

Post-16 education: outcomes for disadvantaged students England

November 2018

About this report

This report presents experimental analysis to describe the number of disadvantaged students who follow distinct routes through post-16 education, and how many progress to high earning employment by age 26. The research focuses on the cohort of individuals who undertook GCSEs in 2005; it follows the cohort through post-16 learning and into the labour market using the Longitudinal Education Outcomes (LEO) Study. Educational achievement is measured at age 15 (GCSEs) and age 25, and labour market outcomes are observed in the 2016-17 tax year.

Feedback

We welcome feedback on any aspect of this document at jay.khamis@education.gov.uk

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Summary of findings

Disadvantaged students¹ are over-represented in further education (FE).

- The most common qualification route for disadvantaged students was achievement at level 2 or 3 in FE. By age 25, 46 per cent achieved level 2 or 3 in FE, 8 per cent achieved level 2 or 3 in school, 28 per cent remained at below level 2 (including no qualifications), and 17 per cent achieved qualifications at level 4 or higher.
- Overall, 19 percent of the cohort were disadvantaged; this compares with 31 per cent of males who achieved a level 2 in adult FE as their highest qualification, and 32 per cent of females who achieved the same qualification route (Table 1 and Figure 1).

There is a social gradient within FE where disadvantaged students tend to achieve lower level qualifications and have lower rates of progression to high earning than non-disadvantaged students.

- Students who achieved level 2 or below in FE as their highest qualification were more likely to be disadvantaged than students who achieved apprenticeships or other classroom qualifications at level 3+ (Figures 5 and 6).
- Comparing the same qualification routes, the rate of progression to high earning employment was lower for disadvantaged students than for non-disadvantaged students (Figure 4).

There is a tension observed in the data between high-level qualification routes, which show good earnings progression but include low numbers of disadvantaged students, and lower level routes, which include high numbers of disadvantaged students but show poor earning progression.

- Students who achieved their highest qualifications at level 6 or higher had the highest rates of progression to high earning; however, these routes also included the smallest proportions of disadvantaged students (Figures 1, 2, 3).
- The tension is not observed for non-disadvantaged students. Qualification routes with the highest progression rates also included the highest proportions of non-disadvantaged students (Figure 4).

¹ Students who were eligible for Free School Meals (FSM) at any point between age 11 and age 15.

For men, large numbers of disadvantaged students achieve level 2 or 3 FE courses that can result in progression up the earnings distribution – particularly so for those achieving at level 3.

- Disadvantaged male students who achieved FE qualification routes had progression rates ranging from 14 per cent for level 2 adult FE to 28 per cent for level 3 adult FE (Figures 1 and 2).
- The largest volume of disadvantaged male students who progressed to high earning achieved their highest qualification at level 2 or 3 in FE 5,200 progressed via FE, 2,700 via level 6+, and 1,100 via school (see Table 6).

For women, large numbers of disadvantaged students achieve level 2 or 3 courses in FE, but earnings progression is much less substantial.

- Female FE qualification routes had progression rates ranging from 3 per cent for level 2 adult FE to 6 per cent for level 3 adult FE (Figures 1 and 3).
- The largest volume of disadvantaged female students who progressed to high earning achieved their highest qualification at level 6+. This was due to lower level 2 and 3 progression rates for females compared to males – 1,400 progressed via level 2 or 3 FE and 3,000 progressed via level 6+ qualifications (Table 6).
- The differences in progression rates for men and women are discussed in section 4 and will partly reflect patterns of childbirth and part time working, and the types of FE courses achieved by female students.

1. Introduction

This report presents experimental analysis that describes the number of disadvantaged students who follow different routes through post-16 education, and how many of these students progress to high earning employment by age 26. Particular attention is given to further education (FE) qualification routes in order to understand how FE helps disadvantaged students progress up the income distribution. Disadvantage is defined by eligibility for free school meals (FSM) at any point between ages 11 and 15.

The aims of the research were to:

- 1. Identify the routes through post-16 education that disadvantaged students follow in the greatest numbers.
- 2. Identify post-16 education that helps the greatest numbers of disadvantaged students progress to high earning employment.

The research is based on the Longitudinal Education Outcomes (LEO) Study. The privacy statement explaining how personal data in this project is shared and used is published at: https://www.gov.uk/government/publications/longitudinal-education-outcomes-study-how-we-use-and-share-data

The LEO study links information about individuals, including:

- Personal characteristics such as age, gender and ethnicity.
- Education, including schools, further education colleges and higher education institutions attended, courses taken, and qualifications achieved.
- Benefits claimed.
- Employment and income.

The analysis included in this report is exploratory. We will continue to develop the underlying data and so the methods, measures and results presented here are likely to change over time.

1.1 Coverage

The analysis in this report covers a cohort of students who:

- 1. Were academic age 15 in the 2004/05 academic year.
- 2. Undertook their GCSEs in the 2004/05 academic year.
- 3. Were in state-funded education between ages 11 and 15 and have a record for free school meal eligibility.
- 4. Have a record in the Young Persons' Matched Administrative Dataset (YPMAD).
- 5. Have been matched to the LEO study.

The analysis follows the same cohort of students over time between 2004/05 and 2016/17. There are 610,300 individuals in the cohort after matching to the LEO study and removing ineligible records – 95 per cent of the identified cohort in the YPMAD.

The statistics showing GCSE attainment are based on information in the YPMAD. Statistics showing <u>qualification routes</u> are based on Individualised Learner Record (ILR) data (FE learning) and Higher Education Statistics Agency (HESA) Student Record data (HE learning) as well as the YPMAD.

The YPMAD matches several data sources together at an individual level, using personal identifiers such as name, date of birth, gender and home postcode where available. The sources include:

- School Census database containing information on the participation and personal characteristics of pupils in state schools, collected by DfE.
- Awarding organisation data including that collected as part of the School and College Performance Tables exercise, and separately from awarding organisations as part of the Vocational Qualifications Database up until 2010/11.
- Individualised Learner Record (ILR) database covering participation and qualifications obtained in Further Education (FE) and Work-based Learning (WBL), collected by the FE Data Service from learning providers.

The earnings and employment estimates are based on information recorded through Pay As You Earn (PAYE), which is used to collect income tax and national insurance by HMRC, HMRC self-assessment returns, for those in self-employment, and P45 employment records. Estimates for the number of benefit claimants are based on DWP records of out-of-work benefit claimants. Universal Credit claims are not included in this report.

1.2 Measures

The report includes the following measures to describe qualification routes, disadvantage, and earnings and employment in the 2016-17 financial year:

1. Disadvantaged students (age 15)

Disadvantaged students are defined as students who were eligible for Free School Meals (FSM) at any point between age 11 and age 15.

2. Qualification route (age 25)

This describes the highest qualification level a student achieved by age 25 and whether students at level 2 or 3 achieved the qualification in FE or School. It does

not take into account whether achievements by adults at level 2 and level 3 are in "full" level qualifications (equivalent to 5 GCSEs at level 2 or 2 A-Levels at level 3).

- a. Level 4 and 5 includes all students who achieved level 4 or level 5 as their highest-level qualification.
- b. Level 6+ via FE includes all students who achieved an FE qualification prior to achieving a qualification at level 6 or higher.
- c. Level 6+ via school includes all students who achieved a level 6+ qualification without first achieving a qualification in FE.
- d. FE routes at level 2 or 3 include all students who achieved level 2 or 3 as their highest-level qualification in an FE institution, including colleges, sixth form colleges and other FE providers. The routes are presented separately for students who achieved as an adult (ages 19-25) and at ages 16-18.
- e. School routes at level 2 or level 3 include all students who achieved their highest-level qualification at a school, including maintained schools, independent schools, academies and other alternative providers.

3. Highest level of achievement (age 25)

This combines YPMAD, ILR and HESA data to show the highest qualification level individuals had achieved by age 25. It does not take into account whether achievements by adults at level 2 and level 3 are in "full" level qualifications (equivalent to 5 GCSEs at level 2 or 2 A-Levels at level 3).

4. Employment in the 2016-17 tax year (age 26)

Individuals employed for at least one day in the tax year, based on HMRC P45 information, or individuals who have either PAYE earnings or self-assessment earnings for the tax year.

5. High earning employment in the 2016-17 tax year (age 26)

Individuals in employment in the tax year with annualised earnings greater than $\pounds 25,000$ are **high earning** (referred to as $\pounds 25k$ throughout the report). $\pounds 25k$ is close to the median personal income before tax in $2015/16^2$. In the cohort under consideration, 28 per cent earned over $\pounds 25k$ in the 2016-17 tax year. For comparison, a second threshold that includes individuals with annualised earnings greater than $\pounds 21k$ is also included. This was chosen as it is close to median earnings in the 2016-17 tax year for the cohort.

6. Progression to high earning employment (age 26)

This describes disadvantaged students who were:

² <u>https://www.gov.uk/government/statistics/distribution-of-median-and-mean-income-and-tax-by-age-range-and-gender-2010-to-2011</u>

- a. In employment at age 26; and
- b. Where the employment is defined as high earning.

7. Sustained employment in the 2016-17 tax year (age 26)

Individuals employed for a minimum of one day in 5 of the 6 months between October 2016 and March 2017.

8. On benefits in the 2016-17 tax year (age 26)

Individuals not found to be in employment who claimed any out-of-work benefit for at least one day in the tax year.

The levels of education used to categorise the cohort are:

- Below level 2 education below GCSE level
- Level 2 equivalent to GCSEs
- Level 3 equivalent to A-Levels
- Level 4 and 5 sub-degree higher level education
- Level 6 degree level higher education
- Level 7+ post-graduate level higher education

The analysis groups level 4 and level 5 learning into a single category due to the small number of students at these levels.

Age is based on academic age, which is age at the start of the academic year, 31 August. For example, the cohort in this report undertook GCSEs in 2004/05 and were age 15 on 31st August 2004. For earnings and employment outcomes, age is based on academic age at the start of the tax year. The cohort were academic age 26 at the start of the 2016-17 tax year.

1.3 Earnings

The measures for earnings progression included in this report only account for age, disadvantage, qualification route, and in some instances, GCSE attainment. There is a large amount of unexplained variation in the data. Some examples of important factors not captured here are:

- Time spent in employment since achieving highest qualification
- Sector/occupation of work
- Grade achieved in qualifications attained
- Region of England
- Individual motivation and ability

In addition, these estimates only describe earnings at a single point in time. Earnings tend to increase over time, and the earnings associated with different qualification routes could have different rates of increase.

The numbers here do not attempt to describe or control for these factors; they show a descriptive picture of the number of disadvantaged students earning over £25k against different qualification routes. Further analysis would be required to establish causality between qualification routes, earnings and social mobility.

1.4 Part time employment and earnings

The employment and earnings records in LEO do not include reliable information on the hours worked so it is not possible to distinguish between students in full time and part time employment. Therefore, part time earnings are not adjusted to the full time equivalent amount. Where there are high levels of part time employment within a group of students, the proportion of students earning over £25,000 will be lower as a result. For example, women are more likely to be in part time employment than men are; this will be reflected in the earnings measure. It is important to note that the number of people in part time employment may be as much due to the preferred working pattern of the students as what is being offered by employers.

1.5 Tables and Figures: general footnotes

The percentages and volumes presented in here may not sum due to rounding. Percentages are calculated using pre-rounded volumes.

Volumes are rounded to the nearest 100 and percentages are rounded to 1 decimal place.

Volumes below 50 are represented by "-" and percentages below 0.5 per cent are represented by "*". Where the denominator of a percentage is below 50, the percentage is represented by "-".

2. Headline results

2.1 Characteristics of the cohort

Table 1 shows key summary statistics for the cohort who completed their GCSEs in the 2004/05 academic year.

For both men and women, 19 per cent of students were disadvantaged (eligible for free school meals at any point between ages 11 and 15). Overall, 28 per cent of the total cohort were in the high earning employment group (earning over £25k); for disadvantaged students this falls to 14 per cent, while for non-disadvantaged students, the figure is 32 per cent. For both disadvantaged and non-disadvantaged students, males were more likely to be in the high earning group.

Gender	Total students	Disadvantaged students (%)	% of students earning over £25k	% of disadvantaged students earning over £25k	% of non- disadvantaged students earning over £25k
Female	296,200	19%	23%	10%	26%
Male	314,200	19%	33%	19%	37%
Total	610,300	19%	28%	14%	32%

 Table 1: Disadvantage and progression to high earning by gender

Table 2 shows a summary of outcomes for the cohort based on gender and disadvantaged status. Overall, during the 2016-17 tax year, 82 per cent were either high earning or employed, and 6 per cent claimed benefits. Disadvantaged students were more likely to claim benefits and less likely to be employed (including high earning). The group with the highest proportion on benefits (19 per cent) and the smallest percentage in employment (68 per cent) were disadvantaged females.

Outcome could not be determined for 10 per cent of the cohort. There are a number of reasons that could explain this including economic inactivity without engaging with the benefits system and leaving the country for work or study.

Table 3 describes the distribution of the cohort across each of the qualification routes. The table shows that 32 per cent achieved level 6+, with the majority doing so after 16-18 education in school. Disadvantaged students were less likely to achieve their highest qualification at level 6+ than non-disadvantaged students (14 per cent versus 36 per cent).

11 per cent of the cohort achieved their highest qualification at school. This percentage is slightly lower for disadvantaged students than for non-disadvantaged students (8 per cent versus 11 per cent).

Gender	Disadvantage	High earner	Employed	On benefits	In education	Not classified	Cohort size
Male	Disadvantaged	19%	55%	11%	4%	12%	59,800
	Non-disadvantaged	37%	48%	3%	1%	11%	254,300
	Total	33%	49%	5%	2%	11%	314,200
Female	Disadvantaged	10%	58%	19%	4%	10%	56,900
	Non-disadvantaged	26%	58%	5%	2%	9%	239,300
	Total	23%	58%	8%	2%	9%	296,200
Total	Disadvantaged	14%	57%	15%	4%	11%	116,700
	Non-disadvantaged	32%	53%	4%	2%	10%	493,600
Total		28%	54%	6%	2%	10%	610,300

Table 2: Student destinations and outcomes at age 26 by gender and disadvantage

The data in this report show that large numbers of disadvantaged students achieved their highest-level qualification at level 2 or 3 in FE. Overall, a higher proportion of disadvantaged students achieved a level 2 or 3 FE route than non-disadvantaged students (46 per cent versus 37 per cent). This is particularly striking for level 2 adult (19-25) FE, which is funded to help the unemployed, those with poor English and maths skills, and those who left school with low or no qualifications.

The data also show that disadvantaged students are over represented in FE. Disregarding below level 2, level 2 and 3 FE qualification routes include the largest proportions of disadvantaged students (see Figure 1). These points are true for both disadvantaged men and disadvantaged women.

Qualification route	Total	Disadvantaged	Non- disadvantaged	Disadvantaged men	Disadvantaged women
Below Level 2	14%	28%	11%	31%	26%
Level 2 FE Adult	10%	17%	9%	21%	13%
Level 2 FE 16-18	7%	10%	6%	10%	9%
Level 2 School	6%	6%	6%	5%	6%
Level 3 FE Adult	11%	11%	11%	9%	12%
Level 3 FE 16-18	11%	9%	11%	8%	10%
Level 3 School	5%	2%	5%	2%	3%
Level 4 and 5	4%	3%	4%	3%	3%
Level 6+ via FE	14%	9%	16%	8%	11%
Level 6+ via School	18%	5%	21%	4%	7%
Total %	100%	100%	100%	100%	100%
Total volumes	610,300	116,700	493,600	59,800	56,900

Table 3: Distribution of students by qualification route

2.2 Disadvantage, routes through education and progression to high earning employment.

This section describes how the different qualification routes students take through post-16 education compare considering:

- **Disadvantaged participation** measured using the proportion of students identified as disadvantaged.
- Progression to high earning employment measured using the proportion of disadvantaged students who progressed to high earning employment in the 2016-17 tax year.

These are considered separately for male and female students, and for students who achieved 5 GCSEs at grades A*-C and those who did not.

2.3 Disadvantaged male students

Figure 1 shows that the below level 2 qualification route had the smallest proportion of disadvantaged male students who progressed to high earning employment (9 per cent).

Compared with below level 2, FE qualification routes had higher progression rates for disadvantaged students, ranging from 14 per cent for level 2 adult FE to 28 per cent for level 3 adult FE. FE routes had relatively high disadvantaged participation, especially so for level 2 FE (see Figure 1). For these reasons, the largest volume of disadvantaged male students who progressed to high earning did so after achieving a FE qualification route – 5,200 progressed via level 2 or level 3 FE, 2,700 via level 6+ qualifications, and 1,100 via school (see Table 6).

Level 6+ qualification routes had the largest progression rates for disadvantaged male students – 35 per cent for level 6+ via FE and 43 per cent for level 6+ via School. However, these routes also had the lowest disadvantaged participation. For level 6+ via School just 5 per cent of students were disadvantaged.

2.4 Disadvantaged female students

The below level 2 qualification route also had the smallest proportion of disadvantaged female students who progressed to high earning (2 per cent) – this was the lowest proportion for all of the routes and 7 ppts lower than the male equivalent.

Compared with the results for males, female FE qualification routes had smaller progression rates – ranging from 3 per cent for level 2 adult FE to 6 per cent for level 3 adult FE. Similar to the results for males, these routes also had high disadvantaged participation.

Level 6+ qualification routes had the largest progression rates – 27 per cent for Level 6+ via FE and 35 per cent for Level 6+ via School. However, disadvantaged participation was low. For Level 6+ via school just 6 per cent of female students were disadvantaged.

The largest volume of disadvantaged female students progressed after achieving a Level 6+ route. This was due to smaller level 2 and 3 FE progression rates for females compared to males – 1,400 progressed via FE and 3,000 progressed via Level 6+ (see Table 6).

		Students		
Highest qualification	Total	eligible for	% of students eligible for	% of students eligible for
route	students	FSM	FSM	FSM earning over £25k
Male students				
Below level 2	52,100	18,600	36%	9%
Level 2 FE Adult	39,400	12,300	31%	14%
Level 2 FE 16-18	22,800	6,000	26%	15%
Level 2 School	19,300	3,100	16%	24%
Level 3 FE Adult	34,600	5,500	16%	28%
Level 3 FE 16-18	30,500	4,600	15%	23%
Level 3 School	14,900	1,200	8%	28%
Level 4 and 5	12,300	1,600	13%	28%
Level 6+ via FE	38,300	4,500	12%	35%
Level 6+ via School	50,000	2,500	5%	43%
	,	,		
Female students				
Below level 2	33,800	14,500	43%	2%
Level 2 FE Adult	23,200	7,400	32%	3%
Level 2 FE 16-18	17,100	5,400	31%	3%
Level 2 School	17,200	3,500	21%	8%
Level 3 FE Adult	34,200	7,100	21%	6%
Level 3 FE 16-18	35,800	5,900	17%	10%
Level 3 School	14,400	1,500	10%	15%
Level 4 and 5	12,100	1,900	15%	17%
Level 6+ via FE	49,400	6,100	12%	27%
Level 6+ via School	59,000	3,700	6%	35%

Figure 1: Qualification routes: disadvantaged students and earnings progression

Source: Longitudinal Education Outcomes Study; FSM = Free School Meals

Bubble charts – reading Figures 2, 3, 5 and 6.

The charts present the data on disadvantage and earnings as follows:

- Qualification routes are represented as bubbles in the charts. These are further separated into routes for students who achieved 5 GCSEs A*-C at age 15 (red bubbles) and routes for those who did not (blue bubbles). For figures 5 and 6 the additional separation is by age (16-18 and 19-25)
- The relative size of each bubble represents the number of students achieving each route: larger bubbles indicate larger volumes of students.
- For each route, the horizontal axis describes the proportion of students eligible for free school meals. A qualification route plotted to the right of the chart includes a larger portion of disadvantaged students than one plotted to the left of the chart.
- For each route, the vertical axis describes the proportion of students eligible for free school meals who earn over £25k by age 26. A qualification route plotted towards the top of the chart will include a higher proportion of disadvantaged students who progress to high earning than one plotted towards the bottom of the chart.

The bubbles follow an upward trajectory from the lowest level qualification routes to level 6+ qualification routes, outlining the fact that higher levels of education are associated with increased earnings for disadvantaged students.

Bubbles plotted in a vertical line would represent an equal proportion of disadvantaged students on each route. It is clear from the charts that this is not the case. The increasing trajectory from the bottom right of the charts, where lower level routes are plotted, to the top left of the chart, where higher-level routes are plotted, suggests that routes associated with high earnings are less inclusive than those associated with low earnings.

2.5 Participation and earnings progression

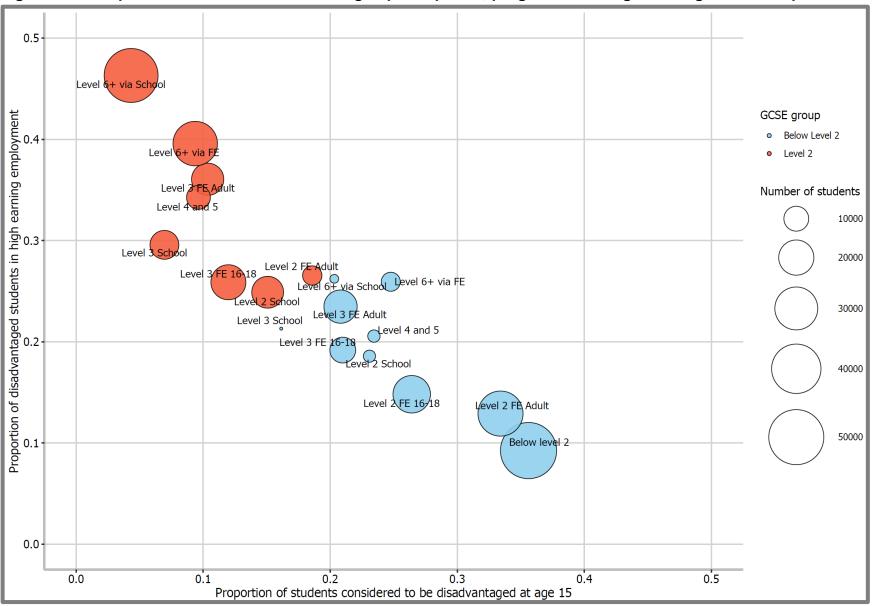
Figures 2 and 3 show a clear negative relationship between disadvantaged participation and progression to high earning employment.

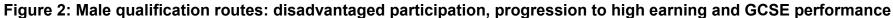
There is a tension observed in the data between high-level qualification routes, which show good earnings progression but include low numbers of disadvantaged students, and lower level routes, which include high numbers of disadvantaged students but poor earning progression.

Figure 2 and 3 also show that achieving GCSEs at age 15 can play an important role in earnings progression for disadvantaged students. For both men and women, qualification routes in which GCSEs were not achieved had the highest disadvantaged participation and the lowest rates of progression to high earning.

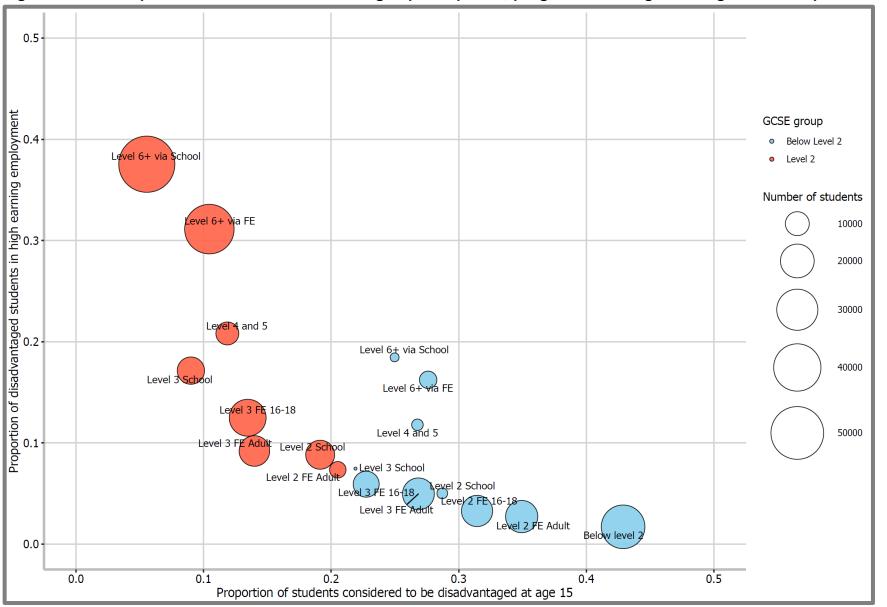
Figure 2 suggests that for men, level 2 and 3 FE sits in the middle of the relationship between disadvantaged participation and earnings progression, offering large numbers of disadvantaged and low attainment students courses that can result in progression up the income distribution, particularly so for those taking the higher level 3 FE routes.

Figure 3 shows that the same is not true for women. It shows a dip in earnings progression for FE routes in the middle section of the chart. This suggests that level 2 and 3 FE does not play the same role in offering disadvantaged women progression up the income scale that it does for men. Potential reasons for this are discussed in section 4.





Source: Longitudinal Education Outcomes Study





Source: Longitudinal Education Outcomes Study

2.6 Results for non-disadvantaged students

Figure 4 shows the results of the analysis for students not eligible for free school meals (non-disadvantaged students). For this group of students, a higher proportion of non-disadvantaged students achieved the qualification routes that had the highest progression rates compared to those that had the lowest. For the below level 2 qualification route, 64 per cent of male students were non-disadvantaged, while for level 6+ via school 95 per cent were non-disadvantaged. For men, below level 2 had the lowest progression rate (17 per cent) while Level 6+ via School had the highest (55 per cent).

In contrast to the results for disadvantaged students, for non-disadvantaged students there is a positive relationship between participation and progression to high earning. In addition, for each qualification route progression to high earning was higher for non-disadvantaged students than for disadvantaged students (see Table 6).

		Students		
Highest qualification	Total	not eligible		% not eligible for FSM
route	students	for FM	% not eligible for FSM	earning over £25k
Male students				
Below level 2	52,100	33,600	64%	17%
Level 2 FE Adult	39,400	27,200	69%	24%
Level 2 FE 16-18	22,800	16,800	74%	24%
Level 2 School	19,300	16,100	84%	32%
Level 3 FE Adult	34,600	29,200	84%	42%
Level 3 FE 16-18	30,500	25,900	85%	32%
Level 3 School	14,900	13,700	92%	36%
Level 4 and 5	12,300	10,700	87%	41%
Level 6+ via FE	38,300	33,800	88%	46%
Level 6+ via School	50,000	47,500	95%	55%
Female students				
Below level 2	33,800	19,300	57%	4%
Level 2 FE Adult	23,200	15,800	68%	6%
Level 2 FE 16-18	17,100	11,700	69%	6%
Level 2 School	17,200	13,700	79%	15%
Level 3 FE Adult	34,200	27,100	79%	10%
Level 3 FE 16-18	35,800	29,900	84%	16%
Level 3 School	14,400	12,900	90%	26%
Level 4 and 5	12,100	10,200	85%	28%
Level 6+ via FE	49,400	43,300	88%	39%
Level 6+ via School	59,000	55,300	94%	50%

Figure 4: Qualification routes: non-disadvantaged students and earnings progression

Source: Longitudinal Education Outcomes Study; FSM = Free School Meals

3. Further education and apprenticeships: detailed qualification routes

This section provides further detail for both classroom based FE qualification routes and apprenticeships. It includes analyses of:

- FE qualification routes by level, age and type of qualification (classroom based and apprenticeships).
- Qualifications routes by sector subject area.

As in section 2, for each qualification route the analysis compares disadvantaged participation with disadvantaged progression to high earning.

3.1 Further education by qualification type and level

Figures 5, 6 and 7 show the results for the FE qualification routes where there are at least 100 achievers in the data. The same pattern described in Section 2 is also present within FE: for FE qualification routes, there was a negative relationship between disadvantaged participation and progression to high earning.

Qualifications at level 3 and above and apprenticeships offered disadvantaged students better earnings progression than lower level classroom based qualifications. However, the lower level qualifications included a higher proportion of students considered disadvantaged. For the level 3 apprenticeships route, 11 per cent of males aged 19-25 were disadvantaged, and 44 per cent of these disadvantaged students progressed to high earning employment. This compares to 35 per cent and 11 per cent respectively for 19-25 males who achieved a level 2 classroom based FE route (see Table 8).

As seen in section 2, for all FE routes a much smaller proportion of disadvantaged females progressed to high earning than disadvantaged males. In contrast to the level 6+ routes discussed in Section 2, level 4+ FE did not offer women a large improvement in progression rates compared with the lower level FE qualifications.

For both males and females, the results for level 6 learning in the classroom are an outlier. This group includes a larger proportion of students who achieved qualifications in the arts, media and publishing sector subject area, which on average are known to result in lower annual earnings.

3.2 Further education by sector subject area

Figure 7 shows a breakdown of level 3 apprenticeship and classroom FE routes by Sector Subject Area (SSA)

For disadvantaged men, apprenticeship routes in engineering, construction and Information and Communication Technologies (ICT) offered the highest progression rates (57 per cent, 46 per cent and 40 per cent). However, construction and engineering had some of the lowest proportions of students considered disadvantaged (9 per cent and 10 per cent respectively). In contrast, apprenticeships in retail and health and social care had higher disadvantaged participation rates but lower rates of progression.

Very few women in the cohort achieved qualifications in ICT, engineering or construction so outcomes are not presented here. Business administration apprenticeships offered the best progression rates for women (14 per cent).

The differences between men and women outlined here are discussed further in Section 4.

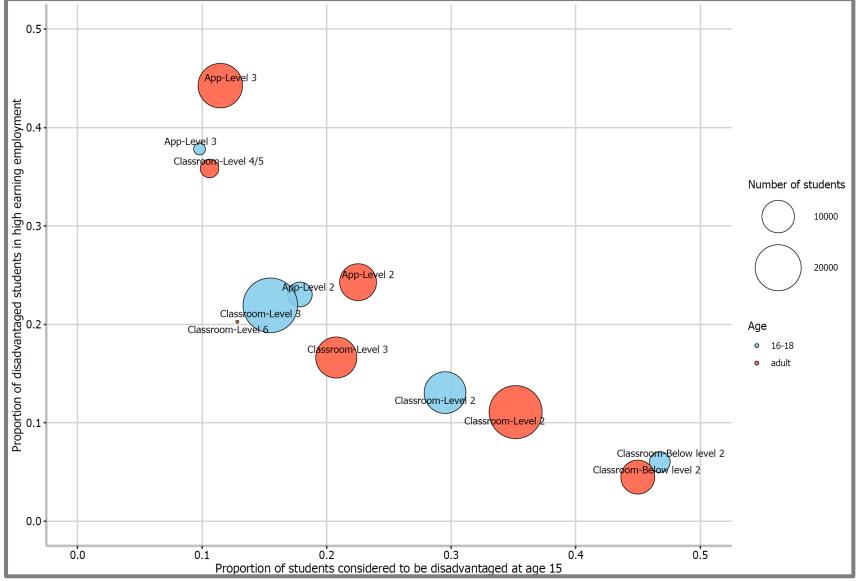


Figure 5: Male further education qualification routes: disadvantaged participation and progression to high earning

Source: Longitudinal Education Outcomes Study

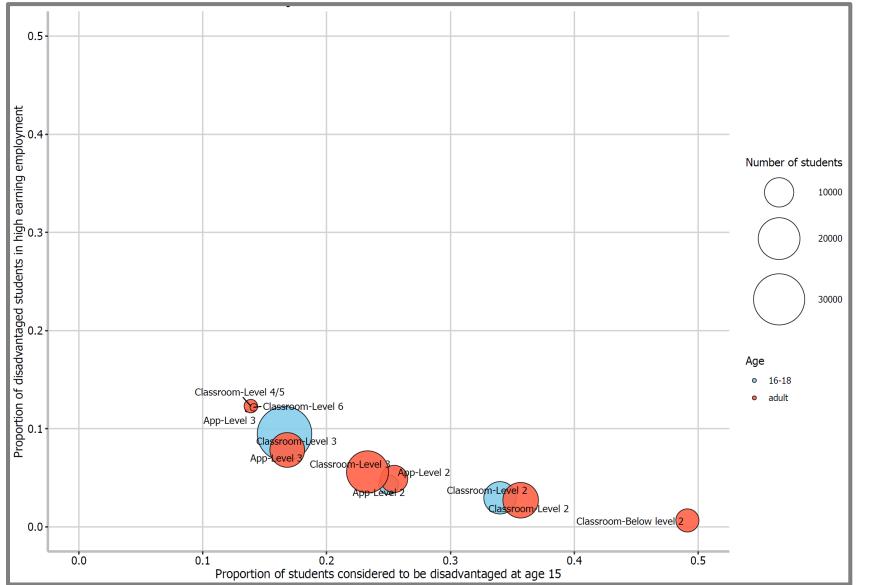


Figure 6: Female further education qualification routes: disadvantaged participation and progression to high earning

Source: Longitudinal Education Outcomes Study

			Male students				Female student	s
-		Students				Students		
	Total	eligible for		% eligible for FSM and	Total	eligible for		% eligible for FSM and
Sector subject area	students	FSM	% eligible for FSM	earning over £25k	students	FSM	% eligible for FSM	earning over £25k
Apprenticeships								
Agriculture, Horticulture and Animal Care	300	-	6%		400	-	9%	
Arts, Media and Publishing	-	-			-	-		
Business, Administration and Law	1,900	300	16%	31%	4,900	700	14%	14%
Construction, Planning and the Built Environment	4,000	400	9%	46%	-	-		
Education and Training	100	-	10%		100	-	12%	
Engineering and Manufacturing Technologies	10,200	1,000	10%	57%	200	-	14%	
Health, Public Services and Care	600	100	18%	18%	5,900	1,300	21%	4%
Information and Communication Technology	1,300	200	16%	40%	200	-	20%	
Leisure, Travel and Tourism	900	100	13%	30%	500	100	12%	12%
Retail and Commercial Enterprise	1,100	200	14%	18%	3,000	400	14%	5%
Classroom Based FE								
Agriculture, Horticulture and Animal Care	1,500	100	9%	12%	1,800	200	13%	6%
Arts, Media and Publishing	8,200	1,400	17%	11%	8,500	1,500	18%	9%
Business, Administration and Law	4,800	1,000	21%	22%	5,400	1,000	19%	15%
Construction, Planning and the Built Environment	2,900	500	17%	30%	100	-	25%	
Education and Training	400	100	20%	9% 📃	1,000	200	21%	5%
Engineering and Manufacturing Technologies	6,100	1,100	17%	29%	300	-	14%	
Health, Public Services and Care	3,000	500	17%	19%	15,300	3,400	22%	5%
History, Philosophy and Theology	1,300	200	14%	13%	1,600	300	17%	7%
Information and Communication Technology	4,400	1,000	23%	18%	900	200	24%	8%
Languages, Literature and Culture	1,400	200	12%	22%	2,800	400	14%	13%
Leisure, Travel and Tourism	4,900	800	16%	22%	3,500	600	17%	11%
Preparation for Life and Work	600	200	24%	19% 📃	600	100	23%	7%
Retail and Commercial Enterprise	1,400	200	18% 📃	14% 📃	8,600	1,600	19% 📃	4%
Science and Mathematics	2,400	400	16%	18% 📃	2,500	400	16% 📃	14%
Social Sciences	1,000	200	16%	23%	1,300	300	21%	8%

Figure 7: Adult further education: level 3 qualification routes by sector subject area and gender

Source: Longitudinal Education Outcomes Study; FSM = Free School Meals

4. Further education earnings outcomes and gender

Sections 2 and 3 concluded that FE qualification routes did not offer the same rates of progression to high earning for disadvantaged women as for disadvantaged men. Two potential explanations for this are discussed here:

- FE courses with the highest earnings outcomes are dominated by men.
- The age of first time mothers is associated with levels of education.

4.1 Further education courses

Table 4 shows the top apprenticeships ordered by progression to high earning for disadvantaged students by level and sector subject area. These are made up of apprenticeships in engineering, construction and ICT, and are overwhelmingly dominated by men: at least 87 per cent of disadvantaged students achieving the top 5 types of apprenticeships were men.

In contrast, women dominated the bottom 5 apprenticeships, including apprenticeships in retail, and health, public services and care (Table 5). For the lowest ranking apprenticeships in health, public services and care, just 8 per cent of disadvantaged students were male.

Table 4: Progression to high earning for disadvantaged students: top 5apprenticeships

Level	Sector subject area	Disadvantaged students	% high earning	% male
Level 3	Engineering and Manufacturing Technologies	1,100	56%	97%
	Construction, Planning and the Built			
Level 3	Environment	400	46%	98%
Level 3	Information and Communication Technology	200	40%	88%
Level 2	Engineering and Manufacturing Technologies	1,000	31%	95%
Level 2	Information and Communication Technology	200	29%	87%

Table 5: Progression to high earning for disadvantaged students: bottom 5apprenticeships

Level	Sector subject area	Disadvantaged students	% high earning	% male
Level 3	Health, Public Services and Care	1,400	5%	8%
Level 2	Retail and Commercial Enterprise	2,300	8%	40%
Level 3	Retail and Commercial Enterprise	600	9%	27%
Level 2	Health, Public Services and Care	1,200	9%	23%
Level 3	Agriculture, Horticulture and Animal Care	100	10%	36%

4.2 Level of education and age of first time mothers

Recent research³ shows that women educated to degree level are more likely to remain childless or have children at a later age than those with lower levels of education. In addition, the age gap between first time mothers educated to degree level and those with a lower level of education has widened over time.

At the age earnings are observed in this report, women achieving lower level qualification routes, such as level 2 or 3 in FE, are more likely to have children than those achieving level 6+ qualifications. This is likely to explain, in part, the different patterns of progression to high earning for men and women – especially for the lower level FE routes. However, due to data limitations, we are not able to isolate mothers in the analysis to test this.

Women who have children aged between 1 and 12 are more likely to be in part time employment than full time employment⁴. Earnings measures based on LEO data do not account for differences in hours worked (see section 1.3); as a result, groups with a high incidence of part time working will have lower proportions earning over £25k. This will likely affect the results for women who followed FE and lower level qualification routes more than those who followed a level 6+ route.

³ Berrington, Ann et al (2015) Educational differences in childbearing widen in Britain Southampton, GB. ESRC Centre for Population Change 4pp. (ESRC Centre for Population Change Briefing Papers, 29) <u>https://eprints.soton.ac.uk/383138/</u>

⁴ Office for National Statistics: Families and the Labour Market, England: 2017 <u>https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles</u> <u>/familiesandthelabourmarketengland/2017</u>

5. Analysis of headline data: 21k threshold

Figure 8 below shows the headline results for disadvantaged students based on the £21k earnings threshold, which is approximately median earnings for the cohort in the 2016-17 tax year.

As would be expected, the lower threshold increases progression to high earning for all qualification routes. However, the headline results remain the same: there is a negative relationship between disadvantaged participation and progression to high earnings, FE routes had middling to good progression rates for men but much less substantial progression rates for women, and level 6+ routes has the highest progression rates for both men and women.

		Students		
Highest qualification	Total	eligible for		% eligible for FSM and
route	students	FSM	% eligible for FSM	earning over £21k
Male students				
Below level 2	52,100	18,600	36%	16%
Level 2 FE Adult	39,400	12,300	31%	23%
Level 2 FE 16-18	22,800	6,000	26%	24%
Level 2 School	19,300	3,100	16%	35%
Level 3 FE Adult	34,600	5,500	16%	38%
Level 3 FE 16-18	30,500	4,600	15%	34%
Level 3 School	14,900	1,200	8%	40%
Level 4 and 5	12,300	1,600	13%	39%
Level 6+ via FE	38,300	4,500	12%	48%
Level 6+ via School	50,000	2,500	5%	53%
Female students				
Below level 2	33,800	14,500	43%	3%
Level 2 FE Adult	23,200	7,400	32%	7%
Level 2 FE 16-18	17,100	5,400	31%	6%
Level 2 School	17,200	3,500	21%	13%
Level 3 FE Adult	34,200	7,100	21%	12%
Level 3 FE 16-18	35,800	5,900	17%	16%
Level 3 School	14,400	1,500	10%	23%
Level 4 and 5	12,100	1,900	15%	27%
Level 6+ via FE	49,400	6,100	12%	40%
Level 6+ via School	59,000	3,700	6%	47%

Figure 8: Qualification routes: disadvantaged students and earnings progression

Source: Longitudinal Education Outcomes Study; FSM = Free School Meals

6. Additional tables

Table 6: Qualification routes by gender and disadvantage: participation and progression to high earning employment

		Stud	ents eligible for	r free school r	neals	Studen	ts not eligible f	or free school	meals
				Earning	over £25k			Earning	over £25k
Highest qualification route	Total students	Students	% of total students	Students	% of students eligible for FSM	Students	% of total students	Students	% of students not eligible for FSM
Male students									
Below level 2	52,100	18,600	36%	1,700	9%	33,600	64%	5,600	17%
Level 2 FE Adult	39,400	12,300	31%	1,700	14%	27,200	69%	6,500	24%
Level 2 FE 16-18	22,800	6,000	26%	900	15%	16,800	74%	4,000	24%
Level 2 School	19,300	3,100	16%	700	24%	16,100	84%	5,200	32%
Level 3 FE Adult	34,600	5,500	16%	1,500	27%	29,200	84%	12,200	42%
Level 3 FE 16-18	30,500	4,600	15%	1,000	23%	25,900	85%	8,300	32%
Level 3 School	14,900	1,200	8%	300	28%	13,700	92%	4,900	36%
Level 4 and 5	12,300	1,600	13%	500	28%	10,700	87%	4,400	41%
Level 6+ via FE	38,300	4,500	12%	1,600	35%	33,800	88%	15,400	46%
Level 6+ via School	50,000	2,500	5%	1,100	43%	47,500	95%	26,300	55%
Total	314,200	59,800	19%	11,100	19%	254,300	81%	92,900	37%
Female students									
Below level 2	33,800	14,500	43%	200	2%	19,300	57%	700	4%
Level 2 FE Adult	23,200	7,400	32%	200	3%	15,800	68%	1,000	6%
Level 2 FE 16-18	17,100	5,400	31%	200	3%	11,700	69%	700	6%
Level 2 School	17,200	3,500	21%	300	8%	13,700	79%	2,000	15%
Level 3 FE Adult	34,200	7,100	21%	400	6%	27,100	79%	2,700	10%
Level 3 FE 16-18	35,800	5,900	17%	600	10%	29,900	83%	4,800	16%
Level 3 School	14,400	1,500	10%	200	15%	12,900	90%	3,300	26%
Level 4 and 5	12,100	1,900	15%	300	17%	10,200	85%	2,800	28%
Level 6+ via FE	49,400	6,100	12%	1,700	27%	43,300	88%	16,900	39%
Level 6+ via School	59,000	3,700	6%	1,300	35%	55,300	94%	27,600	50%
Total	296,200	56,900	19%	5,500	10%	239,300	81%	62,600	26%

		Studen	ts with 5 A*-Cs	at GCSE			Students wi	th below 5 A*-0	Cs at GCSE	
				Earning	over £25k				Earning	over £25k
Highest qualification route	Total students	Disadvantaged Students	% of total students	students	% of disadvantaged students	Total students	Disadvantaged Students	% of total students	students	% of disadvantaged students
Male students										
Below level 2	-	-	-	-	-	52,100	18,600	36%	1,700	9%
Level 2 FE Adult	6,200	1,200	19%	300	27%	33,200	11,100	33%	1,400	13%
Level 2 FE 16-18	-	-	-	-	-	22,800	6,000	26%	900	15%
Level 2 School	16,300	2,500	15%	600	25%	2,900	700	23%	100	19%
Level 3 FE Adult	16,800	1,700	10%	600	36%	17,900	3,700	21%	900	23%
Level 3 FE 16-18	19,800	2,400	12%	600	26%	10,800	2,300	21%	400	19%
Level 3 School	13,400	900	7%	300	30%	1,400	200	16%	-	21%
Level 4 and 5	9,200	900	10%	300	34%	3,000	700	23%	100	21%
Level 6+ via FE	32,300	3,000	9%	1,200	40%	6,000	1,500	25%	400	26%
Level 6+ via School	48,000	2,100	4%	1,000	46%	2,000	400	20%	100	26%
Total	162,000	14,700	9%	4,900	33%	152,100	45,200	30%	6,200	14%
Female students										
Below level 2	-	-	-	-	-	33,800	14,500	43%	200	2%
Level 2 FE Adult	5,000	1,000	21%	100	7%	18,200	6,400	35%	200	3%
Level 2 FE 16-18	-	-	-	-	-	17,100	5,400	31%	200	3%
Level 2 School	14,700	2,800	19%	200	9%	2,600	700	29%	-	5%
Level 3 FE Adult	16,400	2,300	14%	200	9%	17,800	4,800	27%	200	5%
Level 3 FE 16-18	24,000	3,200	13%	400	12%	11,800	2,700	23%	200	6%
Level 3 School	13,000	1,200	9%	200	17%	1,400	300	22%	-	7%
Level 4 and 5	9,200	1,100	12%	200	21%	2,900	800	27%	100	12%
Level 6+ via FE	43,900	4,600	10%	1,400	31%	5,500	1,500	28%	200	16%
Level 6+ via School	56,900	3,200	6%	1,200	38%	2,100	500	25%	100	18%
Total	183,100	19,400	11%	4,000	21%	113,100	37,500	33%	1,500	4%

Table 7: Qualification routes by gender: participation, progression to high earning employment and GCSE performance

		Disadvantaged male students				Disadvantaged female students				
				Earning over £25k					Earning over £25k	
FE qualification route	Total male students	Students	% of total students	Students	% of disadvantaged students	Total female students	Students	% of total students	Students	% of disadvantaged students
Age 16-18	[[[
Below level 2-Classroom	4,400	2,100	47%	100	6%	2,700	1,400	54%	-	*
Level 2-App	5,600	1,000	18%	200	23%	4,800	1,200	25%	100	5%
Level 2-Classroom	16,900	4,900	29%	600	13%	12,100	4,100	34%	100	3%
Level 3-App	1,700	200	10%	100	38%	1,400	200	13%	-	13%
Level 3-Classroom	28,500	4,400	15%	1,000	22%	34,200	5,700	17%	500	9%
Level 4/5-Classroom	100	-	21%	-	-	100	-	-	-	-
Total	57,200	12,600	22%	2,100	16%	55,300	12,600	23%	700	6%
Age 19-25						T				
Below level 2-Classroom	10,900	4,900	45%	200	4%	6,500	3,200	49%	-	1%
Level 2-App	12,800	2,900	23%	700	24%	8,700	2,200	25%	100	5%
Level 2-Classroom	26,600	9,400	35%	1,000	11%	14,500	5,200	36%	100	3%
Level 3-App	18,700	2,100	11%	900	44%	13,900	2,300	17%	200	8%
Level 3-Classroom	15,900	3,300	21%	600	17%	20,300	4,700	23%	300	6%
Level 4/5-App	200	-	8%	-	-	400	-	-	-	-
Level 4/5-Classroom	3,600	400	11%	100	36%	2,800	400	14%	-	12%
Level 6-Classroom	1,200	100	13%	-	20%	1,700	200	14%	-	12%
Total	90,200	23,200	26%	3,600	16%	68,900	18,300	27%	800	4%

Table 8: Further education qualification routes by gender: disadvantaged participation and progression to high earning

7. Related publications

- <u>Destinations of KS4 and KS5 pupils</u>. Data on key stage 4 (KS4) and key stage 5 (KS5) students going into education, employment and training destinations.
- Level 2 and 3 attainment by young people aged 19. Latest information on the attainment of 19 year olds from 2004 to 2016
- <u>Further education outcome-based success measures</u>. Statistics showing the destination outcomes of learners completing further education training using longitudinal education outcomes data.
- <u>Graduate outcomes (LEO): 2015 to 2016</u>. Employment and earnings outcomes of higher education graduates broken down by subject studied and graduate characteristics.
- <u>Graduate outcomes for all subjects by university</u>. Employment and earnings of higher education graduates broken down by graduate characteristic, subject studied and university attended.
- <u>Graduate outcomes, by degree subject and university</u>. Employment and earnings of higher education graduates broken down by graduate characteristic, subject studied and university attended.
- <u>The earnings differentials associated with vocational education and training</u>. Research analysing the economic benefits to an individual from achieving further education qualifications.
- <u>Further education qualifications in maths and English: returns and benefits</u>. Research analysing the economic benefits associated with further education qualifications in maths and English.
- <u>Further education: comparing labour market economic benefits from qualifications</u> <u>gained</u>. Estimates the economic benefits to an individual from achieving further education qualifications.
- <u>Further education: impact of skills and training on the unemployed</u>. This research estimates the economic benefits to unemployed individuals from achieving further education qualifications.
- <u>Longitudinal education outcomes study: how we use and share data</u>. How the government shares and uses personal data as part of the 'Longitudinal education outcomes study'.
- <u>Post-16 education: highest level of achievement by age 25</u>. Estimates for the highest level of education achieved by age 25 for the cohort of students who completed GCSEs in 2005.

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