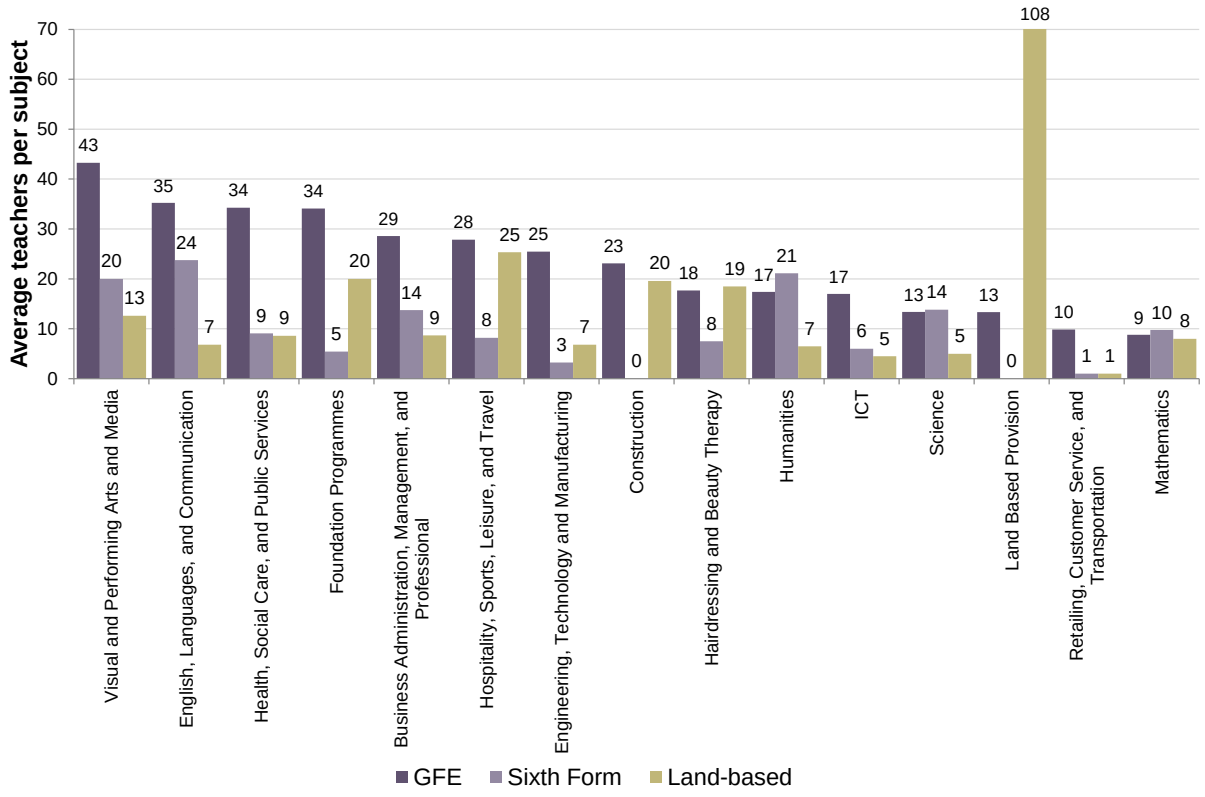
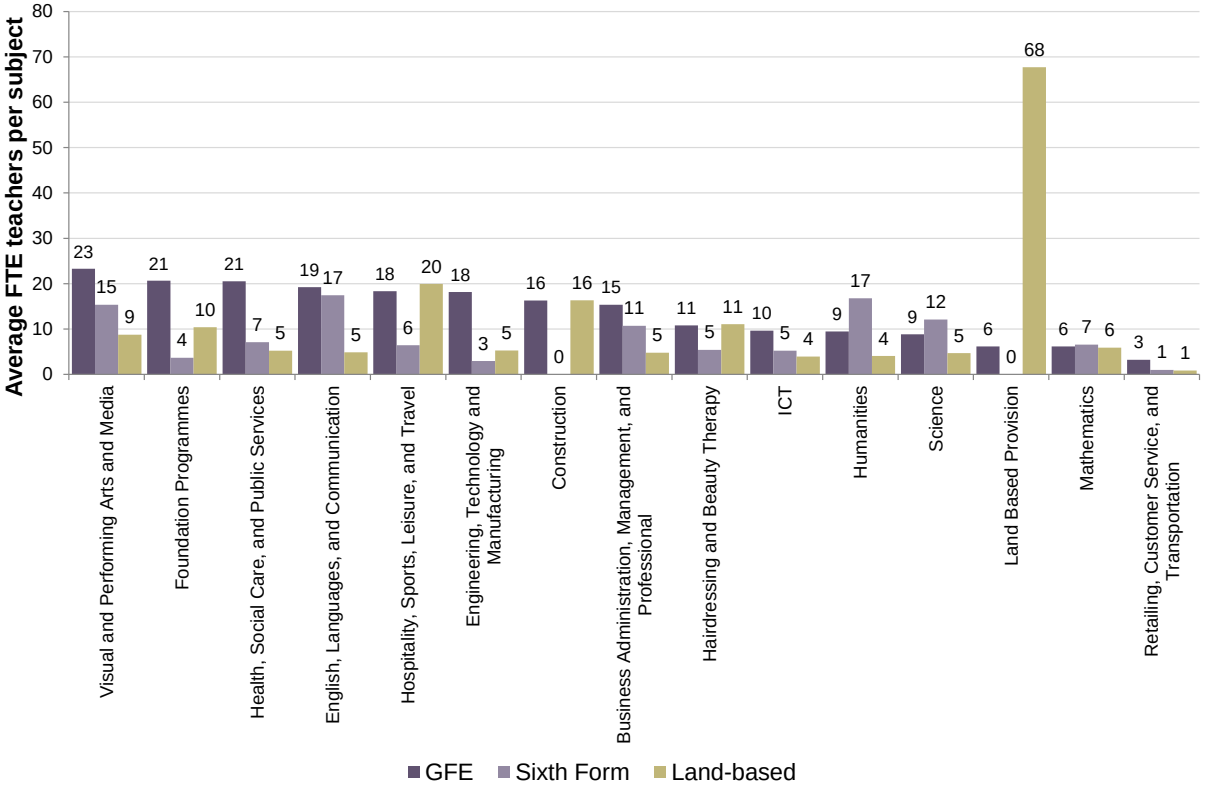


Figure 20: FTE teachers per college by subject offered across college types



Turnover rates of teaching staff

The turnover of teaching staff was slightly above the average for all staff, at 17%, as opposed to 16.1%. The job growth rate was more negative, indicating a greater decline in teaching staff than among all FE staff (-3.5% compared to -2.7% on average). This pattern was consistent across college types.

Table 20 illustrates the variation in turnover rates and job growth across subjects. Turnover rate ranged from as high as almost 50% for retailing, customer service, and transportation, to slightly over 10% for science.

The job growth rate was negative for most subjects, excluding science and mathematics, which had a job growth of 6.9% and 14.2% respectively. However, it is possible that these large positive figures are partially driven by the issues discussed earlier around coding maths and science this year (see Section 2: Data processing). This could have made the sample of leaving and starting contracts for these subjects somewhat misrepresentative since many maths and science teachers were mis-recorded and are therefore excluded from the calculation of these results [18].

The biggest decline was observed in teaching staff for retailing, customer service, and transportation (-16.2%).

Table 20: Turnover rates and net employment changes by subject

Subject	Turnover rate	Job growth rate
Land Based Provision	17.9%	-5.0%
Construction	20.9%	-5.6%
Engineering, Technology and Manufacturing	18.8%	-2.1%
Business Administration, Management, and Professiona	18.8%	-3.1%
ICT	19.8%	-7.1%
Retailing, Customer Service, and Transportation	48.7%	-16.2%
Hospitality, Sports, Leisure, and Travel	15.6%	-4.1%
Hairdressing and Beauty Therapy	11.9%	-6.7%
Health, Social Care, and Public Services	16.2%	-5.8%
Visual and Performing Arts and Media	16.3%	-4.0%
Humanities	11.6%	-1.4%
English, Languages, and Communication	15.0%	-4.4%
Foundation Programmes	14.2%	-5.6%
Science	10.2%	6.9%
Mathematics	15.0%	14.2%

Table 21 shows the turnover rates and job growth rates by subject across different college types. The turnover rate for retailing, customer service and transportation was consistently the highest across all college types. At Sixth Form colleges, teachers of hairdressing and beauty therapy also had a very high turnover rate, and more negative job growth rate, but this was probably driven by a small sample size [19].

[18] Around 240 contracts were recorded as Maths & science using the old code (01), and the job growth and turnover rates for this group were much lower (-2.5% and 2.5%, respectively). Also, there was an increased occurrence of teachers whose main subject taught was recorded as "unknown" relative to last year, and this group is likely to include many maths and science teachers due to the confusion around the coding change.

[19] There are only 15 contracts in total, out of which 7 finished in 2014/15 and no new ones started.

Table 21: Turnover and job growth rates by subject and across FE college types [20]

Subject	Turnover rate			Job growth rate		
	GFE	Sixth Form	Land-based	GFE	Sixth Form	Land-based
Land Based Provision	13.6%	N/A	20.8%	1.2%	N/A	1.2%
Construction	20.5%	N/A	27.6%	-5.3%	N/A	-5.3%
Engineering, Technology and Manufacturing	19.0%	15.4%	11.8%	-2.0%	-15.4%	-2.0%
Business Administration, Management & Professional	19.2%	15.5%	19.2%	-2.7%	-5.9%	-2.7%
ICT	20.4%	11.5%	22.2%	-7.3%	-5.2%	-
Retailing, Customer Service, and Transportation	48.6%	100.0%	50.0%	-15.8%	-	-
Hospitality, Sports, Leisure, and Travel	15.4%	11.5%	21.1%	-3.9%	-4.6%	-3.9%
Hairdressing and Beauty Therapy	11.6%	46.7%	8.1%	-6.5%	-46.7%	-6.5%
Health, Social Care, and Public Services	16.4%	20.6%	4.7%	-5.7%	-12.5%	-5.7%
Visual and Performing Arts and Media	16.5%	14.1%	17.5%	-4.0%	-3.4%	-4.0%
Humanities	11.4%	11.8%	23.1%	-1.4%	-0.9%	-1.4%
English, Languages, and Communication	14.6%	19.5%	5.9%	-4.1%	-10.3%	-4.1%
Foundation Programmes	14.4%	12.2%	9.2%	-5.6%	-8.2%	-5.6%
Science	10.0%	11.1%	0.0%	8.7%	0.0%	-
Mathematics	14.2%	18.0%	12.5%	16.9%	2.2%	-

[20] Results based on less than ten observations are not reported.

5. Factors influencing pay and career progression

Pay

This section explores the effect of demographic variables (gender, ethnicity and disability) on annual pay. Because these variables are highly correlated with other influences on pay, such as work category and main subject taught, the cross tabulations in the previous section may obscure the true effect of demographic variables on pay. In this section we use a regression approach[21] to identify the effect of each variable, holding all other potential influences on pay constant.

The information on pay in the SIR data is only available in bands of £1,000, up to a '£100,000 and above' category. We estimate individuals' annual pay based on the midpoint of their pay band. The band width means that our estimate of annual pay can be no more than £500 away from their actual pay; the exception is the '£100,000 and above' category, for which we use the lower value of £100,000 as our estimate. As a sensitivity test, we also conduct an ordered logistic regression[22] using pay bands, rather than estimated pay. The results are qualitatively similar and are presented in the Annex.

In addition to the demographic variables listed above, we control for the following:

- College effects
- Age
- Tenure at the college
- Whether works full-time
- Fraction of standard full-time hours worked
- Main subject taught (teachers only)
- Work category (non-teaching staff only)
- Split of time between providing teaching, supporting teaching, and other activities.

The analysis is conducted separately for teachers and non-teaching staff. The full estimation approach, results and sensitivity tests are given in the Annex.

Teachers

Our analysis shows that gender, ethnicity and disability status do not have a statistically significant effect on pay among teachers, once all relevant factors are controlled for.

However, the subjects women are more likely to teach are generally less well-paid than the subjects

[21] Regression analysis is a statistical process for estimating the relationship between two or more variables. The focus is on the relationship between a dependent variable (pay) and one or more independent variables (gender, ethnicity, experience etc.). Regression analysis helps us understand how the typical value of the dependent variable changes when the independent variables change.

[22] Logistic regression is a model used to estimate the probability of a binary (0 or 1) response based on one or more independent variables. In this case, it measures the probability of being in a certain pay band given one's characteristics.

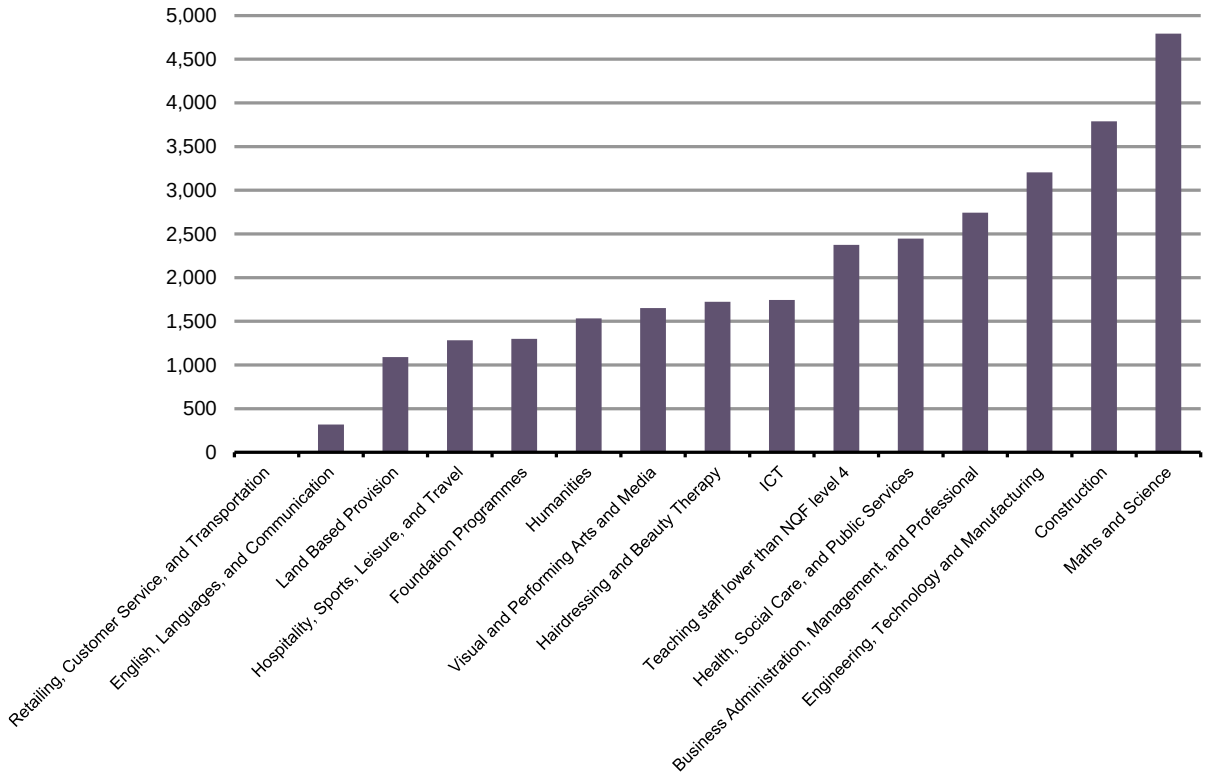
predominantly taught by men. If subjects are not controlled for, female teachers earn around £800 less a year than their male counterparts.

Figure 21 shows the effect of main subject taught on pay, holding all other factors constant. To aid interpretation, the estimate of £1,500 for 'humanities' means that a humanities teacher is expected to earn £1,500 more than an otherwise identical [23] teacher of 'retailing, customer service and transportation' (the baseline subject). Annual pay in different subjects varies by up to £4,800 a year, with 'retailing, customer service and transportation' and 'English, languages and communication' at the bottom of the scale, and 'engineering, technology and manufacturing', 'construction', and 'maths and sciences' at the top.

Figure 22 shows the corresponding percentage of female teachers in each subject. The share of women is particularly high (80-90%) for the two subjects with the lowest pay, and low to nonexistent for two of the highest-paid subjects (0-10%).

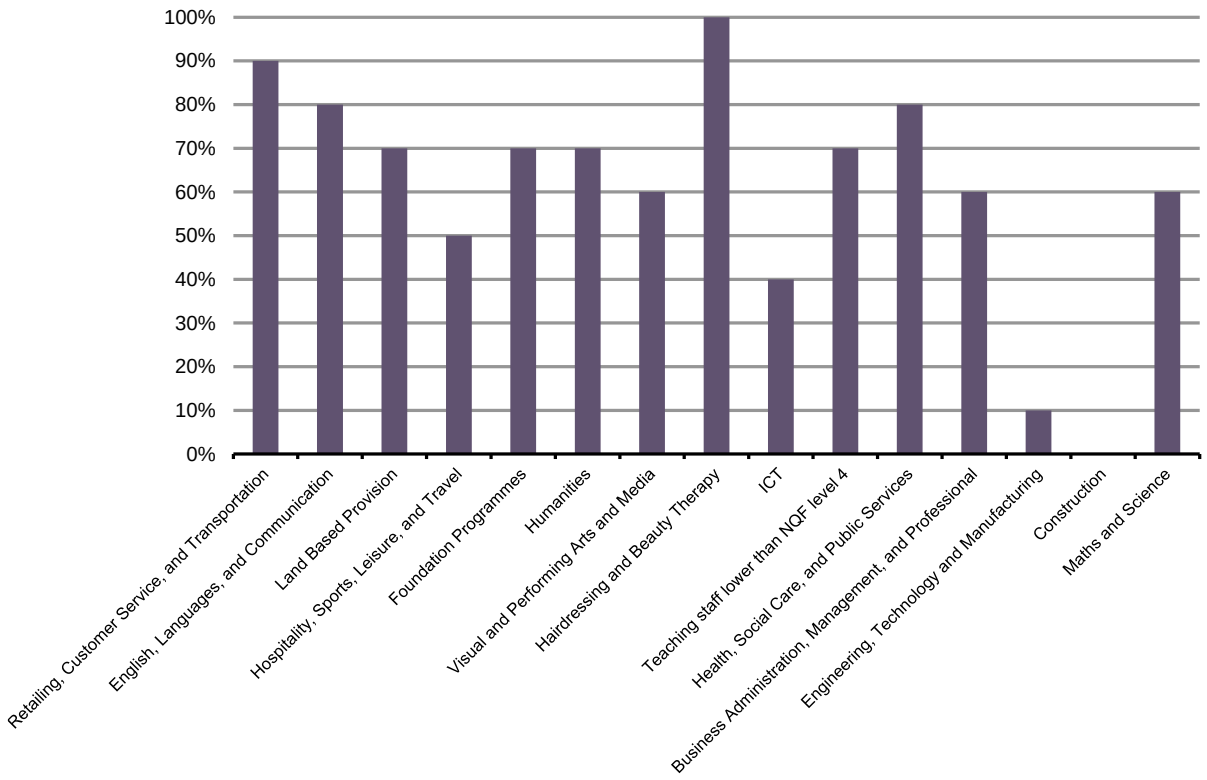
Ethinicity and disability status are not significantly correlated with subjects taught.

Figure 22: Effect of main subject taught on annual pay (baseline = retailing, customer service and transportation)



[23] In terms of college, gender, ethnicity, disability status, age, tenure at college, fraction of full-time hours worked and split of time.

Figure 23: Percentage of female staff by main subject taught



Non-teaching staff

We find that, controlling for all other factors we can account for, female non-teaching staff earn around £1,700 per year less than their male counterparts. Ethnic minority non-teaching staff also earn significantly less than White British staff, by around £1,000. We note that the wage gap we find for non-teaching staff may be, at least partially, influenced by the availability of control variables used in our work [24].

Further, women and ethnic minorities are less likely to be in senior positions. When work category is not controlled for, the gap between men and women, and between White British staff and ethnic minorities, widens to around £2,700 and £1,700 respectively.

The effect of work category on annual pay (using 'service staff' as the baseline) is given in Figure 23, and the percentage of ethnic minorities and women in each work category is given in Figure 24. It is worth noting that the capping of pay at £100,000 may result in an underestimate of pay at the higher end (senior and other managers).

[24] Notably, the work category variable is quite broad and may affect the size of the gap we find. For example the category 'service staff' includes a range of occupations, some of which are typically more male dominant (electrician) than others (cleaner).

Figure 24: Effect of work category on annual pay (baseline = service staff)

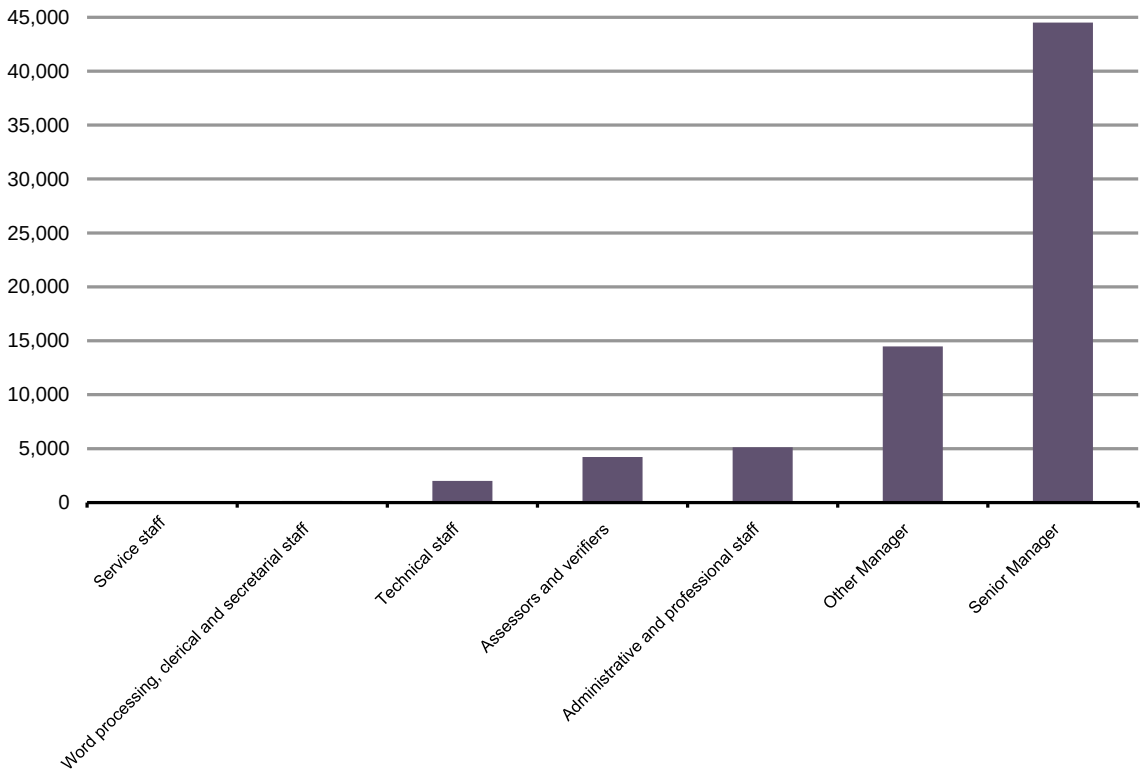
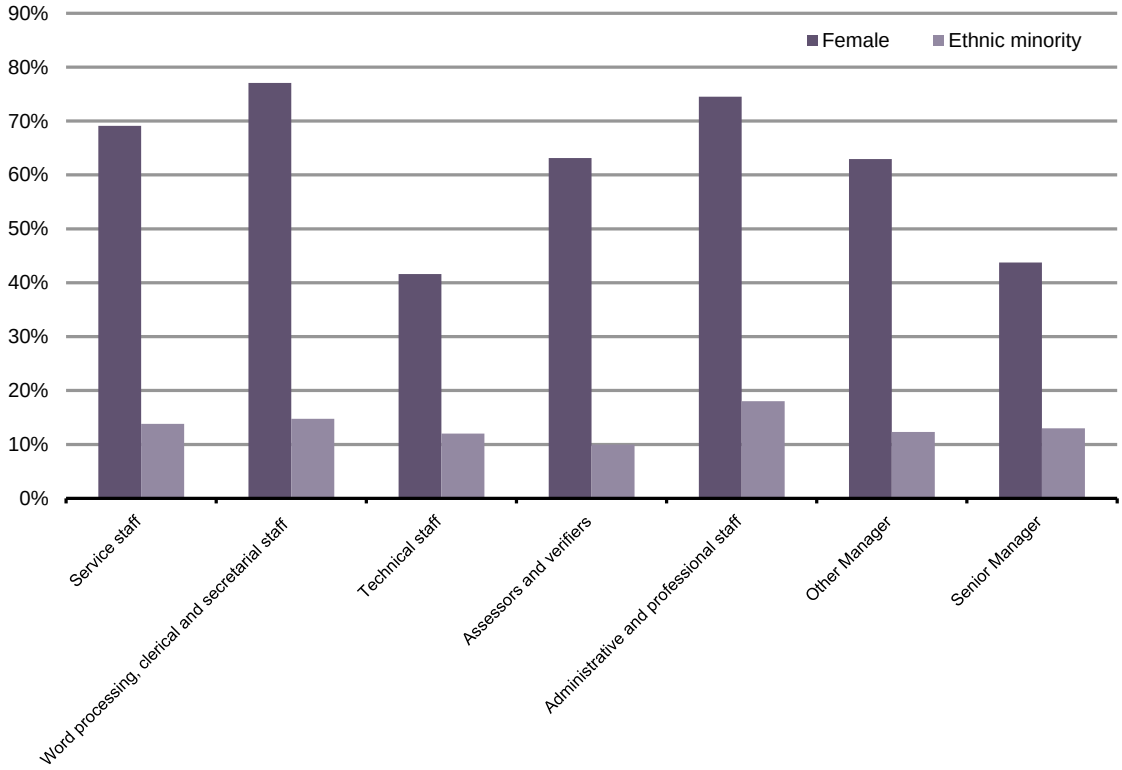


Figure 25: Percentage of ethnic minority and female staff by work category



We further explore whether the difference in pay is greater in particular work categories. We find that the pay gap for women is significantly smaller in the 'word processing, clerical and secretarial staff' category. Indeed, when the analysis is conducted repeated for this category alone, we do not find evidence of a gender pay gap.

The pay gap among ethnic minorities appears to arise from the 'other managers' category. Ethnic minority staff within the 'other managers' category are paid around £5,600 less than their White British counterparts [25]. Excluding 'other managers', we do not find a statistically significant effect of ethnicity among other non-teaching staff.

Career progression

In this section we present some indicative analysis on the career progression of college staff. In particular, we look at the share of managers at different levels of tenure, to explore how the probability of becoming a manager changes over time. The analysis should be seen merely as indicative, because:

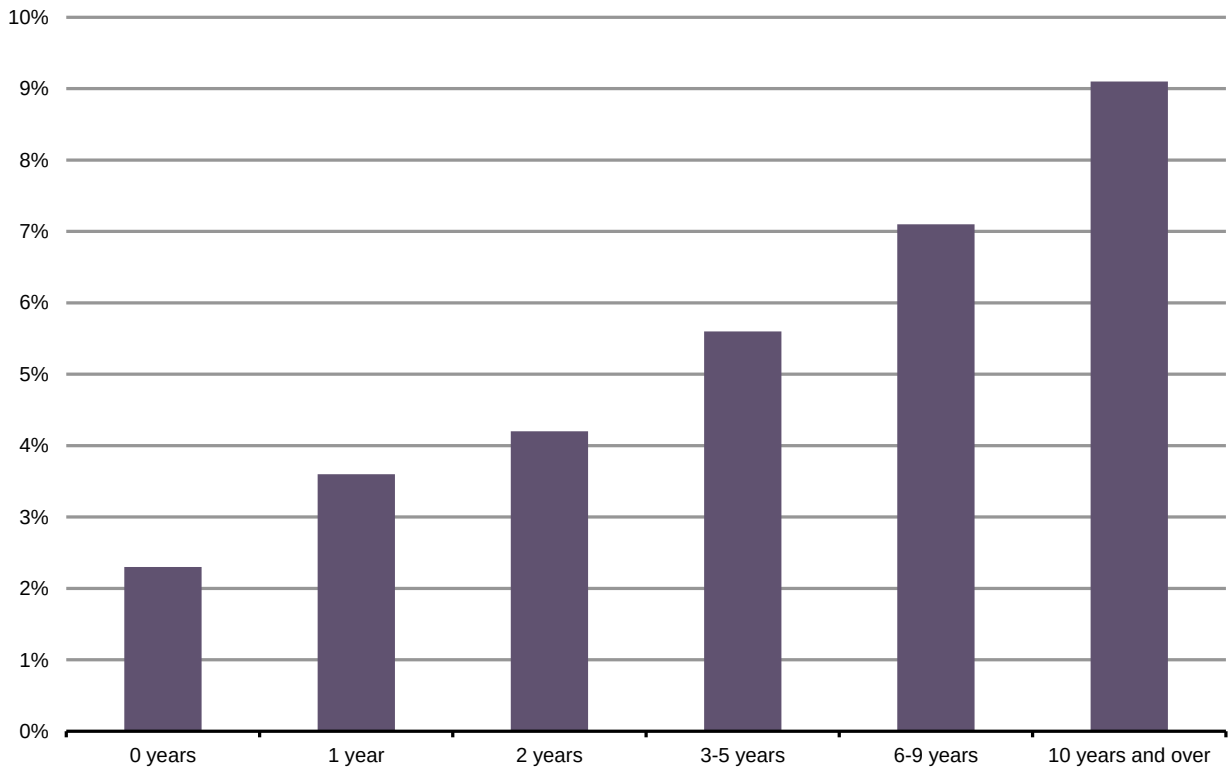
- The data only allows us to control for tenure within a college, and not for overall FE experience (regardless of college). If staff members typically have previous experience at other colleges, our analysis would overstate the rate of career progression.
- The data only allows us to identify whether longer tenure is associated with being a manger, and not the direction of causation. In particular, we cannot distinguish between the possibility that longer tenure results in managerial roles (career progression), and the possibility that managers are less likely to leave a college (reverse causation).
- We do not have data on the previous work patterns of individuals that may affect their career progression. In particular, we do not have data on whether individuals worked part-time or full-time throughout their careers.

More conclusive analysis would require more detailed data on the past experience of individuals, both within the same college and in other FE colleges. In the analysis below, we can only determine whether observed results are consistent with career progression over time, and not identify the exact rate of career progression.

Figure 26 below shows the percentage share of managers ('senior managers' and 'other managers') at different tenure bands. The share of managers increases with tenure, from 2% at 0 years to 9% at 10 years and above. The result is consistent with there being career progression over time.

[25] Controlling for college, gender, disability status, age, tenure at college, fraction of full-time hours worked and split of time.

Figure 27: Share of managers by tenure band



We further use a logistic regression approach to explore how the probability of being a manager changes with tenure. Our analysis indicates that the probability of being a manager increases by 0.5 percentage points for every additional year at a college. Demographic variables (gender, ethnicity and disability status) and college type do not appear to have a significant effect, either on the probability of being a manager at any given tenure level, or on the estimated effect of each additional year of tenure. The full regression results are given in the Annex.

6. Net employment changes

This section considers how the size of the total workforce in the sector has changed over the last three years. We use a combination of methods to get a sense of the employment changes in the sector. First, we use Skills Funding Agency (SFA) data to examine aggregate employment trends. Second, we explore net employment changes in more detail based on a sub-sample of colleges supplying Staff Individualised Record (SIR) data in all of the last three years. Taking this 'panel' approach ensures that any patterns observed in the data are as a result of genuine employment changes rather than driven by differences in the sampling composition across years.

Using SFA college accounts data [26] we observe the change in full-time equivalent (FTE) employment across the sector over the last few years. In 2012/13, FE colleges employed a total of 136,785 FTEs. By 2014/15 this had fallen to 124,609 FTEs, a decline of 12,176 FTEs or 9%. The decline in staff numbers was slightly higher for teaching staff than non-teaching staff. The former changed from 71,031 FTEs to 63,379 FTEs, a decline of 11%.

In total, there are 50 colleges supplying data in all SIR 21, SIR 22 and SIR 23. In 2012/13, the 50 colleges supplied data on 28,858 contracts or 19,268 FTEs. The number of FTEs in these colleges declined to 18,168 in 2013/14 and then further to 17,009 in 2014/15 – a total loss of 2,259 FTEs equivalent to a fall of 11.7% over three years which is slightly above the sector average employment loss of 9%.

The decline in FTEs was:

- Greater for men than women – the number of male employees declined by 15% compared with 10% for female employees;
- Greater among full-time employees – the number of full-time employees declined by 14% compared with 8% for part-time employees;
- Greater than average for technical and service staff (more than 15%) and less than average for Assessors and Verifiers and Learning Support staff (ca. 6%) [27]. For teaching staff, the decline in numbers is in line with the average of just under 12%;
- Greater than average for staff paid more than £40,000 and less than average for staff paid between £25,000 and £39,000; and
- Greater than average for staff in 'construction', 'business administration, management, and professional' and 'hairdressing and beauty therapy' subject areas and less than average for staff in 'land-based provision', the 'humanities', and 'English, languages, and communication' [28].

[26] This data is available here: https://www.gov.uk/government/publications/sfa-financial-management-college-accounts
[27] We note that the number of contracts categorised as 'unknown' is considerably larger in the SIR 23 data compared with previous years. This means that some of the changes reported here may be due to this change in categorisation rather than a genuine decline in staff in the respective categories.
[28] We note that the number of contracts categorised as 'unknown' is considerably larger in the SIR 23 data compared with previous years. This means that some of the changes reported here may be due to this change in categorisation rather than a genuine decline in staff in the respective categories.

7. Conclusions

This report provides a descriptive account of the staff working in English FE colleges in 2014-15, and where possible draws out comparisons of the workforce across different types of FE colleges, with the results from 2013-14 [29] and with the school workforce. Comparison across college types focuses on differences between general FE colleges (GFECs), Sixth Form colleges (SFC) and Land-based colleges and all other institutions. The detailed comparative analysis across college types was enabled by the larger sample size resulting from the better response rate this year. In comparison, last year's sample allowed only for comparisons between GFECs and all other institutions. In addition to the descriptive account of the FE workforce, this year's report includes some additional analysis looking at the impact of demographic variables on pay and career progression.

The key findings from our analysis are as follows.

- Teachers represent close to a half of the entire FE workforce. The next largest occupational groups are (in order): service staff; followed by word processing, clerical and secretarial staff; administrative and professional staff; and other managers.
- Over 60% of all FE contracts are part-time, a proportion considerably higher than in the general UK workforce (37%).
- Close to two-thirds of FE staff are female, and this proportion is higher for part-time staff. The proportion of female staff in the FE sector is higher than in the general UK workforce, but lower than in the school workforce.
- Median pay for full-time staff across all occupational groups is £26,000-£26,999, which is £1,000 higher than in 2013-14.
- Over half of the staff in the FE sector are over the age of 45, indicating an older workforce. The workforce is also predominantly white (89%).
- Exploratory analysis of contracts starting and ending in 2014-15 suggests that the size of the FE workforce is declining, with a net employment change [30] of around -3%. Additional analysis of net employment changes across the past three years (for colleges which consistently submitted data in this period) revealed that the decline in full-time equivalent workers was greater for men, full-time employees, and staff on annual pay of more than £40,000.
- Further analysis involving other datasets suggests an even greater rate of workforce decline, in the order of 9% over the last three years, equivalent to ca. 12,000 FTEs.

Key findings from our analysis of the teaching staff data are:

- Teaching staff are older than other staff (with a lower share of staff aged under 45).
- Annual median pay for teachers was £31,000-£31,999. Average pay was £29,100, much below the average pay of £37,400 for school teachers. The highest median pay was observed for teachers in business, administration, management and professional, and science, and the lowest for land-based provision.
- The most common subjects, provided by at least 90% of colleges are business administration,

[29] Further Education workforce data for England – Analysis of the 2014-15 Staff Individualised Record (SIR) data, Frontier Economics

[30] Net employment change is defined as the number of contracts starting in the teaching year, less the number of contracts ending, as a proportion of all contracts. A negative figure implies that more contracts ended than started.

management and professional; English, languages, and communication; hospitality, sports, leisure, and travel; health, social care, and public services; and visual and performing arts and media.

The key differences in findings across college types are:

- Land-based colleges on average have fewer teaching staff and more service staff, while Sixth Form colleges employ relatively fewer assessors and verifiers. Sixth Form and Land-based colleges employ fewer part-time teachers on average.
- While the proportion of female staff across college types is similar, there are generally fewer female senior managers at Sixth Form and Land-based colleges than at GFE colleges.
- Staff at Sixth Form and Land-based colleges are younger, more ethnically diverse and better paid than staff in other colleges.
- Teaching staff are generally older than the general staff population in colleges except Sixth Form and Land-based colleges.

The key findings from our extended regression analysis on pay and career progression are:

- We find no evidence of a gender, disability or ethnicity pay gap for teaching staff when relevant factors are controlled for. Subject mix is clearly an important factor for pay and women are more likely to teach in subjects that are less well-paid than the subjects predominantly taught by men.
- There is some evidence of a pay gap among non-teaching staff. Controlling for all other factors, female non-teaching staff earn around £1,700 a year less than their male counterparts. Ethnic minority non-teaching staff also earn significantly less than White British staff, by around £1,000, but this is predominantly driven by a particular occupational category (other managers). Further, women and ethnic minorities are less likely to be in senior positions than men and White British staff respectively.

We find no evidence that gender, ethnicity or disability have an effect on career progression. Our analysis shows that the probability of being a manager increases by half a percentage point for every additional year at a college and this is unaffected by gender, ethnicity or disability status.

Annex

Gender pay gap detailed results

This annex presents the full regression results for the analysis in Section 5, on the effect of demographic variables on pay and career progression. In each table, the effect of given variables on the outcomes of interest (annual pay and the probability of being a manager) is given, holding all other variables constant.

Since annual pay and career progression vary by college, we have controlled for the effect of working at a particular college (college-fixed effects). However, in the interest of confidentiality and brevity, we do not report results for individual colleges.

Statistically significant results at the 5% significance level are denoted with an asterisk (*), and results at the 1% significance level with two asterisks (**). The number of observations used in the analysis is shown at the end of each table. The R-squared is also reported, which represents the share of the variation in outcomes that can be explained by the variables we consider.

The list of tables is as follows:

- **Figure 27: Main regression results.** This table shows how annual pay in pounds (£) is affected by the listed variables. To aid interpretation, a coefficient of -1,697 on 'female' for non-teachers means that non-teaching female staff get paid £1,697 less than their male counterparts, all else held constant.
- **Figure 28: Variation in pay gap by work category.** This analysis explores whether pay differences among females and ethnic minority non-teaching staff are greater in particular work categories. If the interaction term (#work category) is negative and significant, this indicates that the pay gap is significantly greater for this work category.
- **Figure 29: Pay gap by work category.** The analysis in Figure 29 shows that the pay gap for women is smaller in the 'word processing, clerical and secretarial staff' category, whilst the pay gap among ethnic minorities is greatest in the 'other managers' category. This table further explores this result by focusing the analysis on these particular categories.
- **Figure 30: Ordered logistic regression results.** In the main analysis, we have approximated annual pay by taking the midpoint of the reported pay band. This table presents a sensitivity check on the main results in Figure 28. In this analysis, we directly use reported pay bands in an ordered logistic regression, to see the effect of the given variables on the odds of being in a higher pay band. The results are qualitatively the same as those given in Figure 28.
- **Figure 31: Career progression.** This table reports the analysis on the effect of tenure, demographic variables and college type on probability of being a manager. The reported coefficients are 'odds ratios' – for example, a coefficient of 0.113 on tenure means that each year of tenure increases the odds of being a manager by 11.3%. In the main text, we have reported the effects in percentage point terms for ease of interpretation.

Figure 28: Main regression results (college-fixed effects suppressed)

VARIABLES	(1) Teachers (no subject)	(2) Teachers	(3) Non-teachers (no work category)	(4) Non-teachers
Female = 1	-832.0**	-242.3	-2,651**	-1,697**
	(235.5)	(292.1)	(333.3)	(305.3)
Ethnic minority = 1	-35.38	-263.7	-1,548**	-1,025*
	(333.5)	(363.2)	(498.2)	(441.8)
Disability = 1	857.5	1,097	89.88	-794.1
	(621.1)	(693.5)	(776.3)	(672.0)
Age	502.0**	427.0**	1,038**	506.3**
	(67.67)	(75.03)	(73.15)	(65.93)
Age squared	-5.405**	-4.885**	-10.27**	-5.107**
	(0.743)	(0.823)	(0.860)	(0.767)
Tenure	736.2**	809.3**	487.3**	662.4**
	(61.33)	(67.23)	(84.80)	(75.89)
Tenure squared	-16.53**	-18.65**	-11.68**	-21.26**
	(3.227)	(3.573)	(4.170)	(3.709)
Fraction full-time	149.5**	148.2**	121.3**	108.0**
	(18.22)	(19.45)	(26.74)	(24.99)
Fraction full-time squared	-0.135	-0.203	-0.0220	-0.159
	(0.206)	(0.219)	(0.271)	(0.247)
Full-time = 1	4,915**	4,729**	5,269**	3,096**
	(701.2)	(753.5)	(790.6)	(699.7)
SIR 24 = 1, Maths and Science		4,792**		
		(1,074)		
SIR 24 = 2, Land Based Provision		1,300		
		(1,047)		
SIR 24 = 3, Construction		3,788**		
		(811.7)		
SIR 24 = 4, Engineering, Technology and Manufacturing		3,205**		
		(811.7)		
SIR 24 = 5, Business Administration, Management, and Professional		2,744**		
		(749.7)		
SIR 24 = 6, ICT		1,533		
		(803.1)		
SIR 24 = 8, Hospitality, Sports, Leisure, and Travel		1,722*		
		(782.0)		
SIR 24 = 9, Hairdressing and Beauty Therapy		1,744		
		(957.6)		
SIR 24 = 10, Health, Social Care, and Public Services		2,374**		
		(765.5)		
SIR 24 = 11, Visual and Performing Arts and Media		1,652*		
		(716.3)		
SIR 24 = 12, Humanities		1,091		
		(927.2)		
SIR 24 = 13, English, Languages, and Communication		318.6		
		(769.5)		
SIR 24 = 14, Foundation Programmes		1,283		
		(780.8)		
SIR 24 = 80, Teaching staff lower than NQF level 4		2,447**		

		(836.9)		
Percentage providing teaching		-2.819		20.75**
		(13.24)		(6.475)
Percentage other activities		96.12**		1.808
		(26.85)		(3.615)
Higher level work category (SIR 25) = 1, Other Manager				14,469**
				(485.5)
Higher level work category (SIR 25) = 2, Senior Manager				44,505**
				(1,136)
Higher level work category (SIR 25) = 3, Administrative and professional staff				5,124**
				(463.6)
Higher level work category (SIR 25) = 4, Technical staff				2,012**
				(490.9)
Higher level work category (SIR 25) = 5, Word processing, clerical and secretarial staff				147.4
				(433.6)
Higher level work category (SIR 25) = 8, Assessors and verifiers				4,224**
				(612.6)
Constant	-17,903**	-16,733**	-27,136**	-17,606**
	(2,752)	(3,212)	(3,627)	(3,095)
Observations	4,221	3,529	4,643	3,816
R-squared	0.630	0.644	0.391	0.623

Standard errors in parentheses

** p<0.01, * p<0.05

Figure 29: Regression results: variation in pay gap by work category (college-fixed effects suppressed)

VARIABLES	(1) Female	(2) Ethnic minority
Female = 1	-2,164**	-1,696**
	(516.8)	(305.1)
Higher level work category (SIR 25) = 1, Other Manager	15,415**	14,866**
	(752.2)	(515.4)
Higher level work category (SIR 25) = 2, Senior Manager	42,463**	44,047**
	(1,573)	(1,200)
Higher level work category (SIR 25) = 3, Administrative and professional staff	4,739**	5,239**
	(862.4)	(497.6)
Higher level work category (SIR 25) = 4, Technical staff	1,622*	1,948**
	(674.5)	(525.4)
Higher level work category (SIR 25) = 5, Word processing, clerical and secretarial staff	-1,535	-116.0
	(829.4)	(462.5)
Higher level work category (SIR 25) = 8, Assessors and verifiers	3,163**	4,381**
	(921.6)	(637.1)
1.female#Other Manager	-1,539	
	(916.6)	
1.female#Senior Manager	4,115	
	(2,189)	
1.female#Administrative and professional staff	561.3	
	(975.9)	
1.female#Technical staff	642.0	
	(948.4)	
1.female#Word processing, clerical and secretarial staff	2,146*	
	(916.9)	
1.female#Assessors and verifiers	1,746	
	(1,113)	
Ethnic minority = 1	-1,009*	-1,005
	(441.6)	(701.8)
Disability = 1	-753.9	-735.0
	(671.8)	(671.6)
Age	492.1**	503.7**
	(66.12)	(65.88)
Age squared	-4.960**	-5.075**
	(0.768)	(0.766)
Tenure	665.9**	662.2**
	(75.80)	(75.91)
Tenure squared	-21.39**	-21.22**
	(3.704)	(3.709)
Fraction full-time	106.2**	108.5**
	(24.97)	(24.99)
Fraction full-time squared	-0.144	-0.164
	(0.247)	(0.247)
Full-time = 1	3,050**	3,073**
	(698.8)	(699.5)
Percentage providing teaching	20.62**	21.56**
	(6.475)	(6.503)
Percentage other activities	1.659	2.028
	(3.617)	(3.612)
1.ethnic#Other Manager		-3,001*
		(1,280)

1.ethnic#Senior Manager		3,997
		(3,223)
1.ethnic#Administrative and professional staff		-650.1
		(1,174)
1.ethnic#Technical staff		558.4
		(1,299)
1.ethnic#Word processing, clerical and secretarial staff		1,953
		(1,093)
1.ethnic#Assessors and verifiers		-1,482
		(1,774)
Constant	-17,128**	-17,646**
	(3,111)	(3,092)
Observations	3,816	3,816
R-squared	0.624	0.624

Standard errors in parentheses

** p<0.01, * p<0.05

Figure 30: Regression results: pay gap by work category (college-fixed effects suppressed)

VARIABLES	(1) Word processing only	(2) Other managers only	(3) Excluding other managers
Female = 1	141.9	-2,108	-1,331**
	(396.4)	(1,283)	(274.5)
Ethnic minority = 1	552.3	-5,632**	-373.0
	(484.8)	(2,091)	(388.1)
Disability = 1	770.4	-4,665	-466.2
	(828.4)	(3,311)	(593.7)
Age	494.1**	1,304**	448.9**
	(77.65)	(385.6)	(57.26)
Age squared	-5.556**	-12.98**	-4.717**
	(0.953)	(4.290)	(0.669)
Tenure	739.1**	1,058**	602.1**
	(93.21)	(336.7)	(68.31)
Tenure squared	-21.02**	-42.30**	-18.30**
	(4.283)	(15.38)	(3.395)
Fraction full-time	37.06	-77.96	93.64**
	(38.14)	(184.9)	(21.30)
Fraction full-time squared	0.616	1.340	-0.00453
	(0.370)	(1.783)	(0.211)
Full-time = 1	570.1	7,400	2,032**
	(953.8)	(4,239)	(606.9)
Higher level work category (SIR 25) = 2, Senior Manager			45,064**
			(943.5)
Higher level work category (SIR 25) = 3, Administrative and professional staff			5,316**
			(385.9)
Higher level work category (SIR 25) = 4, Technical staff			1,818**
			(408.0)
Higher level work category (SIR 25) = 5, Word processing, clerical and secretarial staff			5.363
			(362.1)
Higher level work category (SIR 25) = 8, Assessors and verifiers			5,030**
			(517.8)
Percentage providing teaching	2.320	73.80*	7.145
	(42.69)	(30.79)	(6.017)
Percentage other activities	6.893	10.06	0.366
	(6.243)	(18.96)	(3.188)
Constant	-14,872**	-30,915**	-12,853**
	(3,346)	(11,889)	(3,027)
Observations	729	490	3,326
R-squared	0.678	0.553	0.647

Standard errors in parentheses

** p<0.01, * p<0.05

Figure 31: Sensitivity check: ordered logistic regression results (college-fixed effects and constant cut-offs suppressed)

VARIABLES	(1) Teachers (no subject)	(2) Teachers	(3) Non-teachers (no subject)	(4) Non-teachers
Female = 1	-0.0159	-0.388**	-0.0159	-0.388**
	(0.0724)	(0.0667)	(0.0724)	(0.0667)
Ethnic minority = 1	-0.0578	-0.216*	-0.0578	-0.216*
	(0.0903)	(0.0949)	(0.0903)	(0.0949)
Disability = 1	0.274	-0.202	0.274	-0.202
	(0.165)	(0.145)	(0.165)	(0.145)
Age	0.105**	0.153**	0.105**	0.153**
	(0.0187)	(0.0143)	(0.0187)	(0.0143)
Age squared	-0.00123**	-0.00163**	-0.00123**	-0.00163**
	(0.000206)	(0.000166)	(0.000206)	(0.000166)
Tenure	0.191**	0.198**	0.191**	0.198**
	(0.0169)	(0.0166)	(0.0169)	(0.0166)
Tenure squared	-0.00464**	-0.00667**	-0.00464**	-0.00667**
	(0.000886)	(0.000803)	(0.000886)	(0.000803)
Fraction full-time	0.0544**	0.0407**	0.0544**	0.0407**
	(0.00496)	(0.00556)	(0.00496)	(0.00556)
Fraction full-time squared	-0.000177**	-5.97e-05	-0.000177**	-5.97e-05
	(5.49e-05)	(5.42e-05)	(5.49e-05)	(5.42e-05)
Full-time = 1	0.988**	0.526**	0.988**	0.526**
	(0.187)	(0.150)	(0.187)	(0.150)
Higher level work category (SIR 25) = 1, Other Manager		2.799**		2.799**
		(0.121)		(0.121)
Higher level work category (SIR 25) = 2, Senior Manager		6.446**		6.446**
		(0.320)		(0.320)
Higher level work category (SIR 25) = 3, Administrative and professional staff		1.433**		1.433**
		(0.103)		(0.103)
Higher level work category (SIR 25) = 4, Technical staff		0.555**		0.555**
		(0.104)		(0.104)
Higher level work category (SIR 25) = 5, Word processing, clerical and secretarial staff		0.172		0.172
		(0.0914)		(0.0914)
Higher level work category (SIR 25) = 8, Assessors and verifiers		1.117**		1.117**
		(0.137)		(0.137)
Percentage providing teaching	0.00439	0.00252	0.00439	0.00252
	(0.00348)	(0.00144)	(0.00348)	(0.00144)
Percentage other activities	0.0296**	-0.00129	0.0296**	-0.00129
	(0.00704)	(0.000776)	(0.00704)	(0.000776)
SIR 24 = 1, Maths and Science	1.283**		1.283**	
	(0.270)		(0.270)	
SIR 24 = 2, Land Based Provision	0.475		0.475	
	(0.263)		(0.263)	
SIR 24 = 3, Construction	1.213**		1.213**	
	(0.206)		(0.206)	
SIR 24 = 4, Engineering, Technology and Manufacturing	1.049**		1.049**	

	(0.207)		(0.207)	
SIR 24 = 5, Business Administration, Management, and Professional	0.923**		0.923**	
	(0.191)		(0.191)	
SIR 24 = 6, ICT	0.722**		0.722**	
	(0.200)		(0.200)	
SIR 24 = 8, Hospitality, Sports, Leisure, and Travel	0.620**		0.620**	
	(0.199)		(0.199)	
SIR 24 = 9, Hairdressing and Beauty Therapy	0.659**		0.659**	
	(0.236)		(0.236)	
SIR 24 = 10, Health, Social Care, and Public Services	0.754**		0.754**	
	(0.194)		(0.194)	
SIR 24 = 11, Visual and Performing Arts and Media	0.665**		0.665**	
	(0.183)		(0.183)	
SIR 24 = 12, Humanities	0.636**		0.636**	
	(0.237)		(0.237)	
SIR 24 = 13, English, Languages, and Communication	0.287		0.287	
	(0.196)		(0.196)	
SIR 24 = 14, Foundation Programmes	0.632**		0.632**	
	(0.198)		(0.198)	
SIR 24 = 80, Teaching staff lower than NQF level 4	0.765**		0.765**	
	(0.219)		(0.219)	
Observations	3,529	3,816	3,529	3,816

Standard errors in parentheses

** p<0.01, * p<0.05

Figure 32: Effect of tenure, demographic variables and college type on probability of being a manager (college fixed effects suppressed)

VARIABLES	
Tenure	0.113**
	(0.0214)
Tenure squared	-0.00142
	(0.000949)
Female = 1	-0.113
	(0.117)
Female#tenure	-0.00337
	(0.0128)
Ethnic minority = 1	-0.0702
	(0.171)
Ethnic minority#tenure	-0.0241
	(0.0208)
Disability = 1	0.505
	(0.258)
Disability#tenure	-0.0300
	(0.0272)
Sixth Form	-0.211
	(1.270)
Specialist	-1.584
	(1.170)
Sixth Form#tenure	-0.00854
	(0.0392)
Specialist#tenure	-0.0102
	(0.0250)
Full time = 1	
Constant	-2.337**
	(0.583)
Observations	12,939

Standard errors in parentheses
** p<0.01, * p<0.05

Support staff-to-teacher ratio

This section presents analysis on the ratio of (full-time equivalent) non-teaching staff to teachers across general FE, Sixth Form and Land-based colleges. Specialist designated colleges and national specialist colleges are excluded from the analysis due to small sample size.

The non-teaching staff-to-teacher ratio varies substantially across colleges, ranging from 0.1 to 3.2 non-teaching staff per teacher. As Figure 33 shows, general FE and Land-based colleges have substantially more non-teaching staff per teacher on average than Sixth Form colleges (1.5-1.7 compared to 0.7). The distribution of non-teaching staff-to-teacher ratios is also wider for general FE and Land-based colleges than for Sixth Form colleges, where nearly 90% of them have between one and two non-teaching staff members per teacher (Figure 34).

There is no systematic correlation between the overall size of the college, in terms of total full-time equivalent staff, and its staff-to-teacher ratio. The results of this analysis, as well as a full list of the staff-to-teacher ratios by college, are given below.

Figure 32: Average FTE non-teaching staff-to-teacher ratio by college type

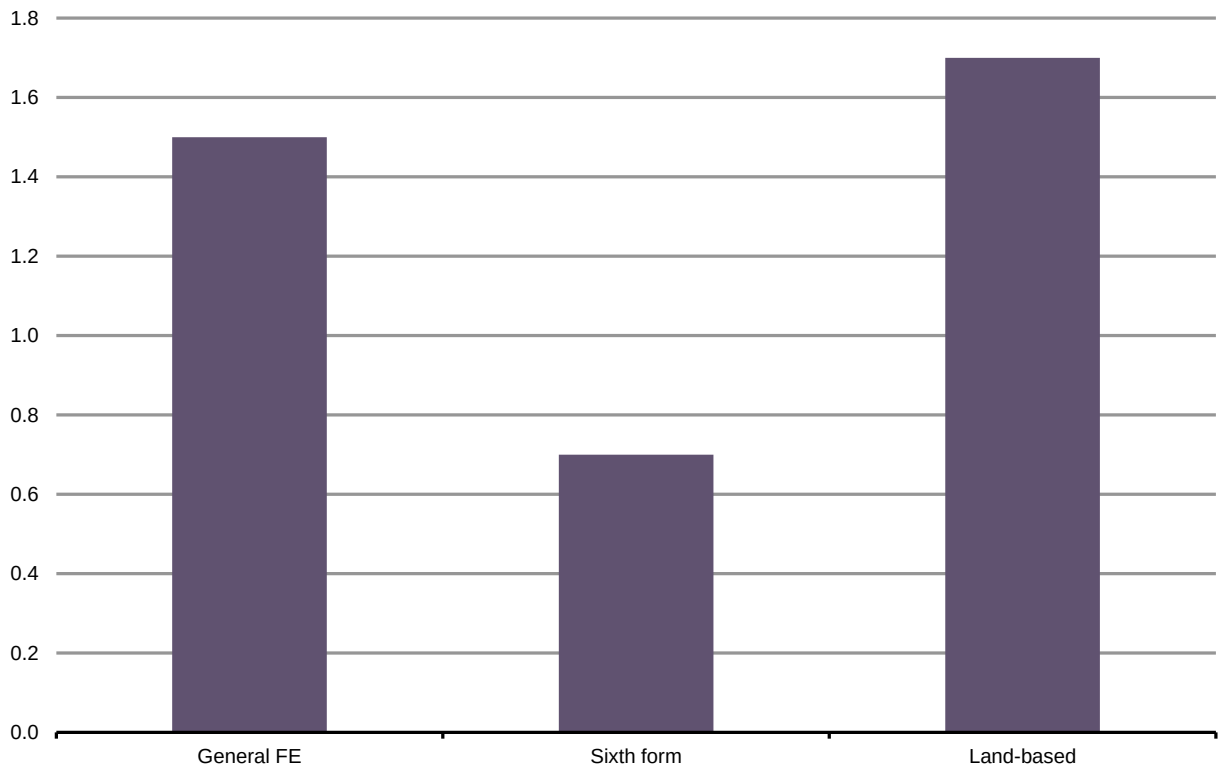


Figure 33: Distribution of FTE non-teaching staff-to-teacher ratio by college type

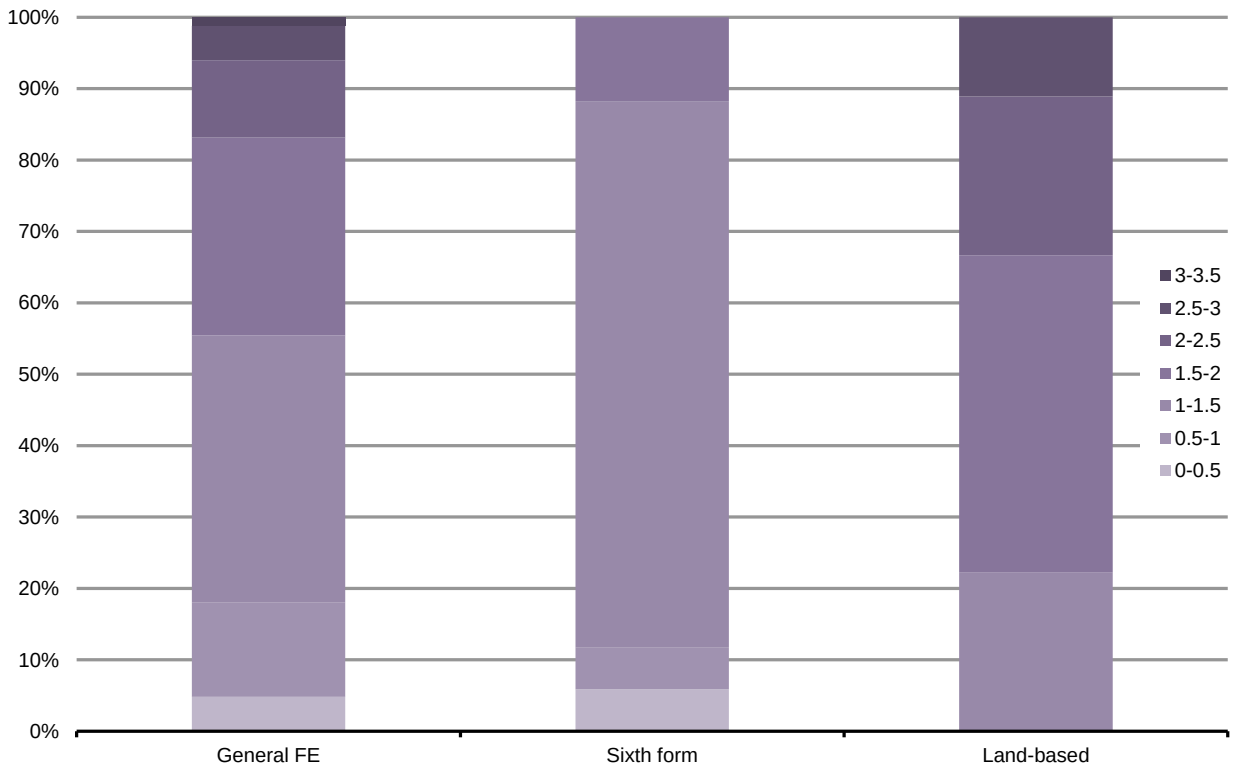


Figure 35: Effect of college size (total FTE) on non-teaching staff-to-teacher ratio

VARIABLES	(1) staff-to-teacher ratio
Total FTE	-0.000209
	(0.000405)
Total FTE squared	1.56e-08
	(1.43e-07)
TYPE = 2, Sixth Form	-0.772**
	(0.191)
TYPE = 3, Special – Land-based	0.195
	(0.250)
TYPE = 5, Specialist designated	0.467
	(0.392)
TYPE = 10, National specialist college (NSC)	2.389**
	(0.330)
Constant	1.557**
	(0.163)
Observations	113
R-squared	0.440

Standard errors in parentheses
** p<0.01, * p<0.05

Figure 36: List of non-teaching staff-to-teacher ratio by college

College type	Total FTE	Non-teaching staff-to-teacher ratio
General FE	900	0.07
General FE	686	0.19
General FE	165	0.50
General FE	453	0.73
General FE	424	0.75
General FE	272	0.80
General FE	330	0.85
General FE	1061	0.87
General FE	455	0.89
General FE	350	0.92
General FE	659	0.92
General FE	358	0.93
General FE	702	0.95
General FE	324	1.00
General FE	605	1.00
General FE	3142	1.02
General FE	846	1.02
General FE	563	1.04
General FE	171	1.07
General FE	493	1.08
General FE	446	1.09
General FE	361	1.10
General FE	609	1.13
General FE	312	1.13
General FE	965	1.14
General FE	176	1.15
General FE	197	1.15
General FE	374	1.18
General FE	380	1.18
General FE	544	1.19
General FE	386	1.24
General FE	519	1.25
General FE	450	1.25
General FE	393	1.28
General FE	504	1.29
General FE	291	1.31
General FE	680	1.31
General FE	681	1.36
General FE	459	1.37
General FE	787	1.38
General FE	320	1.38
General FE	335	1.39
General FE	605	1.49
General FE	227	1.50
General FE	162	1.50
General FE	278	1.50
General FE	267	1.52
General FE	358	1.53
General FE	212	1.53

General FE	291	1.57
General FE	426	1.62
General FE	961	1.64
General FE	711	1.65
General FE	686	1.69
General FE	659	1.72
General FE	229	1.74
General FE	259	1.77
General FE	736	1.79
General FE	522	1.80
General FE	784	1.88
General FE	198	1.92
General FE	145	1.94
General FE	266	1.95
General FE	318	1.95
General FE	402	1.95
General FE	766	2.00
General FE	323	2.01
General FE	261	2.01
General FE	588	2.09
General FE	545	2.12
General FE	401	2.12
General FE	310	2.16
General FE	196	2.26
General FE	197	2.34
General FE	226	2.41
General FE	827	2.56
General FE	430	2.74
General FE	270	2.78
General FE	308	2.79
General FE	999	3.20
General FE	159	Missing
Sixth Form	156	0.10
Sixth Form	193	0.52
Sixth Form	289	0.58
Sixth Form	297	0.59
Sixth Form	64	0.62
Sixth Form	210	0.72
Sixth Form	96	0.72
Sixth Form	201	0.76
Sixth Form	80	0.77
Sixth Form	206	0.80
Sixth Form	160	0.84
Sixth Form	128	0.90
Sixth Form	165	0.91
Sixth Form	310	0.95
Sixth Form	168	1.03
Sixth Form	123	1.14
Special - Land-based	212	1.23
Special - Land-based	578	1.29
Special - Land-based	539	1.40
Special - Land-based	270	1.47
Special - Land-based	353	1.99
Special - Land-based	393	2.00

Special – Land-based	384	2.34
Specialist designated	117	0.71
Specialist designated	42	2.35
Specialist designated	33	2.98
National specialist college (NSC)	366	1.26
National specialist college (NSC)	331	4.43
National specialist college (NSC)	22	4.72
National specialist college (NSC)	249	5.16