

# **Progression of the 2020 Key Stage 4 cohort to post-16 study**

Research Report

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# Executive Summary

## Background and aim of the research

The Covid-19 pandemic caused unprecedented disruption to education systems around the world. In England, as part of the government's response to the pandemic, schools and colleges were closed and lessons were moved partially or entirely online. Furthermore, public examinations in June 2020 were cancelled, meaning that methods had to be developed to award qualifications in the absence of external assessments.

Teachers were asked to provide, for each student and for each subject, a centre assessment grade (CAG) which represented the grade that the student would have been most likely to achieve if teaching and learning had continued and the student had taken the exams as planned. This would give the majority of students the opportunity to progress to further study or employment, despite the cancellation of exams. A method of statistical moderation, to align the CAGs across centres and with the standards set in previous years, was developed by Ofqual, the qualifications and examinations regulator, and implemented by exam boards to issue students with a final grade (*i.e.*, a calculated grade). Maintaining standards, both between centres and over time, meant that universities, colleges and employers could be confident that the June 2020 results carried the same currency as previously, and students could compete on a level playing field for opportunities with students from previous and future years.

Following the issue of results, many students were disappointed with their grades, which in many cases were lower than the teachers' CAGs. There were also concerns about the impact of the calculated grades on different demographic and socio-economic groups of students as well as on students who were "outliers" in their schools (*e.g.*, students with very high prior attainment in low performing schools). In the end, students were awarded "whatever was higher, CAG or calculated grade", despite warnings that such a move could undermine the credibility of the results through grade inflation and have an impact on students' futures.

This project is part of a wider programme of research "tracking the progression of the Key Stage 4 June 2020 cohort". Using National Pupil Database data for pupils who completed Key Stage 4 in 2020, linked to the School Census and their Post-16 Learning Aims, we have already investigated the uptake of qualifications and subjects post-16 in the academic year 2020/21 (Vidal Rodeiro and Williamson, 2022)<sup>1</sup>. The research, a first look at progression (with a focus just on uptake, based on 2020/21 learning aims) helped understand the progression to post-16 study of the students who sat GCSEs and/or other Level 1/2 qualifications in June 2020 and how the awarding of CAGs impacted the post-16 choices of different demographic and socio-economic groups.

As the Key Stage 5 results for the majority of the 2020 Key Stage 4 cohort (June 2022 results) are now available, the aim of this follow-up research is to investigate final uptake (based on qualifications completed rather than learning aims), retention and performance. In particular, the following research questions were addressed in this research:

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<sup>1</sup> Vidal Rodeiro, C.L. and Williamson, J. (2022). *Tracking the June 2020 Key Stage 4 cohort: progression to post-16 study*. Cambridge University Press & Assessment.

1. Was the uptake of Level 3 qualifications/subjects different for the cohort of students who took their GCSEs and/or other Level 1/2 qualifications in June 2020 compared to students who took the qualifications pre-pandemic?
2. Were Level 3 qualifications'/subjects' dropout rates different for the cohort of students who took their GCSEs and/or other Level 1/2 qualifications in June 2020 compared to students who took the qualifications pre-pandemic?
3. Did students who completed their GCSEs and/or other Level 1/2 qualifications in June 2020 and students who completed them pre-pandemic, with the same attainment at Key Stage 4 and similar backgrounds (e.g., gender, socio-economic deprivation, type of school attended, programme of study) perform similarly in Key Stage 5?

## **Data and methods**

This research used National Pupil Database data for pupils who completed Key Stage 4 in 2020, linked to the School Census, their Post-16 Learning Aims in 2021 and their Key Stage 5 results in 2022. In particular, the National Pupil Database and the School Census were used to obtain exam results and background characteristics for whole cohorts of students in Key Stage 4 and Key Stage 5. The Post-16 Learning Aims data was used to identify the qualifications and subjects students started in the autumn term following completion of Key Stage 4. In order to highlight changes in uptake, dropout rates and performance, data for pupils who completed Key Stage 4 in 2017 (the last Key Stage 4 cohort not affected by the Covid-19 pandemic by the end of Key Stage 5) was also used.

The Key Stage 5 qualifications/subjects completed in 2021/22 by the 2020 Key Stage 4 cohort of students were investigated, in a first instance, via descriptive statistics. Analyses were carried out for the whole cohort and for different demographic and socio-economic groups of students (e.g., by school type, socio-economic deprivation measures, prior attainment, ethnicity, special educational needs). To further explore if the uptake of qualifications during Key Stage 5 changed post-pandemic, multilevel logistic regression analyses were carried out. The regression analyses took into account students' prior attainment at school, whilst controlling for their backgrounds.

Dropout rates were calculated by comparing the qualifications being studied in 2020/21 (available in the Post-16 Learning Aims data) with the qualifications for which students had results in 2021/22. If no results were available for a qualification being studied in 2020/21, we assumed the student withdrew from it. As for the uptake analyses above, dropout rates were calculated for the whole cohort of students and for different demographic and socio-economic groups. To further explore if dropout rates during Key Stage 5 changed post-pandemic compared to dropout rates before the pandemic, taking into account students' prior attainment whilst controlling for students' backgrounds, multilevel regression analyses were also carried out.

Finally, to investigate performance in Key Stage 5, descriptive analyses, including the numbers and percentages of students with different background characteristics (e.g., gender, prior attainment, type of school attended or level of deprivation) achieving different levels of overall performance in Key Stage 5 or achieving specific grades in different Key Stage 5 qualifications/subjects, were carried out. As above, we investigated the relationship between performance at Level 2 (Key Stage 4) and performance at Level 3 (Key Stage 5) using multilevel regression analyses.

## Findings

This research has provided evidence on the short- and medium-term impact of the alternative assessment processes implemented due to the Covid-19 pandemic. This research has shown that although the higher grades achieved in June 2020 had some implications for students' transition into their next phase of education and influenced the qualifications and subjects they took, in general terms this did not have a detriment in terms of their course completion rates or their final performance.

The main findings are summarised below, by research question.

### Qualifications completed by the end Key Stage 5

- Students at the end of Year 11 in 2020 were slightly more likely to complete a qualification in 2021/22 than the students at the end of Year 11 in 2017. In terms of completing Level 3 qualifications only (e.g., A levels and equivalents), the pattern of results was fairly similar.

The average number of qualifications (at Key Stage 5) taken per student in the 2020 Key Stage 4 cohort was just slightly lower than the average number of qualifications taken by the students in the 2017 cohort. However, students from the 2020 cohort were more likely to start three or more A levels than students from the 2017 Key Stage 4 cohort.

- In terms of completed qualifications (at any level) by students' characteristics, this research showed that the percentage of students completing at least one qualification at the end of Key Stage 5 increased post-pandemic for both male and female students, although the increase was slightly larger amongst females. There were also increases in uptake post-pandemic across all centre types considered in the research, with the exception of independent schools.

The increase in take up of qualifications at Key Stage 5 was very slightly higher for students from the most deprived areas than those from the least deprived areas, and there was a slight increase in the numbers of students with lower results at GCSE continuing into post-16 education, while the proportion of those with higher results remained mostly unchanged.

When looking at ethnicity amongst students in the 2020 Key Stage 4 cohort, there were increases in the uptake of at least one Key Stage 5 qualification in all ethnic groups, with the largest increases among Black and Asian students and the smallest increase among students with a Chinese background.

- When completion of qualifications at Level 3 was considered, a few differences appeared. Firstly, in terms of uptake by type of school, there was a post-pandemic increase in uptake of Level 3 only qualifications amongst students in independent schools, compared to the decrease or basically lack of change in uptake of qualifications at any level. Secondly, uptake increased the most amongst the medium attainers, whilst the results above (uptake of any qualification at Key Stage 5) had shown the highest increase in uptake amongst the low attaining students.

In terms of the overall picture, the difference in the qualifications completed by the end of Key Stage 5 between the 2020 Key Stage 4 and the 2017 Key Stage 4 cohorts was very small. This, however, may reflect the fact that the decision to cancel exams came in March 2020, when students had already finalised their plans regarding post-16

qualifications/subjects and followed through with their choices (*i.e.*, not altered their plans based on the awarding of the CAGs). However, this left the question of how the pandemic impacted the cohort's performance once they reached the end of Key Stage 5 still open.

### **Dropout during Key Stage 5**

- The results from this research showed that dropout rates (both for Level 3 qualifications and for A levels specifically) for the 2020 Key Stage 4 cohort were lower compared to the 2017 Key Stage 4 cohort.
- When looking at retention by students' characteristics, this research showed that dropout rates decreased post-pandemic across all the different groups of students (*i.e.*, gender; attainment; socio-economic deprivation; type of school; special educational needs; ethnicity), with slightly larger decreases among medium attaining students compared to their low and high achieving counterparts, and in independent schools compared to other types of schools.
- There was less of decrease in the A level dropout rate compared to dropout rates from other Level 3 qualifications and, while there was no change in the GCSE English dropout rate, there was a six percentage point decrease in the GCSE Maths dropout rate.

### **Performance in Key Stage 5**

- In 2022, when the 2020 Key Stage 5 cohort completed their Level 3 qualifications, the grading of Level 3 qualifications was more generous than in 2019 (due to the impact of the Covid-19 pandemic). This research showed, as expected, that performance was, on average, higher for the 2020 Key Stage 4 cohort than for the 2017 Key Stage 4 cohort both at Level 3 overall and at A level.
- In terms of performance of students with specific background characteristics, the results of this research showed that students with low levels of prior attainment performed better pre-pandemic, but students with high levels of attainment achieved higher grades post-pandemic.

Male and female students performed better (both at Level 3 and at A level) post-pandemic, but the difference between students in the 2017 and 2020 Key Stage 4 cohorts was slightly higher for females than for males.

Although average performance increased for all students, the increase was higher among students from the low deprivation backgrounds than amongst students from areas of high deprivation.

Similarly, A level performance increased post-pandemic for students in all types of schools (although such increase varied slightly by centre). This contrasts with the findings for performance at Level 3, where in sixth form colleges and FE colleges there were decreases post-pandemic.

- Performance in the most popular A level subjects also increased post-pandemic, even after taking into account students' backgrounds. However, there were differences in the size of the increase between subjects (*e.g.*, lowest increases in performance were in Mathematics and History; highest increases in performance were in Biology and Geography).



## Conclusions

Although the effects of the pandemic on progression for the 2020 cohort were small, the evidence from this research suggests that it has affected some groups of learners (e.g., those with low prior attainment or those from some ethnic minority groups) more than others and lowering standards might have led to greater inequity between groups. However, it should be taken into account that the cancellation of exams and the awarding of CAGs did not happen in isolation and the Covid-19 pandemic also had a differential impact, for example, on teaching and learning.

It should be noted, though, that progression outcomes (uptake, retention, and performance) fluctuate between cohorts (see for example, <https://explore-education-statistics.service.gov.uk/find-statistics/a-level-and-other-16-to-18-results> for details on the uptake and performance of A levels and other Level 3 qualifications) and, therefore, the differences observed between the 2020 and 2017 Key Stage 4 cohorts might not all be attributed to the pandemic.

The findings provided by this research are just a snapshot of the wider picture of how the pandemic affected the progression of the Key Stage 4 cohorts. The effects of the disruption will be felt for years to come, and support for those affected will be needed to minimise the effects. Therefore, research looking at the progression of subsequent cohorts (e.g., the 2021 Key Stage 4 cohort), not only to post-16 education, but to Higher Education as well, should continue in order to provide timely evidence to inform any mitigation efforts (whether educational interventions or guidance, or adaptations to assessment) and make sure that no student is disadvantaged.

# 1. Introduction

## 1.1 Background

The Covid-19 pandemic caused unprecedented disruption to education systems around the world. In England, as part of the government's response to the pandemic, schools and colleges were closed and lessons were moved partially or entirely online. School closures, initially considered to be short-term measures, continued over a period of months. Furthermore, public examinations in June 2020 were cancelled, meaning that methods had to be developed to award qualifications in the absence of external assessments.

In April 2020, Ofqual published information for schools, students, and parents on how qualifications such as GCSEs and A levels would be awarded in summer 2020 (<https://ofqual.blog.gov.uk/2020/04/09/arrangements-for-summer-2020/>). Students due to sit exams would be awarded a grade based on "an assessment of the grade they would have been most likely to achieve had exams gone ahead". This would give the majority of students the opportunity to progress to further study or employment as expected, despite the cancellation of exams.

Teachers were asked to provide, for each student and for each subject they were entered for, a centre assessment grade (CAG) which represented the grade that the student would have been most likely to achieve if teaching and learning had continued and the student had taken the exams as planned. To do this, teachers were instructed to take into account all available evidence including school and college records, mock exams, and non-exam assessment (NEA) that a student had done. Teachers were also asked to provide a rank order of students for each grade for each subject.

A method of statistical moderation, to align the CAGs across centres and with the standards set in previous years, was developed by Ofqual and implemented by exam boards to issue students with a final grade. Maintaining standards, both between centres and over time, meant that universities, colleges and employers could be confident that the June 2020 results carried the same currency, and students could compete on a level playing field for opportunities with students from previous and future years.

Following the issue of A level results, many students were disappointed with their grades, which in many cases (e.g., 40% at A level) were lower than the teachers' CAGs, and many concerns were raised by different stakeholders (e.g., teachers, students, parents, researchers, ...). There were also concerns about the impact of the calculated grades on different demographic and socio-economic groups of students as well as on students who were "outliers" in their schools (e.g., students with very high prior attainment in low performing schools).

In the end, awarding bodies were instructed by Ofqual to re-issue grades for A levels (with GCSEs then following the same procedure). Instead of the calculated grades, students were awarded "whatever was higher, CAG or calculated grade", despite warnings that such a move could undermine the credibility of the results through grade inflation and have an impact on students' futures.

It is therefore important to investigate the impact of using the centre assessment grades on the education system and, in particular, on students' progression to post-16 study.

## 1.2 The current research

This project is part of a wider programme of research “tracking the progression of the Key Stage 4 June 2020 cohort”. Using National Pupil Database data for pupils who completed Key Stage 4 in 2020, linked to the School Census and their Post-16 Learning Aims, we have already investigated the uptake of qualifications and subjects post-16 in the academic year 2020/21 (Vidal Rodeiro and Williamson, 2022). The research, a first look at progression (with a focus on uptake, based on 2020/21 learning aims) helped understand the progression to post-16 study of the students who sat GCSEs and/or other Level 1/2 qualifications in June 2020 and how the awarding of CAGs impacted the post-16 choices of different demographic and socio-economic groups.

As the Key Stage 5 results for the majority of this cohort (in June 2022) are now available, the aim of this follow-up research is to investigate final uptake (based on qualifications completed rather than learning aims), retention and performance.

In terms of final uptake, we are interested in the qualifications/subjects completed in June 2022 by the students who took their GCSEs and/or other Level 1/2 qualifications in June 2020. Qualifications and/or subjects uptake could be different than in previous cohorts.

In terms of retention, it could be the case that, for example, students who got the GCSE grades they needed in June 2020 (due to the awarding of the CAGs, which could have been slightly generous) realised, during Key Stage 5, that their grades did not have the same meaning as in normal series and that their post-16 courses were not right for them.

Retention rates could therefore be lower than in previous cohorts.

In terms of performance, it might be possible that, at the end of Key Stage 5, the students from the 2020 Key Stage 4 cohort achieved lower grades in their qualifications (e.g., A levels; Applied Generals; ...) than students in previous cohorts. Comparisons over time have to be made with caution, as they might not reflect changes in students’ performance alone. Performance differences would need to be discussed in light of the difference in the cohorts progressing to post-16 education before and after the start of the pandemic and in light of the 2022 grading strategy, which saw exam adaptations to support students and make exams fairer for them, and exam boards setting grade boundaries based on a profile that reflected a midpoint between 2021 and pre-pandemic grading, which led to a larger percentage of students being awarded top grades than before the pandemic in summer 2019 (see, for example, <https://www.gov.uk/government/speeches/ofqual-approach-to-grading-exams-and-assessments-in-summer-2022-and-autumn-2021> for details on Ofqual’s approach to grading exams and assessments in June 2022).

The following research questions were addressed in this research:

1. Was the uptake of Level 3 qualifications/subjects different for the cohort of students who took their GCSEs and/or other Level 1/2 qualifications in June 2020 compared to previous cohorts of students (e.g., those who took the qualifications in June 2017 and were in Key Stage 5 in 2019 – the last Key Stage 4 cohort not affected by the Covid-19 pandemic)?
2. Were Level 3 qualifications’/subjects’ dropout rates different for the cohort of students who took their GCSEs and/or other Level 1/2 qualifications in June 2020 compared to previous cohorts of students (previous cohort as above)?

3. Did students who completed their GCSEs and/or other Level 1/2 qualifications in June 2020 and students who completed them in previous cohorts (e.g., in June 2017, as described above) with the same attainment at Key Stage 4 and similar backgrounds (e.g., gender, socio-economic deprivation, type of school attended, programme of study) perform similarly in Key Stage 5?

Performance in Key Stage 5 was investigated overall (e.g., using a measure of overall Key Stage 5 performance) and in individual subjects (e.g., grade in A level Mathematics).

## **2. Data and methods**

### **2.1 Data**

This research used National Pupil Database (NPD) data for pupils who completed Key Stage 4 (KS4) in 2020, linked to the School Census, their Post-16 Learning Aims (PLAMS) in 2021 and their Key Stage 5 (KS5) results in 2022.

In order to highlight changes in uptake, dropout rates and performance (as described in the research questions above), NPD data for pupils who completed Key Stage 4 in 2017 (the last Key Stage 4 cohort not affected by the Covid-19 pandemic by the end of Key Stage 5), linked to the School Census, their post-16 learning aims in 2018 and their Key Stage 5 results in 2019 was also used.

#### **2.1.1 National Pupil Database data**

The National Pupil Database is a longitudinal database for children in schools in England, linking pupil characteristics to school and college learning aims and attainment. It holds individual pupil level attainment data for pupils in all schools who take part in the tests/exams and pupil and school characteristics (e.g., age, gender, ethnicity, special educational needs, eligibility for free school meals, etc.) sourced from the School Census for maintained schools only.

The following extracts of the NPD data were used in this research:

- 2019/20 Key Stage 4 Pupil & Exam data, linked to Spring Census 2019/20, and to 2021/22 Key Stage 5 Pupil & Exam data
- 2016/17 Key Stage 4 Pupil & Exam data, linked to Spring Census 2016/17, and to 2018/19 Key Stage 5 Pupil & Exam data

In all the analyses carried out in this report, only students who completed GCSEs and/or Technical Awards in the June session (either June 2020 or June 2017, depending on the cohort) were included. Furthermore, the analyses were restricted to students who were 16 years old at the end of the academic year. This age restriction was made to have a set of “typical” candidates at the end of Key Stage 4.

For these students, detailed information such as socio-demographic characteristics and general attainment in school (e.g., Key Stage 4 performance) was available, as follows:

- Gender (male / female)

- The level of attainment at Key Stage 4 (prior attainment) was measured by an average GCSE and equivalents point score per entry (for details on how this was calculated, see DfE (2017)). The average GCSE and equivalents point score per entry, which ranges from 0 to 9, was used to divide students into approximately equally sized groups:
  - terciles of prior attainment: low attainment, medium attainment and high attainment;
  - deciles of prior attainment.

For the cohort of students who were at the end of Key Stage 4 in 2020, their GCSE and equivalents point score was (largely) based on the Centre Assessment Grades (CAGs)<sup>2</sup> and, as a result, is likely to be subject to “grade inflation”. Consequently, the prior attainment of the students in each tercile/decile in 2020 is likely to be higher than the prior attainment of the students in the same tercile/decile in 2017.

- Key Stage 2 score: this measure was based on the average of the results (level) of the English and Maths Key Stage 2 tests, taken by students at the end of primary school. As such, this measure was not affected by the Covid-19 pandemic.
- Socio-economic background: the level of income-related deprivation of the students was measured by two different indicators:
  - IDACI deprivation: The level of income-related deprivation that students experience was inferred using the Income Deprivation Affecting Children Index (IDACI)<sup>3</sup>. This index is based on the student’s home postcode and describes the percentage of children in a very small geographical area (Lower Layer Super Output Area or LSOA) living in low income families. It varies between 0 and 1 and indicates how income deprived the area in which a student lives is. It cannot, however, indicate how income deprived the student actually is. This measure was used to divide students into three approximately equally sized groups: low deprivation (more affluent), medium deprivation and high deprivation.
  - Free School Meals (FSM) eligibility: The NPD provides a flag to indicate if a student has ever been recorded as eligible for free school meals on census day in any termly or annual school census in the last six years up to the students’ current year. This measure can be used as a proxy for the students’ level of deprivation (Ilie, Sutherland and Vignoles, 2017).
- Type of school: the NPD includes information about the centre at which candidates gained their Key Stage 4 or Key Stage 5 qualifications, indicated by the centre’s Unique Reference Number (URN). This number was used to match candidates to the Department for Education’s register of educational establishments<sup>4</sup>, providing information on the type of school (Gill, 2017).

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<sup>2</sup> Students were awarded “whatever was higher, CAG or calculated grade”. However, calculated grades were rarely higher than the CAGs.

<sup>3</sup> For further information on IDACI calculation, including definitions of children, families, and income deprivation, see <https://www.gov.uk/government/publications/english-indices-of-deprivation-2015-technical-report>.

<sup>4</sup> <https://get-information-schools.service.gov.uk/>.

- We classified Key Stage 4 schools into five groups: comprehensive schools, secondary modern schools, independent schools, selective schools, and other. Comprehensive and secondary modern schools (which include free schools and academies) do not select their intake on the basis of academic achievement or the wealth of the parents of the students they accept. Selective schools are state-funded schools that admit students on the basis of some sort of selection criteria, usually academic. Independent schools are fee-charging private schools, independent from many of the regulations and conditions that apply to state funded schools. Other schools included, for example, sixth form and further education colleges, special schools, pupil referral units, tutorial colleges, and training centres.
- Key Stage 5 schools were classified into seven groups: comprehensive schools, secondary modern schools, independent schools, selective schools, sixth form colleges, further education (FE) colleges, and other. Other schools included special schools, pupil referral units, tutorial colleges, and training centres.
- Ethnicity: the student's major ethnic group, as provided by the NPD, was used to classify students into the following ethnic groups: Asian (not Chinese), Black, Chinese, White, Mixed or Other.
- Special educational needs (SEN): the NPD provided information on whether a student received SEN support, had an EHC (Education, Health and Care) plan or did not have any SEN. For the analyses in the research, students were classified as having SEN support or an EHC plan (SEN = Yes) or not (SEN = No).

Note that some of the variables described above are collected as part of the annual school census, so they are primarily available only for students at state-maintained schools (which do not include independent schools or colleges). This can lead to missing data for some variables (e.g., IDACI deprivation, FSM eligibility, special educational needs or ethnicity).

### 2.1.2 Post-16 Learning Aims data

The Post-16 Learning Aims data is also part of the National Pupil Database. In particular, it is a module of the Autumn School Census where schools list their students' learning aims (mainly for administrative reasons to help the Education Funding Agency to calculate funding for schools).

Schools with a sixth form are required to provide details about learning aims (*i.e.*, subjects and qualifications students are going to study for) once a year in the school census autumn return (DfE, 2013). Learning aims are collected for students in Year 12 and above and the following post-16 information is included in the collection:

- Qualification Accreditation Number (QAN)
- Subject classification code
- Start date of the learning aim
- End date of the learning aim
- Current status of the learning aim (*i.e.*, completed; continuing; withdrawn; transferred).

In this report, the following extracts of the PLAMS data were used:

- PLAMS 2020/21 (learning aims from the 2020/21 Autumn Census data collection) linked to NPD 2019/20 Key Stage 4 data and NPD 2021/22 Key Stage 5 data

- PLAMS 2017/18 (learning aims from the 2017/18 Autumn Census data collection) matched to NPD 2016/17 Key Stage 4 data and NPD 2018/2019 Key Stage 5 data

Zanini and Williamson (2017) showed that PLAMS data might not be representative of the school/college population: sixth form colleges, further education colleges and independent schools can be under-represented as they are not required to complete the school census. As a result, progression to Key Stage 5 might be under-represented (although there is no reason to believe that the under-representation *changed* between 2017 and 2020). Despite this limitation, the PLAMS data allows us to investigate students' progression (qualifications/subjects students are aiming to complete in Key Stage 5) before measures of post-16 attainment provided by the "results" extracts of the NPD become available.

Learning aims were classified by qualification type as shown in Table 1 below. The following qualifications were not included in the research: entry level qualifications; graded music/dance/drama; post-16 higher level qualifications at Level 4. Learning aims with missing "Type of qualification" were removed.

The focus of the research is on post-16 study so, for the majority of analyses presented in this report, "old" aims have been removed (e.g., for 2020/21, aims that started before August 2020 have been removed, as they were out of scope) and only "active" aims were considered.

Table 1: Types of qualifications in Key Stage 5

| Qualification types (Key Stage 5)                |
|--|
| Applied Generals                                 |
| Core Maths qualifications at Level 3             |
| Extended Project Qualification (EPQ)             |
| GCE A level                                      |
| GCE AS level                                     |
| GCSE English                                     |
| GCSE Maths                                       |
| Other General Qualifications (GQs) Level 3       |
| Other Level 1/Level 2                            |
| Other VTQ <sup>5</sup> /VRQ <sup>6</sup> Level 3 |
| T Levels   |
| Tech Levels                                      |
| Technical Certificates                           |

## 2.2 Methods

The main methods used to answer the research questions are descriptive statistics (e.g., tables and/or graphs with frequencies and percentages) alongside multilevel regression

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<sup>5</sup> VTQ: Vocational and Technical Qualifications. These are practical qualifications designed to give you the skills and experience you need for a certain job.

<sup>6</sup> VRQ: Vocationally Related Qualification. These are mainly introductions to an area of work, but do not develop a recognised competence or lead directly to employment.

analyses. Below is a detailed account of the analyses that we carried out in this research as well as a description of how we used the data described above.

***Research Question 1:** Was the uptake of Level 3 qualifications/subjects different for the cohort of students who took their GCSEs and/or other Level 1/2 qualifications in June 2020 compared to previous cohorts of students?*

We used the 2019/20 Key Stage 4 extract of the NPD to identify the students who sat qualifications in June 2020. For these students, socio-demographic characteristics (from the school census data, and as described in Section 2.1) and qualifications completed<sup>7</sup> at the end of Key Stage 5 in 2021/22 (from the Key Stage 5 2022 extract of the NPD) were available.

The qualifications/subjects completed by those students in 2021/22 were investigated via descriptive statistics. Analyses were carried out for the whole cohort of students and for different demographic and socio-economic groups of students (e.g., by school type, socio-economic deprivation measures, prior attainment, ethnicity, special educational needs). The same analyses were carried out for the students who sat GCSEs and/or other Level 1/2 qualifications in June 2017 and completed their Key Stage 5 qualifications/subjects in June 2019. The results of these analyses were used to highlight any changes in uptake.

To further explore if the uptake of qualifications during Key Stage 5 changed post-pandemic, multilevel logistic regression analyses (with students clustered within schools) were carried out. The regression analyses took into account students' "ability" (measured by prior attainment), whilst controlling for students' backgrounds.

The outcomes (dependent variables) in the regression models were as follows:

- Progression to Key Stage 5 – completed at least one qualification at any level
- Progression to Key Stage 5 – completed at least one qualification at Level 3
- Progression to Key Stage 5 – completed only qualifications at Level 3

The independent variables included: a measure of students' school attainment, an indicator of the Key Stage 4 cohort (pre-pandemic = 2017; post-pandemic = 2020), the gender of the student, the type of school attended during Key Stage 4, the student's level of deprivation (measured by the IDACI), an indicator of special educational needs, and the student's ethnicity. An interaction term between prior attainment and cohort was also included in all models. The level of attainment was measured in two different ways: average GCSE and equivalents point score per entry; and Key Stage 2 score. Using both measures of attainment helped interpret the relationship between progression to Key Stage 5 and prior attainment pre- and post-pandemic.

With logistic regression models such as the ones fitted in this research, estimates are hard to interpret directly because they are the log odds of the outcome (e.g., progression to Key Stage 5). But, in simple terms, a positive parameter estimate for a categorical variable means that being in that category is associated with a higher probability compared to being in the reference category. Negative values mean a reduction in probability. A positive parameter estimate for a continuous variable means that the increase in that variable is associated with an increase in the probability of the outcome.

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<sup>7</sup> "Completed" includes qualifications graded "U".



To aid interpretation, alongside the tables with the results from the regression analyses, figures are presented showing the probability of the outcome for different values of the students' level of attainment and broken down by cohort (2020 or 2017 Key Stage 4 cohorts).

***Research Question 2: Were Level 3 qualifications'/subjects' dropout rates different for the cohort of students who took their GCSEs and/or other Level 1/2 qualifications in June 2020 compared to previous cohorts of students?***

We used the 2019/20 Key Stage 4 extract to identify the students who sat qualifications in June 2020. For these students, alongside detailed information such as socio-demographic characteristics (from the school census data, and as described in Section 2.1), qualifications being studied at Key Stage 5 in 2020/21 (from the PLAMS 2020/21 data) and qualifications completed at the end of Key Stage 5 in 2021/22 (from the Key Stage 5 2021/22 extract) were available.

Dropout rates were calculated by comparing the qualifications being studied in 2020/21 with the qualifications for which students had results in 2021/22. If no results were available for a qualification being studied in 2020/21, we assumed the student withdrew from it. Dropout rates were calculated for the whole cohort of students and for different demographic and socio-economic groups of students.

Results from the above analyses were compared to results from a previous cohort (those who took the Key Stage 4 qualifications in June 2017 and were in Key Stage 5 in 2019 – the last Key Stage 4 cohort not affected by the Covid-19 pandemic).

To further explore if dropout rates during Key Stage 5 changed post-pandemic compared to dropout rates before the pandemic, taking into account students' "ability" (measured by prior attainment) and whilst controlling for students' backgrounds, multilevel regression analyses (with students clustered within schools) were carried out.

The outcomes (dependent variables) in the regression models were as follows:

- Drop out at least one qualification by the end of Key Stage 5
- Percentage of qualifications dropped out by the end of Key Stage 5

The independent variables in the regression models included: a measure of students' school attainment, an indicator of the Key Stage 4 cohort (pre-pandemic = 2017; post-pandemic = 2020), the gender of the student, the type of school attended during Key Stage 4, the student's level of deprivation, an indicator of special educational needs, and the student's ethnicity. An interaction term between prior attainment and cohort was also included in all models as well as the total number of initial learning aims (as recorded in the PLAMS data). As in Research Question 1, the level of attainment was measured in two different ways: average GCSE and equivalents point score per entry; and Key Stage 2 score.

To aid interpretation, alongside the tables with the results from the regression analyses, figures are presented showing:

- the probability of the dropping out for different values of the students' level of attainment and broken down by cohort (2020 or 2017 Key Stage 4 cohorts).
- the percentage of qualifications dropped out by the end of Key Stage 5, for different values of the students' level of attainment and broken down by cohort (2020 or 2017 Key Stage 4 cohorts).

*Research Question 3: Did students who completed their GCSEs and/or other Level 1/2 qualifications in June 2020 and students who completed them in previous cohorts with the same attainment at Key Stage 4 and similar backgrounds perform similarly in Key Stage 5?*

In Research Question 3, we used the 2019/20 Key Stage 4 extract to identify the students who sat qualifications in June 2020. For these students, socio-demographic characteristics (from the school census data) and results achieved at the end of Key Stage 5 in 2021/22 (from the Key Stage 5 2021/22 extract) were available. The same categories used to classify Key Stage 5 learning aims (see Table 1) were used to classify the qualifications completed during Key Stage 5.

Descriptive analyses to answer this research question included the numbers and percentages of students with different background characteristics (e.g., gender, prior attainment, type of school attended or level of deprivation) achieving different levels of overall performance in Key Stage 5 or achieving specific grades in different Key Stage 5 qualifications/subjects.

The overall performance in Key Stage 5 was defined using two different measures:

- Key Stage 5 attainment in Level 3 qualifications: this measure is the average performance points students achieved per entry equivalent to an A level<sup>8</sup>. It was not available directly in the NPD but can be calculated aggregating the points achieved in all Level 3 qualifications and dividing that by the total size of the qualifications. This measure ranges from 0 to 60.
- Average A level point score per entry: this measure of attainment was calculated aggregating the points achieved in all A levels and dividing that by the total number of A levels. As above, this measure ranges from 0 to 60.

In order to look at achievement of specific grades (grade A or above, grade C or above), several A level subjects were considered: Mathematics, Psychology, Biology, Chemistry, Sociology, History, Business Studies, Physics, Economics, Geography and English Literature. These were the most popular subjects in 2022 (each had more than 30000 entries, which was over 4% of the total entries at A level).

In addition, we investigated the relationship between performance at Level 2 (Key Stage 4) and performance at Level 3 (Key Stage 5) using multilevel regression analyses (with students clustered within schools).

The outcomes (dependent variables) in the regression models were as follows:

- Overall performance in Key Stage 5 (e.g., “Key Stage 5 attainment in Level 3 qualifications”, “average A level point score per entry”).
- Achievement of a specific grade (e.g., A or above; C or above) in specific A level subjects (e.g., A level Mathematics, A level History, etc.)

The independent variables in the regression models included: a measure of students’ school attainment, an indicator of the Key Stage 4 cohort (pre-pandemic = 2017; post-pandemic = 2020), the gender of the student, the type of school attended during Key Stage 5, the student’s level of deprivation, an indicator of special educational needs, and the student’s ethnicity. An interaction term between prior attainment and cohort was also included in all

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<sup>8</sup> Performance points for Level 3 qualifications (A levels and equivalents) are as follows: A\*=60 points, A=50, B=40, C=30, D=20, E=10, U=0. For more details, see DfE (2023).

models. As in previous research questions, the level of attainment was measured in two different ways: average GCSE and equivalents point score per entry; and Key Stage 2 score.

To aid interpretation, alongside the tables with the results from the regression analyses, figures showing the following are presented:

- the overall performance in Key Stage 5, for different values of the students' level of attainment and broken down by cohort (2020 or 2017 Key Stage 4 cohorts).
- the probability of achieving specific grades, by the students' level of attainment and broken down by cohort (2020 or 2017 Key Stage 4 cohorts).

**Note:** To ensure confidentiality of the data, statistical disclosure controls have been applied to the results (tables and graphs). In particular, counts below ten and percentages based on counts below ten have either been suppressed or merged.

## 3. Results

### 3.1 Uptake

#### 3.1.1 General uptake in Key Stage 5

Table 2 below shows that the proportion of Key Stage 4 students who completed a qualification post-16 (during Key Stage 5) after being in Year 11 in summer 2020, was slightly higher than the proportion of those who were in Year 11 in summer 2017 (84.5% compared to 81.3%).

In terms of completing Level 3 qualifications, Table 2 reports similar findings, with students at the end of Key Stage 4 in 2020 being more likely to complete qualifications at Level 3 in Key Stage 5 than those at the end of Key Stage 4 in 2017. In particular, 57.9% of the 2020 Key Stage 4 cohort completed Level 3 qualifications only by the end of Key Stage 5, compared to 49.8% of the 2017 Key Stage 4 cohort.

Table 2: General uptake in Key Stage 5

| Uptake of ...                      | 2017 cohort |                          | 2020 cohort |                          | Difference<br>2020 – 2017 |
|------------------------------------|-------------|--------------------------|-------------|--------------------------|---------------------------|
|                                    | N           | % (out of<br>KS4 cohort) | N           | % (out of<br>KS4 cohort) |                           |
| Any Key Stage 5 qualifications     | 458405      | 81.3                     | 505952      | 84.5                     | 3.2                       |
| At least one Level 3 qualification | 360034      | 63.9                     | 412560      | 68.9                     | 5.0                       |
| Level 3 qualifications only        | 280618      | 49.8                     | 346598      | 57.9                     | 8.1                       |
| <i>Key Stage 4 candidates</i>      | 563577      |                          | 598823      |                          |                           |

Table 3, Table 4 and Table 5 show the uptake, by students' background characteristics, of any qualification by the end of Key Stage 5, of at least one Level 3 qualification, and of Level 3 qualifications only respectively.

Looking at students' gender, Table 3 shows that uptake of Key Stage 5 qualifications increased for both male and female students, although the increase amongst females was slightly larger.

Regarding uptake by type of school, Table 3 showed increases in all centres with the exception of independent schools (where there was a very small decrease, just 0.5 percentage points). The biggest changes in uptake between the 2020 and the 2017 Key Stage 4 cohorts were in secondary modern schools (4.2 percentage points) and schools in the "other" category.

The percentage of low and medium attainers completing qualifications at the end of Key Stage 5 was higher amongst the 2020 cohort than amongst the 2017 cohort, with an increase of 6.1 and 2.2 percentage points, respectively. The uptake amongst high attaining students was also slightly higher amongst the 2020 cohort than amongst the 2017 cohort, but the difference was smaller than for the other groups of students (0.9 percentage points). When prior attainment was measured by the Key Stage 4 performance in deciles, a clear pattern emerged: the lower the prior attainment the bigger the increase in uptake of the 2020 cohort, with respect to the 2017 cohort.

Although uptake of qualifications at Key Stage 5 increased for all students, independently of their socio-economic background (measured by IDACI), the increase was slightly higher for the most deprived students than for the least deprived students (4.3 vs. 2.4 percentage points, respectively). There was also an increase amongst students eligible for free school meals in their post-16 uptake in 2020 compared to 2017, and this was slightly higher than the increase amongst the students who were not eligible (4.7 vs. 2.9 percentage points).

When looking at students with and without special educational needs, Table 3 shows a higher increase in uptake amongst students who had special educational needs (either a SEN statement or an EHCP) in 2020 compared to 2017, than amongst the group of students without such needs (6.8 vs. 3.0 percentage points).

Finally, amongst the students in the 2020 Key Stage 4 cohort, there were increases in uptake, independently of the ethnic group of the students. The biggest increases were amongst Black and Asian students (4.9 percentage points), followed by students with a mixed background (3.4 percentage points). The smallest increase was amongst students with a Chinese background (1.7 percentage points), but these uptake by these students was the highest in both years.

Table 3: Progression to any Key Stage 5 qualification, by students' background characteristics (percentage progressing in each category)

| Characteristics                |                  | 2017 cohort   |                    |                    | 2020 cohort   |                    |                    | Difference<br>2020 – 2017 |
|--------------------------------|------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------------------|
|                                |                  | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) |                           |
| Gender                         | Female           | 277828        | 231975             | 83.5               | 294652        | 256779             | 87.1               | 3.6                       |
|                                | Male             | 285749        | 226430             | 79.2               | 304171        | 249173             | 81.9               | 2.7                       |
| School Type                    | Comprehensive    | 440164        | 355827             | 80.8               | 501315        | 421396             | 84.1               | 3.3                       |
|                                | Independent      | 39756         | 36648              | 92.2               | 42277         | 38762              | 91.7               | -0.5                      |
|                                | Other            | 11478         | 5993               | 52.2               | 12654         | 7067               | 55.8               | 3.6                       |
|                                | Secondary Modern | 16645         | 13412              | 80.6               | 17128         | 14527              | 84.8               | 4.2                       |
|                                | Selective        | 22205         | 21185              | 95.4               | 24707         | 23734              | 96.1               | 0.7                       |
| Prior Attainment<br>(Terciles) | Low              | 189347        | 125575             | 66.3               | 197862        | 143195             | 72.4               | 6.1                       |
|                                | Medium           | 185485        | 155290             | 83.7               | 199061        | 171105             | 86.0               | 2.3                       |
|                                | High             | 188745        | 177540             | 94.1               | 201900        | 191652             | 94.9               | 0.8                       |
| Prior Attainment<br>(Deciles)  | 01               | 56683         | 30869              | 54.5               | 59856         | 36097              | 60.3               | 5.8                       |
|                                | 02               | 56450         | 38241              | 67.7               | 57441         | 43619              | 75.9               | 8.2                       |
|                                | 03               | 56136         | 41196              | 73.4               | 63422         | 49772              | 78.5               | 5.1                       |
|                                | 04               | 55238         | 43001              | 77.8               | 58990         | 47986              | 81.3               | 3.5                       |
|                                | 05               | 58298         | 47949              | 82.2               | 59830         | 50561              | 84.5               | 2.3                       |
|                                | 06               | 52471         | 44813              | 85.4               | 59418         | 52139              | 87.7               | 2.3                       |
|                                | 07               | 59009         | 52071              | 88.2               | 60244         | 54378              | 90.3               | 2.1                       |
|                                | 08               | 56688         | 52021              | 91.8               | 59779         | 55805              | 93.4               | 1.6                       |
|                                | 09               | 56085         | 53213              | 94.9               | 60086         | 57352              | 95.4               | 0.5                       |
|                                | 10               | 56519         | 55031              | 97.4               | 59757         | 58243              | 97.5               | 0.1                       |
| IDACI                          | Low              | 173510        | 148140             | 85.4               | 184590        | 161979             | 87.8               | 2.4                       |
|                                | Medium           | 172238        | 138855             | 80.6               | 182355        | 153949             | 84.4               | 3.8                       |
|                                | High             | 173458        | 131871             | 76.0               | 184085        | 147778             | 80.3               | 4.3                       |

Table 3 (continued): Progression to any Key Stage 5 qualification, by students' background characteristics (percentage progressing in each category)

| Characteristics |                        | 2017 cohort   |                    |                    | 2020 cohort   |                    |                    | Difference<br>2020 – 2017 |
|-----------------|------------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------------------|
|                 |                        | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) |                           |
| FSM             | No                     | 382305        | 320072             | 83.7               | 412562        | 357282             | 86.6               | 2.9                       |
|                 | Yes                    | 137884        | 99530              | 72.2               | 139295        | 107069             | 76.9               | 4.7                       |
| SEN             | No                     | 450080        | 371407             | 82.5               | 475294        | 406499             | 85.5               | 3.0                       |
|                 | Yes                    | 70114         | 48196              | 68.7               | 76565         | 57853              | 75.6               | 6.9                       |
| Ethnic Group    | Any Other Ethnic Group | 8096          | 6719               | 83.0               | 10137         | 8942               | 88.2               | 5.2                       |
|                 | Asian                  | 51882         | 44796              | 86.3               | 59925         | 54704              | 91.3               | 5.0                       |
|                 | Black                  | 27525         | 23506              | 85.4               | 32423         | 29268              | 90.3               | 4.9                       |
|                 | Chinese                | 1918          | 1780               | 92.8               | 1908          | 1803               | 94.5               | 1.7                       |
|                 | Mixed                  | 23439         | 19102              | 81.5               | 29275         | 24852              | 84.9               | 3.4                       |
|                 | White                  | 402705        | 319679             | 79.4               | 411796        | 339099             | 82.3               | 2.9                       |

Table 4: Progression to at least one Level 3 Key Stage 5 qualification, by students' background characteristics (percentage progressing in each category)

| Characteristics                |                  | 2017 cohort   |                    |                    | 2020 cohort   |                    |                    | Difference<br>2020 – 2017 |
|--------------------------------|------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------------------|
|                                |                  | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) |                           |
| Gender                         | Female           | 277828        | 192383             | 69.2               | 294652        | 221360             | 75.1               | 5.9                       |
|                                | Male             | 285749        | 167651             | 58.7               | 304171        | 191200             | 62.9               | 4.2                       |
| School Type                    | Comprehensive    | 440164        | 274453             | 62.4               | 501315        | 337071             | 67.2               | 4.8                       |
|                                | Independent      | 39756         | 35609              | 89.6               | 42277         | 38030              | 90.0               | 0.4                       |
|                                | Other            | 11478         | 1506               | 13.1               | 12654         | 2168               | 17.1               | 4.0                       |
|                                | Secondary Modern | 16645         | 9757               | 58.6               | 17128         | 11461              | 66.9               | 8.3                       |
|                                | Selective        | 22205         | 20908              | 94.2               | 24707         | 23537              | 95.3               | 1.1                       |
| Prior Attainment<br>(Terciles) | Low              | 189347        | 44503              | 23.5               | 197862        | 63260              | 32.0               | 8.5                       |
|                                | Medium           | 185485        | 139682             | 75.3               | 199061        | 159031             | 79.9               | 4.6                       |
|                                | High             | 188745        | 175849             | 93.2               | 201900        | 190269             | 94.2               | 1.0                       |
| Prior Attainment<br>(Deciles)  | 01               | 56683         | 2328               | 4.1                | 59856         | 3822               | 6.4                | 2.3                       |
|                                | 02               | 56450         | 9718               | 17.2               | 57441         | 15374              | 26.8               | 9.6                       |
|                                | 03               | 56136         | 21657              | 38.6               | 63422         | 33086              | 52.2               | 13.6                      |
|                                | 04               | 55238         | 32733              | 59.3               | 58990         | 40381              | 68.5               | 9.2                       |
|                                | 05               | 58298         | 42280              | 72.5               | 59830         | 46456              | 77.6               | 5.1                       |
|                                | 06               | 52471         | 41990              | 80.0               | 59418         | 49914              | 84.0               | 4.0                       |
|                                | 07               | 59009         | 50286              | 85.2               | 60244         | 53148              | 88.2               | 3.0                       |
|                                | 08               | 56688         | 51213              | 90.3               | 59779         | 55188              | 92.3               | 2.0                       |
|                                | 09               | 56085         | 52907              | 94.3               | 60086         | 57063              | 95.0               | 0.7                       |
|                                | 10               | 56519         | 54922              | 97.2               | 59757         | 58128              | 97.3               | 0.1                       |
| IDACI                          | Low              | 173510        | 126566             | 72.9               | 184590        | 141919             | 76.9               | 4.0                       |
|                                | Medium           | 172238        | 106670             | 61.9               | 182355        | 123712             | 67.8               | 5.9                       |
|                                | High             | 173458        | 89806              | 51.8               | 184085        | 107308             | 58.3               | 6.5                       |

Table 4 (continued): Progression to at least one Level 3 Key Stage 5 qualification, by students' background characteristics  
(percentage progressing in each category)

| Characteristics |                        | 2017 cohort   |                    |                    | 2020 cohort   |                    |                    | Difference<br>2020 – 2017 |
|-----------------|------------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------------------|
|                 |                        | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) |                           |
| FSM             | No                     | 382305        | 262764             | 68.7               | 412562        | 303298             | 73.5               | 4.8                       |
|                 | Yes                    | 137884        | 60794              | 44.1               | 139295        | 70125              | 50.3               | 6.2                       |
| SEN             | No                     | 450080        | 301974             | 67.1               | 475294        | 343711             | 72.3               | 5.2                       |
|                 | Yes                    | 70114         | 21584              | 30.8               | 76565         | 29712              | 38.8               | 8.0                       |
| Ethnic Group    | Any Other Ethnic Group | 8096          | 5469               | 67.6               | 10137         | 7463               | 73.6               | 6.0                       |
|                 | Asian                  | 51882         | 37812              | 72.9               | 59925         | 47605              | 79.4               | 6.5                       |
|                 | Black                  | 27525         | 18870              | 68.6               | 32423         | 24491              | 75.5               | 6.9                       |
|                 | Chinese                | 1918          | 1690               | 88.1               | 1908          | 1739               | 91.1               | 3.0                       |
|                 | Mixed                  | 23439         | 14821              | 63.2               | 29275         | 20187              | 69.0               | 5.8                       |
|                 | White                  | 402705        | 241588             | 60.0               | 411796        | 267205             | 64.9               | 4.9                       |



Table 5: Progression to Level 3 (only) Key Stage 5 qualifications, by students' background characteristics (percentage progressing in each category)

| Characteristics                |                  | 2017 cohort   |                    |                    | 2020 cohort   |                    |                    | Difference<br>2020 – 2017 |
|--------------------------------|------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------------------|
|                                |                  | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) |                           |
| Gender                         | Female           | 277828        | 151161             | 54.4               | 294652        | 185936             | 63.1               | 8.7                       |
|                                | Male             | 285749        | 129457             | 45.3               | 304171        | 160662             | 52.8               | 7.5                       |
| School Type                    | Comprehensive    | 440164        | 208742             | 47.4               | 501315        | 277827             | 55.4               | 8.0                       |
|                                | Independent      | 39756         | 31813              | 80.0               | 42277         | 35579              | 84.2               | 4.2                       |
|                                | Other            | 11478         | 815                | 7.1                | 12654         | 1250               | 9.9                | 2.8                       |
|                                | Secondary Modern | 16645         | 7328               | 44.0               | 17128         | 9283               | 54.2               | 10.2                      |
|                                | Selective        | 22205         | 19051              | 85.8               | 24707         | 22433              | 90.8               | 5.0                       |
| Prior Attainment<br>(Terciles) | Low              | 189347        | 11854              | 6.3                | 197862        | 27161              | 13.7               | 7.4                       |
|                                | Medium           | 185485        | 105691             | 57.0               | 199061        | 137927             | 69.3               | 12.3                      |
|                                | High             | 188745        | 163073             | 86.4               | 201900        | 181510             | 89.9               | 3.5                       |
| Prior Attainment<br>(Deciles)  | 01               | 56683         | 231                | 0.4                | 59856         | 237                | 0.4                | 0.0                       |
|                                | 02               | 56450         | 904                | 1.6                | 57441         | 2930               | 5.1                | 3.5                       |
|                                | 03               | 56136         | 6022               | 10.7               | 63422         | 16658              | 26.3               | 15.6                      |
|                                | 04               | 55238         | 16942              | 30.7               | 58990         | 29646              | 50.3               | 19.6                      |
|                                | 05               | 58298         | 29772              | 51.1               | 59830         | 39579              | 66.2               | 15.1                      |
|                                | 06               | 52471         | 34349              | 65.5               | 59418         | 45128              | 76.0               | 10.5                      |
|                                | 07               | 59009         | 44422              | 75.3               | 60244         | 49641              | 82.4               | 7.1                       |
|                                | 08               | 56688         | 46934              | 82.8               | 59779         | 52315              | 87.5               | 4.7                       |
|                                | 09               | 56085         | 49251              | 87.8               | 60086         | 54638              | 90.9               | 3.1                       |
|                                | 10               | 56519         | 51791              | 91.6               | 59757         | 55826              | 93.4               | 1.8                       |
| IDACI                          | Low              | 173510        | 103691             | 59.8               | 184590        | 124327             | 67.4               | 7.6                       |
|                                | Medium           | 172238        | 81263              | 47.2               | 182355        | 102771             | 56.4               | 9.2                       |
|                                | High             | 173458        | 62998              | 36.3               | 184085        | 82937              | 45.1               | 8.8                       |

Table 5 (continued): Progression Level 3 (only) Key Stage 5 qualifications, by students' background characteristics (percentage progressing in each category)

| Characteristics |                        | 2017 cohort   |                    |                    | 2020 cohort   |                    |                    | Difference<br>2020 – 2017 |
|-----------------|------------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------------------|
|                 |                        | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) | N<br>(in KS4) | N<br>(progressing) | %<br>(progressing) |                           |
| FSM             | No                     | 382305        | 207599             | 54.3               | 412562        | 258387             | 62.6               | 8.3                       |
|                 | Yes                    | 137884        | 40759              | 29.6               | 139295        | 52045              | 37.4               | 7.8                       |
| SEN             | No                     | 450080        | 236395             | 52.5               | 475294        | 291598             | 61.4               | 8.9                       |
|                 | Yes                    | 70114         | 11963              | 17.1               | 76565         | 18834              | 24.6               | 7.5                       |
| Ethnic Group    | Any Other Ethnic Group | 8096          | 4061               | 50.2               | 10137         | 6111               | 60.3               | 10.1                      |
|                 | Asian                  | 51882         | 29739              | 57.3               | 59925         | 40567              | 67.7               | 10.4                      |
|                 | Black                  | 27525         | 13304              | 48.3               | 32423         | 19092              | 58.9               | 10.6                      |
|                 | Chinese                | 1918          | 1434               | 74.8               | 1908          | 1601               | 83.9               | 9.1                       |
|                 | Mixed                  | 23439         | 11297              | 48.2               | 29275         | 16633              | 56.8               | 8.6                       |
|                 | White                  | 402705        | 186000             | 46.2               | 411796        | 222553             | 54.0               | 7.8                       |

Table 4 shows very similar patterns of uptake (or progression) by students' background characteristics when considering the uptake of at least one qualification at Level 3 by the end of Key Stage 5. When only students who progressed to qualifications at Level 3 were considered (Table 5), a few differences emerged.

Firstly, in terms of uptake by type of school, Table 5 shows that the greatest increase was, again, in secondary modern schools (10.2 percentage points) but, in this case, followed by comprehensive schools (8.0 percentage points). There was also an increase in uptake of Level 3 only qualifications amongst students in independent schools (4.1 percentage points, compared to the decrease or basically no change in uptake of any qualification or at least one qualification at Level 3 shown in Table 3 and Table 4, respectively).

Secondly, when looking at uptake by prior attainment (measured by the Key Stage 4 performance in deciles), Table 5 shows hardly any changes amongst students in the first decile and relatively big differences (between 10 and 20 percentage points) amongst students in deciles 3<sup>rd</sup> to 6<sup>th</sup>. This can also be seen, to a similar degree, when looking at the uptake by low, medium and high attainers. In this case, uptake increased the most amongst the medium attainers, whilst Table 3 had shown the highest uptake amongst the low attaining students.

Similarly, although there were increases on the uptake of qualifications at Level 3 only for all students independently of their socio-economic background, when only qualifications at Level 3 were considered, changes were highest amongst the students in the medium deprivation group (compared to changes being highest amongst students in the high deprivation group when looking at uptake of any qualification or at least one qualification at Level 3).

Contrary to the findings reported for the free school meals eligibility and special educational needs breakdowns in Table 3 and Table 4, Table 5 shows that students who were not eligible for free school meals, and students who did not have special educational needs, had slightly higher increases in uptake of Level 3 qualifications only from 2017 to 2020 than the students who were not eligible for any of these.

Table 5 also reports increases in uptake amongst all ethnic groups. However, when only Level 3 qualifications are taken into account, the greatest increases were amongst Black and Asian students (10.5 and 10.4 percentage points, respectively), followed by students with a Chinese background (9.1 percentage points). The smallest change was amongst white students (7.9 percentage points).

### **3.1.2 Uptake of Key Stage 5 qualifications**

In this section of the report, the qualifications completed by the end of Key Stage 5 in 2022 by the students who were in Year 11 in June 2020 are presented. Qualifications completed by students from a previous cohort (those who were in Year 11 in June 2017, and therefore finished Key Stage 5 in 2019, pre-pandemic) are included for comparison.

Figure 1 shows the changes in the uptake of the different Key Stage 5 qualifications between the June 2020 and June 2017 Key Stage 4 cohorts (full details are given in Table A1, Appendix A).

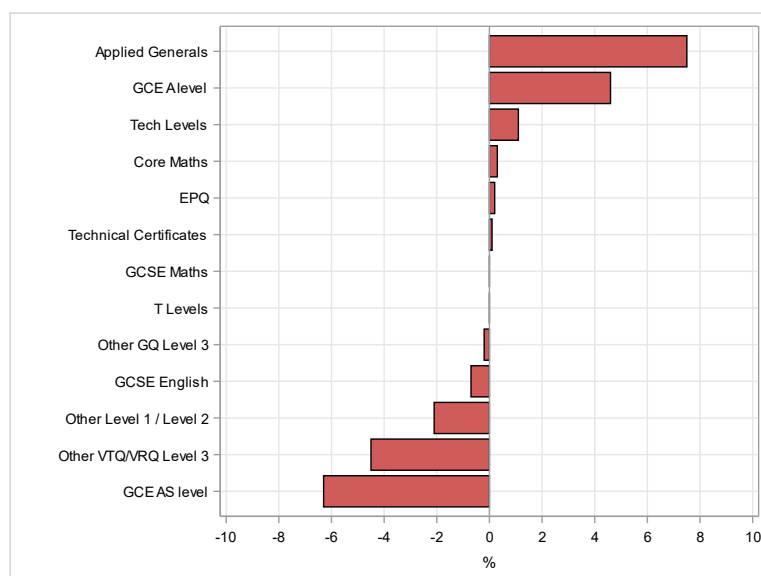


Figure 1: Key Stage 5 qualifications - difference, between 2020 and 2017 Key Stage 4 cohorts, in the percentage (out of total number of qualifications at Key Stage 5) completing the qualification type

As shown in Table 2, there were some changes in the proportions of students who took Level 3 qualifications after completing Year 11 in 2020 – compared to the cohort completing Year 11 in 2017. Figure 1 shows that students in the 2020 cohort were more likely to take Applied Generals or A levels than students in the 2017 cohort but were less likely to take other general qualifications (GQs), or other vocational/technical qualifications (VTQs/VRQs) at Level 3. Note, however, that the Key Stage 5 data might show a different balance of Applied Generals and other VTQ/VRQ Level 3 qualifications in 2019 than in 2022, due to changes to BTECs and Cambridge Technicals which would have impacted the way they are categorised<sup>9</sup>.

Students in the 2020 cohort were also less likely to take a GCSE in English during Key Stage 5. This could be partly due to more pupils getting the GCSE grades they needed in this subject in summer 2020 (due to the CAGs being “generous”) and not needing to re-sit the qualification in a post-16 education setting. However, students in the 2020 were just as likely as those in the earlier cohort to take a GCSE in Maths.

The average number of qualifications taken per student in the 2020 Key Stage 4 cohort was 2.53 (standard deviation = 1.60), just slightly lower than the average number of qualifications taken by the students in the 2017 cohort (average = 2.65; standard deviation = 1.89)<sup>10</sup>. On the contrary, the average number of A levels per students increased over time, from 1.14 (standard deviation = 1.41) for the 2017 cohort, to 1.20 (standard deviation = 1.42) for the 2020 cohort.

<sup>9</sup> In 2019 some BTECs and Cambridge Technicals might have been included in the “Other VTQ/VRQ Level 3” category rather than in the Applied Generals category.

<sup>10</sup> Note that the average number of Level 3 qualifications taken per student in the 2020 Key Stage 4 cohort was 1.98 (standard deviation = 1.70), just slightly lower than the average number of qualifications taken by the students in the 2017 cohort (average = 2.00; standard deviation = 1.96).

The number of qualifications (Figure 2, Table A2 in Appendix A) taken per student, the number of qualifications at Level 3 (Figure 3, Table A3 in Appendix A) and the number of A levels (Figure 4, Table A4 in Appendix A) by cohort are shown below.

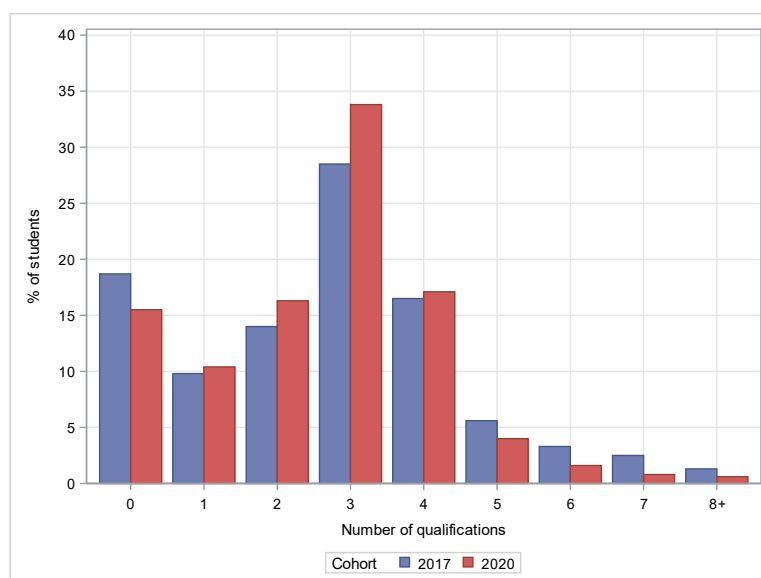


Figure 2: Number of Key Stage 5 qualifications taken per student

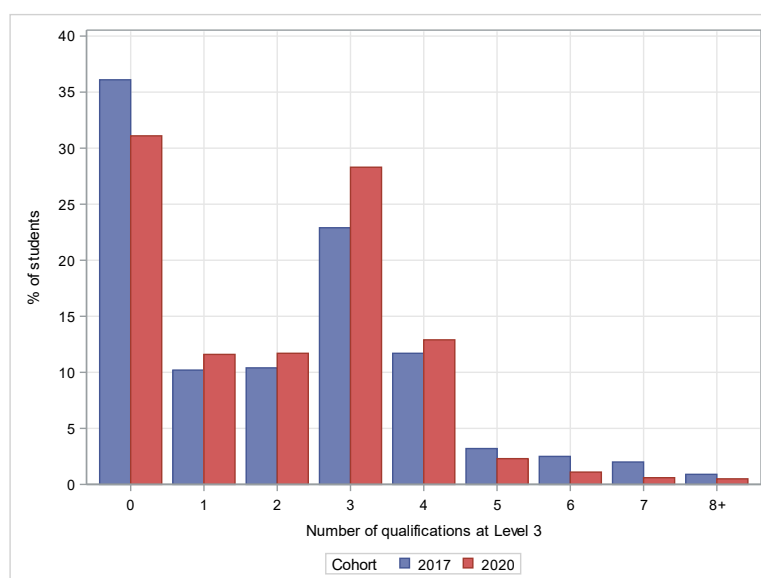


Figure 3: Number of Key Stage 5 qualifications at Level 3 taken per student

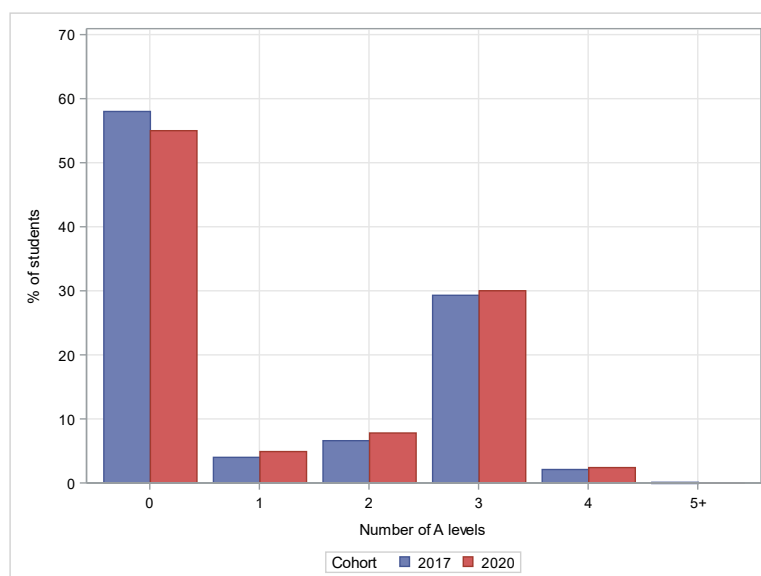


Figure 4: Number of A levels taken per student

Figure 2 and Figure 3 show that students in the 2020 Key Stage 4 cohort were more likely to have two, three or four Key Stage 5 qualifications, compared to students in the 2017 cohort. They were also less likely to have five or more qualifications. Figure 4, which focusses on just A levels, shows that a lower percentage of students from the 2020 cohort than from the 2017 cohort did not progress to A level (that is, a smaller percentage of students had zero A levels) and that a slightly higher percentage of students from the 2020 cohort were taking two or more A levels (40.2% vs. 38.0%).

#### *Uptake of Key Stage 5 qualifications, by students' characteristics*

In this section, the uptake of the different types of qualifications, broken down by students' characteristics, is discussed. Note that, although T Levels are included in the graphs and tables, these were not yet available in 2017 and only results for the 2020 Key Stage 4 are presented.

Firstly, Figure 5 (Table B1 in Appendix B), shows the uptake of Key Stage 5 qualifications by gender. That is, it shows the percentage of students taking each qualification in each cohort who were female. A lower percentage of students taking A or AS levels were female (around one percentage point) amongst the 2020 cohort than amongst the 2017 cohort. Similarly, a lower percentage of students re-sitting GCSE English or GCSE Maths at a post-16 education setting were female amongst the 2020 cohort than amongst the 2017 cohort (1.3 and 2.2 percentage points lower in English and Maths, respectively). However, a higher percentage of students taking Applied Generals (1.7 percentage points higher), Core Maths (3.8 percentage points) or the EPQ (1.7 percentage points) were female amongst the 2020 cohort compared to the 2017 cohort.

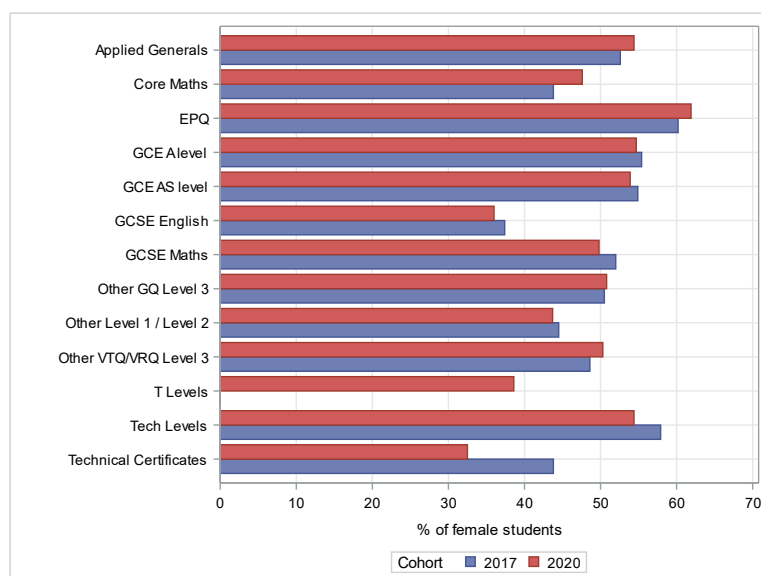


Figure 5: Qualifications completed by the end of Key Stage 5, by gender

Table 6 shows the uptake of the different qualifications broken down by students' prior attainment (in terciles), measured by the average GCSE and equivalent point score per entry (numbers of students per qualification and prior attainment group are given in Table B2, Appendix B). As shown in Table 3 to Table 5, the percentages of low and medium attainers progressing to Key Stage 5 were higher amongst students in the 2020 cohort than amongst students amongst the 2017 cohort. Table 6 below shows that, in particular, the prior attainment of students who completed A level qualifications was lower for students in the 2020 cohort than for students in the earlier cohort pre-pandemic (that is, there were relatively fewer students from the top third). For example, 70% of A level students had high prior attainment if they completed Key Stage 4 in 2020, compared to 72% if they completed Key Stage 4 in 2017. Similar patterns were found for AS levels, and to a lesser extent for Applied General qualifications.

Table 6 also shows that the students from the 2020 cohort taking GCSEs in English and Maths during Key Stage 5 had lower prior attainment than the students from the 2017 cohort (e.g., for GCSE English, 95% had low prior attainment in 2020 (that is, were in the bottom third), compared to 82% in 2017; results for GCSE Maths were similar).

Students from the 2020 cohort achieving "Other" Level 3 VTQ/VRQs had slightly lower prior attainment than the students from the 2017 cohort (e.g., there were more students from the 2020 cohort in the lower third than from the 2017 cohort: 37% vs. 27%).

Table 6: Qualifications completed by the end of Key Stage 5, by Key Stage 4 attainment – average GCSE and equivalent point score per entry (percentage of students)

| Qualifications          | 2017 cohort |        |      | 2020 cohort |        |      |
|-------------------------|-------------|--------|------|-------------|--------|------|
|                         | Low         | Medium | High | Low         | Medium | High |
| Applied Generals        | 17.1        | 64.2   | 18.7 | 24.2        | 58.2   | 17.6 |
| Core Maths              | 6.5         | 47.3   | 46.3 | 6.8         | 44.4   | 48.8 |
| EPQ                     | 1.5         | 19.5   | 79.0 | 1.7         | 18.5   | 79.7 |
| GCE A level             | 1.4         | 26.5   | 72.2 | 2.0         | 28.2   | 69.8 |
| GCE AS level            | 2.3         | 32.3   | 65.4 | 3.9         | 34.2   | 61.9 |
| GCSE English            | 82.3        | 16.1   | 1.7  | 95.2        | 4.2    | 0.6  |
| GCSE Maths              | 76.2        | 22.5   | 1.3  | 89.1        | 10.4   | 0.5  |
| Other GQ Level 3        | 1.7         | 11.5   | 86.8 | 2.8         | 13.7   | 83.4 |
| Other Level 1 / Level 2 | 71.1        | 21.3   | 7.6  | 74.9        | 18.9   | 6.2  |
| Other VTQ/VRQ Level 3   | 27.4        | 56.7   | 15.8 | 36.9        | 48.0   | 15.1 |
| T Levels                |             |        |      | 22.3        | 62.7   | 15.0 |
| Tech Levels             | 21.9        | 61.7   | 16.4 | 28.6        | 56.4   | 14.9 |
| Technical Certificates  | 88.2        | 11.8   |      | 96.0        | 4.0    |      |

Table 7 shows the uptake of the different types of qualifications by students' socio-economic deprivation group, measured by IDACI (number of students per qualification and IDACI group are in Table B3, Appendix B). Overall, the level of socio-economic deprivation of students in both cohorts completing each of the Key Stage 5 qualifications was very similar, with differences in almost all cases smaller than two percentage points. There were a couple of exceptions. First, the socio-economic deprivation of students completing an AS level was slightly higher for students in the 2020 cohort than for students in the 2019 cohort. For example, 35% of AS level students had lower socio-economic deprivation if they were in Key Stage 4 in 2020, compared to 39% if they were in Key Stage 4 in 2017. Secondly, students from the 2020 cohort taking Technical Certificates were from more highly deprived areas than students from the 2017 cohort (e.g., 52% were in areas of high deprivation in 2020, compared to 45% in 2017).



Table 7: Qualifications completed by the end of Key Stage 5, by socio-economic deprivation – IDACI (percentage of students)

| Qualifications          | 2017 cohort |        |      | 2020 cohort |        |      |
|-------------------------|-------------|--------|------|-------------|--------|------|
|                         | Low         | Medium | High | Low         | Medium | High |
| Applied Generals        | 33.0        | 34.1   | 32.8 | 31.7        | 33.8   | 34.5 |
| Core Maths              | 43.4        | 32.0   | 24.6 | 43.1        | 32.3   | 24.6 |
| EPQ                     | 49.9        | 31.4   | 18.7 | 50.0        | 31.4   | 18.6 |
| GCE A level             | 45.3        | 32.0   | 22.7 | 44.3        | 32.5   | 23.2 |
| GCE AS level            | 38.6        | 33.1   | 28.3 | 34.9        | 34.1   | 31.0 |
| GCSE English            | 22.4        | 33.4   | 44.2 | 20.3        | 33.4   | 46.3 |
| GCSE Maths              | 22.9        | 33.7   | 43.4 | 21.8        | 33.6   | 44.6 |
| Other GQ Level 3        | 43.0        | 34.2   | 22.8 | 41.0        | 36.7   | 22.3 |
| Other Level 1 / Level 2 | 25.1        | 33.8   | 41.1 | 23.9        | 32.8   | 43.3 |
| Other VTQ/VRQ Level 3   | 32.6        | 34.5   | 32.9 | 33.2        | 34.3   | 32.5 |
| T Levels                |             |        |      | 31.1        | 36.6   | 32.3 |
| Tech Levels             | 34.2        | 34.3   | 31.5 | 32.1        | 33.2   | 34.7 |
| Technical Certificates  | 19.7        | 35.0   | 45.2 | 13.6        | 34.7   | 51.8 |

Figure 6 (Table B4 in Appendix B) shows that, for the majority of the qualifications, there were not big differences between cohorts in the percentages of students eligible for free school meals. There were a few exceptions: students who took Technical Certificates or those who re-sat GCSE English or GCSE Maths in Key Stage 5. In these instances, in 2019 (*i.e.*, the year the 2017 cohort completed Key Stage 5), a lower percentage of students who took these qualifications were eligible for free school meals than in 2022 (*i.e.*, the year the 2020 cohort completed Key Stage 5).

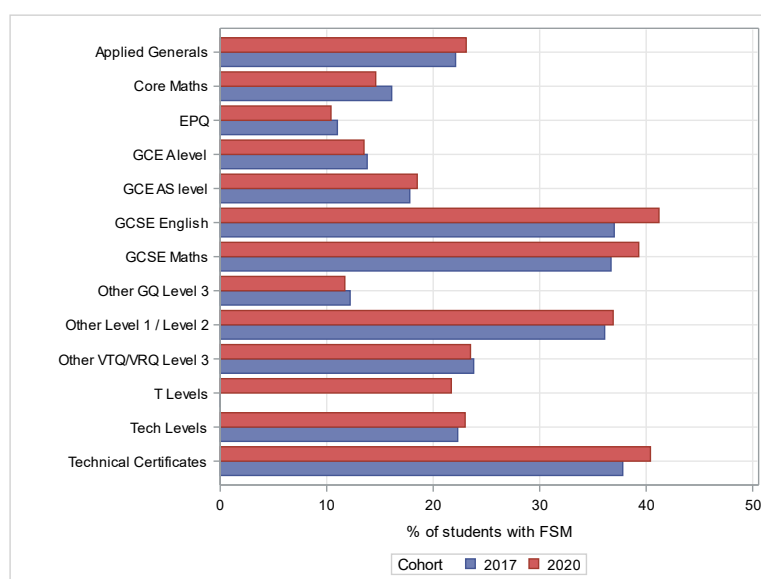


Figure 6: Qualifications completed by the end of Key Stage 5, by socio-economic deprivation – free school meals eligibility (percentage of students)

Figure 7 shows the uptake of the different qualifications by students' special educational needs (numbers of students per qualification and whether or not they have special educational needs are shown in Table B5, Appendix B).

In general (*i.e.*, for most of the qualifications), higher percentages of students from the 2020 Key Stage 4 cohort than from the 2017 cohort had special educational needs (either a SEN statement or an EHCP). The differences were bigger, however, for Level 2 qualifications taken at Key Stage 5 (*e.g.*, GCSE English, GCSE Maths, Technical Certificates, Other Level 1 / Level 2 qualifications) and for some Level 3 vocational qualifications (*e.g.*, Tech Levels, Other VTQ/VRQ at Level 3).

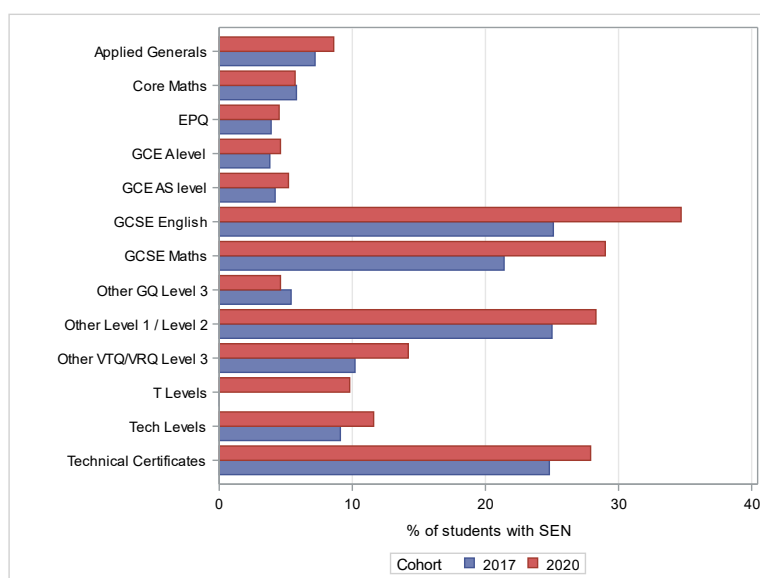


Figure 7: Qualifications completed by the end of Key Stage 5, by special educational needs (percentage of students)

Table 8 shows the uptake of the different types of qualifications by students' ethnicity (number of students per qualification and ethnicity group are in Table B6, Appendix B).

Lower percentages of white students were seen in the 2020 cohort than in the 2017 cohort for all qualifications listed in Table 8, with the exception of Other VTQ/VRQ Level 3. The biggest differences were in Technical Certificates, AS levels and Applied Generals. On the contrary, for most of the qualifications (with the exception of Other VTQ/VRQ Level 3), higher percentages of students from an Asian background were seen in the 2020 cohort than in the 2017 cohort, with some of the biggest differences in the AS level, A level and EPQ.

For all the qualification types, the percentages of students with a mixed background, and the percentages of black and Chinese students were very similar, independently of the year they completed Key Stage 4.

Finally, Table 9 shows the uptake of Key Stage 5 qualifications by the type of schools attended during key Stage 4 (numbers of students per qualification and in the different types of schools are shown in Table B7, Appendix B).

Table 8: Qualifications completed by the end of Key Stage 5, by ethnicity (percentage of students)

| Qualifications          | 2017 cohort |       |       |         |       |       | 2020 cohort |       |       |         |       |       |
|-------------------------|-------------|-------|-------|---------|-------|-------|-------------|-------|-------|---------|-------|-------|
|                         | Other       | Asian | Black | Chinese | Mixed | White | Other       | Asian | Black | Chinese | Mixed | White |
| Applied Generals        | 1.6         | 13.2  | 6.5   | 0.3     | 3.9   | 74.5  | 2.1         | 14.1  | 8.2   | 0.2     | 5.1   | 70.2  |
| Core Maths              | -           | 12.5  | 4.9   | -       | 3.9   | 76.7  | 1.5         | 12.5  | 4.9   | 0.4     | 4.5   | 76.1  |
| EPQ                     | 1.6         | 11.3  | 4.3   | 0.9     | 4.5   | 77.4  | 1.8         | 13.2  | 4.9   | 0.8     | 5.6   | 73.8  |
| GCE A level             | 1.8         | 13.3  | 5.5   | 0.8     | 4.9   | 73.7  | 2.3         | 15.1  | 6.3   | 0.7     | 5.8   | 69.9  |
| GCE AS level            | 2.3         | 15.2  | 6.2   | 0.8     | 4.7   | 70.8  | 2.5         | 20.0  | 7.1   | 0.6     | 4.9   | 64.9  |
| GCSE English            | 2.0         | 11.3  | 7.2   | 0.3     | 4.6   | 74.5  | 2.5         | 11.1  | 7.8   | 0.2     | 5.4   | 73.0  |
| GCSE Maths              | 1.9         | 11.6  | 8.0   | 0.1     | 5.0   | 73.3  | 2.1         | 10.7  | 8.4   | 0.1     | 5.8   | 72.8  |
| Other GQ Level 3        | 2.7         | 8.5   | 10.1  | 1.7     | 7.0   | 70.0  | 2.8         | 10.2  | 12.9  | 1.9     | 9.3   | 63.0  |
| Other Level 1 / Level 2 | 1.4         | 8.2   | 5.6   | 0.2     | 4.5   | 80.0  | 1.8         | 8.9   | 6.3   | 0.1     | 5.3   | 77.6  |
| Other VTQ/VRQ Level 3   | 1.3         | 8.8   | 5.7   | 0.2     | 4.2   | 79.7  | 1.0         | 4.5   | 4.8   | 0.1     | 5.1   | 84.5  |
| T Levels                |             |       |       |         |       |       | -           | 9.5   | 3.3   | -       | 3.3   | 82.1  |
| Tech Levels             | 1.0         | 7.0   | 3.6   | 0.2     | 3.0   | 85.2  | 1.1         | 7.6   | 4.2   | 0.1     | 4.0   | 82.9  |
| Technical Certificates  | -           | 16.8  | 7.5   | -       | 4.1   | 69.9  | -           | 24.5  | 16.9  | -       | 7.0   | 47.2  |

Table 9: Qualifications completed by the end of Key Stage 5, by type of school (percentage of students)

| Qualifications          | 2017 cohort   |             |       |                  |           | 2020 cohort   |             |       |                  |           |
|-------------------------|---------------|-------------|-------|------------------|-----------|---------------|-------------|-------|------------------|-----------|
|                         | Comprehensive | Independent | Other | Secondary Modern | Selective | Comprehensive | Independent | Other | Secondary Modern | Selective |
| Applied Generals        | 89.9          | 2.8         | 0.4   | 5.3              | 1.6       | 91.5          | 2.8         | 0.5   | 4.0              | 1.3       |
| Core Maths              | 88.4          | -           | -     | 2.7              | 4.7       | 86.9          | 4.3         | 0.1   | 2.0              | 6.7       |
| EPQ                     | 67.7          | 18.4        | 0.1   | 2.2              | 11.7      | 63.8          | 22.0        | 0.2   | 2.4              | 11.6      |
| GCE A level             | 73.9          | 14.3        | 0.2   | 2.2              | 9.4       | 75.1          | 13.5        | 0.2   | 2.1              | 9.1       |
| GCE AS level            | 83.9          | 8.4         | 0.7   | 1.9              | 5.2       | 83.5          | 6.9         | 0.5   | 1.5              | 7.6       |
| GCSE English            | 91.5          | 1.3         | 2.8   | 4.0              | 0.4       | 92.1          | 0.7         | 3.9   | 3.2              | 0.1       |
| GCSE Maths              | 91.8          | 1.6         | 2.5   | 3.8              | 0.2       | 92.4          | 0.7         | 3.3   | 3.5              | 0.1       |
| Other GQ Level 3        | 26.3          | 48.3        | 0.2   | 3.2              | 22.1      | 25.9          | 42.0        | 0.1   | 4.2              | 27.8      |
| Other Level 1 / Level 2 | 88.1          | 2.9         | 4.4   | 3.5              | 1.1       | 89.2          | 2.2         | 4.6   | 3.2              | 0.7       |
| Other VTQ/VRQ Level 3   | 91.4          | 3.6         | 0.8   | 3.1              | 1.1       | 90.7          | 3.2         | 1.3   | 3.7              | 1.1       |
| T Levels                |               |             |       |                  |           | 96.2          | -           | 0.7   | 0.8              | -         |
| Tech Levels             | 92.8          | 1.9         | 0.5   | 3.6              | 1.2       | 92.6          | 1.8         | 0.7   | 3.9              | 0.9       |
| Technical Certificates  | 88.7          | -           | -     | 6.7              |           | 90.3          | -           | 2.6   | 6.2              | -         |

For the majority of qualification types, there were very small differences between cohorts in the percentages of students in each type of school. The EPQ was an exception, with a decrease in comprehensive schools (four percentage points) and a similar increase in independent schools.

### **3.1.3 Subject uptake**

In this sub-section of the report, progression to individual A level and Applied General subjects is reported. These qualifications were chosen because they are the two most popular Key Stage 5 qualifications taken by the June 2020 cohort, as described in Table A1, Appendix A.

Figure 8 shows the difference in uptake of A level subjects between the 2020 Key Stage 4 cohort and the 2017 Key Stage 4 cohort (see Table C1 in Appendix C for full details on the uptake by both cohorts of students). Only subjects with at least 100 entries at A level (in any of the years considered in this research) are included in the figure.

Figure 8 shows that the differences in the uptake of A level subjects between cohorts were not big (below 2.5 percentage points in all cases). The subjects with the highest increase in 2022 (*i.e.*, taken by the 2020 Key Stage 4 cohort) with respect to the cohort pre-pandemic (*i.e.*, taken in 2019 by the 2017 Key Stage 4 cohort) were: Psychology, Business Studies, Sociology, Economics, Mathematics and Computer Science. On the other hand, the A level subjects with the highest decrease in 2022 compared to 2019 were English Literature and History.

Regarding uptake of Applied General subjects, Figure 9 shows that the differences between cohorts were slightly larger than at A level (but all below 5 percentage points). See Table C2 in Appendix C for full details on the uptake for both cohorts of students. The subjects with the highest increase in 2022 (*i.e.*, taken by the 2020 Key Stage 4 cohort) with respect to the cohort pre-pandemic (*i.e.*, taken in 2019 by the 2017 Key Stage 4 cohort) were: Social Science, Business Studies, Health Studies and Sport Studies. The uptake of qualifications in subjects such as Business Management, Nutrition, Childcare Skills or Applied Business did not change much between 2022 and 2019.

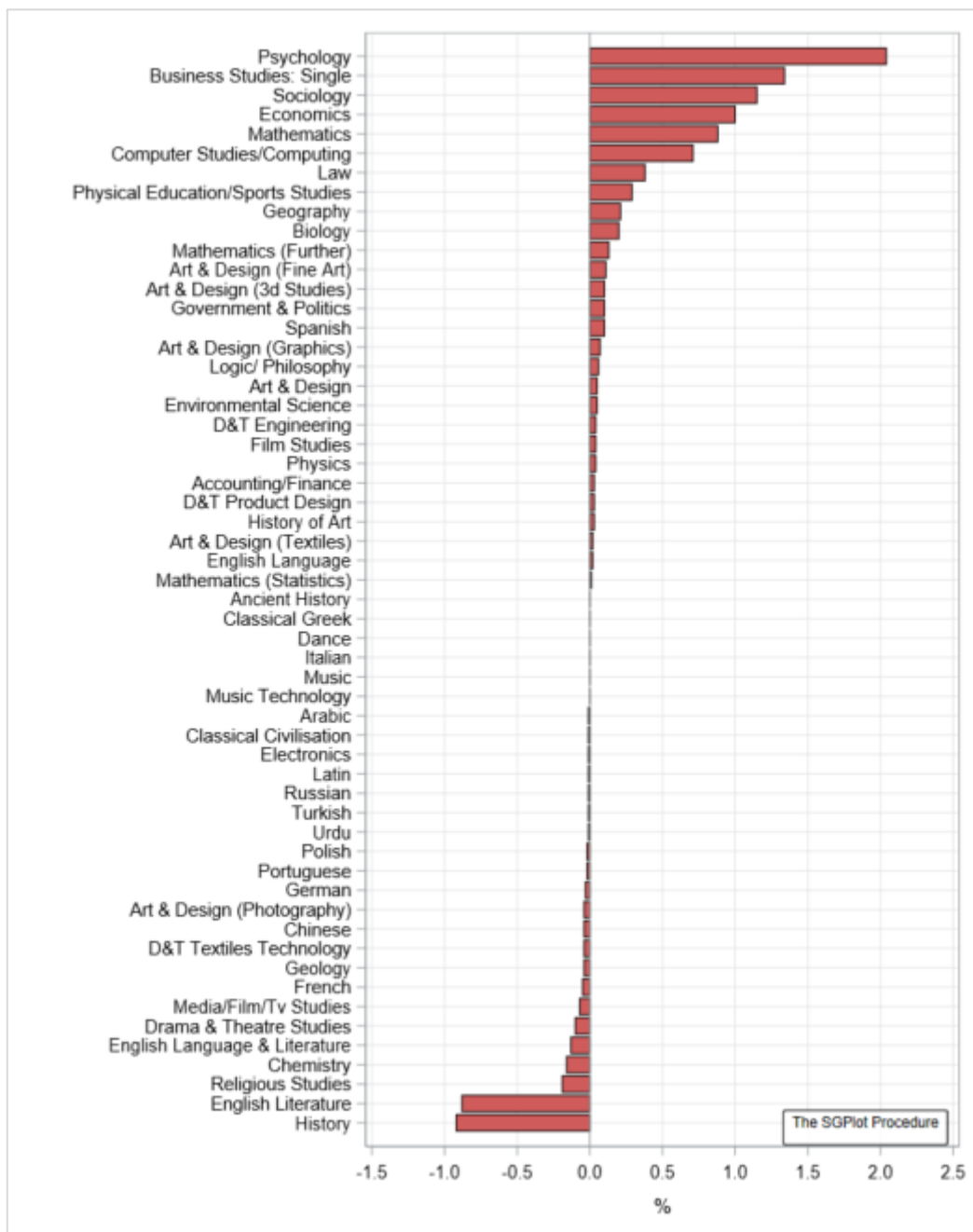


Figure 8: Uptake of individual A level subjects – comparison between the 2020 and the 2017 Key Stage 4 cohorts

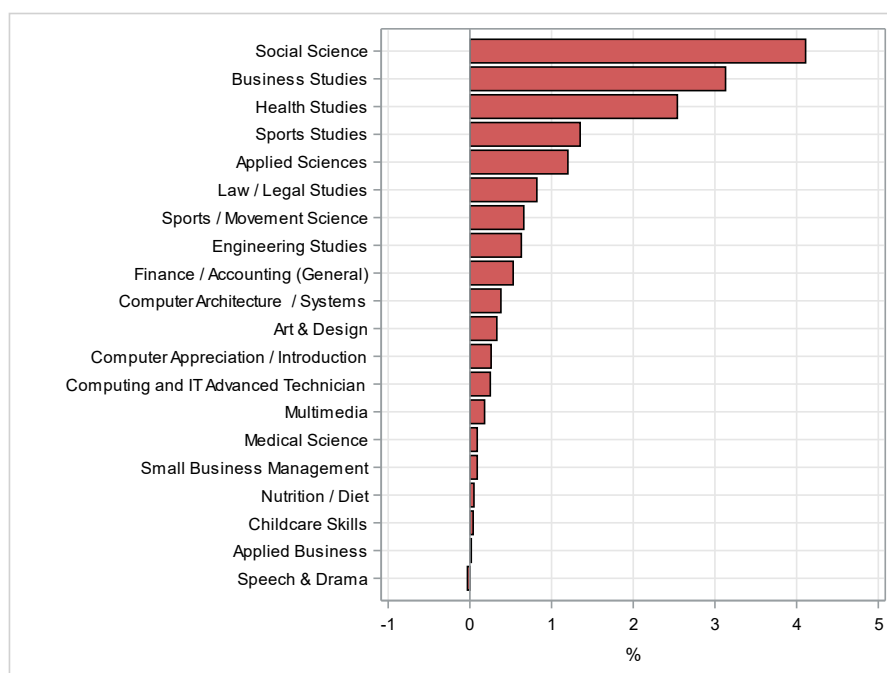


Figure 9: Uptake of individual Applied General subjects – comparison between the 2020 and the 2017 Key Stage 4 cohorts

### 3.1.4 Regression analysis: progression to Key Stage 5

To further explore if progression to Key Stage 5 changed post-pandemic, comparing to progression in the latest year before the pandemic, multilevel logistic regression models (as described in Section 2.2) were carried out. In this section, the results of the regression analyses are presented.

#### *Progression to Key Stage 5 (qualifications at any level)*

Table 10 shows the results of the regression model looking at progression to Key Stage 5 (qualifications at any level) and Figure 10 (using data from Table 10) illustrates the results of this model by showing the probability of progressing for a white male student, of medium level of deprivation, with no special educational needs and attending a comprehensive school.

Table 10 shows that the year students completed Key Stage 4 was a statistically significant predictor of progression to Key Stage 5 (achieving qualifications at any level), and this effect varied by their Key Stage 2 average score. For example, in Figure 10:

- A student with a Key Stage 2 score of 2.5 (fairly low), had a probability of progressing to Key Stage 5 of 0.55 pre-pandemic and 0.77 post-pandemic.
- A student with a Key Stage 4 score of 5.5 (fairly high), had a probability of 0.87 to progress to Key Stage pre-pandemic and a probability of 0.92 post-pandemic.

Although probability of progression was higher post-pandemic than pre-pandemic for all students, independently of their prior attainment, the difference in such probability was higher amongst students with low prior attainment than amongst students with high attainment, even after controlling for their background characteristics.

Table 10: Progression to Key Stage 5 (at least one qualification at any level) ~ Key Stage 2 prior attainment ( $N = 928746$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | -0.529   | 0.032          | <.0001  |
| Gender                     | Female                 | 0.336    | 0.006          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | Independent            | -1.142   | 0.156          | <.0001  |
|                            | Other                  | -1.197   | 0.028          | <.0001  |
|                            | Secondary Modern       | 0.077    | 0.037          | 0.0383  |
|                            | Selective              | 1.079    | 0.039          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | 0.450    | 0.009          | <.0001  |
|                            | Medium                 | 0.208    | 0.008          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | -0.174   | 0.009          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | 0.665    | 0.030          | <.0001  |
|                            | Asian                  | 0.798    | 0.014          | <.0001  |
|                            | Black                  | 0.715    | 0.017          | <.0001  |
|                            | Chinese                | 1.147    | 0.083          | <.0001  |
|                            | Mixed                  | 0.176    | 0.014          | <.0001  |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | 0.405    | 0.007          | <.0001  |
| Cohort                     | 2017                   | -0.902   | 0.042          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | 0.166    | 0.010          | <.0001  |
|                            | [2020]                 | .        | .              | .       |

Figure 10 corroborates the above, showing that towards the top of the Key Stage 2 scores distribution, the progression to Key Stage 5 (qualifications at any level) for both cohorts of students becomes very similar, whilst there are relatively big differences at the bottom of the Key Stage 2 scores distribution.



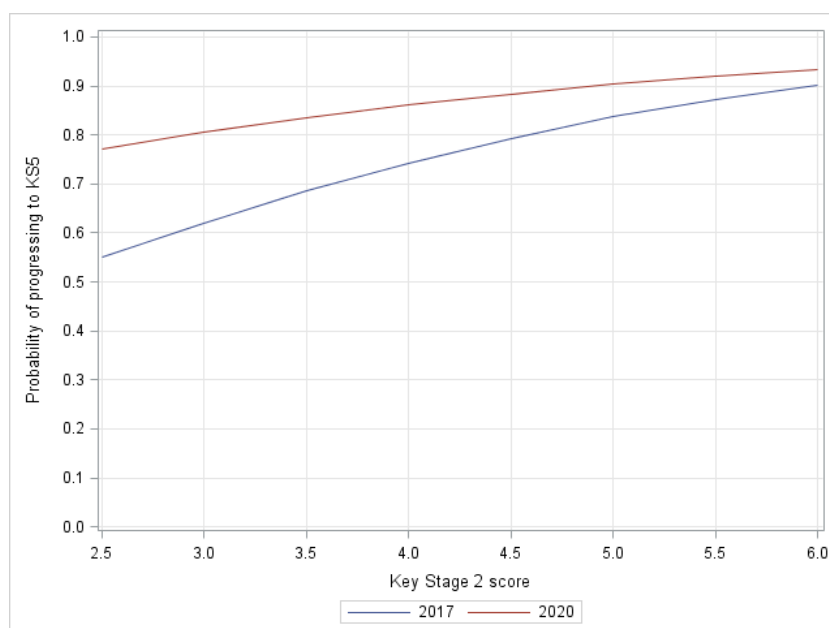


Figure 10: Probability of progression to Key Stage 5 (qualifications at any level) ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Table 11 and Figure 11 (using data from Table 11) show the results of the regression analyses using the deciles of Key Stage 4 attainment instead of the average Key Stage score as a measure of students' attainment at school. As above, the year students completed Key Stage 4 was a statistically significant predictor of progression to Key Stage 5 (qualifications at any level), and this effect varied by their Key Stage 4 attainment.

Although differences between cohorts are smaller than showed in Figure 10 for progression to qualifications at any level, the patterns observed here are very similar: the probability of progression was higher post-pandemic than pre-pandemic for all students, independently of their prior attainment; furthermore, the difference in such probability was higher amongst students with low prior attainment than amongst students with high attainment, even after controlling for their background characteristics. For example:

- A student with their Key Stage 4 attainment in the first decile (fairly low), had a probability of progressing to Key Stage 5 of 0.50 pre-pandemic and 0.56 post-pandemic.
- A student with higher Key Stage 4 prior attainment (e.g., decile = 09), had a probability of 0.93 of progressing to Key Stage pre-pandemic and a probability of 0.94 post-pandemic.

Table 11: Progression to Key Stage 5 (at least one qualification at any level) ~ Key Stage 4 prior attainment ( $N = 1024426$ )

| Variables                  |                        |      | Estimate | Standard Error | p-value |
|----------------------------|------------------------|------|----------|----------------|---------|
| Intercept                  |                        |      | 3.467    | 0.036          | <.0001  |
| Gender                     | Female                 |      | 0.131    | 0.006          | <.0001  |
|                            | [Male]                 |      | .        | .              | .       |
| School Type                | Independent            |      | -0.798   | 0.145          | <.0001  |
|                            | Other                  |      | -0.710   | 0.022          | <.0001  |
|                            | Secondary Modern       |      | 0.149    | 0.031          | <.0001  |
|                            | Selective              |      | 0.407    | 0.034          | <.0001  |
|                            | [Comprehensive]        |      | .        | .              | .       |
| IDACI                      | Low                    |      | 0.203    | 0.008          | <.0001  |
|                            | Medium                 |      | 0.089    | 0.007          | <.0001  |
|                            | [High]                 |      | .        | .              | .       |
| SEN                        | Yes                    |      | 0.126    | 0.008          | <.0001  |
|                            | [No]                   |      | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group |      | 0.376    | 0.024          | <.0001  |
|                            | Asian                  |      | 0.590    | 0.013          | <.0001  |
|                            | Black                  |      | 0.667    | 0.015          | <.0001  |
|                            | Chinese                |      | 0.514    | 0.070          | <.0001  |
|                            | Mixed                  |      | 0.161    | 0.013          | <.0001  |
|                            | [White]                |      | .        | .              | .       |
| KS4 deciles                | 01                     |      | -3.218   | 0.036          | <.0001  |
|                            | 02                     |      | -2.524   | 0.036          | <.0001  |
|                            | 03                     |      | -2.392   | 0.036          | <.0001  |
|                            | 04                     |      | -2.239   | 0.036          | <.0001  |
|                            | 05                     |      | -2.016   | 0.036          | <.0001  |
|                            | 06                     |      | -1.767   | 0.037          | <.0001  |
|                            | 07                     |      | -1.511   | 0.037          | <.0001  |
|                            | 08                     |      | -1.110   | 0.038          | <.0001  |
|                            | 09                     |      | -0.700   | 0.041          | <.0001  |
|                            | [10]                   |      | .        | .              | .       |
| Cohort                     | 2017                   |      | -0.120   | 0.049          | 0.0136  |
|                            | [2020]                 |      | .        | .              | .       |
| KS4 deciles<br>*<br>Cohort | 01                     | 2017 | -0.122   | 0.050          | 0.0150  |
|                            | 02                     | 2017 | -0.292   | 0.050          | <.0001  |
|                            | 03                     | 2017 | -0.165   | 0.050          | 0.0010  |
|                            | 04                     | 2017 | -0.069   | 0.050          | 0.1715  |
|                            | 05                     | 2017 | -0.029   | 0.051          | 0.5714  |
|                            | 06                     | 2017 | -0.055   | 0.051          | 0.2813  |
|                            | 07                     | 2017 | -0.070   | 0.052          | 0.1789  |
|                            | 08                     | 2017 | -0.100   | 0.054          | 0.0630  |
|                            | 09                     | 2017 | -0.010   | 0.057          | 0.8538  |
|                            | [10]                   | 2017 | .        | .              | .       |

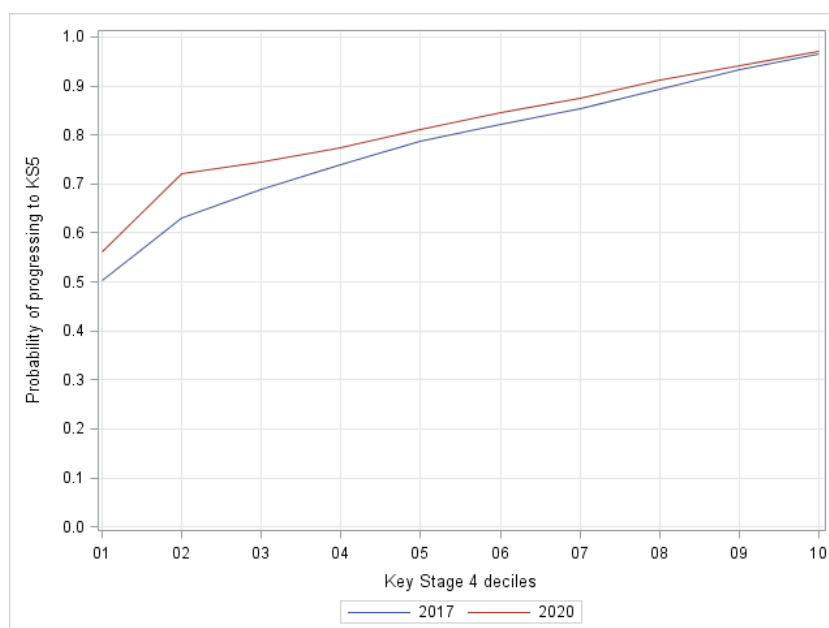


Figure 11: Probability of progression to Key Stage 5 (qualifications at any level) ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

### *Progression to Key Stage 5 (at least one qualification at Level 3)*

In this section, the results from the regression analyses looking at progression to at least one qualification at Level 3 are presented.

As above, the year students completed Key Stage 4 (pre-pandemic (2017) or 2020) was a statistically significant predictor of progression to at least one qualification at Level 3. This effect varied by their Key Stage 2 average score (see Table D1 in Appendix D for details of the regression output) and also by Key Stage 4 decile (Table D2 in Appendix D).

The following figures (Figure 12 and Figure 13) use the outputs of the model to illustrate the probability of progressing for a white male student, of medium level of deprivation, with no special educational needs and attending a comprehensive school by the Key Stage 2 average score and by Key Stage 4 decile of attainment, respectively.

Figure 12 shows that, although the probability of progression was higher post-pandemic than pre-pandemic for all students, independently of their prior attainment (Key Stage 2 scores), the difference in such probability was higher amongst students with low prior attainment than amongst students with high attainment, even after controlling for their background characteristics. Similar results are shown in Figure 13, which shows the results when prior attainment is measured by the Key Stage 4 deciles instead.

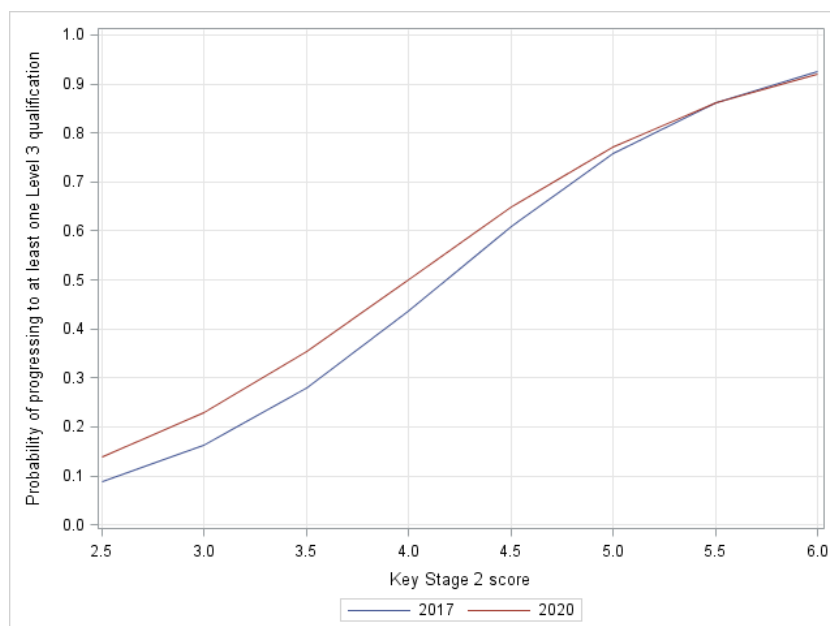


Figure 12: Probability of progression to Key Stage 5 (at least one qualification at Level 3) ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

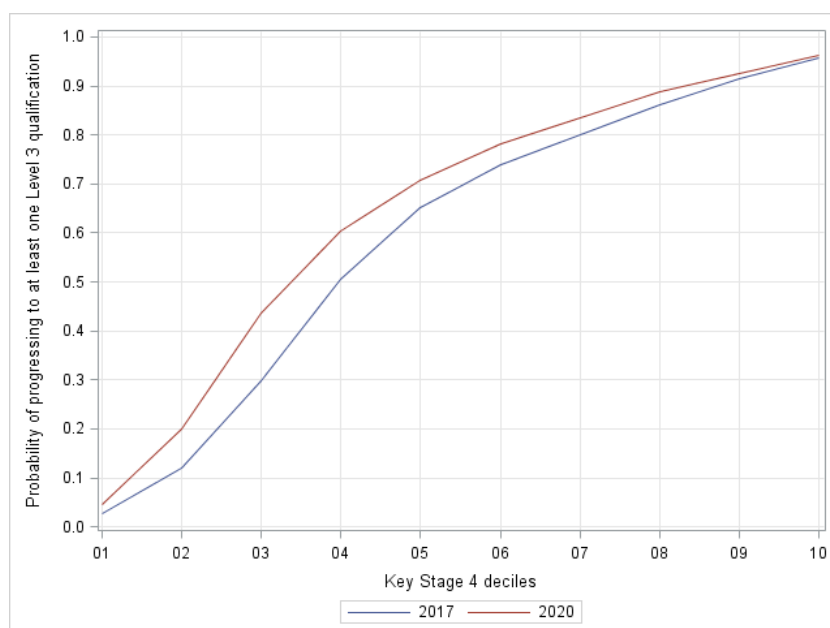


Figure 13: Probability of progression to Key Stage 5 (at least one qualification at Level 3) ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

### *Progression to Key Stage 5 (qualifications at Level 3 only)*

Finally, the results from the regression analyses looking at progression to qualifications at Level 3 only are presented.

As above, the year students completed Key Stage 4 (pre-pandemic (2017) or 2020) was a statistically significant predictor of progression to qualifications at Level 3 only. This effect, again, varied by the students' Key Stage 2 average score (see Table D3 in Appendix D for details of the regression output) and also by the students' Key Stage 4 decile (Table D4 in Appendix D).

The following figures (Figure 14 and Figure 15) show the probability of progressing to qualifications at Level 3 only for a white male student, of medium level of deprivation, with no special educational needs and attending a comprehensive school by the Key Stage 2 average score and by Key Stage 4 decile of attainment, respectively.

Figure 14 shows that although the probability of progression was higher post-pandemic than pre-pandemic for all students, independently of their prior attainment (Key Stage 2 scores), the difference in such probability was higher amongst students with low or medium prior attainment than amongst students with high attainment, even after controlling for their background characteristics. Similar results are shown in Figure 15, which shows the results when prior attainment is measured by the Key Stage 4 deciles instead.

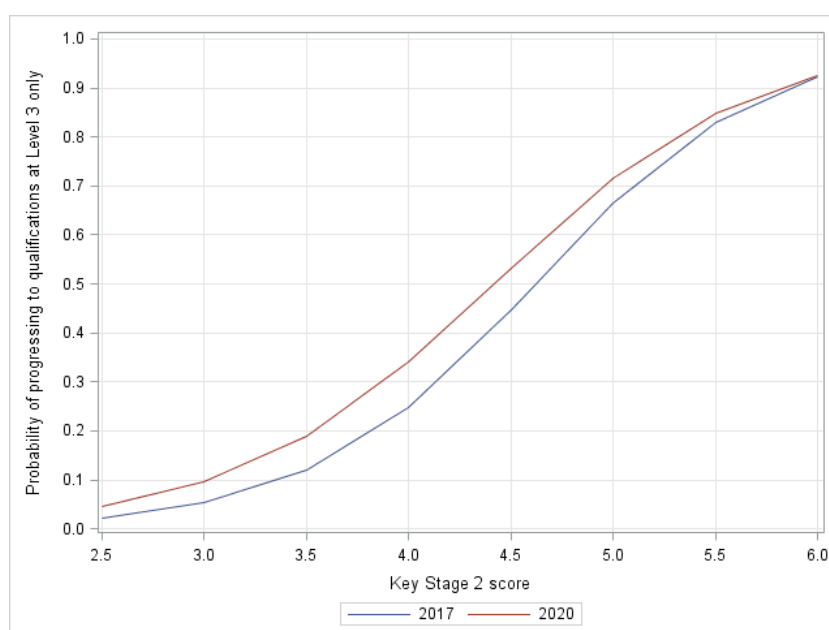


Figure 14: Probability of progression to Key Stage 5 (qualifications at Level 3 only) ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

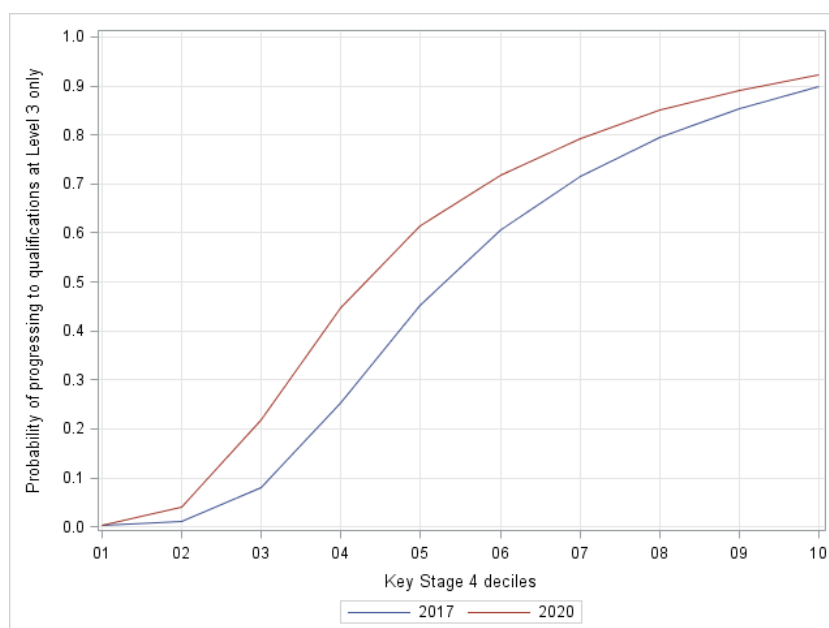


Figure 15: Probability of progression to Key Stage 5 (qualifications at Level 3 only) ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

## 3.2 Retention

### 3.2.1 Dropping out at least one qualification

Table 12 shows the proportion of students in each Key Stage 4 cohort who, having stated which learning aims were planning to pursue during Key Stage 5 (listed in the PLAMS data for the following academic year), dropped at least one of them - that is, they did not complete at least one of the qualifications they intended to take.

Contrary to expectations that dropout rates would be higher for the 2020 Key Stage 4 cohort than for Key Stage 4 cohorts prior to the pandemic<sup>11</sup>, the dropout rates were lower amongst students in the 2020 cohort than amongst students in the 2017 cohort.

Table 12: Students dropping out at least one qualification

| Key Stage 4 cohort | N students (in KS4 and PLAMS) | Dropping Out |      |
|--------------------|-------------------------------|--------------|------|
|                    |                               | N            | %    |
| 2017               | 206237                        | 121142       | 58.7 |
| 2020               | 223758                        | 106054       | 47.4 |

<sup>11</sup> It could be the case that, for example, students who got the GCSE grades they needed in June 2020 (due to the awarding of the CAGs, which could have been slightly generous) realised, during Key Stage 5, that their grades did not have the same meaning as in normal series (so their knowledge and skills was not as expected for the grade achieved) and that their post-16 courses were not right for them.

The figures reported in Table 12 above do not account for the fact that a student could, for example, have changed learning aims during their post-16 studies (a “transferred” aim counted as a “dropped” aim in the figures reported above).

If a student had more aims than qualifications at the end of Key Stage 5, that would imply that they dropped some of the learning aims stated at the start of Year 12 and completed fewer qualifications. However, if a student just swapped qualifications/subjects, they would still have the same number of aims and results. For example, students could still have completed, for example, three A levels as it was their intention at the beginning of Key Stage 5, but not in the subjects they initially selected (e.g., could have swapped Business Studies for Economics).

Taking the above into account, the figures in Table 13 below support the lower dropped out rates in amongst the 2020 cohort, compared with the 2017 cohort. The differences shown between cohorts were, however, smaller than those in Table 12 (11.3 vs. 2.4 percentage points), which indicates that, in fact, students usually transfer learning aims during their post-16 education.

Table 13: Comparison between learning aims and qualifications completed

| Key Stage 4 cohort | N students (in KS4 and PLAMS) | Aims=Results |      | More aims |      | More results |      |
|--------------------|-------------------------------|--------------|------|-----------|------|--------------|------|
|                    |                               | N            | %    | N         | %    | N            | %    |
| 2017               | 206237                        | 74752        | 36.2 | 73178     | 35.5 | 58307        | 28.3 |
| 2020               | 223758                        | 109129       | 48.8 | 73964     | 33.1 | 40665        | 18.2 |

From here onwards, when using the term “dropped” we are referring to qualifications dropped or transferred, as discussed above.

Table 14 below shows the distribution of the number of qualifications dropped by students in each Key Stage 4 cohort. As already shown in Table 12 and Table 13, there were higher percentages of students who did not drop any qualifications amongst the 2020 cohort than amongst the 2017 cohort. Similar percentages of students in both cohorts dropped one qualification, and higher percentages of students in the 2017 cohort than in the 2020 cohort dropped two or more.

Table 15 shows the number and percentage of students dropping at least one qualification (at any level) during Key Stage 5, broken down by students’ background characteristics.

Looking at gender, Table 15 shows that the differences between cohorts in the percentages of students dropping out at least one qualification were very similar for males and females (11.8 and 11.0 percentage points, respectively).

Regarding type of school, Table 15 shows decreases in the percentages of students (from the 2020 Key Stage 4 cohort vs. the 2017 cohort) dropping out in all types of centres. However, the size of such differences was variable. For example, the decrease was smaller amongst students in independent schools (5.7 percentage points) compared to students in secondary modern schools (14.5 percentage points) and schools in the “other” category (17 percentage points).

Table 14: Number of qualifications dropped out by the end of Key Stage 5

| Number of qualifications dropped | 2017 cohort |      | 2020 cohort |      |
|----------------------------------|-------------|------|-------------|------|
|                                  | N           | %    | N           | %    |
| 0                                | 85095       | 41.3 | 117704      | 52.6 |
| 1                                | 59364       | 28.8 | 61031       | 27.3 |
| 2                                | 25355       | 12.3 | 19939       | 8.9  |
| 3                                | 20155       | 9.8  | 15827       | 7.1  |
| 4                                | 10992       | 5.3  | 6750        | 3.0  |
| 5                                | 3575        | 1.7  | 1749        | 0.8  |
| 6                                | 1095        | 0.5  | 524         | 0.2  |
| 7                                | 388         | 0.2  | 148         | 0.1  |
| 8                                | 132         | 0.1  | 57          | 0.0  |
| 9                                | 58          | 0.0  | 16          | 0.0  |
| 10+                              | 28          | 0.0  | 13          | 0.0  |

There were also decreases in the percentages of students dropping out at least one qualification in all prior attainment groups (when prior attainment was measured in terciles). However, the decrease was slightly bigger amongst the medium attaining students compared to both low and high attainers (13.7 vs. 10.2 percentage points). This can also be seen, to a similar degree, when prior attainment was measured by the Key Stage 4 performance in deciles: Table 15 shows lower decreases amongst students in the first and second deciles (around 7 percentage points) and amongst students in deciles 9<sup>th</sup> and 10<sup>th</sup> (between 9 and 10 percentage points). Decreases were highest (from 13 to 14.5 percentage points) amongst students of medium attainment in the 4<sup>th</sup> to 7<sup>th</sup> deciles.

Differences between cohorts in the percentages of students dropping out at least one qualification were very similar for the different levels of socio-economic deprivation, whether this was measured by IDACI (there were decreases around 11 percentage points in all three groups) or by eligibility for free school meals (11.6 vs. 10.4 percentage points, with the lowest difference corresponding to the group eligible for free school meals).

Finally, Table 15 shows that the differences between cohorts in percentage of students dropping out at least one qualification during Key Stage 5 varied only slightly by ethnicity. There were decreases for all groups of students, with the smallest decrease being amongst students of Chinese background (10.1 percentage points) and the highest amongst students with an Asian background or reporting any other ethnic group.

When looking at numbers and percentages of qualifications (of any level), dropped by the end of Key Stage 5, rather than at numbers/percentages of students, Table 16 shows that there was a higher percentage of qualifications dropped amongst students in the 2017 Key Stage 4 cohort than amongst students in the 2020 cohort (33.7% vs. 25.2%, respectively).

Table 17 gives details for specific qualifications<sup>12</sup>.

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<sup>12</sup> Note that, although T Levels are included in the table, these were not yet available for students in the 2017 cohort and only results for the 2020 Key Stage 4 cohort are presented.



Table 15: Students dropping out at least one qualification, by background characteristics

| Characteristics                |                  | 2017 cohort             |                     |                     | 2020 cohort             |                     |                     | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------------------|---------------------|---------------------|-------------------------|---------------------|---------------------|---------------------------|
|                                |                  | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) |                           |
| Gender                         | Female           | 108897                  | 63447               | 58.3                | 117839                  | 55747               | 47.3                | -11.0                     |
|                                | Male             | 97340                   | 57695               | 59.3                | 105919                  | 50307               | 47.5                | -11.8                     |
| School Type                    | Comprehensive    | 166030                  | 97703               | 58.8                | 188392                  | 89758               | 47.6                | -11.2                     |
|                                | Independent      | 3642                    | 2106                | 57.8                | 4497                    | 2344                | 52.1                | -5.7                      |
|                                | Other            | 699                     | 435                 | 62.2                | 768                     | 347                 | 45.2                | -17.0                     |
|                                | Secondary Modern | 7286                    | 4435                | 60.9                | 7753                    | 3592                | 46.3                | -14.5                     |
|                                | Selective        | 19615                   | 10912               | 55.6                | 22175                   | 9924                | 44.8                | -10.9                     |
| Prior Attainment<br>(Terciles) | Low              | 22090                   | 16545               | 74.9                | 25064                   | 16222               | 64.7                | -10.2                     |
|                                | Medium           | 75968                   | 48030               | 63.2                | 83243                   | 41237               | 49.5                | -13.7                     |
|                                | High             | 108179                  | 56567               | 52.3                | 115451                  | 48595               | 42.1                | -10.2                     |
| Prior Attainment<br>(Deciles)  | 01               | 2674                    | 2128                | 79.6                | 2724                    | 1969                | 72.3                | -7.3                      |
|                                | 02               | 5266                    | 4046                | 76.8                | 5741                    | 4009                | 69.8                | -7.0                      |
|                                | 03               | 9400                    | 6982                | 74.3                | 12138                   | 7626                | 62.8                | -11.4                     |
|                                | 04               | 14970                   | 10559               | 70.5                | 17197                   | 9725                | 56.6                | -14.0                     |
|                                | 05               | 21749                   | 14334               | 65.9                | 22886                   | 11873               | 51.9                | -14.0                     |
|                                | 06               | 23797                   | 14745               | 62.0                | 27664                   | 13184               | 47.7                | -14.3                     |
|                                | 07               | 30506                   | 17522               | 57.4                | 31800                   | 14188               | 44.6                | -12.8                     |
|                                | 08               | 32760                   | 17488               | 53.4                | 34415                   | 14502               | 42.1                | -11.2                     |
|                                | 09               | 33352                   | 17097               | 51.3                | 35573                   | 14750               | 41.5                | -9.8                      |
|                                | 10               | 31763                   | 16241               | 51.1                | 33620                   | 14228               | 42.3                | -8.8                      |
| IDACI                          | Low              | 81213                   | 45465               | 56.0                | 87646                   | 38782               | 44.2                | -11.7                     |
|                                | Medium           | 65874                   | 38928               | 59.1                | 73273                   | 34984               | 47.7                | -11.3                     |
|                                | High             | 54887                   | 34205               | 62.3                | 57809                   | 29626               | 51.2                | -11.1                     |

Table 15 (continued): Students dropping out at least one qualification, by background characteristics

| Characteristics |                        | 2017 cohort             |                     |                     | 2020 cohort             |                     |                     | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------------------|---------------------|---------------------|-------------------------|---------------------|---------------------|---------------------------|
|                 |                        | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) |                           |
| FSM             | No                     | 165202                  | 94697               | 57.3                | 181208                  | 82880               | 45.7                | -11.6                     |
|                 | Yes                    | 37149                   | 24161               | 65.0                | 37816                   | 20662               | 54.6                | -10.4                     |
| SEN             | No                     | 189527                  | 110445              | 58.3                | 204015                  | 95243               | 46.7                | -11.6                     |
|                 | Yes                    | 12826                   | 8415                | 65.6                | 15010                   | 8300                | 55.3                | -10.3                     |
| Ethnic Group    | Any Other Ethnic Group | 4093                    | 2439                | 59.6                | 5228                    | 2510                | 48.0                | -11.6                     |
|                 | Asian                  | 26576                   | 14902               | 56.1                | 31839                   | 14207               | 44.6                | -11.5                     |
|                 | Black                  | 13156                   | 7573                | 57.6                | 16201                   | 7508                | 46.3                | -11.2                     |
|                 | Chinese                | 1232                    | 668                 | 54.2                | 1298                    | 573                 | 44.1                | -10.1                     |
|                 | Mixed                  | 9938                    | 5881                | 59.2                | 12673                   | 6130                | 48.4                | -10.8                     |
|                 | White                  | 145070                  | 86084               | 59.3                | 148859                  | 71289               | 47.9                | -11.4                     |

Table 16: Qualifications dropped out by the end of Key Stage 5

| KS4 cohort | N (aims) | Dropping Out |      |
|------------|----------|--------------|------|
|            |          | N            | %    |
| 2017       | 723220   | 243547       | 33.7 |
| 2020       | 751154   | 189055       | 25.2 |

Table 17: Qualifications dropped out by the end of Key Stage 5, by type of qualification

| Qualification           | 2017 cohort |           |           | 2020 cohort |           |           | Difference 2020 – 2017 |
|-------------------------|-------------|-----------|-----------|-------------|-----------|-----------|------------------------|
|                         | N (aims)    | Dropped N | Dropped % | N (aims)    | Dropped N | Dropped % |                        |
| Applied Generals        | 65508       | 26666     | 40.7      | 102830      | 32158     | 31.3      | -9.4                   |
| Core Maths              | 4927        | 1950      | 39.6      | 8942        | 2790      | 31.2      | -8.4                   |
| EPQ                     | 24106       | 11230     | 46.6      | 27300       | 12810     | 46.9      | 0.3                    |
| GCE A level             | 414084      | 102525    | 24.8      | 526100      | 101291    | 19.3      | -5.5                   |
| GCE AS level            | 133782      | 57783     | 43.2      | 37254       | 20290     | 54.5      | 11.3                   |
| GCSE English            | 10031       | 4650      | 46.4      | 5993        | 2775      | 46.3      | -0.1                   |
| GCSE Maths              | 12872       | 4698      | 36.5      | 9138        | 2782      | 30.4      | -6.1                   |
| Other GQ Level 3        | 9139        | 5133      | 56.2      | 6762        | 1895      | 28.0      | -28.1                  |
| Other Level 1 / Level 2 | 18778       | 12342     | 65.7      | 9275        | 5045      | 54.4      | -11.3                  |
| Other VTQ/VRQ Level 3   | 21644       | 12811     | 59.2      | 7005        | 3279      | 46.8      | -12.4                  |
| T Levels                |             |           |           | 62          | 26        | 41.9      |                        |
| Tech Levels             | 8173        | 3602      | 44.1      | 10151       | 3617      | 35.6      | -8.4                   |
| Technical Certificates  | 176         | 157       | 89.2      | 342         | 297       | 86.8      | -2.4                   |

The figures in Table 17 show that there were decreases in the percentages for all qualifications, with the exception of the AS level (which shows, on the contrary, an increase of around 11 percentage points) and the EPQ (which shows almost no change). In the case of the AS level, the difference could be due to a reporting issue in PLAMS rather than students deciding to drop the qualification (*i.e.*, some schools recording an AS and an A level in the same subject at the start of the 2020/21 academic year, and the student qualifying for the A level only in 2022). The qualifications with the highest decreases in dropout rates were those in the “other” categories. It is worth mentioning that the decrease in A level dropout rates was lower than the decrease for other Level 3 qualifications. Finally, regarding GCSEs in English and Maths taking whilst in Key Stage 5 (re-sits), there was no change in the dropout rates of GCSE English but a decrease of six percentage points in GCSE Maths.

To further explore if dropout rates during Key Stage 5 changed post-pandemic compared to dropout rates before the pandemic, taking into account students’ “ability” (measured by prior attainment) and whilst controlling for students’ backgrounds, multilevel regression analyses were carried out.

Table 18 shows the results of the regression model looking at the probability of dropping out at least one qualification by the end of Key Stage 5 and Figure 16 (using data from Table 18) shows the probability of dropping out for a white male student, of medium level of deprivation, with no special educational needs, attending a comprehensive school and with three aims in the PLAMS data (the average number amongst the students in the research).

Table 18 shows that the year students completed Key Stage 4 was a statistically significant predictor of dropping out at least one qualification by the end of Key Stage 5, and this effect varied by their Key Stage 2 average score. For example:

- A student with a Key Stage 2 score of 2.5 (fairly low), had a probability of dropping out at least one qualification by the end of Key Stage 5 of 0.82 pre-pandemic and 0.70 post-pandemic.
- A student with a Key Stage 4 score of 5.5 (fairly high), had a probability of 0.44 of dropping out at least one qualification to Key Stage pre-pandemic and a probability of 0.36 post-pandemic.

Although the probability of dropping out at least one qualification was higher pre-pandemic than post-pandemic for all students, independently of their prior attainment, the difference in such probability was higher amongst students with low prior attainment than amongst students with high attainment, even after controlling for their background characteristics.

Figure 16 corroborates the above, showing that towards the top of the Key Stage 2 scores distribution, the probability of dropping out at least one qualification by the end of Key Stage 5 (qualifications at any level) for both cohorts of students becomes similar, whilst there are relatively big differences at the bottom of the Key Stage 2 scores distribution.

Table 18: Drop out at least one qualification by the end of Key Stage 5 ~ Key Stage 2 prior attainment ( $N = 380967$ )

| Variables                           |                        | Estimate | Standard Error | p-value |
|-------------------------------------|------------------------|----------|----------------|---------|
| Intercept                           |                        | -0.981   | 0.051          | <.0001  |
| Gender                              | Female                 | -0.100   | 0.008          | <.0001  |
|                                     | [Male]                 | .        | .              | .       |
| School Type                         | Independent            | 1.489    | 0.890          | 0.094   |
|                                     | Other                  | 1.241    | 0.167          | <.0001  |
|                                     | Secondary Modern       | -0.105   | 0.077          | 0.171   |
|                                     | Selective              | -0.304   | 0.064          | <.0001  |
|                                     | [Comprehensive]        | .        | .              | .       |
| IDACI                               | Low                    | -0.291   | 0.012          | <.0001  |
|                                     | Medium                 | -0.141   | 0.011          | <.0001  |
|                                     | [High]                 | .        | .              | .       |
| SEN                                 | Yes                    | 0.357    | 0.016          | <.0001  |
|                                     | [No]                   | .        | .              | .       |
| Ethnic Group                        | Any Other Ethnic Group | -0.154   | 0.029          | <.0001  |
|                                     | Asian                  | -0.265   | 0.014          | <.0001  |
|                                     | Black                  | -0.200   | 0.018          | <.0001  |
|                                     | Chinese                | -0.384   | 0.051          | <.0001  |
|                                     | Mixed                  | 0.023    | 0.017          | 0.179   |
|                                     | [White]                | .        | .              | .       |
| Number of qualifications (in PLAMS) |                        | 1.030    | 0.005          | <.0001  |
| KS2 average score                   |                        | -0.463   | 0.010          | <.0001  |
| Cohort                              | 2017                   | 0.980    | 0.068          | <.0001  |
|                                     | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort          | 2017                   | -0.119   | 0.014          | <.0001  |
|                                     | [2020]                 | .        | .              | .       |

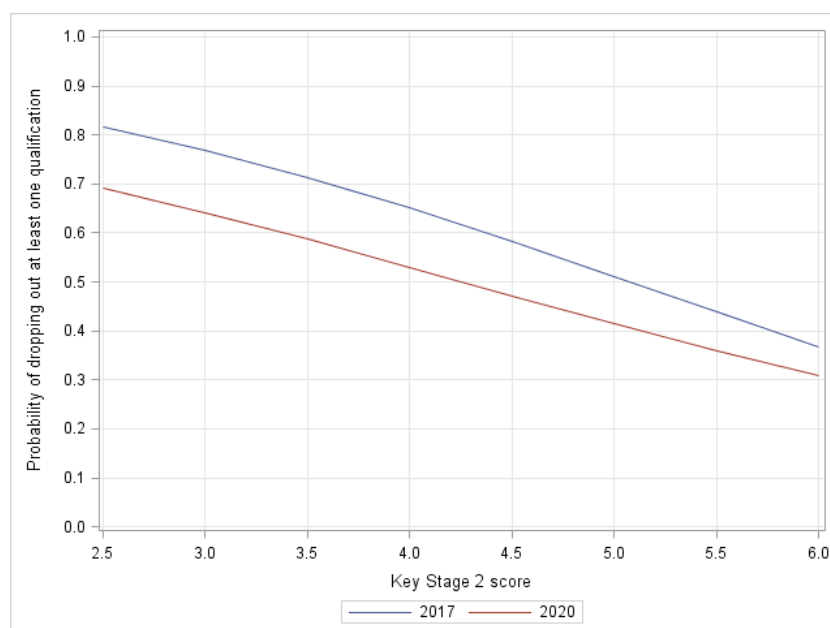


Figure 16: Probability of dropping out at least one qualification by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of qualifications = 3)

Table 19 and Figure 17 (using data from Table 19) show the results of the regression analyses using the deciles of Key Stage 4 attainment instead of the average Key Stage 2 score as a measure of students' attainment at school. As above, the year students completed Key Stage 4 was a statistically significant predictor of dropping out at least one qualification by the end of Key Stage 5, and this effect varied by their Key Stage 4 attainment.

Although, as was the case when using Key Stage 2 as a measure of prior attainment, the probability of dropping out at least one qualification was higher pre-pandemic than post-pandemic for all students, independently of their prior attainment, the difference in such probabilities was highest amongst students with medium prior attainment (those in deciles 4<sup>th</sup> to 7<sup>th</sup>, as shown as well in Table 15), even after controlling for their background characteristics. In particular:

- A student with their Key Stage 4 attainment in the first decile (fairly low), had a probability of dropping out at least one qualification by the to Key Stage 5 of 0.87 pre-pandemic and 0.82 post-pandemic (difference = 0.05).
- A student with their Key Stage 4 attainment in the fifth decile (medium attainment), had a probability of dropping out at least one qualification by the to Key Stage 5 of 0.69 pre-pandemic and 0.53 post-pandemic (difference = 0.16).
- A student with high Key Stage 4 prior attainment (e.g., decile = 10), had a probability of 0.37 of dropping out at least one qualification pre-pandemic and a probability of 0.29 post-pandemic (difference = 0.07).

Table 19: Drop out at least one qualification by the end of Key Stage 5 ~ Key Stage 4 prior attainment ( $N = 406425$ )

| Variables                           |                        |      | Estimate | Standard Error | p-value |
|-------------------------------------|------------------------|------|----------|----------------|---------|
| Intercept                           |                        |      | -4.630   | 0.030          | <.0001  |
| Gender                              | Female                 |      | 0.070    | 0.008          | <.0001  |
|                                     | [Male]                 |      | .        | .              | .       |
| School Type                         | Independent            |      | 2.151    | 0.892          | 0.016   |
|                                     | Other                  |      | 0.901    | 0.155          | <.0001  |
|                                     | Secondary Modern       |      | -0.190   | 0.076          | 0.012   |
|                                     | Selective              |      | -0.122   | 0.063          | 0.053   |
|                                     | [Comprehensive]        |      | .        | .              | .       |
| IDACI                               | Low                    |      | -0.173   | 0.012          | <.0001  |
|                                     | Medium                 |      | -0.081   | 0.011          | <.0001  |
|                                     | [High]                 |      | .        | .              | .       |
| SEN                                 | Yes                    |      | 0.146    | 0.016          | <.0001  |
|                                     | [No]                   |      | .        | .              | .       |
| Ethnic Group                        | Any Other Ethnic Group |      | -0.107   | 0.027          | <.0001  |
|                                     | Asian                  |      | -0.211   | 0.014          | <.0001  |
|                                     | Black                  |      | -0.251   | 0.017          | <.0001  |
|                                     | Chinese                |      | -0.207   | 0.048          | <.0001  |
|                                     | Mixed                  |      | 0.013    | 0.017          | 0.458   |
|                                     | [White]                |      | .        | .              | .       |
| Number of qualifications (in PLAMS) |                        |      | 1.200    | 0.005          | <.0001  |
| KS4 deciles                         | 01                     |      | 2.645    | 0.056          | <.0001  |
|                                     | 02                     |      | 2.489    | 0.039          | <.0001  |
|                                     | 03                     |      | 2.066    | 0.028          | <.0001  |
|                                     | 04                     |      | 1.636    | 0.024          | <.0001  |
|                                     | 05                     |      | 1.225    | 0.021          | <.0001  |
|                                     | 06                     |      | 0.890    | 0.020          | <.0001  |
|                                     | 07                     |      | 0.622    | 0.019          | <.0001  |
|                                     | 08                     |      | 0.401    | 0.019          | <.0001  |
|                                     | 09                     |      | 0.223    | 0.018          | <.0001  |
|                                     | [10]                   |      | .        | .              | .       |
| Cohort                              | 2017                   |      | 0.371    | 0.019          | <.0001  |
|                                     | [2020]                 |      | .        | .              | .       |
| KS4 deciles<br>*<br>Cohort          | 01                     | 2017 | -0.020   | 0.082          | 0.802   |
|                                     | 02                     | 2017 | 0.082    | 0.057          | 0.150   |
|                                     | 03                     | 2017 | 0.291    | 0.042          | <.0001  |
|                                     | 04                     | 2017 | 0.340    | 0.035          | <.0001  |
|                                     | 05                     | 2017 | 0.309    | 0.030          | <.0001  |
|                                     | 06                     | 2017 | 0.273    | 0.029          | <.0001  |
|                                     | 07                     | 2017 | 0.167    | 0.027          | <.0001  |
|                                     | 08                     | 2017 | 0.056    | 0.027          | 0.035   |
|                                     | 09                     | 2017 | -0.007   | 0.026          | 0.781   |
|                                     | [10]                   | 2017 | .        | .              | .       |

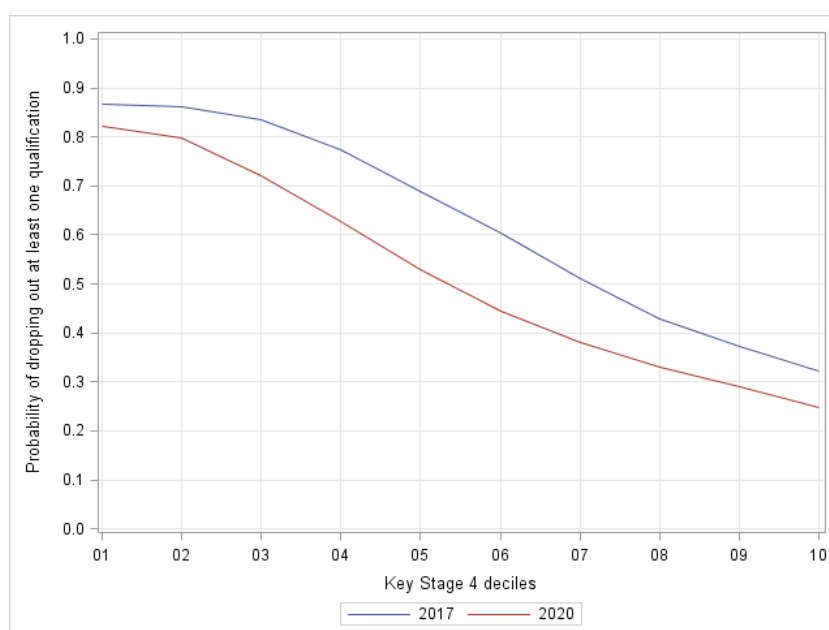


Figure 17: Probability of dropping out at least one qualification by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of qualifications = 3)

Table 20 and Table 21 show the results of the regression models looking at the percentage of qualifications (at any level) dropped during Key Stage 5 and Figure 18 (using data from Table 20) and Figure 19 (using data from Table 21) show the percentage of qualifications dropped for a white male student, of medium level of deprivation, with no special educational needs and attending a comprehensive school.

The year students completed Key Stage 4 was a statistically significant predictor of the percentage of qualifications (at any level) dropped during Key Stage 5, and that this effect varied by their Key Stage 2 average score (Table 20) and also by the Key Stage 4 prior attainment decile (Table 21). As an example, Table 21 shows that:

- A student with their Key Stage 4 attainment in the first decile (fairly low), dropped 55% of their qualifications during Key Stage 5 pre-pandemic and just under 50% (48.5%) post-pandemic.
- A student with their Key Stage 4 attainment in the fifth decile (medium attainment) dropped 44% of their qualifications during Key Stage 5 pre-pandemic and around 33% post-pandemic.
- A student with higher Key Stage 4 prior attainment (e.g., decile = 10) dropped 23% of their qualifications during Key Stage 5 pre-pandemic and 17% post-pandemic.

The predictive percentage of qualifications dropped (at any level) by high attaining students (e.g., around 20%, as shown in Figure 19) might be seen as fairly high. However, high attaining students might start, for example, four or five A levels and drop one or two along the way.



Table 20: Percentage of qualifications (any level) dropped out by the end of Key Stage 5 ~ Key Stage 2 prior attainment ( $N = 380967$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | 57.108   | 0.696          | <.0001  |
| Gender                     | Female                 | -1.275   | 0.116          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | Independent            | 13.571   | 9.961          | 0.173   |
|                            | Other                  | 17.938   | 2.097          | <.0001  |
|                            | Secondary Modern       | -1.041   | 1.103          | 0.345   |
|                            | Selective              | -5.514   | 0.921          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | -5.473   | 0.165          | <.0001  |
|                            | Medium                 | -2.858   | 0.152          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | 5.109    | 0.224          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | -2.520   | 0.399          | <.0001  |
|                            | Asian                  | -4.373   | 0.196          | <.0001  |
|                            | Black                  | -3.608   | 0.245          | <.0001  |
|                            | Chinese                | -5.203   | 0.698          | <.0001  |
|                            | Mixed                  | 0.309    | 0.241          | 0.199   |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | -5.552   | 0.137          | <.0001  |
| Cohort                     | 2017                   | 13.807   | 0.921          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | -1.308   | 0.197          | <.0001  |
|                            | [2020]                 | .        | .              | .       |

Table 21: Percentage of qualifications (any level) dropped out by the end of Key Stage 5 ~ Key Stage 4 prior attainment ( $N = 406425$ )

| Variables                  |                        |      | Estimate | Standard Error | p-value |
|----------------------------|------------------------|------|----------|----------------|---------|
| Intercept                  |                        |      | 18.761   | 0.306          | <.0001  |
| Gender                     | Female                 |      | 0.991    | 0.109          | <.0001  |
|                            | [Male]                 |      | .        | .              | .       |
| School Type                | Independent            |      | 25.216   | 8.618          | 0.003   |
|                            | Other                  |      | 11.684   | 1.823          | <.0001  |
|                            | Secondary Modern       |      | -2.695   | 1.035          | 0.009   |
|                            | Selective              |      | -1.389   | 0.863          | 0.108   |
|                            | [Comprehensive]        |      | .        | .              | .       |
| IDACI                      | Low                    |      | -3.427   | 0.156          | <.0001  |
|                            | Medium                 |      | -1.847   | 0.143          | <.0001  |
|                            | [High]                 |      | .        | .              | .       |
| SEN                        | Yes                    |      | 1.626    | 0.207          | <.0001  |
|                            | [No]                   |      | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group |      | -1.666   | 0.355          | <.0001  |
|                            | Asian                  |      | -3.428   | 0.182          | <.0001  |
|                            | Black                  |      | -4.302   | 0.224          | <.0001  |
|                            | Chinese                |      | -2.567   | 0.636          | <.0001  |
|                            | Mixed                  |      | 0.171    | 0.225          | 0.449   |
|                            | [White]                |      | .        | .              | .       |
| KS4 deciles                | 01                     |      | 31.604   | 0.657          | <.0001  |
|                            | 02                     |      | 30.906   | 0.469          | <.0001  |
|                            | 03                     |      | 26.223   | 0.349          | <.0001  |
|                            | 04                     |      | 20.652   | 0.309          | <.0001  |
|                            | 05                     |      | 15.654   | 0.283          | <.0001  |
|                            | 06                     |      | 11.768   | 0.267          | <.0001  |
|                            | 07                     |      | 8.107    | 0.257          | <.0001  |
|                            | 08                     |      | 4.543    | 0.250          | <.0001  |
|                            | 09                     |      | 2.136    | 0.247          | <.0001  |
|                            | [10]                   |      | .        | .              | .       |
| Cohort                     | 2017                   |      | 6.570    | 0.254          | <.0001  |
|                            | [2020]                 |      | .        | .              | .       |
| KS4 deciles<br>*<br>Cohort | 01                     | 2017 | 0.254    | 0.929          | 0.785   |
|                            | 02                     | 2017 | 0.422    | 0.670          | 0.528   |
|                            | 03                     | 2017 | 3.432    | 0.514          | <.0001  |
|                            | 04                     | 2017 | 5.036    | 0.442          | <.0001  |
|                            | 05                     | 2017 | 4.963    | 0.398          | <.0001  |
|                            | 06                     | 2017 | 4.223    | 0.382          | <.0001  |
|                            | 07                     | 2017 | 2.532    | 0.363          | <.0001  |
|                            | 08                     | 2017 | 1.026    | 0.356          | 0.004   |
|                            | 09                     | 2017 | 0.152    | 0.353          | 0.668   |
|                            | [10]                   | 2017 | .        | .              | .       |

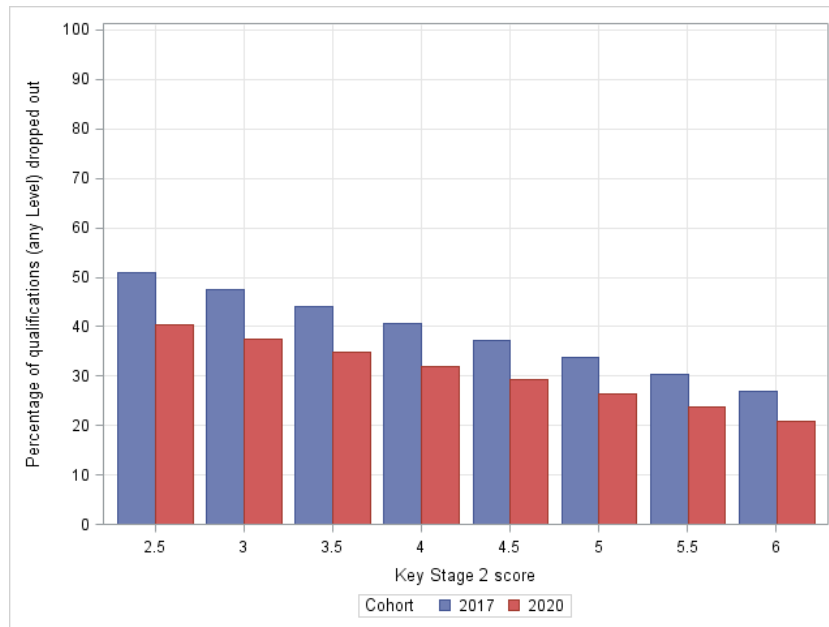


Figure 18: Percentage of qualifications (any level) dropped out by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

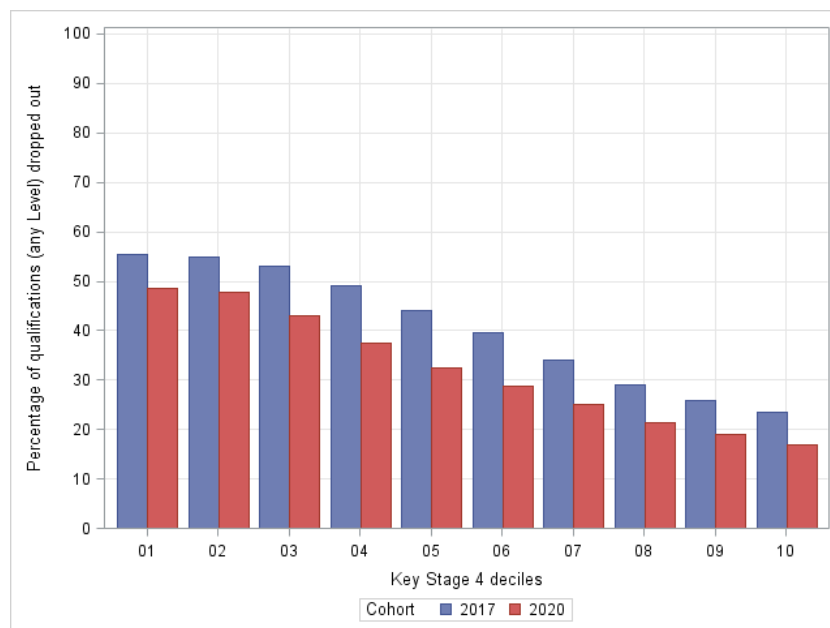


Figure 19: Percentage of qualifications (any level) dropped out by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Figure 19 corroborates the above, showing that the difference in the percentages of qualifications dropped were highest amongst students with medium prior attainment (those in deciles 4<sup>th</sup> to 7<sup>th</sup>). On the contrary, when considering Key Stage 2 scores as a measure of prior attainment, and as was shown for the probability of dropping out at least one qualification by the end of Key Stage 5, Figure 18 shows that towards the top of the Key Stage 2 scores distribution, the percentages of qualifications dropped by both cohorts of students becomes similar, whilst there are relatively big differences at the bottom of the Key Stage 2 scores distribution.

### 3.2.2 Dropping out at least one A level

This section focusses on A level qualifications only (the most popular Level 3 qualifications, as shown in Table 17 taken during Key Stage 5) and looks at the students (and their characteristics) who dropped at least one A level during their Key Stage 5 studies.

Table 22 shows the proportion of students in each Key Stage 4 cohort who, having stated that were going to pursue a specific number of A levels during Key Stage 5 (as recorded in the PLAMS data for the following academic year) dropped at least one of them. Contrary to expectations that dropout rates could be higher for the 2020 Key Stage 4 than for cohorts at Key Stage before the pandemic (as already discussed in Section 3.2.1), the dropout rates were lower, by 7.5 percentage points, amongst students in the 2020 cohort.

Table 22: Students dropping out at least one A level

| Key Stage 4 cohort | N students (in KS4 and PLAMS) | Dropping Out |      |
|--------------------|-------------------------------|--------------|------|
|                    |                               | N            | %    |
| 2017               | 147650                        | 63881        | 43.3 |
| 2020               | 185748                        | 66499        | 35.8 |

The figures reported in Table 22 above do not account for the fact that a student could, for example, transfer from one A level to another (a “transferred” aim counted as a “dropped” aim in the figures reported above).

As explained in the previous section, if a student had more aims than qualifications at the end of Key Stage 5, that implies that they dropped some of the learning aims stated at the start of Year 12 and completed fewer qualifications. However, if a student just swapped qualifications/subjects, they would still have the same number of aims and results. For example, students could still have completed, for example, three A levels as it was their intention at the beginning of Key Stage 5, but not in the subjects they initially selected (e.g., could have swapped Business Studies for Sociology).

Taking the above into account, the figures in Table 23 below support the lower dropped out rates in amongst the 2020 cohort, compared with the 2017 cohort. The differences shown between cohorts were, however, smaller than those shown in Table 22 (7.5 vs. 5.1 percentage points), which indicates that, in fact, students sometimes transfer learning aims during their post-16 education.

Table 23: Overall comparison between A level learning aims and A levels completed

| Key Stage 4 cohort | N students (in KS4 and PLAMS) | Aims=Results |      | More aims |      | More results |     |
|--------------------|-------------------------------|--------------|------|-----------|------|--------------|-----|
|                    |                               | N            | %    | N         | %    | N            | %   |
| 2017               | 147650                        | 77802        | 52.7 | 55680     | 37.7 | 14168        | 9.6 |
| 2020               | 185748                        | 116670       | 62.8 | 60617     | 32.6 | 8461         | 4.6 |

Table 24 gives a bit more detail on the comparison between the number of A level learning aims (as recorded in the PLAMS dataset) and the number of A levels completed by students in the 2020 Key Stage 4 cohort. The most common number of A level aims was three, and the large majority of students with such number of aims at the beginning of Key Stage 5 (80.7%), had three A levels by the end of Key Stage 5. On the contrary, over 71% and 67% of the students who started four or five A levels, respectively, only completed three A levels within the next two years.

Table 24: Comparison between number of A level learning aims and A levels completed, 2020 cohort

| Number of A level aims | Number of A level results |       |       |        |       |        |
|------------------------|---------------------------|-------|-------|--------|-------|--------|
|                        | 0                         | 1     | 2     | 3      | 4+    | Total  |
| 1                      | 13542                     | 19392 | 2756  | 5186   | 355   | 41231  |
|                        | 32.8                      | 47.0  | 6.7   | 12.6   | 0.9   |        |
| 2                      | 9648                      | 6000  | 27751 | 10112  | 510   | 54021  |
|                        | 17.9                      | 11.1  | 51.4  | 18.7   | 0.9   |        |
| 3                      | 15569                     | 2062  | 11716 | 137209 | 3573  | 170129 |
|                        | 9.15                      | 1.21  | 6.89  | 80.65  | 2.1   |        |
| 4                      | 4334                      | 532   | 2250  | 43269  | 10166 | 60551  |
|                        | 7.2                       | 0.9   | 3.7   | 71.5   | 16.8  |        |
| 5                      | 779                       | 84    | 283   | 4429   | 1070  | 6645   |
|                        | 11.7                      | 1.3   | 4.3   | 66.7   | 16.1  |        |
| 6+                     | 230                       | 10    | 50    | 463    | 68    | 821    |
|                        | 28.0                      | 1.2   | 6.1   | 56.4   | 8.3   |        |

From here onwards, when using the term “dropped” we are referring to A levels dropped or transferred, as discussed above.

Table 25 below shows the distribution of the number of A levels dropped by students in each Key Stage 4 cohort. As already shown in Table 22 and Table 23, there were higher percentages of students who did not drop any A levels amongst the 2020 cohort than amongst the 2017 cohort. On the contrary, slightly higher percentages of students from the 2017 cohort dropped at least one A level compared to students from the 2020 cohort.

Table 25: Number of A levels dropped out by the end of Key Stage 5

| Number of A levels dropped | 2017 cohort |      | 2020 cohort |      |
|----------------------------|-------------|------|-------------|------|
|                            | N           | %    | N           | %    |
| 0                          | 83769       | 56.7 | 119249      | 64.2 |
| 1                          | 41181       | 27.9 | 45626       | 24.6 |
| 2                          | 10590       | 7.2  | 10134       | 5.5  |
| 3                          | 9058        | 6.1  | 8145        | 4.4  |
| 4                          | 2446        | 1.7  | 2150        | 1.2  |
| 5                          | 468         | 0.3  | 347         | 0.2  |
| 6+                         | 138         | 0.1  | 97          | 0.1  |

Table 26 shows the number and percentage of students dropping at least one A level during Key Stage 5, broken down by students' background characteristics.

Looking at gender, Table 26 shows that the differences between cohorts in the percentages of students dropping out at least one A level were very similar for males and females (7.7 and 7.3 percentage points, respectively).

Regarding type of school, and in line with the results shown in Table 15, Table 26 confirms decreases in the percentages of students (from the 2020 Key Stage 4 cohort vs. the 2017 cohort) dropping out at least one A level qualification during Key Stage 5, regardless of the centre they were in. However, the size of such differences was variable. For example, and as shown also in Table 15, the decrease was smaller amongst students in independent schools (3.6 percentage points) compared to students in secondary modern schools (9.0 percentage points) and schools in the "other" category (21.6 percentage points).

There were also decreases in the percentages of students dropping out at least one A level in all prior attainment groups (when prior attainment was measured in terciles). However, the decrease was slightly bigger amongst the low and medium attaining students compared to the high attainers (around 10 percentage points vs. 6.4 percentage points). When prior attainment was measured by the Key Stage 4 performance in deciles, Table 26 shows lower decreases amongst students in the first prior attainment decile (5.0 percentage points) and amongst students in deciles 9<sup>th</sup> and 10<sup>th</sup> (between 5 and 6 percentage points). Decreases were highest (between 10 and 12 percentage points) amongst students of medium attainment in the 3<sup>rd</sup> to 6<sup>th</sup> deciles.

Differences between cohorts in the percentages of students dropping out at least one A level were very similar for the different levels of socio-economic deprivation, whether this was measured by IDACI (there were decreases between 7 and 8 percentage points in all three groups) or by eligibility for free school meals (7.5 vs. 7.7 percentage points, with the highest difference corresponding to the group eligible for free school meals).

Finally, Table 26 shows that the differences between cohorts in the percentage of students dropping at least one A level during Key Stage 5 varied slightly by ethnicity. There were decreases for all groups of students, with the smallest decrease being amongst students of Chinese background (6.2 percentage points) and the highest amongst Black students (9.2 percentage points).

Table 26: Students dropping out at least one A level, by background characteristics

| Characteristics                |                  | 2017 cohort             |                     |                     | 2020 cohort             |                     |                     | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------------------|---------------------|---------------------|-------------------------|---------------------|---------------------|---------------------------|
|                                |                  | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) |                           |
| Gender                         | Female           | 80405                   | 34681               | 43.1                | 100380                  | 35966               | 35.8                | -7.3                      |
|                                | Male             | 67245                   | 29200               | 43.4                | 85368                   | 30533               | 35.8                | -7.7                      |
| School Type                    | Comprehensive    | 117422                  | 50649               | 43.1                | 154868                  | 55280               | 35.7                | -7.4                      |
|                                | Independent      | 2706                    | 1271                | 47.0                | 3998                    | 1735                | 43.4                | -3.6                      |
|                                | Other            | 287                     | 184                 | 64.1                | 365                     | 155                 | 42.5                | -21.6                     |
|                                | Secondary Modern | 4796                    | 1885                | 39.3                | 5814                    | 1760                | 30.3                | -9.0                      |
|                                | Selective        | 16314                   | 7059                | 43.3                | 20562                   | 7531                | 36.6                | -6.6                      |
| Prior Attainment<br>(Terciles) | Low              | 6087                    | 4039                | 66.4                | 9547                    | 5370                | 56.2                | -10.1                     |
|                                | Medium           | 53058                   | 25473               | 48.0                | 67815                   | 25925               | 38.2                | -9.8                      |
|                                | High             | 88505                   | 34369               | 38.8                | 108386                  | 35204               | 32.5                | -6.4                      |
| Prior Attainment<br>(Deciles)  | 01               | 133                     | 120                 | 90.2                | 258                     | 220                 | 85.3                | -5.0                      |
|                                | 02               | 735                     | 592                 | 80.5                | 1376                    | 979                 | 71.1                | -9.4                      |
|                                | 03               | 3043                    | 2013                | 66.2                | 5416                    | 2916                | 53.8                | -12.3                     |
|                                | 04               | 7775                    | 4440                | 57.1                | 10833                   | 5036                | 46.5                | -10.6                     |
|                                | 05               | 14143                   | 7320                | 51.8                | 17632                   | 7174                | 40.7                | -11.1                     |
|                                | 06               | 17458                   | 8149                | 46.7                | 23859                   | 8760                | 36.7                | -10.0                     |
|                                | 07               | 24089                   | 10260               | 42.6                | 28903                   | 9772                | 33.8                | -8.8                      |
|                                | 08               | 26765                   | 10369               | 38.7                | 32074                   | 10096               | 31.5                | -7.3                      |
|                                | 09               | 27401                   | 10283               | 37.5                | 33558                   | 10663               | 31.8                | -5.8                      |
|                                | 10               | 26108                   | 10335               | 39.6                | 31839                   | 10883               | 34.2                | -5.4                      |
| IDACI                          | Low              | 63512                   | 25697               | 40.5                | 77979                   | 26056               | 33.4                | -7.0                      |
|                                | Medium           | 47086                   | 20645               | 43.8                | 60263                   | 21590               | 35.8                | -8.0                      |
|                                | High             | 33931                   | 16051               | 47.3                | 43097                   | 16916               | 39.3                | -8.1                      |

Table 26 (continued): Students dropping out at least one A level, by background characteristics

| Characteristics |                        | 2017 cohort             |                     |                     | 2020 cohort             |                     |                     | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------------------|---------------------|---------------------|-------------------------|---------------------|---------------------|---------------------------|
|                 |                        | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) | N (in KS4<br>and PLAMS) | N<br>(dropping out) | %<br>(dropping out) |                           |
| FSM             | No                     | 122349                  | 51243               | 41.9                | 154416                  | 53114               | 34.4                | -7.5                      |
|                 | Yes                    | 22468                   | 11292               | 50.3                | 27180                   | 11555               | 42.5                | -7.7                      |
| SEN             | No                     | 137948                  | 59139               | 42.9                | 171743                  | 60530               | 35.2                | -7.6                      |
|                 | Yes                    | 6869                    | 3396                | 49.4                | 9853                    | 4139                | 42.0                | -7.4                      |
| Ethnic Group    | Any Other Ethnic Group | 2690                    | 1215                | 45.2                | 4034                    | 1483                | 36.8                | -8.4                      |
|                 | Asian                  | 18062                   | 7541                | 41.8                | 25938                   | 8966                | 34.6                | -7.2                      |
|                 | Black                  | 8259                    | 3543                | 42.9                | 11739                   | 3961                | 33.7                | -9.2                      |
|                 | Chinese                | 982                     | 412                 | 42.0                | 1178                    | 421                 | 35.7                | -6.2                      |
|                 | Mixed                  | 7075                    | 3183                | 45.0                | 10396                   | 3828                | 36.8                | -8.2                      |
|                 | White                  | 106051                  | 45886               | 43.3                | 125881                  | 45183               | 35.9                | -7.4                      |



When looking at numbers and percentages of A levels dropped by the end of Key Stage 5, rather than at numbers/percentages of students, Table 27 shows that there was a higher percentage of A level aims dropped amongst students in the 2017 Key Stage 4 cohort than amongst students in the 2020 cohort (24.8% vs. 19.3%, respectively). Note that the difference in the percentage of A level aims dropped (5.5 percentage points) was slightly smaller than the difference in the percentage of aims at any level dropped (8.5 percentage points, as shown in Table 16).

Table 27: A level aims dropped out by the end of Key Stage 5

| KS4 cohort | N<br>(A level aims) | Dropping Out |      |
|------------|---------------------|--------------|------|
|            |                     | N            | %    |
| 2017       | 414084              | 102525       | 24.8 |
| 2020       | 526100              | 101291       | 19.3 |

As in Section 3.2.1, to further explore if the dropout of A level qualifications during Key Stage 5 changed post-pandemic compared to the dropout before the pandemic, multilevel regression analyses were carried out.

Table E1 in Appendix E shows the results of the regression model looking at the probability of dropping at least one A level by the end of Key Stage 5 and Figure 20 below (using data from Table E1) shows the probability of dropping out for a white male student, of medium level of deprivation, with no special educational needs, attending a comprehensive school and with three A level aims in the PLAMS data (the average number amongst the students in the research).

Similar to findings for the dropout of Key Stage 5 aims at any level (discussed in the previous section), the year students completed Key Stage 4 was a statistically significant predictor of dropping out at least one A level qualification by the end of Key Stage 5, and this effect varied slightly by their Key Stage 2 average score (that is, there was a significant interaction term between cohort and Key Stage 2 score (Table E1)). This is reflected in Figure 20 below, which shows that the probability of dropping out at least one A level by the end of Key Stage 5 was higher pre-pandemic than post-pandemic for all students and that such difference was very similar for all levels of prior attainment, despite the significant interaction. This contrasts with findings from Figure 16, which showed the difference in the probability of dropping out at least one qualification (at any level) was higher amongst students with low prior attainment than amongst students with high attainment.

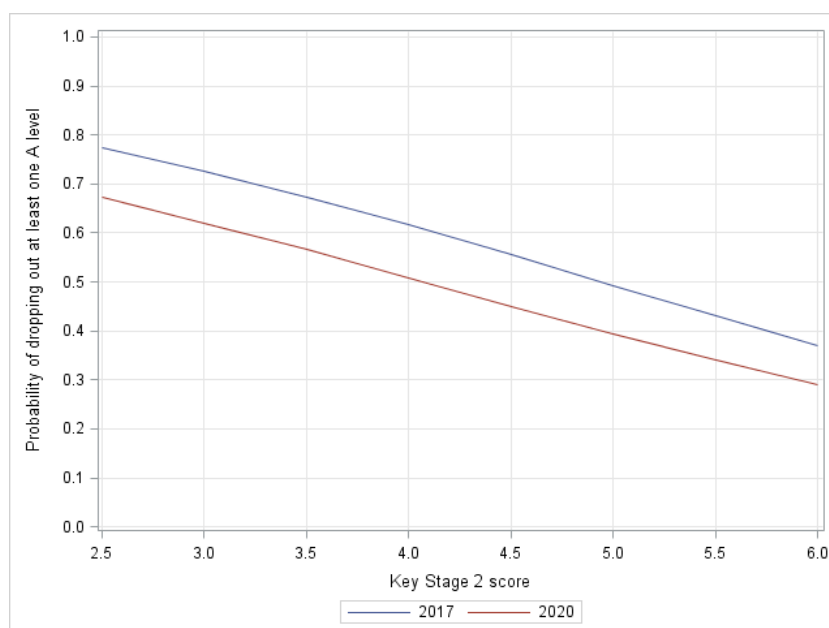


Figure 20: Probability of dropping out at least one A level by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of A levels = 3)

Figure 21 (using data from Table E2 in Appendix E) shows the results of the regression analyses using the deciles of Key Stage 4 attainment instead of the average Key Stage 2 score as a measure of students' attainment at school. As above, the year students completed Key Stage 4 was a statistically significant predictor of dropping out at least one A level by the end of Key Stage 5, and this effect varied by their Key Stage 4 attainment.

Although, as was the case when using Key Stage 2 as a measure of prior attainment, the probability of dropping out at least one A level was higher pre-pandemic than post-pandemic for all students, independently of their prior attainment, the difference in such probabilities was lowest amongst students with low prior attainment (those in deciles 1<sup>st</sup> and 2<sup>nd</sup>) and highest amongst students with medium prior attainment (those in deciles 5<sup>th</sup> to 7<sup>th</sup>) even after controlling for their background characteristics. In particular:

- A student with their Key Stage 4 attainment in the first decile (fairly low), had a probability of dropping out at least one A level by the to Key Stage 5 of 0.99 pre-pandemic and 0.97 post-pandemic (difference = 0.01).
- A student with their Key Stage 4 attainment in the fifth decile (medium attainment), had a probability of dropping out at least one A level by the to Key Stage 5 of 0.75 pre-pandemic and 0.61 post-pandemic (difference = 0.14).
- A student with high Key Stage 4 prior attainment (e.g., decile = 09), had a probability of 0.38 of dropping out at least one A level pre-pandemic and a probability of 0.28 post-pandemic (difference = 0.10).

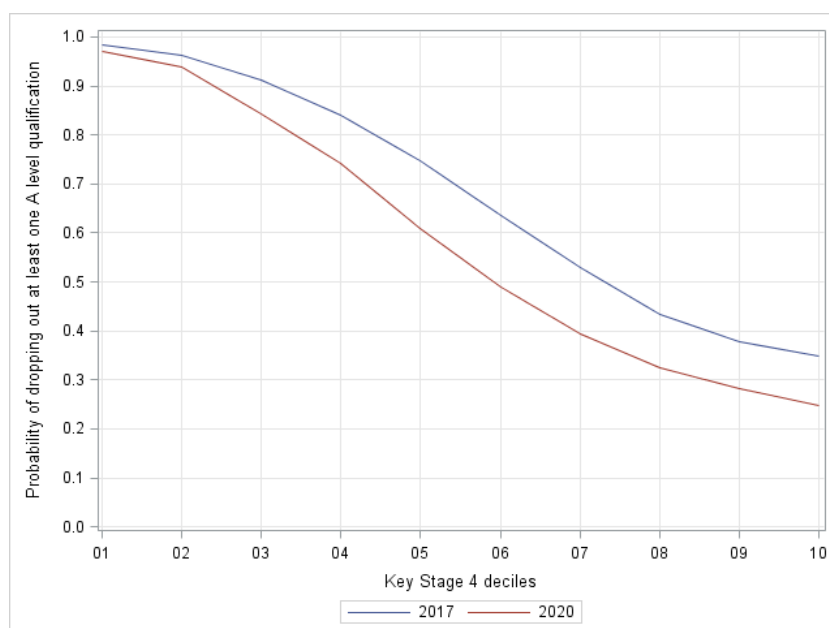


Figure 21: Probability of dropping out at least one A level qualification by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of qualifications = 3)

Table E3 and Table E4 in Appendix E show the results of the regression models looking at the percentage of A levels dropped during Key Stage 5 and Figure 22 (using data from Table E3) and Figure 23 (using data from Table E4) show such percentages for a white male student, of medium level of deprivation, with no special educational needs and attending a comprehensive school.

Table E3 and Table E4 show that the year students completed Key Stage 4 was a statistically significant predictor of the percentage of A levels dropped during Key Stage 5, and that this effect varied by their Key Stage 2 average score (Table E3) and by the Key Stage 4 prior attainment decile (Table E4). As an example, Table E4 shows that:

- A student with their Key Stage 4 attainment in the second decile (fairly low), dropped 77% of their A levels during Key Stage 5 pre-pandemic and just under 66% post-pandemic.
- A student with their Key Stage 4 attainment in the fifth decile (medium attainment) dropped 43% of their A levels during Key Stage 5 pre-pandemic and around 32% post-pandemic.
- A student with high Key Stage 4 prior attainment (e.g., decile = 10) dropped 19% of their A levels during Key Stage 5 pre-pandemic and 13% post-pandemic.

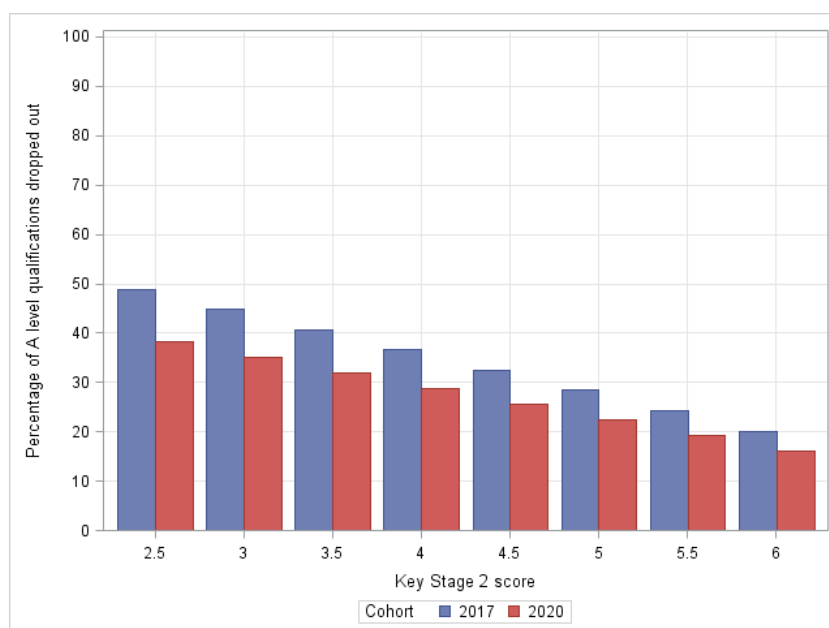


Figure 22: Percentage of A levels dropped out by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

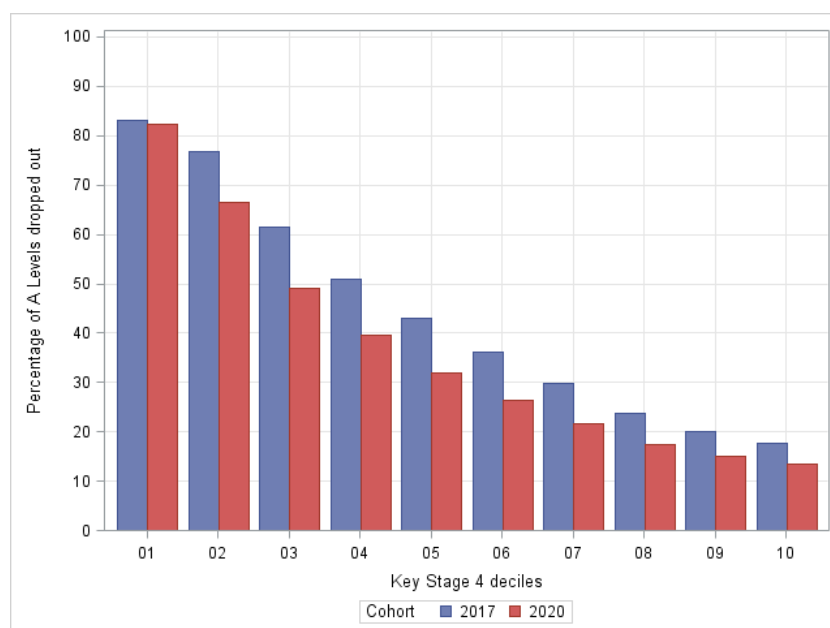


Figure 23: Percentage of A levels dropped out by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

## 3.3. Performance

### 3.3.1 Overall performance in Level 3 qualifications

Table 28 shows the average performance in Level 3 qualifications of students in each Key Stage 4 cohort. Overall performance in Level 3, which ranges from 0 to 60, was defined as the average performance points students achieved per entry equivalent to one A level<sup>13</sup>.

As expected, due to the “slightly more generous” grading in 2022 (when the 2020 Key Stage 5 cohort completed their Level 3 qualifications) performance was, on average, higher for the 2020 Key Stage 4 cohort than for the 2017 Key Stage 4 cohort.

Table 28: Performance of students in Level 3 qualifications

| Key Stage 4 cohort | Number of students with Level 3 qualifications | Overall Level 3 performance |                    |                |                |                |
|--------------------|--|-----------------------------|--------------------|----------------|----------------|----------------|
|                    |  | Mean                        | Standard Deviation | 25% percentile | 75% percentile | 90% percentile |
| 2017               | 343077   | 33.7                        | 12.1               | 25.0           | 43.3           | 50.0           |
| 2020               | 392417   | 35.4                        | 12.9               | 26.7           | 45.0           | 53.0           |

In order to look at performance in Level 3 qualifications broken down by students' background characteristics, three levels of performance were considered:

- Low: overall performance in Level 3 below 28.3 (this is the 33.3 percentile of performance in 2019; the same cut-point was used for 2022)
- Medium: overall performance in Level 3 higher than 28.3 and below 40.0 (this was the 66.6 percentile of performance in 2019; the same cut-point was used for 2022)
- High: overall performance in Level 3 higher than 40.0.

Low performance is, on average, the equivalent to below grade C at A level. High performance is, on average, the equivalent to grade B or higher at A level.

Table 29 and Table 30 below show, respectively, the numbers and percentages of students achieving low or high levels of overall Level 3 performance, broken down by students' background characteristics. Table F1 in Appendix F shows the numbers and percentages of students achieving a medium level of overall Level 3 performance, and Table F2 shows the average Level 3 performance (rather than the level of performance achieved), broken down by students' background characteristics.

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<sup>13</sup> Performance points for Level 3 qualifications (A levels and equivalents) are as follows: A\*=60 points, A=50, B=40, C=30, D=20, E=10, U=0. For more details, see DfE (2023).

Table 29: Students achieving a “**low**” level of overall Level 3 performance, broken down by students’ background characteristics

| Characteristics                |                  | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                                |                  | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| Gender                         | Female           | 183839      | 52493                  | 28.6                   | 210608      | 51498                  | 24.5                   | -4.1                      |
|                                | Male             | 159238      | 58143                  | 36.5                   | 181809      | 59919                  | 33.0                   | -3.6                      |
| School Type                    | 6th Form College | 43853       | 11171                  | 25.5                   | 40960       | 9873                   | 24.1                   | -1.4                      |
|                                | Comprehensive    | 156502      | 53990                  | 34.5                   | 183163      | 47276                  | 25.8                   | -8.7                      |
|                                | FE College       | 80701       | 33074                  | 41.0                   | 99388       | 44839                  | 45.1                   | 4.1                       |
|                                | Independent      | 29531       | 4068                   | 13.8                   | 30958       | 2627                   | 8.5                    | -5.3                      |
|                                | Other            | 1184        | 331                    | 28.0                   | 1506        | 295                    | 19.6                   | -8.4                      |
|                                | Secondary Modern | 4776        | 2234                   | 46.8                   | 5603        | 2007                   | 35.8                   | -11.0                     |
|                                | Selective        | 22951       | 4029                   | 17.6                   | 25864       | 2921                   | 11.3                   | -6.3                      |
| Prior Attainment<br>(Terciles) | Low              | 39774       | 22827                  | 57.4                   | 55552       | 34891                  | 62.8                   | 5.4                       |
|                                | Medium           | 130043      | 58552                  | 45.0                   | 148777      | 56549                  | 38.0                   | -7.0                      |
|                                | High             | 173260      | 29257                  | 16.9                   | 188088      | 19977                  | 10.6                   | -6.3                      |
| Prior Attainment<br>(Deciles)  | 01               | 1968        | 1262                   | 64.1                   | 3570        | 2618                   | 73.3                   | 9.2                       |
|                                | 02               | 8791        | 5402                   | 61.4                   | 13601       | 9617                   | 70.7                   | 9.3                       |
|                                | 03               | 19363       | 10982                  | 56.7                   | 28710       | 17327                  | 60.4                   | 3.6                       |
|                                | 04               | 29448       | 15251                  | 51.8                   | 36100       | 18477                  | 51.2                   | -0.6                      |
|                                | 05               | 38660       | 18541                  | 48.0                   | 42864       | 18275                  | 42.6                   | -5.3                      |
|                                | 06               | 39505       | 17292                  | 43.8                   | 47433       | 16292                  | 34.3                   | -9.4                      |
|                                | 07               | 48321       | 18281                  | 37.8                   | 51436       | 13354                  | 26.0                   | -11.9                     |
|                                | 08               | 49995       | 14172                  | 28.3                   | 54226       | 9598                   | 17.7                   | -10.6                     |
|                                | 09               | 52295       | 7811                   | 14.9                   | 56558       | 4800                   | 8.5                    | -6.4                      |
|                                | 10               | 54731       | 1642                   | 3.0                    | 57919       | 1059                   | 1.8                    | -1.2                      |
| IDACI                          | Low              | 121852      | 35338                  | 29.0                   | 136433      | 32452                  | 23.8                   | -5.2                      |
|                                | Medium           | 101017      | 35505                  | 35.1                   | 117183      | 36522                  | 31.2                   | -4.0                      |
|                                | High             | 83844       | 33540                  | 40.0                   | 99832       | 37513                  | 37.6                   | -2.4                      |

Table 29 (continued): Students achieving a “**low**” level of overall Level 3 performance, broken down by students’ background characteristics

| Characteristics |                        | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                 |                        | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| FSM             | No                     | 251202      | 80643                  | 32.1                   | 289781      | 79908                  | 27.6                   | -4.5                      |
|                 | Yes                    | 55996       | 23913                  | 42.7                   | 64118       | 26733                  | 41.7                   | -1.0                      |
| SEN             | No                     | 287194      | 95908                  | 33.4                   | 326324      | 94812                  | 29.1                   | -4.3                      |
|                 | Yes                    | 20004       | 8648                   | 43.2                   | 27575       | 11829                  | 42.9                   | -0.3                      |
| Ethnic Group    | Any Other Ethnic Group | 5272        | 1931                   | 36.6                   | 7214        | 2281                   | 31.6                   | -5.0                      |
|                 | Asian                  | 36765       | 13010                  | 35.4                   | 46387       | 14218                  | 30.7                   | -4.7                      |
|                 | Black                  | 18084       | 8023                   | 44.4                   | 23645       | 9407                   | 39.8                   | -4.6                      |
|                 | Chinese                | 1663        | 367                    | 22.1                   | 1722        | 275                    | 16.0                   | -6.1                      |
|                 | Mixed                  | 14041       | 4937                   | 35.2                   | 19188       | 5907                   | 30.8                   | -4.4                      |
|                 | White                  | 228217      | 75203                  | 33.0                   | 251269      | 73066                  | 29.1                   | -3.9                      |

Table 30: Students achieving a “**high**” level of overall Level 3 performance, broken down by students’ background characteristics

| Characteristics                |                  | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                                |                  | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| Gender                         | Female           | 183839      | 69110                  | 37.6                   | 210608      | 94619                  | 44.9                   | 7.3                       |
|                                | Male             | 159238      | 51693                  | 32.5                   | 181809      | 68157                  | 37.5                   | 5.0                       |
| School Type                    | 6th Form College | 43853       | 17964                  | 41.0                   | 40960       | 18217                  | 44.5                   | 3.5                       |
|                                | Comprehensive    | 156502      | 48631                  | 31.1                   | 183163      | 77516                  | 42.3                   | 11.2                      |
|                                | FE College       | 80701       | 21167                  | 26.2                   | 99388       | 22187                  | 22.3                   | -3.9                      |
|                                | Independent      | 29531       | 18488                  | 62.6                   | 30958       | 22909                  | 74.0                   | 11.4                      |
|                                | Other            | 1184        | 427                    | 36.1                   | 1506        | 822                    | 54.6                   | 18.5                      |
|                                | Secondary Modern | 4776        | 830                    | 17.4                   | 5603        | 1521                   | 27.1                   | 9.8                       |
|                                | Selective        | 22951       | 12832                  | 55.9                   | 25864       | 17783                  | 68.8                   | 12.8                      |
| Prior Attainment<br>(Terciles) | Low              | 39774       | 5111                   | 12.9                   | 55552       | 4458                   | 8.0                    | -4.8                      |
|                                | Medium           | 130043      | 24916                  | 19.2                   | 148777      | 34161                  | 23.0                   | 3.8                       |
|                                | High             | 173260      | 90776                  | 52.4                   | 188088      | 124157                 | 66.0                   | 13.6                      |
| Prior Attainment<br>(Deciles)  | 01               | 1968        | 107                    | 5.4                    | 3570        | 100                    | 2.8                    | -2.6                      |
|                                | 02               | 8791        | 905                    | 10.3                   | 13601       | 654                    | 4.8                    | -5.5                      |
|                                | 03               | 19363       | 2645                   | 13.7                   | 28710       | 2608                   | 9.1                    | -4.6                      |
|                                | 04               | 29448       | 4833                   | 16.4                   | 36100       | 4871                   | 13.5                   | -2.9                      |
|                                | 05               | 38660       | 7010                   | 18.1                   | 42864       | 7993                   | 18.6                   | 0.5                       |
|                                | 06               | 39505       | 7765                   | 19.7                   | 47433       | 11942                  | 25.2                   | 5.5                       |
|                                | 07               | 48321       | 10754                  | 22.3                   | 51436       | 17857                  | 34.7                   | 12.5                      |
|                                | 08               | 49995       | 15255                  | 30.5                   | 54226       | 26063                  | 48.1                   | 17.6                      |
|                                | 09               | 52295       | 25722                  | 49.2                   | 56558       | 38176                  | 67.5                   | 18.3                      |
|                                | 10               | 54731       | 45807                  | 83.7                   | 57919       | 52512                  | 90.7                   | 7.0                       |
| IDACI                          | Low              | 121852      | 46419                  | 38.1                   | 136433      | 63561                  | 46.6                   | 8.5                       |
|                                | Medium           | 101017      | 31701                  | 31.4                   | 117183      | 43628                  | 37.2                   | 5.8                       |
|                                | High             | 83844       | 21894                  | 26.1                   | 99832       | 29463                  | 29.5                   | 3.4                       |



Table 30 (continued): Students achieving a “**high**” level of overall Level 3 performance, broken down by students’ background characteristics

| Characteristics |                        | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                 |                        | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| FSM             | No                     | 251202      | 86843                  | 34.6                   | 289781      | 120382                 | 41.5                   | 7.0                       |
|                 | Yes                    | 55996       | 13309                  | 23.8                   | 64118       | 16429                  | 25.6                   | 1.9                       |
| SEN             | No                     | 287194      | 95268                  | 33.2                   | 326324      | 129666                 | 39.7                   | 6.6                       |
|                 | Yes                    | 20004       | 4884                   | 24.4                   | 27575       | 7145                   | 25.9                   | 1.5                       |
| Ethnic Group    | Any Other Ethnic Group | 5272        | 1601                   | 30.4                   | 7214        | 2694                   | 37.3                   | 7.0                       |
|                 | Asian                  | 36765       | 11910                  | 32.4                   | 46387       | 18296                  | 39.4                   | 7.0                       |
|                 | Black                  | 18084       | 4129                   | 22.8                   | 23645       | 6628                   | 28.0                   | 5.2                       |
|                 | Chinese                | 1663        | 841                    | 50.6                   | 1722        | 1036                   | 60.2                   | 9.6                       |
|                 | Mixed                  | 14041       | 4486                   | 31.9                   | 19188       | 7505                   | 39.1                   | 7.2                       |
|                 | White                  | 228217      | 76116                  | 33.4                   | 251269      | 98969                  | 39.4                   | 6.0                       |

Firstly, there were no big differences in the changes in performance at Level 3 by gender. The percentages of both female and male students achieving “low” levels of performance decreased similarly (-4.1 vs. -3.6 percentage points, respectively) from 2017 to 2020. Higher percentages of students achieved a “high” level of performance at Level 3 amongst the 2020 Key Stage 4 than amongst the 2017 cohort, with the increase being a bit higher for female students (7.3 vs. 5.0 percentage points).

The changes in Level 3 performance between cohorts varied by school type. For example, whilst there were decreases from 2017 to 2020 in the percentages of students achieving a “low” performance, on average, in most types of schools, the magnitude of the decrease was different. For example, the decrease was smallest in sixth form colleges (below 1.5 percentage points) and largest in other schools. There was one exception: the percentage of students in FE colleges achieving a “low” level of performance increased from 2017 to 2020 (by 4.1 percentage points). Regarding “high” performance at Level 3, there was an increase of students achieving this in all types of schools, with the highest difference between the 2017 and 2020 Key Stage 4 cohorts being in selective schools (12.8 percentage point increase), and the lowest in sixth form colleges (3.5 percentage points). On the contrary, the percentage of students in FE colleges achieving a “high” level of performance decreased from 2017 to 2020 (by 3.9 percentage points).

Table 29 to Table 30 show that changes on performance at Level 3 also varied by students’ prior attainment. Amongst students with low prior attainment at Key Stage 4, higher percentages achieved a “low” level of performance at Level 3 in 2022 (2020 Key Stage 4 cohort) than in 2019 (2017 Key Stage 4 cohort). However, the percentages achieving a “high” level of Key Stage 5 performance decreased. This contrast with the pattern for students with high prior attainment at Key Stage 4. Amongst these groups of students, higher percentages of students achieved “high” Level 3 performance post-pandemic than pre-pandemic (e.g., “high” performance increased by 3.8 and 13.6 percentages points, respectively). This can also be seen, to a similar degree, when prior attainment was measured by the Key Stage 4 performance in deciles (rather than terciles, as described above).

Differences between cohorts pre- and post-pandemic in the average performance at Level 3 were similar for students of medium and high levels of socio-economic deprivation (as measured by IDACI). For example, there were similar decreases in the percentages of the students achieving “low” levels of performance at Level 3 amongst these groups, and similar increases in the percentages of the students achieving a “high” performance. Amongst students with low deprivation (whether this was measured by IDACI or FSM eligibility), performance increased post-pandemic. For example, the percentage achieving a “high” performance increased between 7.0 percentage points (FSM eligibility) and 8.5 percentage points (IDACI).

Similar percentages of students with special educational needs from the 2020 cohort achieved “low” levels of Level 3 performance when compared to students from the 2017 cohort and a slightly higher percentage of students from this background achieved “high” performance at Level 3 (an increase of 1.5 percentage points).

Finally, the percentages of students achieving “low” levels of performance at Level 3 decreased from 2017 to 2020, across all ethnic groups. However, such decrease was highest for Chinese students (6.1 performance points decrease) and lowest for white students (3.9 performance points decrease). Regarding the percentages of students

achieving “high” performance at Level 3, there was an increase from 2017 to 2020 for all ethnic groups, with Chinese and mixed students showing the largest increases (9.6 and 7.2 percentage points, respectively) and the Black and white students showing the lowest (5.2 and 6.0 percentage points, respectively).

To further explore if performance during Key Stage 5 (in Level 3 qualifications) changed post-pandemic compared to performance before the pandemic, taking into account students’ “ability” (measured by prior attainment) and whilst controlling for students’ backgrounds, multilevel regression analyses were carried out.

Table 31 shows the results of the regression model looking at the average performance in Level 3 qualifications and Figure 24 (using data from Table 31) shows the performance for different levels of Key Stage 2 attainment for a white male student, of medium level of deprivation, with no special educational needs, and attending a comprehensive school.

The year students completed Key Stage 4 was a statistically significant predictor of performance in Level 3 qualifications, and this effect varied by their Key Stage 2 average score. As shown in Table 29 and Table 30, students with low levels of prior attainment performed better pre-pandemic, but students with high levels of attainment achieved higher grades post-pandemic. For example:

- A student with a Key Stage 2 score of 2.5 (fairly low), had an average performance of 23.32 points pre-pandemic (a bit above the equivalent to a grade D at A level) and 20.04 points post-pandemic (equivalent to a grade D at A level).
- A student with a Key Stage 2 score of 5.5 (fairly high), had an average performance of 34.04 pre-pandemic (a bit above the equivalent to a grade C at A level) and 37.62 post-pandemic (equivalent to almost a grade B at A level).

Figure 24 corroborates the above, showing that towards the top of the Key Stage 2 scores distribution, average performance at Level 3 was higher post-pandemic, whilst at the bottom of the Key Stage 2 scores distribution, average performance was lower post-pandemic.

Table 31: Performance in Level 3 qualifications ~ Key Stage 2 prior attainment ( $N = 604492$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | 4.196    | 0.197          | <.0001  |
| Gender                     | Female                 | 2.645    | 0.029          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | 6th form college       | 2.402    | 0.513          | <.0001  |
|                            | FE college             | -2.339   | 0.300          | <.0001  |
|                            | Independent            | 5.593    | 0.294          | <.0001  |
|                            | Other                  | -1.342   | 0.949          | 0.157   |
|                            | Secondary Modern       | -2.833   | 0.471          | <.0001  |
|                            | Selective              | 5.765    | 0.326          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | 2.326    | 0.041          | <.0001  |
|                            | Medium                 | 1.201    | 0.039          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | -0.552   | 0.057          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | -0.669   | 0.115          | <.0001  |
|                            | Asian                  | -0.625   | 0.053          | <.0001  |
|                            | Black                  | -2.161   | 0.069          | <.0001  |
|                            | Chinese                | 2.329    | 0.204          | <.0001  |
|                            | Mixed                  | -0.643   | 0.066          | <.0001  |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | 5.859    | 0.036          | <.0001  |
| Cohort                     | 2017                   | 8.989    | 0.239          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | -2.286   | 0.052          | <.0001  |
|                            | [2020]                 | .        | .              | .       |

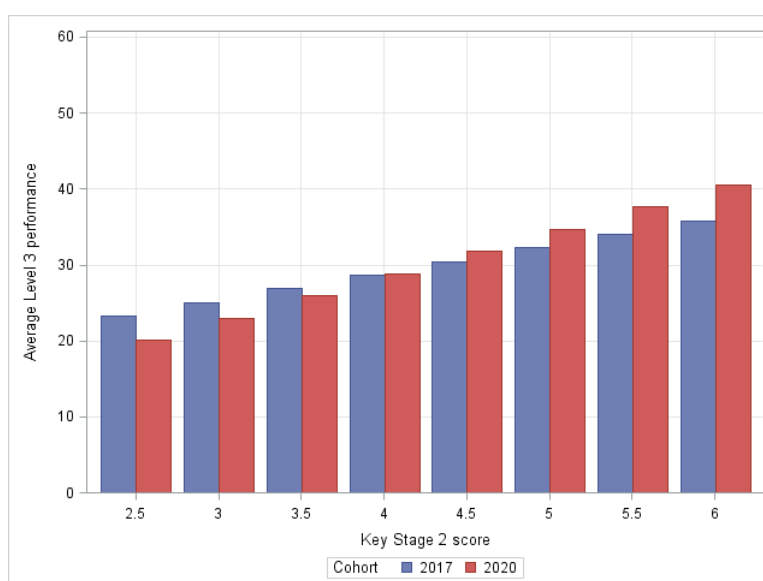


Figure 24: Average performance in Level 3 qualifications ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Figure 25 (using data from Table G1, in Appendix G) shows the average performance at Level 3, by the deciles of Key Stage 4 attainment instead of the average Key Stage 2 score as a measure of students' attainment at school. As above, the year students completed Key Stage 4 was a statistically significant predictor average performance at Level 3, and this effect varied by their Key Stage 4 attainment (see Table G1 for the regression estimates).

As was the case when using Key Stage 2 as a measure of prior attainment, students with low levels of prior attainment performed better pre-pandemic, but students with high levels of attainment achieved higher grades post-pandemic. In particular:

- A student with their Key Stage 4 attainment in the first decile (fairly low), had an average performance of 21.7 points pre-pandemic (a bit above the equivalent to a grade D at A level) and 19.0 points post-pandemic (equivalent to below a grade D at A level). The difference was around 3 points, which is a bit less than half a grade.
- A student with their Key Stage 4 attainment in the fifth decile (medium attainment), had a similar average performance pre- and post-pandemic (27.4 points pre-pandemic, and 28.1 points post-pandemic). Performance was, for both cohorts, of an average of grade C.
- A student with high Key Stage 4 prior attainment (e.g., decile = 09), had an average performance of 35.5 points pre-pandemic (halfway between grades D and C, on average, at A level) and 40.0 points post-pandemic (equivalent to grade B at A level). The difference was just below half a grade.

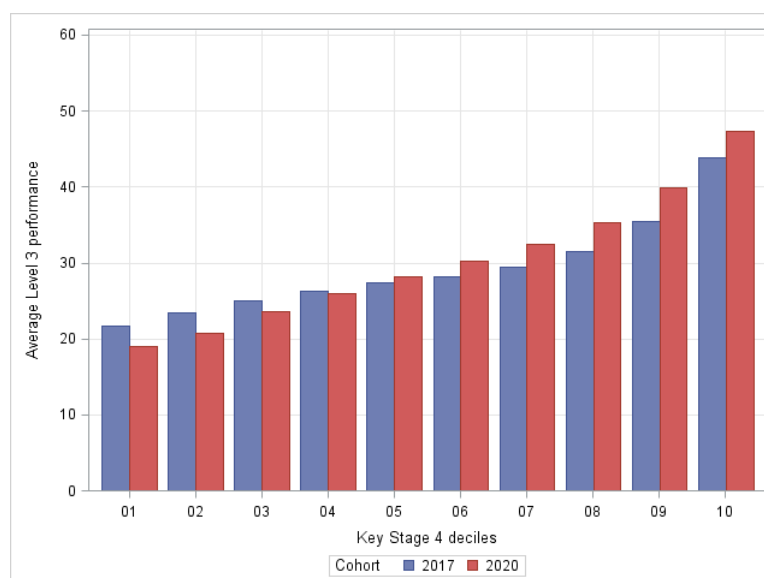


Figure 25: Average performance in Level 3 qualifications ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Further regression models, with interactions between the Key Stage 4 cohort and the students' background characteristics included, were fitted. This was done to check if any of the differences in Level 3 performance pre- and post-pandemic (seen in Table 29 and Table 30), for example, between students in different types of schools or between students with different socio-economic backgrounds, remained after controlling by prior attainment. As above, two models were fitted and these differed in the measure of prior attainment (Key Stage 2 average score vs. Key Stage 4 decile).

Interactions between cohort and gender, cohort and school type and cohort and level of deprivation (IDACI) were statistically significant in both models. As results were very similar independently of the model, only those from the model with the Key Stage 4 scores are presented in Figure 26 to Figure 28 (using data from Table G2, in Appendix G).

Figure 26 shows that, once prior attainment and other background characteristics were taken into account, both male and female students performed better at Level 3 post-pandemic, but the difference between students in the 2017 and 2020 Key Stage 4 cohorts was slightly higher for females than for males (2.4 vs. 2.1 points).

When looking at performance by school type, Figure 27 shows that average performance at Level 3 increased post-pandemic for students in almost every type of school, with the exception of sixth form colleges and FE colleges, where small decreases were found (0.57 and 1.68 points, respectively). The increase in performance also varied by centre, with the highest difference between pre- and post-pandemic cohorts found in the schools in the "other" type, followed closely by students in selective schools (2.9 and 2.1 points, respectively). The lowest difference was in secondary modern schools (1.5 points).

Finally, Figure 28 shows that, although average performance at Level 3 increased for all students, the increase was higher among students from low deprivation backgrounds than amongst students from areas of high deprivation (2.5 vs. 1.7 points).

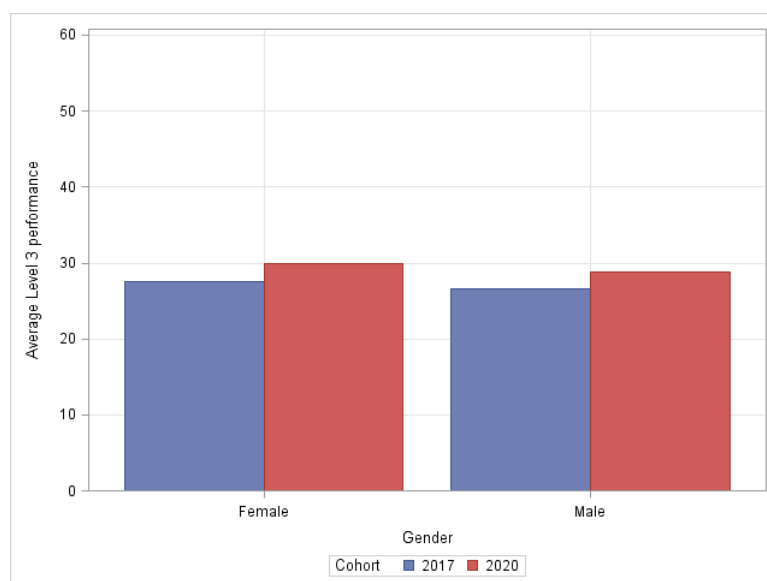


Figure 26: Average performance in Level 3 qualifications ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

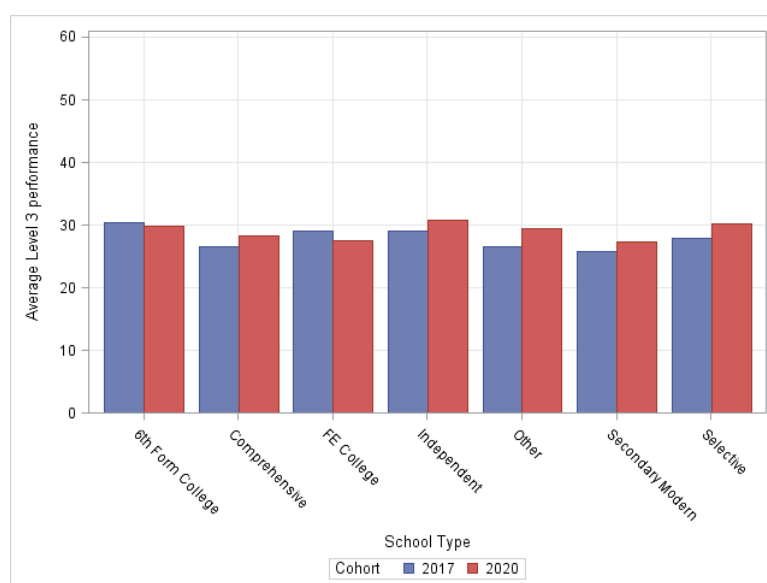


Figure 27: Average performance in Level 3 qualifications ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

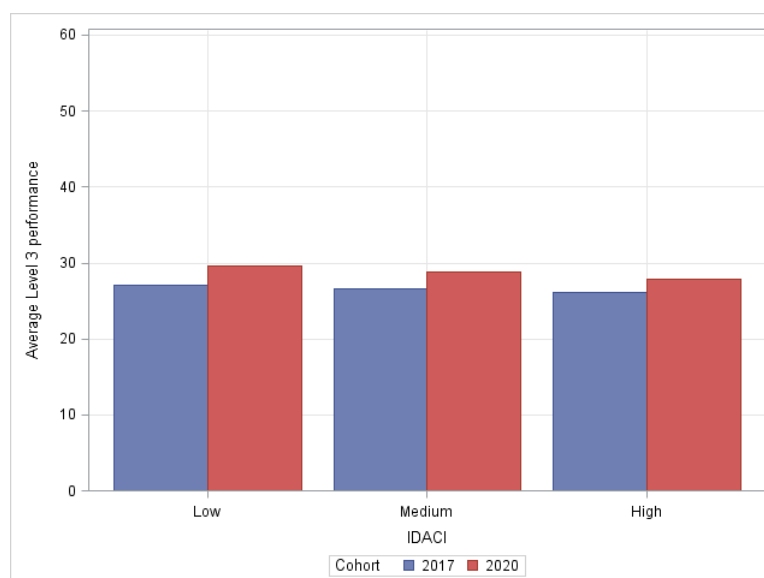


Figure 28: Average performance in Level 3 qualifications ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

### 3.3.2 Overall A level performance

Table 32 shows the average performance at A level of students in each Key Stage 4 cohort. As expected, due to the “slightly more generous” grading in 2022 (when the 2020 Key Stage 5 cohort completed their A level qualifications) performance was, on average, higher for the 2020 Key Stage 4 cohort than for the Key Stage 4 2017 cohort.

Table 32: Performance of students in A level qualifications

| Key Stage 4 cohort | Number of students with A levels | Overall A level performance |                    |                |                |                |
|--------------------|----------------------------------|-----------------------------|--------------------|----------------|----------------|----------------|
|                    |                                  | Mean                        | Standard deviation | 25% percentile | 75% percentile | 90% percentile |
| 2017               | 236330                           | 34.1                        | 12.7               | 25.0           | 43.3           | 50.0           |
| 2020               | 269287                           | 37.6                        | 13.2               | 30.0           | 46.7           | 55.0           |

In order to look at overall performance at A level, broken down by students’ background characteristics, three levels of performance were considered:

- Low: overall performance at A level below 30.0 (this is the 33.3 percentile of A level performance in 2019; the same cut-point was used for 2022)
- Medium: overall performance at A level higher than 30.0 and below 40.0 (this was the 66.6 percentile of A level performance in 2019; the same cut-point was used for 2022)
- High: overall performance at A level higher than 40.0.



As the overall performance at A level is defined as the average performance points students achieved per A level, this measure ranges from 0 to 60<sup>14</sup>. Low performance is, on average, below grade C at A level. High performance is, on average, grade B or higher at A level.

Table 33 and Table 34 show, respectively, the number and percentage of students achieving low or high levels of overall A level performance, broken down by students' background characteristics. Table F3 in Appendix F shows the numbers and percentages of students achieving a medium level of A level performance, and Table F4 shows the average A level performance (rather than the level of performance achieved), broken down by students' background characteristics.

There were some differences in the changes in performance at A level by gender, but not at all levels of performance. For example, the percentages of both female and male students achieving "low" levels of A level performance decreased similarly (-8.6 vs. -8.5 percentage points, respectively) from 2017 to 2020. However, higher percentages of students achieved a "high" level of performance at A level amongst the 2020 Key Stage 4 cohort than amongst the 2017 cohort, with the increase being higher for female students (13.7 vs. 10.7 percentage points). These patterns mirrored those in Table 29 and Table 30 for the Level 3 performance.

The changes in A level performance between cohorts varied by school type, following similar patterns to those described in Section 3.3.1. For example, whilst there were decreases from 2017 to 2020 in the percentages of students achieving, on average, a "low" performance in most types of schools, the magnitude of the decrease was different. For example, the decrease in the percentage of students achieving "low" performance was smallest in FE colleges and independent schools (4.3 and 5.5 percentage points, respectively) and largest in secondary modern schools (13.5 percentage points) followed closely by schools in the other category and comprehensive schools. Regarding "high" performance at A level, there was an increase of students achieving this in all types of schools, with the highest difference between the 2017 and 2020 Key Stage 4 cohorts being in schools in the other category (20.1 percentage point increase), and the lowest in FE colleges (7.1 percentage points). The percentage of students achieving a "high" level of performance was very similar in the other types of schools, ranging from a 11.3 percentage point increase in independent schools to 14.5 in secondary modern schools.

Table 33 and Table 34 show that changes on A level performance also varied by students' prior attainment. Amongst students with low or medium prior attainment at Key Stage 4, lower percentages achieved a "low" level of performance at A level in 2022 (2020 Key Stage 4 cohort) than in 2019 (2017 Key Stage 4 cohort). The percentages achieving a "high" level of performance increased – particularly for the group with medium Key Stage 4 attainment. This contrast with the pattern for students with high prior attainment at Key Stage 4. Amongst this group of students, lower percentages achieved a "low" level performance, and a much higher percentage of students achieved "high" A level performance post-pandemic (e.g., "high" performance increase by 14.7 percentages points).

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<sup>14</sup> Performance points for A levels are as follows: A\*=60 points, A=50, B=40, C=30, D=20, E=10, U=0. For more details, see DfE (2023).

Table 33: Students achieving a “**low**” level of A level performance, broken down by students’ background characteristics

| Characteristics                |                  | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                                |                  | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| Gender                         | Female           | 130896      | 37583                  | 28.7                   | 148100      | 29851                  | 20.2                   | -8.6                      |
|                                | Male             | 105434      | 36504                  | 34.6                   | 121187      | 31715                  | 26.2                   | -8.5                      |
| School Type                    | 6th Form College | 34144       | 10785                  | 31.6                   | 31450       | 7255                   | 23.1                   | -8.5                      |
|                                | Comprehensive    | 134130      | 48082                  | 35.8                   | 156354      | 40070                  | 25.6                   | -10.2                     |
|                                | FE College       | 14116       | 5401                   | 38.3                   | 19211       | 6533                   | 34.0                   | -4.3                      |
|                                | Independent      | 27629       | 3843                   | 13.9                   | 29288       | 2454                   | 8.4                    | -5.5                      |
|                                | Other            | 489         | 160                    | 32.7                   | 611         | 119                    | 19.5                   | -13.2                     |
|                                | Secondary Modern | 3657        | 1790                   | 48.9                   | 4233        | 1502                   | 35.5                   | -13.5                     |
|                                | Selective        | 22029       | 3965                   | 18.0                   | 24778       | 2871                   | 11.6                   | -6.4                      |
| Prior Attainment<br>(Terciles) | Low              | 4974        | 3706                   | 74.5                   | 8314        | 5404                   | 65.0                   | -9.5                      |
|                                | Medium           | 72187       | 41232                  | 57.1                   | 87686       | 36684                  | 41.8                   | -15.3                     |
|                                | High             | 159169      | 29149                  | 18.3                   | 173287      | 19478                  | 11.2                   | -7.1                      |
| Prior Attainment<br>(Deciles)  | 01               | 67          | 37                     | 55.2                   | 82          | 59                     | 72.0                   | 16.7                      |
|                                | 02               | 371         | 268                    | 72.2                   | 768         | 564                    | 73.4                   | 1.2                       |
|                                | 03               | 2403        | 1830                   | 76.2                   | 4926        | 3202                   | 65.0                   | -11.2                     |
|                                | 04               | 8229        | 5913                   | 71.9                   | 11966       | 6946                   | 58.0                   | -13.8                     |
|                                | 05               | 17624       | 11436                  | 64.9                   | 21931       | 10819                  | 49.3                   | -15.6                     |
|                                | 06               | 24589       | 13977                  | 56.8                   | 31635       | 12649                  | 40.0                   | -16.9                     |
|                                | 07               | 37130       | 16923                  | 45.6                   | 40826       | 12098                  | 29.6                   | -15.9                     |
|                                | 08               | 43914       | 14117                  | 32.1                   | 47881       | 9367                   | 19.6                   | -12.6                     |
|                                | 09               | 49357       | 7912                   | 16.0                   | 53283       | 4830                   | 9.1                    | -7.0                      |
|                                | 10               | 52646       | 1674                   | 3.2                    | 55989       | 1032                   | 1.8                    | -1.3                      |
| IDACI                          | Low              | 90604       | 25763                  | 28.4                   | 101340      | 19849                  | 19.6                   | -8.8                      |
|                                | Medium           | 65943       | 23295                  | 35.3                   | 76696       | 19807                  | 25.8                   | -9.5                      |
|                                | High             | 47898       | 19819                  | 41.4                   | 56697       | 18231                  | 32.2                   | -9.2                      |

Table 33 (continued): Students achieving a “**low**” level of A level performance, broken down by students’ background characteristics

| Characteristics |                        | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                 |                        | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| FSM             | No                     | 175043      | 55911                  | 31.9                   | 201520      | 46316                  | 23.0                   | -9.0                      |
|                 | Yes                    | 29746       | 13088                  | 44.0                   | 33503       | 11645                  | 34.8                   | -9.2                      |
| SEN             | No                     | 196349      | 65664                  | 33.4                   | 223465      | 54507                  | 24.4                   | -9.1                      |
|                 | Yes                    | 8440        | 3335                   | 39.5                   | 11558       | 3454                   | 29.9                   | -9.6                      |
| Ethnic Group    | Any Other Ethnic Group | 3611        | 1285                   | 35.6                   | 5056        | 1343                   | 26.6                   | -9.0                      |
|                 | Asian                  | 26483       | 9876                   | 37.3                   | 33879       | 9289                   | 27.4                   | -9.9                      |
|                 | Black                  | 11246       | 4953                   | 44.0                   | 14772       | 4909                   | 33.2                   | -10.8                     |
|                 | Chinese                | 1439        | 324                    | 22.5                   | 1513        | 209                    | 13.8                   | -8.7                      |
|                 | Mixed                  | 9629        | 3162                   | 32.8                   | 13171       | 3171                   | 24.1                   | -8.8                      |
|                 | White                  | 150242      | 48698                  | 32.4                   | 163617      | 38247                  | 23.4                   | -9.0                      |

Table 34: Students achieving a “**high**” level of A level performance, broken down by students’ background characteristics

| Characteristics                |                  | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                                |                  | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| Gender                         | Female           | 130896      | 52487                  | 40.1                   | 148100      | 79608                  | 53.8                   | 13.7                      |
|                                | Male             | 105434      | 39113                  | 37.1                   | 121187      | 57890                  | 47.8                   | 10.7                      |
| School Type                    | 6th Form College | 34144       | 12593                  | 36.9                   | 31450       | 15736                  | 50.0                   | 13.2                      |
|                                | Comprehensive    | 134130      | 43838                  | 32.7                   | 156354      | 72046                  | 46.1                   | 13.4                      |
|                                | FE College       | 14116       | 4003                   | 28.4                   | 19211       | 6813                   | 35.5                   | 7.1                       |
|                                | Independent      | 27629       | 17724                  | 64.1                   | 29288       | 22103                  | 75.5                   | 11.3                      |
|                                | Other            | 489         | 161                    | 32.9                   | 611         | 324                    | 53.0                   | 20.1                      |
|                                | Secondary Modern | 3657        | 722                    | 19.7                   | 4233        | 1450                   | 34.3                   | 14.5                      |
|                                | Selective        | 22029       | 12523                  | 56.8                   | 24778       | 17294                  | 69.8                   | 12.9                      |
| Prior Attainment<br>(Terciles) | Low              | 4974        | 331                    | 6.7                    | 8314        | 819                    | 9.9                    | 3.2                       |
|                                | Medium           | 72187       | 7691                   | 10.7                   | 87686       | 20132                  | 23.0                   | 12.3                      |
|                                | High             | 159169      | 83578                  | 52.5                   | 173287      | 116547                 | 67.3                   | 14.7                      |
| Prior Attainment<br>(Deciles)  | 01               | 67          | 14                     | 20.9                   | 82          | 10                     | 12.2                   | -8.7                      |
|                                | 02               | 371         | 40                     | 10.8                   | 768         | 62                     | 8.1                    | -2.7                      |
|                                | 03               | 2403        | 143                    | 6.0                    | 4926        | 474                    | 9.6                    | 3.7                       |
|                                | 04               | 8229        | 524                    | 6.4                    | 11966       | 1461                   | 12.2                   | 5.8                       |
|                                | 05               | 17624       | 1319                   | 7.5                    | 21931       | 3749                   | 17.1                   | 9.6                       |
|                                | 06               | 24589       | 2636                   | 10.7                   | 31635       | 7408                   | 23.4                   | 12.7                      |
|                                | 07               | 37130       | 5957                   | 16.0                   | 40826       | 13884                  | 34.0                   | 18.0                      |
|                                | 08               | 43914       | 12233                  | 27.9                   | 47881       | 23039                  | 48.1                   | 20.3                      |
|                                | 09               | 49357       | 24356                  | 49.3                   | 53283       | 36401                  | 68.3                   | 19.0                      |
|                                | 10               | 52646       | 44378                  | 84.3                   | 55989       | 51010                  | 91.1                   | 6.8                       |
| IDACI                          | Low              | 90604       | 37104                  | 41.0                   | 101340      | 55443                  | 54.7                   | 13.8                      |
|                                | Medium           | 65943       | 22188                  | 33.6                   | 76696       | 35473                  | 46.3                   | 12.6                      |
|                                | High             | 47898       | 13103                  | 27.4                   | 56697       | 21904                  | 38.6                   | 11.3                      |

Table 34 (continued): Students achieving a “**high**” level of A level performance, broken down by students’ background characteristics

| Characteristics |                        | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                 |                        | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| FSM             | No                     | 175043      | 65150                  | 37.2                   | 201520      | 101159                 | 50.2                   | 13.0                      |
|                 | Yes                    | 29746       | 7348                   | 24.7                   | 33503       | 11794                  | 35.2                   | 10.5                      |
| SEN             | No                     | 196349      | 69897                  | 35.6                   | 223465      | 108132                 | 48.4                   | 12.8                      |
|                 | Yes                    | 8440        | 2601                   | 30.8                   | 11558       | 4821                   | 41.7                   | 10.9                      |
| Ethnic Group    | Any Other Ethnic Group | 3611        | 1230                   | 34.1                   | 5056        | 2368                   | 46.8                   | 12.8                      |
|                 | Asian                  | 26483       | 8681                   | 32.8                   | 33879       | 15703                  | 46.4                   | 13.6                      |
|                 | Black                  | 11246       | 2779                   | 24.7                   | 14772       | 5474                   | 37.1                   | 12.3                      |
|                 | Chinese                | 1439        | 771                    | 53.6                   | 1513        | 992                    | 65.6                   | 12.0                      |
|                 | Mixed                  | 9629        | 3497                   | 36.3                   | 13171       | 6492                   | 49.3                   | 13.0                      |
|                 | White                  | 150242      | 54743                  | 36.4                   | 163617      | 80468                  | 49.2                   | 12.7                      |

When looking at prior attainment measured by the Key Stage 4 performance in deciles (rather than terciles, as described above), it is interesting to note that students in the very lowest category (decile 01), followed a different pattern than students in other low attainment deciles. For this group of students, higher percentages achieved a “low” level of performance at A level in 2022 than in 2019 and, as a result, lower percentages achieved a “high” level.

Differences between cohorts pre- and post-pandemic in the average performance at A level were similar for students of medium and high levels of socio-economic deprivation (as measured by IDACI). For example, there were similar decreases in the percentages of the students achieving “low” levels of A level performance amongst these groups, and similar increases in the percentages of the students achieving a “high” performance. Amongst students with low deprivation (whether this was measured by IDACI or FSM eligibility), performance also increased post-pandemic. For example, the percentage achieving a “high” performance increased between 10.5 percentage points (FSM eligibility) and 11.3 percentage points (IDACI).

Students with special educational needs from the 2020 cohort achieved higher levels of performance at A level when compared to students from the 2017 cohort. In particular, there was a decrease of 9.6 percentage points in the percentage of students achieving a “low” level of performance and a 10.9 percentage points increase achieving “high” performance at A level.

Finally, the percentages of students achieving “low” levels of performance at A level decreased from 2017 to 2020, independently of the ethnic group of the student. However, such decrease was highest for Black students (e.g., 10.8 performance points) and lowest for Chinese students (e.g., 8.7 performance points). On the contrary, the percentages of students achieving “high” A level performance increased from 2017 to 2020 similarly for all groups, with Asian and mixed students showing the largest increases (13.6 and 13.0 percentage points, respectively) and the Chinese and Black students showing the lowest (12.0 and 12.3 percentage points).

To further explore if A level performance changed post-pandemic compared to performance before the pandemic, taking into account students’ “ability” (measured by prior attainment) and whilst controlling for students’ backgrounds, multilevel regression analyses were carried out.

Table 35 shows the results of the regression model looking at the average performance in A level qualifications and Figure 29 (using data from Table 35) shows the performance for different levels of Key Stage 2 attainment for a white male student, of medium level of deprivation, with no special educational needs, and attending a comprehensive school.

Table 35: Performance in A level qualifications ~ Key Stage 2 prior attainment (N = 407247)

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | -0.984   | 0.263          | 0.000   |
| Gender                     | Female                 | 2.771    | 0.038          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | 6th form college       | 1.167    | 0.588          | 0.047   |
|                            | FE college             | -2.507   | 0.452          | <.0001  |
|                            | Independent            | 6.154    | 0.330          | <.0001  |
|                            | Other                  | -1.142   | 1.411          | 0.419   |
|                            | Secondary Modern       | -3.384   | 0.567          | <.0001  |
|                            | Selective              | 6.011    | 0.373          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | 2.486    | 0.054          | <.0001  |
|                            | Medium                 | 1.281    | 0.052          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | -0.079   | 0.087          | 0.361   |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | -0.468   | 0.140          | 0.001   |
|                            | Asian                  | -0.805   | 0.064          | <.0001  |
|                            | Black                  | -2.021   | 0.088          | <.0001  |
|                            | Chinese                | 2.512    | 0.225          | <.0001  |
|                            | Mixed                  | -0.371   | 0.082          | <.0001  |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | 6.848    | 0.049          | <.0001  |
| Cohort                     | 2017                   | -3.520   | 0.349          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | 0.064    | 0.073          | 0.385   |
|                            | [2020]                 | .        | .              | .       |

The year students completed Key Stage 4 was a statistically significant predictor of performance at A level and, contrary to the findings for average Level 3 performance, this effect did not vary by the Key Stage 2 average scores. This is clearly displayed in Figure 29, which shows average performance at A level was higher post-pandemic, independently of the performance at Key Stage 2.

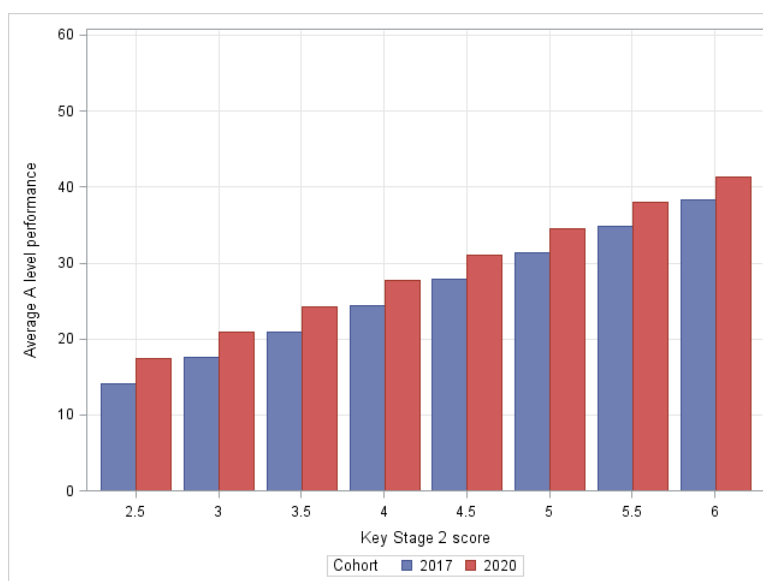


Figure 29: Average performance in A level qualifications ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Figure 30 (using data from Table 36 below) shows the average performance at A level, by the deciles of Key Stage 4 attainment instead of the average Key Stage 2 score as a measure of students' attainment at school. In this case, however, the year students completed Key Stage 4 was a statistically significant predictor average performance at A level, and this effect varied by their Key Stage 4 attainment.

As was the case for average Level 3 performance (and contrary to results when using Key Stage 2 as a measure of prior attainment), students with very low levels of prior attainment performed better at A level pre-pandemic, but students with high levels of attainment achieved higher grades post-pandemic. In particular:

- A student with their Key Stage 4 attainment in the first decile (fairly low), had an average performance of 21.9 A level points pre-pandemic (a bit above the equivalent to a grade D at A level) and 20.2 points post-pandemic (equivalent to below a grade D at A level). The difference was just around 2 points.
- A student with their Key Stage 4 attainment in the fifth decile (medium attainment), had a higher average performance post-pandemic (22.4 points pre-pandemic, and 26.1 points post-pandemic). The difference was just below half a grade.
- A student with high Key Stage 4 prior attainment (e.g., decile = 09), had an average performance of 35.1 A level points pre-pandemic (halfway between grades D and C, on average, at A level) and 40.0 post-pandemic (equivalent to grade B at A level). The difference was about half a grade.



Table 36: Performance in A level qualifications ~ Key Stage 4 prior attainment ( $N = 430694$ )

| Variables                       |                        |      | Estimate | Standard Error | p-value |
|---------------------------------|------------------------|------|----------|----------------|---------|
| Intercept                       |                        |      | 46.574   | 0.098          | <.0001  |
| Gender [Male]                   | Female                 |      | 0.837    | 0.031          | <.0001  |
| School Type [Comprehensive]     | 6th form college       |      | 1.154    | 0.406          | 0.005   |
|                                 | FE college             |      | -1.407   | 0.316          | <.0001  |
|                                 | Independent            |      | 3.121    | 0.240          | <.0001  |
|                                 | Other                  |      | -0.369   | 0.998          | 0.712   |
|                                 | Secondary Modern       |      | -1.214   | 0.397          | 0.002   |
|                                 | Selective              |      | 2.207    | 0.258          | <.0001  |
| IDACI [High]                    | Low                    |      | 1.676    | 0.045          | <.0001  |
|                                 | Medium                 |      | 0.905    | 0.043          | <.0001  |
| SEN [No]                        | Yes                    |      | 0.878    | 0.071          | <.0001  |
| Ethnic Group [White]            | Any Other Ethnic Group |      | -0.668   | 0.110          | <.0001  |
|                                 | Asian                  |      | -1.347   | 0.052          | <.0001  |
|                                 | Black                  |      | -1.343   | 0.071          | <.0001  |
|                                 | Chinese                |      | 0.588    | 0.179          | 0.001   |
|                                 | Mixed                  |      | -0.372   | 0.068          | <.0001  |
| KS4 deciles [10]                | 01                     |      | -27.269  | 1.191          | <.0001  |
|                                 | 02                     |      | -28.261  | 0.368          | <.0001  |
|                                 | 03                     |      | -26.099  | 0.152          | <.0001  |
|                                 | 04                     |      | -23.830  | 0.105          | <.0001  |
|                                 | 05                     |      | -21.418  | 0.085          | <.0001  |
|                                 | 06                     |      | -18.901  | 0.076          | <.0001  |
|                                 | 07                     |      | -15.969  | 0.071          | <.0001  |
|                                 | 08                     |      | -12.593  | 0.068          | <.0001  |
|                                 | 09                     |      | -7.692   | 0.067          | <.0001  |
| Cohort [2020]                   | 2017                   |      | -3.838   | 0.069          | <.0001  |
| KS4 deciles * Cohort [10, 2020] | 01                     | 2017 | 5.508    | 1.894          | 0.004   |
|                                 | 02                     | 2017 | 3.660    | 0.697          | <.0001  |
|                                 | 03                     | 2017 | 1.150    | 0.263          | <.0001  |
|                                 | 04                     | 2017 | 0.558    | 0.159          | 0.000   |
|                                 | 05                     | 2017 | 0.131    | 0.123          | 0.284   |
|                                 | 06                     | 2017 | -0.276   | 0.109          | 0.012   |
|                                 | 07                     | 2017 | -0.698   | 0.100          | <.0001  |
|                                 | 08                     | 2017 | -0.700   | 0.096          | <.0001  |
|                                 | 09                     | 2017 | -0.827   | 0.095          | <.0001  |

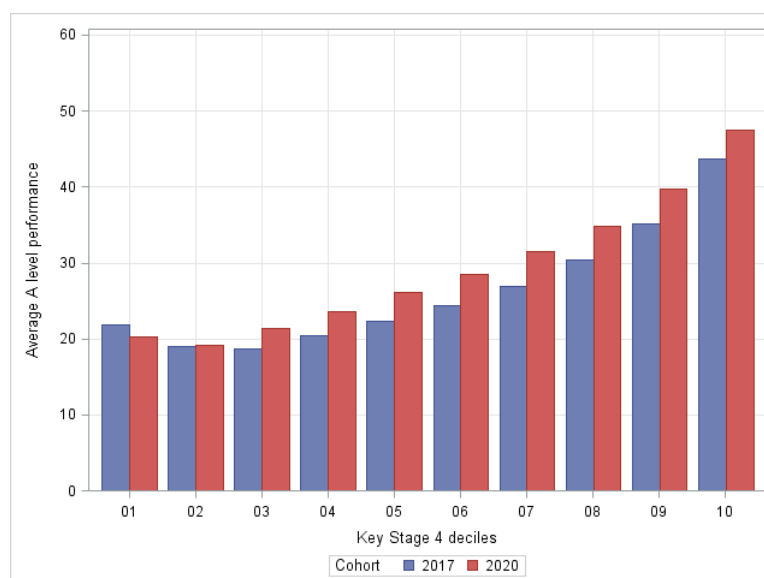


Figure 30: Average performance in A level qualifications ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Further regression models, with interactions between the Key Stage 4 cohort and the students' background characteristics included, were fitted. This was done to check if any of the differences in A level performance pre- and post-pandemic (seen in Table 33 and Table 34), for example, between students in different types of schools or between students with different socio-economic backgrounds remained after controlling by prior attainment. As above, two models differing just in the measure of prior attainment (Key State 2 average score vs. Key Stage 4 decile) were fitted.

Interactions between cohort and gender, cohort and school type and cohort and level of deprivation (IDACI) were statistically significant in both models. As results were very similar independently of the model, only those from the model with the Key Stage 4 scores are presented in Figure 31 to Figure 33 (using data from Table H1, in Appendix H).

Figure 31 shows that, once prior attainment and other background characteristics were taken into account, both male and female students performed better at A level post-pandemic, but the difference between students in the 2017 and 2020 Key Stage 4 cohorts was slightly higher for females than for males (3.4 vs. 3.0 points). The differences in performance at A level were, for both genders, higher than the difference in overall performance at Level 3 (Figure 26).

When looking at performance by school type, Figure 32 shows that average performance at A level increased post-pandemic for students in all of types of schools. This contrasts with the findings for average performance at Level 3, where in sixth form colleges and FE colleges there were decreases post-reform (Figure 27). The increase in A level performance varied by centre, with the highest difference between pre- and post-pandemic cohorts found in the schools in the "other" type (5.10 points). In the remaining types of schools the increases post-reform was between 1.1 (FE college) and 3.0 (selective and comprehensive schools) A level points.

Finally, Figure 33 shows that average performance at A level increased for all students, and the increase was very similar, independently of the deprivation background (around 2.6 in all groups).

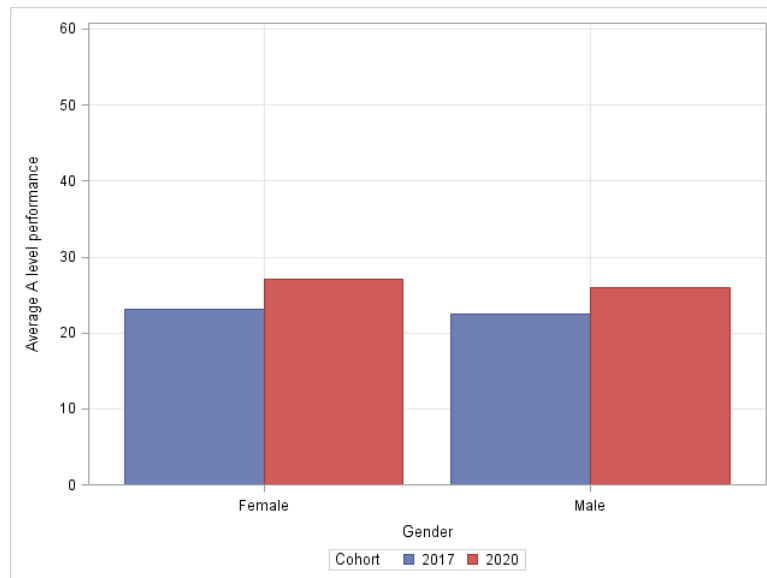


Figure 31: Average performance in A level qualifications ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

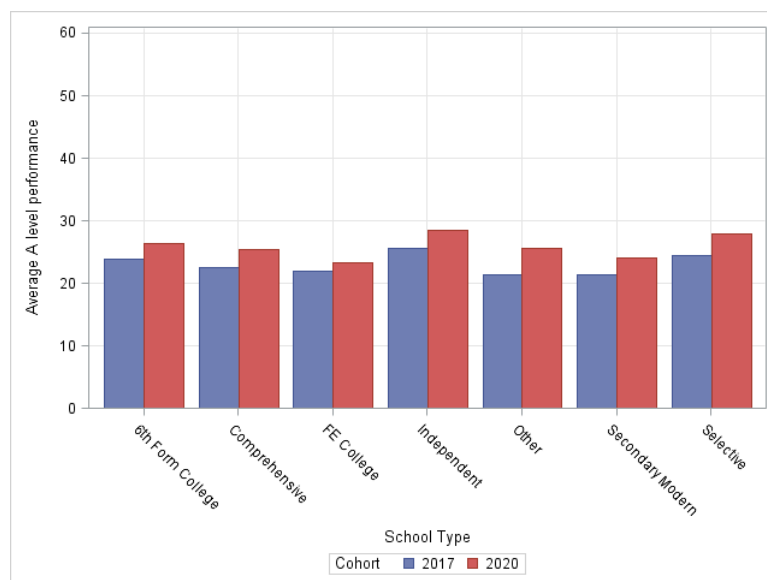


Figure 32: Average performance in A level qualifications ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

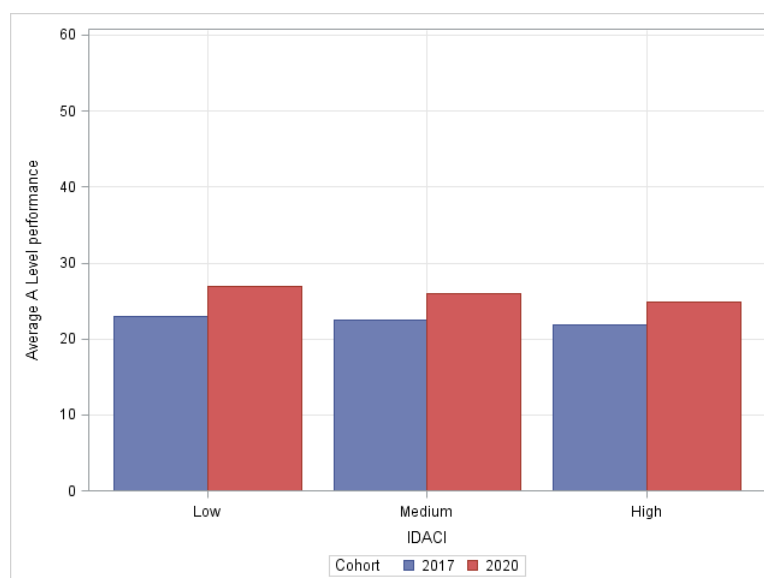


Figure 33: Average performance in A level qualifications ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

### 3.3.3 Performance in individual A level subjects

The results presented in the two sections above (Sections 3.3.1 and 3.3.2) showed that, on average, performance was generally better post-pandemic than pre-pandemic. The magnitude of the differences was bigger at A level than at Level 3 overall.

As A levels are the most popular qualifications taken by students during Key Stage 5, this section looks at performance in individual A level subjects and, in particular, performance at specific grades (A or above; C or above) in the ten most popular A level subjects in 2022<sup>15</sup>.

Table 37 below show the entries for these subjects pre- (2019) and post-pandemic (2022).

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<sup>15</sup> Each of these ten subjects had more than 30,000 entries in 2022 (that is, more than 4% of the total number of A level entries in that year).

Table 37: Entries in the most popular A levels subjects in 2022

| A level subject    | 2019<br>(2017 KS4 cohort) | 2022<br>(2020 KS4 cohort) |
|--------------------|---------------------------|---------------------------|
| Mathematics        | 77957                     | 85062                     |
| Psychology         | 59105                     | 74197                     |
| Biology            | 59519                     | 63213                     |
| Chemistry          | 51075                     | 51974                     |
| Sociology          | 33987                     | 42304                     |
| History            | 45509                     | 42150                     |
| Business           | 29062                     | 38176                     |
| Physics            | 34094                     | 35430                     |
| Economics          | 28226                     | 34946                     |
| Geography          | 31062                     | 33857                     |
| English Literature | 35815                     | 32202                     |

Table 38 and Table 39 below show the number and percentage of students (as a percentage of the total entry in the subject) who achieved at least grade A and at least grade C, respectively, in the subjects shown in Table 37. The figures in both tables show that higher percentages of students achieved each grade (or above) post-pandemic than pre-pandemic in all subjects. The differences between cohorts varied slightly by grade and subject. In each subject, the increase in the percentage of students achieving grade A or above was higher than the increase at grade C or above. The largest increases at grade A or above were for English Literature, History and Psychology and the lowest for Mathematics and Sociology. At grade C or above, the largest increase was in Business Studies and the lowest for Mathematics and Chemistry.

Table 38: Number and percentage of students (as a percentage of the total entry in the subject) who achieved at least grade A

| A level subject    | 2019<br>(2017 KS4 cohort) |      | 2022<br>(2020 KS4 cohort) |      | Difference<br>2020 – 2017 |
|--------------------|---------------------------|------|---------------------------|------|---------------------------|
|                    | N                         | %    | N                         | %    |                           |
| Mathematics        | 32767                     | 42.0 | 41183                     | 48.4 | 6.4                       |
| Psychology         | 10216                     | 17.3 | 21706                     | 29.3 | 12.0                      |
| Biology            | 14763                     | 24.8 | 22008                     | 34.8 | 10.0                      |
| Chemistry          | 15158                     | 29.7 | 20371                     | 39.2 | 9.5                       |
| Sociology          | 6373                      | 18.8 | 11288                     | 26.7 | 7.9                       |
| History            | 10801                     | 23.7 | 15047                     | 35.7 | 12.0                      |
| Business Studies   | 4376                      | 15.1 | 9587                      | 25.1 | 10.1                      |
| Physics            | 9808                      | 28.8 | 13951                     | 39.4 | 10.6                      |
| Economics          | 8589                      | 30.4 | 13743                     | 39.3 | 8.9                       |
| Geography          | 7607                      | 24.5 | 11456                     | 33.8 | 9.3                       |
| English Literature | 9168                      | 25.6 | 12150                     | 37.7 | 12.1                      |

Table 39: Number and percentage of students (as a percentage of the total entry in the subject) who achieved at least grade C

| A level subject    | 2019<br>(2017 KS4 cohort) |      | 2022<br>(2020 KS4 cohort) |      | Difference<br>2020 – 2017 |
|--------------------|---------------------------|------|---------------------------|------|---------------------------|
|                    | N                         | %    | N                         | %    |                           |
| Mathematics        | 59214                     | 76.0 | 67458                     | 79.3 | 3.3                       |
| Psychology         | 42267                     | 71.5 | 59086                     | 79.6 | 8.1                       |
| Biology            | 40174                     | 67.5 | 47918                     | 75.8 | 8.3                       |
| Chemistry          | 37078                     | 72.6 | 39713                     | 76.4 | 3.8                       |
| Sociology          | 26138                     | 76.9 | 34806                     | 82.3 | 5.4                       |
| History            | 36929                     | 81.1 | 37020                     | 87.8 | 6.7                       |
| Business Studies   | 21687                     | 74.6 | 31945                     | 83.7 | 9.1                       |
| Physics            | 24271                     | 71.2 | 27518                     | 77.7 | 6.5                       |
| Economics          | 23060                     | 81.7 | 30195                     | 86.4 | 4.7                       |
| Geography          | 24785                     | 79.8 | 29031                     | 85.7 | 6.0                       |
| English Literature | 28953                     | 80.8 | 28503                     | 88.5 | 7.7                       |

To investigate the changes in performance pre- and post-pandemic in the A level subjects listed in Table 37, taking into account the students' prior attainment at Key Stage 4 and their background characteristics, multilevel logistic regression models (as described in Section 2.2) were fitted. As in other sections of this report, two models were fitted for each grade (at least grade A; at least grade C) and for each subject. The two models differed in the measure of prior attainment (Key State 2 average score vs. Key Stage 4 decile). As results for each grade were very similar regardless of the measure of prior attainment considered, only those from the models with the Key Stage 4 scores are presented in this section of the report.

Figure 34 and Figure 35 show the probability of achieving at least grade A and at least grade C, respectively, in the subjects shown in Table 37. The figures, based on regression outputs included in Appendices I and J (provided as separate Excel files) mostly confirm the overall patterns seen in the descriptive statistics (Table 38 and Table 39), that is:

- In all subjects, higher percentages of students achieved each grade (or above) post-pandemic than pre-pandemic, independently of the prior attainment at Key Stage 4.
- The differences between cohorts varied slightly by grade: in most subjects, the increase in the percentage of students achieving grade A or above was higher than the increase at grade C or above for students with high prior attainment at Key Stage 4 but, the opposite was true for students with lower prior attainment. For example, in Biology, the increase in the probability of achieving a grade A was around 0.02 for students in prior attainment decile 07, whilst it was 0.18 for those in decile 10. However, the increase in the probability of achieving a grade C was around 0.21 for students in decile 07 compared to 0.02 for students in the top decile.
- The differences between cohorts varied slightly by subject. At grade A or above, the lowest increases were in Mathematics and the highest in History and English Literature. At grade C or above, the lowest increases were in Mathematics and the highest in Biology and Geography.

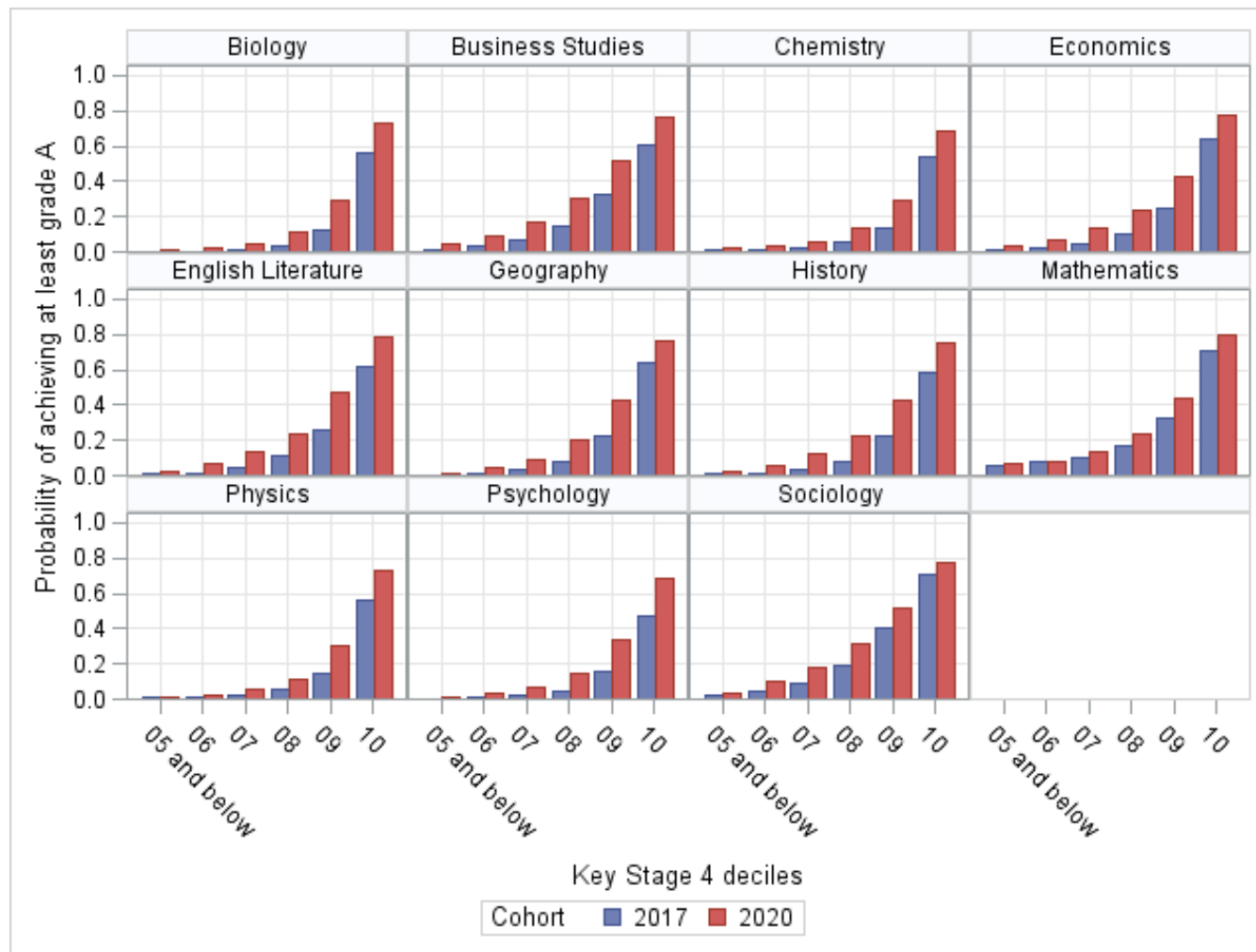


Figure 34: Probability of achieving at least grade A at A level by prior attainment at Key Stage 4 in each A level subject (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White)

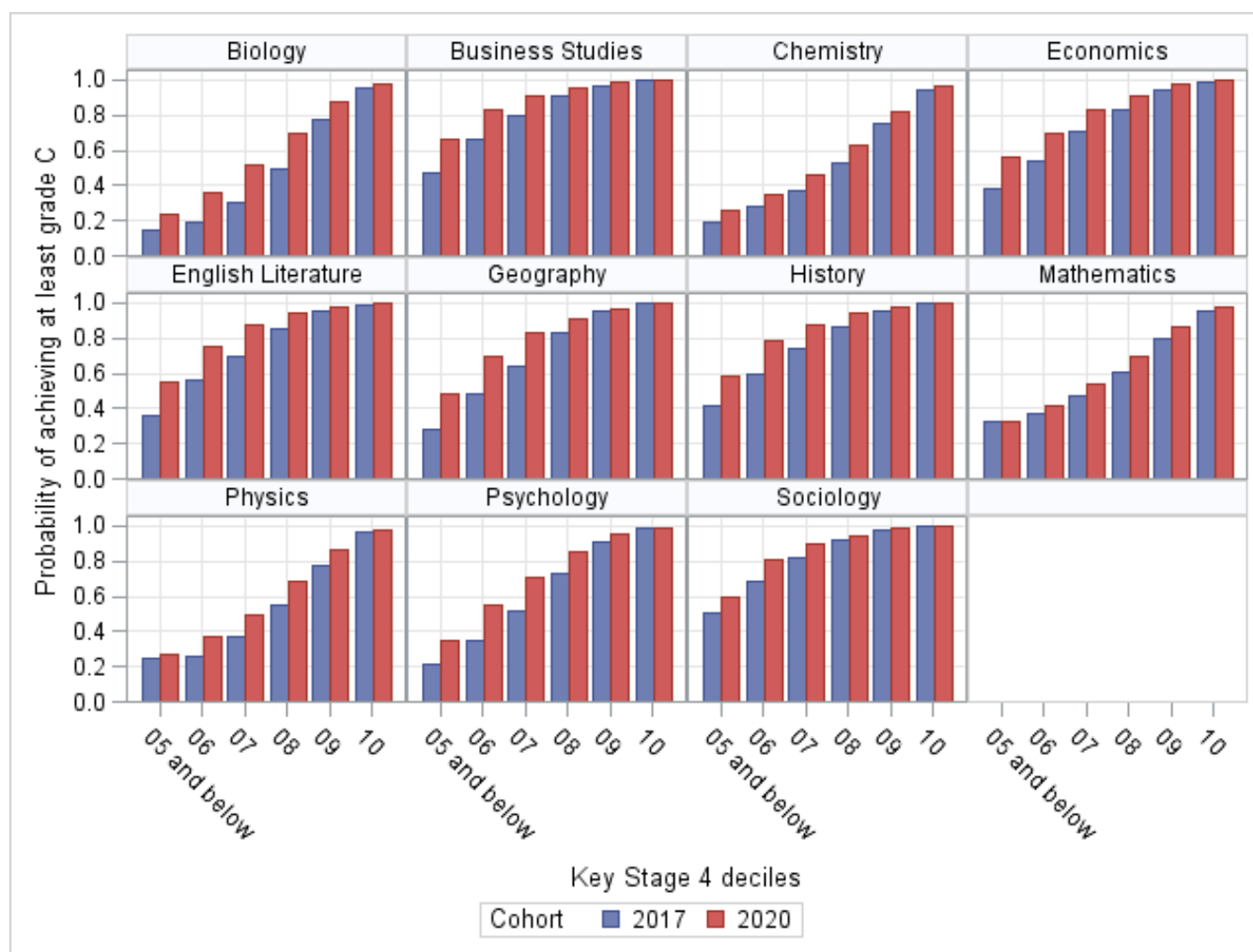


Figure 35: Probability of achieving at least grade C at A level by prior attainment at Key Stage 4 in each A level subject (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White)



### 3.4. Combined progression to and performance at the end of Key Stage 5

In an attempt to see the overall impact of the combination of progression to Key Stage 5, retention and performance at the end of post-16 study before and after the Covid-19 pandemic, further analyses were carried out. These analyses differed from the performance analyses reported in Section 3.3 above in that they include all students who were in the Key Stage 4 cohorts, whether they progressed to Key Stage 5 or not.

Table 40 shows the percentage of students who achieved a specific level of performance in Level 3 qualifications (out of all students in each Key Stage 4 cohort, not just those progressing to Key Stage 5). In particular, two levels of performance were considered:

- Achieving at least an average of 30 Level 3 points
- Achieving at least an average of 50 Level 3 points

Overall performance in Level 3 is defined as the average performance points students achieved per entry equivalent to one A level. Therefore, this measure ranges from 0 to 60<sup>16</sup>. Achieving at least 30 Level 3 points is, on average, the equivalent of at least grade C at A level. Achieving at least 50 Level 3 points is, on average, the equivalent to grade A or higher at A level.

As expected, due to the “slightly more generous” grading in 2022 (when the 2020 Key Stage 4 cohort achieved their Level 3 qualifications) performance was higher for the 2020 Key Stage 4 cohort than for the 2017 Key Stage 4 cohort.

Table 40: Performance of students in Level 3 qualifications

| Candidates                    | 2017          |                          | 2020          |                          | Difference<br>2020 – 2017 |
|-------------------------------|---------------|--------------------------|---------------|--------------------------|---------------------------|
|                               | N             | % (out of<br>KS4 cohort) | N             | % (out of<br>KS4 cohort) |                           |
| At least 30 Level 3 points    | 223258        | 39.6                     | 269998        | 45.1                     | 5.5                       |
| At least 50 Level 3 points    | 48990         | 8.7                      | 73913         | 12.3                     | 3.7                       |
| <i>Key Stage 4 candidates</i> | <i>563577</i> |                          | <i>598823</i> |                          |                           |

Table 41 and Table 42 below show the numbers and percentages of students achieving each level of overall Level 3 performance, as described above, broken down by students’ background characteristics.

<sup>16</sup> Remember that performance points for Level 3 qualifications (A levels and equivalents) are as follows: A\*=60 points, A=50, B=40, C=30, D=20, E=10, U=0. For more details, see DfE (2023).

Table 41: Students achieving **at least 30 Level 3 points**, broken down by students' background characteristics

| Characteristics                           |                  | 2017 cohort |                                 |                                 | 2020 cohort |                                 |                                 | Difference<br>2020 – 2017 |
|---|------------------|-------------|---------------------------------|---------------------------------|-------------|---------------------------------|---------------------------------|---------------------------|
|   |                  | N (in KS4)  | N<br>(at least 30<br>L3 points) | %<br>(at least 30<br>L3 points) | N (in KS4)  | N<br>(at least 30<br>L3 points) | %<br>(at least 30<br>L3 points) |                           |
| Gender                                    | Female           | 277828      | 127020                          | 45.7                            | 294652      | 153798                          | 52.2                            | 6.5                       |
|   | Male             | 285749      | 96238                           | 33.7                            | 304171      | 116200                          | 38.2                            | 4.5                       |
| School Type                               | Comprehensive    | 440164      | 161663                          | 36.7                            | 501315      | 208879                          | 41.7                            | 4.9                       |
|   | Independent      | 39756       | 28918                           | 72.7                            | 42277       | 32852                           | 77.7                            | 5.0                       |
|   | Other            | 11478       | 846                             | 7.4                             | 12654       | 1159                            | 9.2                             | 1.8                       |
|   | Secondary Modern | 16645       | 4923                            | 29.6                            | 17128       | 6468                            | 37.8                            | 8.2                       |
|   | Selective        | 22205       | 16626                           | 74.9                            | 24707       | 20455                           | 82.8                            | 7.9                       |
| Prior Attainment (Key<br>Stage 4Terciles) | Low              | 189347      | 15336                           | 8.1                             | 197862      | 18066                           | 9.1                             | 1.0                       |
|   | Medium           | 185485      | 65648                           | 35.4                            | 199061      | 85235                           | 42.8                            | 7.4                       |
|   | High             | 188745      | 142274                          | 75.4                            | 201900      | 166697                          | 82.6                            | 7.2                       |
| Prior Attainment (Key<br>Stage 4 Deciles) | 01               | 56683       | 694                             | 1.2                             | 59856       | 935                             | 1.6                             | 0.3                       |
|   | 02               | 56450       | 3212                            | 5.7                             | 57441       | 3655                            | 6.4                             | 0.7                       |
|   | 03               | 56136       | 7525                            | 13.4                            | 63422       | 9788                            | 15.4                            | 2.0                       |
|   | 04               | 55238       | 12501                           | 22.6                            | 58990       | 15270                           | 25.9                            | 3.3                       |
|   | 05               | 58298       | 18058                           | 31.0                            | 59830       | 22180                           | 37.1                            | 6.1                       |
|   | 06               | 52471       | 20566                           | 39.2                            | 59418       | 29168                           | 49.1                            | 9.9                       |
|   | 07               | 59009       | 28633                           | 48.5                            | 60244       | 36754                           | 61.0                            | 12.5                      |
|   | 08               | 56688       | 34984                           | 61.7                            | 59779       | 43964                           | 73.5                            | 11.8                      |
|   | 09               | 56085       | 44086                           | 78.6                            | 60086       | 51477                           | 85.7                            | 7.1                       |
|   | 10               | 56519       | 52999                           | 93.8                            | 59757       | 56807                           | 95.1                            | 1.3                       |
| Key Stage 2 scores                        | Below 3          | 17209       | 1642                            | 9.5                             | 13618       | 1433                            | 10.5                            | 1.0                       |
|   | 3.5              | 44870       | 7199                            | 16.0                            | 39974       | 7049                            | 17.6                            | 1.6                       |
|   | 4                | 130524      | 33324                           | 25.5                            | 148585      | 42818                           | 28.8                            | 3.3                       |
|   | 4.5              | 128246      | 50284                           | 39.2                            | 133116      | 59371                           | 44.6                            | 5.4                       |
|   | 5                | 146480      | 85559                           | 58.4                            | 138258      | 84904                           | 61.4                            | 3.0                       |
|   | 5.5              | 17662       | 14469                           | 81.9                            | 46871       | 38119                           | 81.3                            | -0.6                      |
|   | 6                | 508         | 473                             | 93.1                            | 1169        | 1127                            | 96.4                            | 3.3                       |

Table 41 (continued): Students achieving **at least 30 Level 3 points**, broken down by students' background characteristics

| Characteristics |                        | 2017 cohort |                                 |                                 | 2020 cohort |                                 |                                 | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|---------------------------------|---------------------------------|-------------|---------------------------------|---------------------------------|---------------------------|
|                 |                        | N (in KS4)  | N<br>(at least 30<br>L3 points) | %<br>(at least 30<br>L3 points) | N (in KS4)  | N<br>(at least 30<br>L3 points) | %<br>(at least 30<br>L3 points) |                           |
| IDACI           | Low                    | 173510      | 83502                           | 48.1                            | 184590      | 100539                          | 54.5                            | 6.3                       |
|                 | Medium                 | 172238      | 62529                           | 36.3                            | 182355      | 77052                           | 42.3                            | 6.0                       |
|                 | High                   | 173458      | 47519                           | 27.4                            | 184085      | 58703                           | 31.9                            | 4.5                       |
| FSM             | No                     | 382305      | 163608                          | 42.8                            | 412562      | 201520                          | 48.8                            | 6.1                       |
|                 | Yes                    | 137884      | 30235                           | 21.9                            | 139295      | 35066                           | 25.2                            | 3.2                       |
| SEN             | No                     | 450080      | 183167                          | 40.7                            | 475294      | 221790                          | 46.7                            | 6.0                       |
|                 | Yes                    | 70114       | 10676                           | 15.2                            | 76565       | 14796                           | 19.3                            | 4.1                       |
| Ethnic Group    | Any Other Ethnic Group | 8096        | 3210                            | 39.6                            | 10137       | 4725                            | 46.6                            | 7.0                       |
|                 | Asian                  | 51882       | 22757                           | 43.9                            | 59925       | 30840                           | 51.5                            | 7.6                       |
|                 | Black                  | 27525       | 9442                            | 34.3                            | 32423       | 13289                           | 41.0                            | 6.7                       |
|                 | Chinese                | 1918        | 1275                            | 66.5                            | 1908        | 1424                            | 74.6                            | 8.2                       |
|                 | Mixed                  | 23439       | 8738                            | 37.3                            | 29275       | 12746                           | 43.5                            | 6.3                       |
|                 | White                  | 402705      | 146438                          | 36.4                            | 411796      | 170699                          | 41.5                            | 5.1                       |

Table 42: Students achieving **at least 50 Level 3 points**, broken down by students' background characteristics

| Characteristics                               |                  | 2017 cohort |                                 |                                 | 2020 cohort |                                 |                                 | Difference<br>2020 – 2017 |
|---|------------------|-------------|---------------------------------|---------------------------------|-------------|---------------------------------|---------------------------------|---------------------------|
|   |                  | N (in KS4)  | N<br>(at least 50<br>L3 points) | %<br>(at least 50<br>L3 points) | N (in KS4)  | N<br>(at least 50<br>L3 points) | %<br>(at least 50<br>L3 points) |                           |
| Gender  | Female           | 277828      | 27398                           | 9.9                             | 294652      | 42378                           | 14.4                            | 4.5                       |
|   | Male             | 285749      | 21592                           | 7.6                             | 304171      | 31535                           | 10.4                            | 2.8                       |
| School Type                                   | Comprehensive    | 440164      | 31251                           | 7.1                             | 501315      | 47978                           | 9.6                             | 2.5                       |
|   | Independent      | 39756       | 9615                            | 24.2                            | 42277       | 15127                           | 35.8                            | 11.6                      |
|   | Other            | 11478       | 196                             | 1.7                             | 12654       | 346                             | 2.7                             | 1.0                       |
|   | Secondary Modern | 16645       | 767                             | 4.6                             | 17128       | 1078                            | 6.3                             | 1.7                       |
|   | Selective        | 22205       | 5160                            | 23.2                            | 24707       | 9331                            | 37.8                            | 14.5                      |
| Prior Attainment<br>(Key Stage 4<br>Terciles) | Low              | 189347      | 2844                            | 1.5                             | 197862      | 1678                            | 0.8                             | -0.7                      |
|   | Medium           | 185485      | 9697                            | 5.2                             | 199061      | 9047                            | 4.5                             | -0.7                      |
|   | High             | 188745      | 36449                           | 19.3                            | 201900      | 63188                           | 31.3                            | 12.0                      |
| Prior Attainment<br>(Key Stage 4<br>Deciles)  | 01               | 56683       | 68                              | 0.1                             | 59856       | 70                              | 0.1                             | 0.0                       |
|   | 02               | 56450       | 601                             | 1.1                             | 57441       | 333                             | 0.6                             | -0.5                      |
|   | 03               | 56136       | 1462                            | 2.6                             | 63422       | 936                             | 1.5                             | -1.1                      |
|   | 04               | 55238       | 2278                            | 4.1                             | 58990       | 1493                            | 2.5                             | -1.6                      |
|   | 05               | 58298       | 3003                            | 5.2                             | 59830       | 2222                            | 3.7                             | -1.4                      |
|   | 06               | 52471       | 2957                            | 5.6                             | 59418       | 3098                            | 5.2                             | -0.4                      |
|   | 07               | 59009       | 3220                            | 5.5                             | 60244       | 4521                            | 7.5                             | 2.0                       |
|   | 08               | 56688       | 3437                            | 6.1                             | 59779       | 7457                            | 12.5                            | 6.4                       |
|   | 09               | 56085       | 6435                            | 11.5                            | 60086       | 15982                           | 26.6                            | 15.1                      |
|   | 10               | 56519       | 25529                           | 45.2                            | 59757       | 37801                           | 63.3                            | 18.1                      |
| Key Stage 2 scores                            | Below 3          | 17209       | 330                             | 1.9                             | 13618       | 184                             | 1.4                             | -0.6                      |
|   | 3.5              | 44870       | 1369                            | 3.1                             | 39974       | 870                             | 2.2                             | -0.9                      |
|   | 4                | 130524      | 5484                            | 4.2                             | 148585      | 5540                            | 3.7                             | -0.5                      |
|   | 4.5              | 128246      | 7451                            | 5.8                             | 133116      | 10560                           | 7.9                             | 2.1                       |
|   | 5                | 146480      | 18554                           | 12.7                            | 138258      | 23153                           | 16.7                            | 4.1                       |
|   | 5.5              | 17662       | 6490                            | 36.7                            | 46871       | 19108                           | 40.8                            | 4.0                       |
|   | 6                | 508         | 338                             | 66.5                            | 1169        | 870                             | 74.4                            | 7.9                       |

Table 42 (continued): Students achieving **at least 50 Level 3 points**, broken down by students' background characteristics

| Characteristics |                        | 2017 cohort |                                 |                                 | 2020 cohort |                                 |                                 | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|---------------------------------|---------------------------------|-------------|---------------------------------|---------------------------------|---------------------------|
|                 |                        | N (in KS4)  | N<br>(at least 50<br>L3 points) | %<br>(at least 50<br>L3 points) | N (in KS4)  | N<br>(at least 50<br>L3 points) | %<br>(at least 50<br>L3 points) |                           |
| IDACI           | Low                    | 173510      | 18724                           | 10.8                            | 184590      | 29315                           | 15.9                            | 5.1                       |
|                 | Medium                 | 172238      | 12327                           | 7.2                             | 182355      | 18342                           | 10.1                            | 2.9                       |
|                 | High                   | 173458      | 8169                            | 4.7                             | 184085      | 10906                           | 5.9                             | 1.2                       |
| FSM             | No                     | 382305      | 34275                           | 9.0                             | 412562      | 52840                           | 12.8                            | 3.8                       |
|                 | Yes                    | 137884      | 4997                            | 3.6                             | 139295      | 5792                            | 4.2                             | 0.5                       |
| SEN             | No                     | 450080      | 37155                           | 8.3                             | 475294      | 55544                           | 11.7                            | 3.4                       |
|                 | Yes                    | 70114       | 2117                            | 3.0                             | 76565       | 3088                            | 4.0                             | 1.0                       |
| Ethnic Group    | Any Other Ethnic Group | 8096        | 582                             | 7.2                             | 10137       | 1094                            | 10.8                            | 3.6                       |
|                 | Asian                  | 51882       | 4659                            | 9.0                             | 59925       | 7918                            | 13.2                            | 4.2                       |
|                 | Black                  | 27525       | 1336                            | 4.9                             | 32423       | 2198                            | 6.8                             | 1.9                       |
|                 | Chinese                | 1918        | 396                             | 20.6                            | 1908        | 581                             | 30.5                            | 9.8                       |
|                 | Mixed                  | 23439       | 1714                            | 7.3                             | 29275       | 3287                            | 11.2                            | 3.9                       |
|                 | White                  | 402705      | 30138                           | 7.5                             | 411796      | 42795                           | 10.4                            | 2.9                       |

Table 41 shows that the percentages of both female and male students achieving at least 30 Level 3 points increased (6.5 and 4.5 percentage points, respectively) from 2017 to 2020. A similar pattern was found for the percentages of students achieving at least 50 Level 3 points (Table 42), although the increases were smaller and the differences between female and male students were also smaller (4.5 and 2.8 percentage points, respectively).

The changes in Level 3 performance between cohorts varied by school type, although there were increases in both levels of performance (at least 30 Level 3 points, at least 50 Level 3 points) from 2017 to 2020. For example, Table 41 shows that the increase in the percentages achieving at least 30 Level 3 points was smallest amongst students from comprehensive schools (4.9 percentage points) and largest in selective schools and secondary moderns (7.9 and 8.2 percentage points, respectively).

Table 41 and Table 42 show that changes on performance at Level 3 also varied by students' prior attainment. In particular, Table 41 shows that amongst students with low prior attainment at Key Stage 4, similar percentages of students achieved at least 30 Level 3 points in 2022 (2020 Key Stage 4 cohort) as in 2019 (2017 Key Stage 4 cohort). This contrasts with the pattern for students with medium or high prior attainment at Key Stage 4. Amongst these two groups of students, higher percentages of students achieved at least 30 Level 3 points post-pandemic than pre-pandemic (e.g., percentages achieving the threshold increased by 7.4 and 7.2 percentage points, respectively). Table 42 shows, however, that the percentage of students achieving at least 50 Level 3 points increased only amongst students with high prior attainment at Key Stage 4 (12.0 percentage points), with students in the other prior attainment groups (low or medium) performing similarly, or slightly worse, post-pandemic than pre-pandemic. This can also be seen, to a similar degree, when prior attainment was measured by the Key Stage 4 performance in deciles (rather than terciles, as described above) and when was measure by the Key Stage 2 scores.

Independently of the level of socio-economic deprivation, there were increases in both levels of performance (at least 30 Level 3 points, at least 50 Level 3 points) from 2017 to 2020. The increases in performance were higher amongst the least deprived students than amongst the most deprived ones, and the differences between the different levels of socio-economic deprivation were bigger when looking at the highest level of Level 3 performance (at least 50 Level 3 points). For example, Table 41 shows that the increase in the percentages of students achieving at least 30 Level 3 points were 6.3 percentage points amongst low deprived students and 4.5 amongst the high deprived ones. This compares with 5.1 and 1.2 percentage points, respectively, when the focus is on the percentage of students achieving at least 50 Level 3 points (Table 42). When FSM eligibility was used, instead of IDACI, to measure the students' level of socio-economic deprivation, the same patterns were observed.

Table 41 shows that the percentages of students with and without special educational needs achieving at least 30 Level 3 points increased (6.0 and 4.1 percentage points, respectively) from 2017 to 2020. A similar pattern is shown in Table 42 for the percentages achieving at least 50 Level 3 points, although the increases were smaller (3.4 and 1.0 percentage points, respectively).

Finally, as shown in Table 41 and Table 42, the percentages of students achieving either of the two levels of performance at Level 3 increased from 2017 to 2020, independently of the ethnic group of the student. However, the increases were highest for Chinese students (8.2 performance points increase at the lowest level of performance and 9.8 at the highest) and lowest for white students at the low level of performance (5.1 performance points increase)

and for Black students, followed by white students (1.9 and 2.9 percentage points increase, respectively) at the high level of performance.

To further explore if performance during Key Stage 5 (in Level 3 qualifications) changed post-pandemic compared to performance before the pandemic, taking into account students' "ability" (measured by prior attainment) and whilst controlling for students' backgrounds, multilevel regression analyses were carried out. The independent variables in the regression models included: a measure of students' school attainment, an indicator of the Key Stage 4 cohort (pre-pandemic = 2017; post-pandemic = 2020), the gender of the student, the type of school attended during Key Stage 4, the student's level of deprivation, an indicator of special educational needs, and the student's ethnicity. An interaction term between prior attainment and cohort was also included in all models. The level of attainment was, again, measured in two different ways: average GCSE and equivalents point score per entry, and Key Stage 2 score.

Results for the performance measure "achieving at least 30 Level 3 points" are reported here and in Appendix K. Equivalent tables/figures for the measure "achieving at least 50 Level 3 points" are reported in Appendix L.

Table 43 shows the results of the regression model looking at the achievement of at least 30 Level 3 points and Figure 36 (using data from Table 43) shows the same outcome for different levels of Key Stage 2 attainment for a white male student, of medium level of deprivation, with no special educational needs, and attending a comprehensive school.

The year students completed Key Stage 4 was not a statistically significant predictor of achieving at least 30 Level 3 points, but its interaction with the Key Stage 2 average score was. As shown in Table 43, although all students were more likely to achieve at least 30 Level 3 points post-pandemic, the difference in percentages achieving this measure in 2022 compared to 2019 was higher for medium and high attaining students than amongst students with low attainment. The regression analyses show that, for example:

- A student with a Key Stage 2 score of 3 (fairly low), had a probability of achieving at least 30 Level 3 points pre-pandemic of 0.06 and a probability of 0.07 post-pandemic.
- A student with a Key Stage 2 score of 5.5 (fairly high), had a probability of achieving at least 30 Level 3 points pre-pandemic of 0.58 and 0.64 post-pandemic.

Figure 36 corroborates the above, showing that towards the top of the Key Stage 2 scores distribution the difference between cohorts in the probability of achieving at least 30 Level 3 points was higher than at the bottom of the Key Stage 2 scores distribution.

Table 43: Performance in Level 3 qualifications, achieving at least 30 Level 3 points ~ Key Stage 2 prior attainment ( $N = 928746$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | -6.673   | 0.030          | <.0001  |
| Gender                     | Female                 | 0.679    | 0.005          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | Independent            | -1.520   | 0.282          | <.0001  |
|                            | Other                  | -1.865   | 0.055          | <.0001  |
|                            | Secondary Modern       | -0.162   | 0.043          | 0.000   |
|                            | Selective              | 0.993    | 0.038          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | 0.631    | 0.007          | <.0001  |
|                            | Medium                 | 0.311    | 0.007          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | -0.489   | 0.009          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | 0.426    | 0.021          | <.0001  |
|                            | Asian                  | 0.514    | 0.010          | <.0001  |
|                            | Black                  | 0.193    | 0.012          | <.0001  |
|                            | Chinese                | 1.043    | 0.046          | <.0001  |
|                            | Mixed                  | 0.051    | 0.011          | <.0001  |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | 1.263    | 0.006          | <.0001  |
| Cohort                     | 2017                   | -0.007   | 0.041          | 0.868   |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | -0.046   | 0.009          | <.0001  |
|                            | [2020]                 | .        | .              | .       |



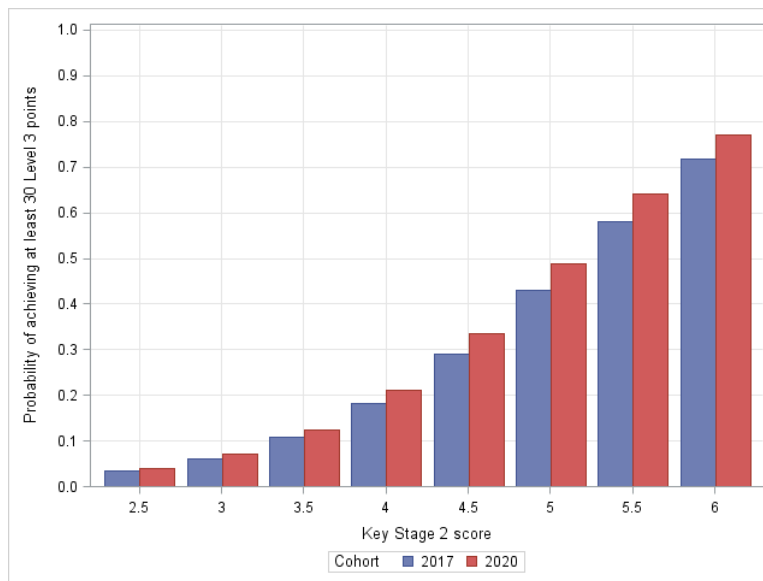


Figure 36: Achievement of at least 30 Level 3 points ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Figure 37 (using data from Table K1, in Appendix K) shows the probability of achieving at least 30 Level 3 points, by the deciles of Key Stage 4 attainment instead of the average Key Stage 2 score as a measure of students' attainment at school. Contrary to the above results, the year students completed Key Stage 4 was a statistically significant predictor of achievement of at least 30 Level 3 points, and this effect varied by their Key Stage 4 attainment (see Table K1 for the regression estimates).

Students with low levels of prior attainment performed similarly pre- and post-pandemic. However, students with high levels of attainment (and particularly those in the middle of the Key Stage 4 attainment distribution) were more likely to achieve at least 30 Level 3 points post-pandemic than pre-pandemic. For example:

- A student with their Key Stage 4 attainment in the first decile (fairly low), had almost the same probability of achieving at least 30 Level 3 points pre- and post-pandemic (just around 0.01).
- A student with their Key Stage 4 attainment in the sixth decile (medium attainment), had higher probability post-pandemic than pre-pandemic (0.33 pre-pandemic, and 0.43 post-pandemic) of achieving at least 30 Level 3 points.
- A student with high Key Stage 4 prior attainment (e.g., decile = 10), had a probability of achieving at least 30 Level 3 points pre-pandemic of 0.91 and a probability of 0.94 post-pandemic. The difference between cohorts, although bigger than for low attaining students, was lower than for medium attaining students.

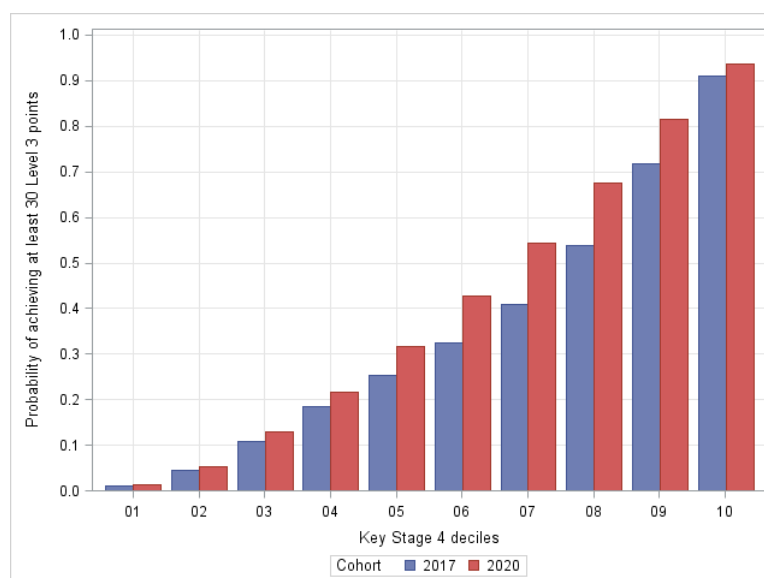


Figure 37: Achievement of at least 30 Level 3 points ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Further regression models, with interactions between the Key Stage 4 cohort and the students' background characteristics, were fitted. This was done to check if any of the differences in the achievement of the level 3 performance thresholds (at least 30 Level 3 points; at least 50 Level 3 points) pre- and post-pandemic, for example, between students in different types of schools or between students with different socio-economic backgrounds, remained after controlling by prior attainment. As above, two models were fitted and these differed in the measure of prior attainment (Key State 2 average score vs. Key Stage 4 decile). As results were very similar independently of the model, only those from the model with the Key Stage 4 deciles as a measure of attainment are presented.

Table K2 in Appendix K shows that all interactions between cohort and students' background characteristics were statistically significant and Figure 38 to Figure 41 (using data from Table K2, in Appendix K) show the probabilities of achieving at least 30 Level 3 points by cohort and the different students' background characteristics.

Figure 38 shows that, once prior attainment and other background characteristics were taken into account, both male and female students were more likely to achieve at least 30 Level 3 points post-pandemic than pre-pandemic, but the difference between students in the 2017 and 2020 Key Stage 4 cohorts was slightly higher for females than for males (0.07 vs. 0.04).

When looking at performance by school type, Figure 39 shows that the probability of achieving at least 30 Level 3 points increased post-pandemic for students in all types of Key Stage 4 schools. However, the increase in performance varied by centre type, with the highest difference between pre- and post-pandemic cohorts found in students in selective schools, followed closely by students in secondary modern schools (0.07 and 0.05, respectively). The lowest difference was in schools in the "other" category (0.02).

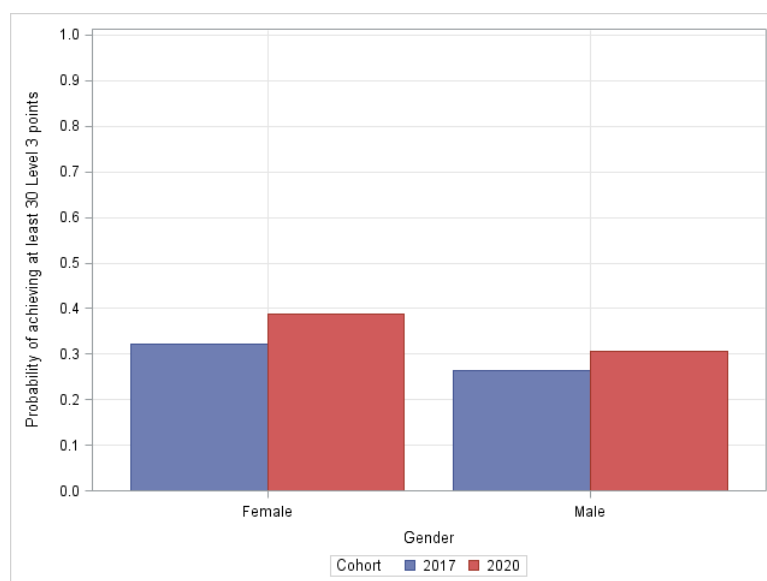


Figure 38: Achievement of at least 30 Level 3 points ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

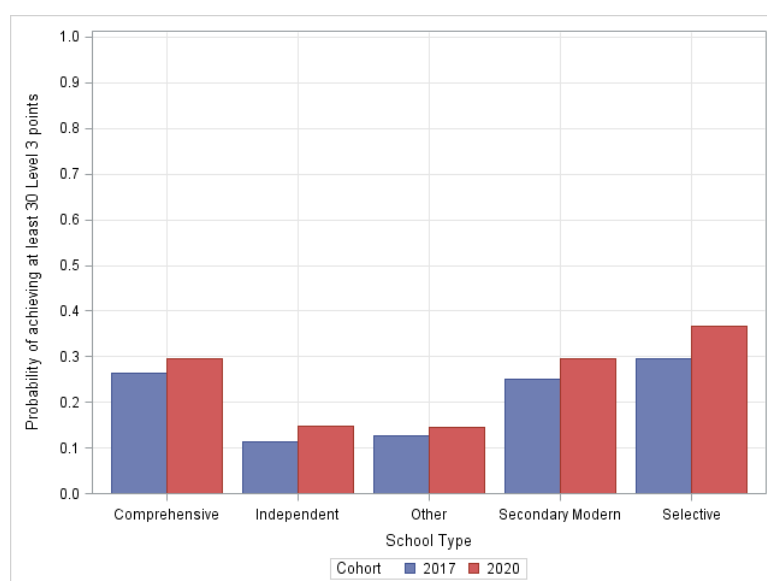


Figure 39: Achievement of at least 30 Level 3 points ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

Figure 40 shows that, although the probability of achieving at least 30 Level 3 points increased for all students post-pandemic, the increase was higher among students from low deprivation backgrounds than amongst students from areas of high deprivation (0.06 vs. 0.03).

Similarly, Figure 41 shows increases post-pandemic in the achievement of at least 30 Level 3 points, independently of the students' ethnicity. However, the increase was highest amongst Chinese students (0.09) and lowest amongst white students (0.04).

Finally, Figure 42 shows that both students with and without special educational needs were more likely to achieve at least 30 Level 3 points post-pandemic, but the difference between students in the 2017 and 2020 Key Stage 4 cohorts was slightly higher for those identified as needing support (0.06 vs. 0.04).

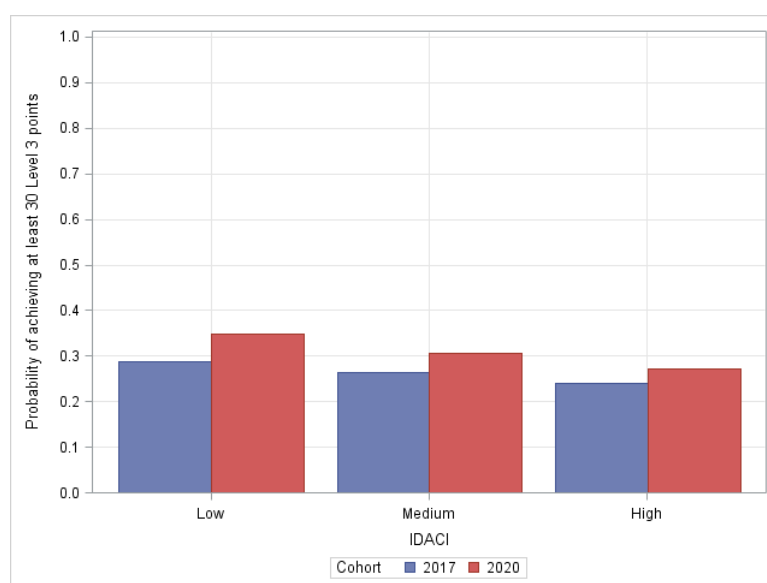


Figure 40: Achievement of at least 30 Level 3 points ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

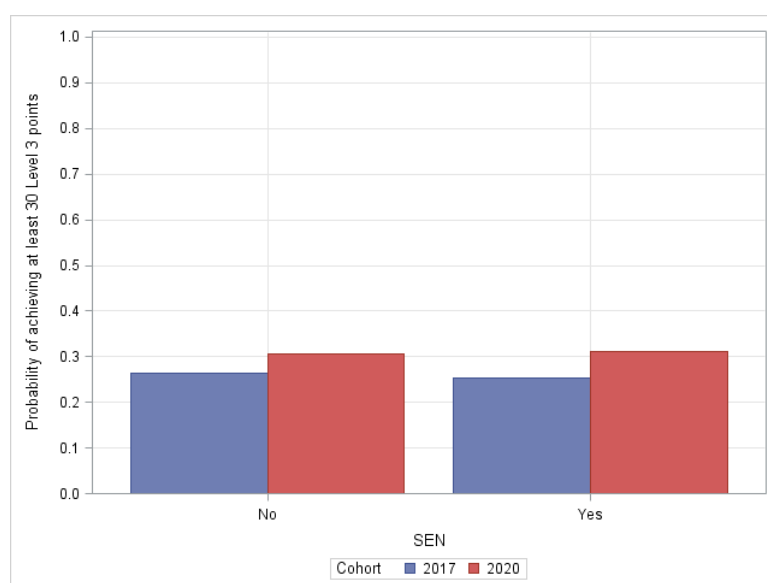


Figure 41: Achievement of at least 30 Level 3 points ~ SEN (Gender = Male; School Type = Comprehensive; Deprivation = Medium; Ethnicity = White Key Stage 4 prior attainment = 05 decile)

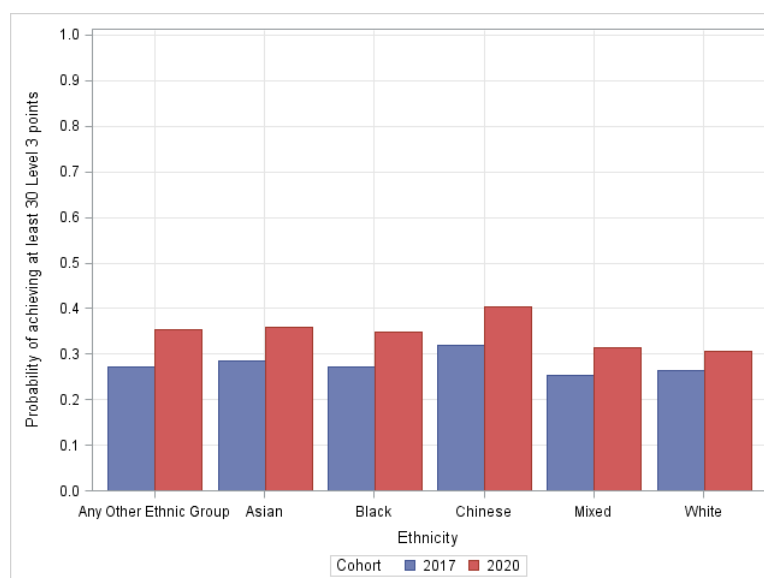


Figure 42: Achievement of at least 30 Level 3 points ~ ethnicity (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Key Stage 4 prior attainment = 05 decile)

## 4. Summary and conclusions

This research has provided evidence on the progression to post-16 study, in particular qualifications taken, retention and performance at the end of Key Stage 5 in June 2022, of the students who sat GCSEs and/or other Level 1/2 qualifications in June 2020 and how the awarding of CAGs impacted different demographic and socio-economic groups.

The progression outcomes of the June 2020 Key Stage 4 cohort were compared to the outcomes of pre-pandemic cohorts (specifically, the June 2017 Key Stage 4 cohort who completed Key Stage 5 in June 2019) to understand whether students had been disadvantaged as a result of the cancellation of exams.

### Qualifications completed by the end Key Stage 5

The analysis of the qualifications completed by the end of Key Stage 5 found small differences between those students whose exams were cancelled in 2020 due the pandemic and those who sat them in 2017: students at the end of Year 11 in 2020 were slightly more likely to complete a qualification in 2021/22 than the students at the end of Year 11 in 2017 (84.5% compared to 81.3%). In terms of completing Level 3 qualifications only (e.g., A levels and equivalents), the pattern of results was fairly similar. In particular, 57.9% of the 2020 Key Stage 4 cohort completed Level 3 qualifications only by the end of Key Stage 5, compared to 49.8% of the 2017 Key Stage 4 cohort.

Vidal Rodeiro and Williamson (2022) had reported that students who missed their GCSE exams in 2020 were not disadvantaged when it came to starting their A levels and other post-16 qualifications, that is, there were no big changes in the proportion of students who went on to post-16 study (Key Stage 5) after completing Year 11 in 2020 in comparison to cohorts pre-pandemic; the outcomes of this work showed that, in terms of “final” uptake, the patterns did not change.

Students in the 2020 cohort were more likely to take Applied Generals or A levels than students in the 2017 cohort but were less likely to take other general qualifications (GQs), or other vocational/technical qualifications (VTQs/VRQs) at Level 3. This, again, confirms findings from previous research, which had shown that a higher percentage of students from the 2020 cohort than from a cohort pre-pandemic progressed to studying at least one A level or an Applied General qualification (Vidal Rodeiro and Williamson, 2022).

In the 2020 cohort, students were less likely to take a GCSE in English during Key Stage 5 compared to students from the 2017 cohort. This could be attributed, at least in part, to the higher number of students who received the necessary GCSE grade in this subject during the summer of 2020 (thanks to the “generous” CAGs) and therefore did not need to re-sit the qualification in post-16 education. Having said this, students in the 2020 cohort were almost as likely to take a GCSE in Maths as those in the earlier cohort.

The average number of qualifications taken per student in the 2020 Key Stage 4 cohort was just slightly lower than the average number of qualifications taken by the students in the 2017 cohort. On the contrary, the average number of A levels per student increased over time. In fact, students from the 2020 cohort were more likely to start three or more A levels than students from the 2017 Key Stage 4 cohort.

When looking at the progression to individual A level subjects, the research revealed small differences in the uptake between cohorts. In terms of uptake of individual Applied General subjects, differences between cohorts were slightly more pronounced than at A level.

### **Qualifications completed by students’ characteristics**

As the effect of the cancellation of exams on the uptake of qualifications at Key Stage 5 was likely to be different for different groups of students (e.g., Lee, Stringer and Zanini, 2020; Hunt *et al.*, 2022; Vidal Rodeiro and Williamson, 2022) it was important that students’ background characteristics were considered in this work.

The percentage of students completing at least one qualification at the end of Key Stage 5 increased over time (*i.e.*, pre- vs. post-pandemic) for both male and female students, although the increase was slightly larger amongst females.

There were also increases in uptake post-pandemic across all centre types considered in the research, with the exception of independent schools.

Amongst the 2020 cohort, the percentage of low and medium attainers with at least one qualification at the end of Key Stage 5 was higher compared to the 2017 cohort. However, there was just a slight increase in uptake among high attainers in the 2020 cohort compared to the 2017 cohort. Generally, the lower the prior attainment, the greater the increase in uptake in the 2020 cohort with respect to the 2017 cohort.

While uptake of qualifications at Key Stage 5 increased for all students in the 2020 Key Stage 4 cohort (compared to the 2017 cohort) regardless of their socio-economic background (measured by IDACI), the increase was slightly higher for the most deprived students than for the least deprived students.

Vidal Rodeiro and Williamson (2022) had found very similar results in terms of progression by prior attainment and level of deprivation: the increase in take up of qualifications at Key Stage 5 was very slightly higher for students from the most deprived areas than those from the least deprived areas; and there was a slight increase in the numbers of students with lower results at GCSE continuing into post-16 education, while the proportion of those with higher results remained mostly unchanged.

When looking at ethnicity amongst students in the 2020 Key Stage 4 cohort, there were increases in the uptake of at least one Key Stage 5 qualification in all ethnic groups, with the largest increases among Black and Asian students and the smallest increase among students with a Chinese background.

Very similar patterns of uptake by students' background characteristics emerged when considering completion of at least one qualification at Level 3 by the end of Key Stage 5. However, when completion of qualifications at Level 3 was considered, a few differences appeared. Firstly, in terms of uptake by type of school, there was a post-pandemic increase in uptake of Level 3 only qualifications amongst students in independent schools, compared to the decrease or basically no change in uptake of any qualification or of at least one qualification at Level 3. Secondly, uptake increased the most amongst the medium attainers, whilst the results above (uptake of any qualification at Key Stage 5; uptake of at least one qualification at Level 3) had shown the highest increase in uptake amongst the low attaining students.

To further explore if uptake of qualifications at Key Stage 5 changed post-pandemic taking into account students' background characteristics, multilevel logistic regression modelling was carried out. The results from the regression analyses supported the results from the descriptive analyses discussed in the above paragraphs.

In terms of the overall picture, the difference in the qualifications completed by the end of Key Stage 5 between the 2020 Key Stage 4 and the 2017 Key Stage 4 cohorts was very small. This, however, may reflect the fact that the decision to cancel exams came in March 2020, when students had already finalised their plans regarding post-16 qualifications/subjects and followed through with their choices (*i.e.*, not altered their plans based on the awarding of the CAGs). However, this left the question of how the pandemic impacted the cohort's performance once they reached the end of Key Stage 5 still open.

## **Dropout during Key Stage 5**

Vidal Rodeiro and Williamson (2022) had shown that students from the 2020 cohort were less likely to have either dropped or changed courses inside their first months of post-16 study than those who sat the exams prior to the pandemic. The current research explored this further by calculating dropout rates during the two years of Key Stage 5 study.

Similarly to the findings from the research mentioned above, and contrary to expectations, dropout rates (both for Level 3 qualifications and for A levels specifically) for the 2020 Key Stage 4 cohort were lower compared to the 2017 Key Stage 4 cohort. The lower dropout rates post-pandemic could be explained by differences in the support students received at school. For example, it could be the case that because the students at the end of Key Stage 4 in 2020 were generally perceived as a disadvantaged group, they were given more support and this resulted in lower dropouts.

When looking at retention by students' characteristics, this research showed that dropout rates decreased over time (*i.e.*, pre- vs. post-pandemic) across all the different groups of students (*i.e.*, gender; attainment; socio-economic deprivation; type of school; special educational needs; ethnicity), with slightly larger decreases among medium attaining students compared to their low and high achieving counterparts, and in independent schools compared to other types of schools.

Dropout rates decreased post-pandemic for most qualifications taken by students in Key Stage 5, with the exception of AS level (which showed, on the contrary, an increase of around 11 percentage points) and the EPQ (which showed almost no change). In the case of the AS level, the difference could be due to a reporting issue in PLAMS rather than students deciding to drop the qualification.

It is also worth noting that there was a lower decrease in the A level dropout rate compared to dropout rates from other Level 3 qualifications and, while there was no change in the GCSE English dropout rate, there was a six percentage point decrease in the GCSE Maths dropout rate.

Multilevel regression models carried out to further explored pre- and post-pandemic differences in dropout rates during Key Stage 5 (any qualification or A levels specifically) whilst taking into account students' background characteristics, confirmed the results discussed above: the probability of dropping out was higher pre-pandemic than post-pandemic for all students independently of their prior attainment, with the difference in such probabilities being generally lowest amongst students with high prior attainment. That is, the biggest reductions in dropout rates were seen amongst students with low or medium prior attainment.

## **Performance in Key Stage 5**

In 2022, when the 2020 Key Stage 5 cohort completed their Level 3 qualifications, the grading of Level 3 qualifications was more generous than in 2019 (*e.g.*, the comparator year in this research) due to the impact of the Covid-19 pandemic. For example, for A level qualifications, although examinations took place in summer 2022, grade boundaries were set to reflect a midpoint between 2021 and pre-pandemic grading. As a result, A level results in 2022 were overall higher than in 2019, but not as high as in 2020 or 2021. Similar allowances were made for other Level 3 qualifications.

As expected, due to this more generous grading in 2022, this research showed that performance was, on average, higher for the 2020 Key Stage 4 cohort than for the 2017 Key Stage 4 cohort both at Level 3 overall and at A level in particular.

### **Performance at Level 3**

Overall, once students' background characteristics were taken into account, students with low levels of prior attainment performed better pre-pandemic, but students with high levels of attainment achieved higher grades post-pandemic.

Regarding differences in performance by different groups of students, both descriptive and regression analyses (taking prior attainment into account) carried out in this research, revealed that:



- Male and female students performed better at Level 3 post-pandemic, but the difference between students in the 2017 and 2020 Key Stage 4 cohorts was slightly higher for females than for males.
- Average Level 3 performance increased post-pandemic for students in almost of types of schools, with the exception of sixth form colleges and FE colleges, where small decreases were found. The increase in performance also varied by centre, with the highest difference between pre- and post-pandemic cohorts found in the schools in the “other” type, followed closely by students in selective schools. The lowest difference was in secondary modern schools.
- Although average performance increased for all students, the increase was higher among students from the low deprivation backgrounds than amongst students from areas of high deprivation.
- The percentages of students displaying “high” performance at Level 3 increased post-pandemic for all groups, with Chinese and mixed students showing the largest increases and the Black and white students showing the lowest.

### **Performance at A level**

The research also looked at overall performance at A level, once students’ background characteristics were taken into account.

In this case, the year students completed Key Stage 4 was a statistically significant predictor of performance at A level (performance at A level was higher post-pandemic) but, contrary to the findings for average Level 3 performance, this effect did not vary by prior attainment at Key State 2. However, when prior attainment was measured by Key Stage 4 scores (which, for the 2020 Key Stage 4 were affected by the pandemic) students with very low levels of prior attainment performed better at A level pre-pandemic, but students with high levels of attainment achieved higher grades post-pandemic.

Regarding differences in A level performance by different groups of students, both descriptive and regression analyses (taking prior attainment into account) carried out in this research, showed similar findings to the ones discussed above for Level 3 performance:

- A level performance was better post-pandemic than pre-pandemic for both male and female students, but the increase in performance was slightly higher for females than for males. This corroborates findings from Carroll (2023), which showed that female-favoured attainment gaps increased during Covid-affected years. One possible explanation for this was the shift to teacher assessment (*i.e.*, awarding of the CAGs), which is known to favour female students (*e.g.*, Angelo & Reis, 2021; Protivinsky & Munich, 2018).
- A level performance increased post-pandemic for students in all types of schools. This contrasts with the findings for average performance at Level 3 above, where in sixth form colleges and FE colleges there were decreases post-pandemic.
- Differences between cohorts pre- and post-pandemic in the average A level performance were similar for students with different levels of socio-economic deprivation.
- The percentages of students achieving “high” A level performance increased post-pandemic similarly for all groups.

Finally, the research showed that performance in the most popular A level subjects also increased post-pandemic, even after taking into account students' backgrounds. In particular, higher percentages of students post-pandemic than pre-pandemic achieved at least grade A and at least grade C in all subjects. However, there were differences in the size of the increase between subjects (e.g., lowest increases in performance were in Mathematics and History; highest increases in performance were in Biology and Geography).

## Final conclusions

By analysing the cohort of students who were awarded CAGs in June 2020, this research has provided evidence on the short- and medium-term impact of the alternative assessment processes implemented due to the Covid-19 pandemic. In particular, having examined the types of courses students from different backgrounds have chosen prior to the pandemic, and how this varied in a year affected by the pandemic, this research has shown that although the higher grades achieved in June 2020 had some implications for students' transition into their next phase of education and influenced the qualifications and subjects they took, in general terms, this did not have a detriment in terms of their course completion rates or their final performance.

Although the effects of the pandemic on progression for the 2020 cohort were small, the evidence from this research suggests that it has affected some groups of learners (e.g., those with low prior attainment or those from some ethnic minority groups) more than others and lowering standards might have led to greater inequity between groups. However, it should be taken into account that the cancellation of exams and the awarding of CAGs did not happen in isolation and the Covid-19 pandemic also had a differential impact, for example, on teaching and learning (see, for example, Isaacs and Murphy (2022) for details on the impact of the pandemic on learning).

Consequently, post-16 and higher education admissions and selection processes should be tailored to address individual needs, ensuring that all students, regardless of their background, transition smoothly to their next stage in education.

It should be noted, though, that progression outcomes (uptake, retention, and performance) might fluctuate between cohorts and, therefore, the differences observed between the 2020 and 2017 Key Stage 4 cohorts might not all be attributed to the pandemic. For example, A level uptake increased from 2017 to 2020, but this increase could be a continuation of a trend already present pre-pandemic (e.g., uptake of A level qualifications had been increasing in the years before the pandemic (see, for example, <https://epi.org.uk/publications-and-research/a-level-results-2019/>)).

The findings provided by this research are just a snapshot of the wider picture of how the pandemic affected the progression of the Key Stage 4 cohorts. As mentioned in Elliott (2021) and Vidal Rodeiro and Williamson (2022), the effects of the disruption will be felt for years to come, and support for those affected will be needed to minimise the effects. Therefore, research looking at the progression of subsequent cohorts (e.g., the 2021 Key Stage 4 cohort), not only to post-16 education, but to Higher Education as well, should continue in order to provide timely evidence to inform any mitigation efforts (whether educational interventions or guidance, or adaptations to assessment) and make sure that no student is disadvantaged.

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## Appendix A: Uptake of Key Stage 5 qualifications

Table A1: Types of qualifications completed by the end of Key Stage 5

| Qualifications                        | 2017 cohort |                       | 2020 cohort |                       |
|---------------------------------------|-------------|-----------------------|-------------|-----------------------|
|                                       | N           | %<br>(of total quals) | N           | %<br>(of total quals) |
| Applied Generals                      | 90736       | 6.1                   | 206361      | 13.6                  |
| GCE A level                           | 640393      | 42.9                  | 718540      | 47.5                  |
| Tech Levels                           | 19864       | 1.3                   | 36342       | 2.4                   |
| Core Maths                            | 5982        | 0.4                   | 11296       | 0.7                   |
| EPQ                                   | 42418       | 2.8                   | 45262       | 3.0                   |
| T Levels                              |             |                       | 1469        | 0.1                   |
| Technical Certificates                | 306         | 0.0                   | 995         | 0.1                   |
| GCSE Maths                            | 70933       | 4.8                   | 72548       | 4.8                   |
| Other GQ Level 3                      | 28694       | 1.9                   | 26033       | 1.7                   |
| GCSE English                          | 68891       | 4.6                   | 59289       | 3.9                   |
| Other Level 1 / Level 2               | 226783      | 15.2                  | 197921      | 13.1                  |
| Other VTQ/VRQ Level 3                 | 152681      | 10.2                  | 86959       | 5.7                   |
| GCE AS level                          | 145557      | 9.7                   | 51287       | 3.4                   |
| <i>Total number of qualifications</i> | 1493283     |                       | 1514302     |                       |

Table A2: Number of Key Stage 5 qualifications per student

| Number of qualifications | 2017 cohort |      | 2020 cohort |      |
|--------------------------|-------------|------|-------------|------|
|                          | N           | %    | N           | %    |
| 0                        | 105172      | 18.7 | 92871       | 15.5 |
| 1                        | 55310       | 9.8  | 62363       | 10.4 |
| 2                        | 78720       | 14.0 | 97416       | 16.3 |
| 3                        | 160662      | 28.5 | 202216      | 33.8 |
| 4                        | 92878       | 16.5 | 102089      | 17.1 |
| 5                        | 31309       | 5.6  | 24006       | 4.0  |
| 6                        | 18305       | 3.3  | 9277        | 1.6  |
| 7                        | 13859       | 2.5  | 4927        | 0.8  |
| 8+                       | 7362        | 1.3  | 3658        | 0.6  |

Table A3: Number of Level 3 qualifications per student

| Number of Level 3 qualifications | 2017 cohort |      | 2020 cohort |      |
|----------------------------------|-------------|------|-------------|------|
|                                  | N           | %    | N           | %    |
| 0                                | 203543      | 36.1 | 186263      | 31.1 |
| 1                                | 57243       | 10.2 | 69361       | 11.6 |
| 2                                | 58484       | 10.4 | 70239       | 11.7 |
| 3                                | 129234      | 22.9 | 169331      | 28.3 |
| 4                                | 66076       | 11.7 | 76926       | 12.9 |
| 5                                | 18158       | 3.2  | 13799       | 2.3  |
| 6                                | 14246       | 2.5  | 6321        | 1.1  |
| 7                                | 11439       | 2.0  | 3743        | 0.6  |
| 8+                               | 5154        | 0.9  | 2840        | 0.5  |

Table A4: Number of A levels per student

| Number of A levels | 2017 cohort |      | 2020 cohort |      |
|--------------------|-------------|------|-------------|------|
|                    | N           | %    | N           | %    |
| 0                  | 326891      | 58.0 | 329260      | 55.0 |
| 1                  | 22567       | 4.0  | 29042       | 4.9  |
| 2                  | 36890       | 6.6  | 46746       | 7.8  |
| 3                  | 165190      | 29.3 | 179364      | 30.0 |
| 4                  | 11734       | 2.1  | 14149       | 2.4  |
| 5+                 | 305         | 0.1  | 262         | 0.0  |

## Appendix B: Uptake of Key Stage 5 qualifications, by students' characteristics

Table B1: Qualifications completed by the end of Key Stage 5, by gender

| Qualifications          | 2017 cohort |      |        |      | 2020 cohort |      |        |      |
|-------------------------|-------------|------|--------|------|-------------|------|--------|------|
|                         | Female      |      | Male   |      | Female      |      | Male   |      |
|                         | N           | %    | N      | %    | N           | %    | N      | %    |
| Applied Generals        | 47767       | 52.6 | 42969  | 47.4 | 112246      | 54.4 | 94115  | 45.6 |
| Core Maths              | 2621        | 43.8 | 3361   | 56.2 | 5379        | 47.6 | 5917   | 52.4 |
| EPQ                     | 25524       | 60.2 | 16894  | 39.8 | 28014       | 61.9 | 17248  | 38.1 |
| GCE A level             | 354591      | 55.4 | 285802 | 44.6 | 392791      | 54.7 | 325749 | 45.3 |
| GCE AS level            | 79839       | 54.9 | 65718  | 45.1 | 27635       | 53.9 | 23652  | 46.1 |
| GCSE English            | 25756       | 37.4 | 43135  | 62.6 | 21372       | 36.0 | 37917  | 64.0 |
| GCSE Maths              | 36872       | 52.0 | 34061  | 48.0 | 36137       | 49.8 | 36411  | 50.2 |
| Other GQ Level 3        | 14491       | 50.5 | 14203  | 49.5 | 13212       | 50.8 | 12821  | 49.2 |
| Other Level 1 / Level 2 | 100931      | 44.5 | 125852 | 55.5 | 86500       | 43.7 | 111421 | 56.3 |
| Other VTQ/VRQ Level 3   | 74254       | 48.6 | 78427  | 51.4 | 43714       | 50.3 | 43245  | 49.7 |
| T Levels                |             |      |        |      | 567         | 38.6 | 902    | 61.4 |
| Tech Levels             | 11500       | 57.9 | 8364   | 42.1 | 19761       | 54.4 | 16581  | 45.6 |
| Technical Certificates  | 134         | 43.8 | 172    | 56.2 | 323         | 32.5 | 672    | 67.5 |

Table B2: Qualifications completed by the end of Key Stage 5, by Key Stage 4 attainment – average GCSE and equivalent point score per entry (number of students)

| Qualifications          | 2017 cohort |        |        | 2020 cohort |        |        |
|-------------------------|-------------|--------|--------|-------------|--------|--------|
|                         | Low         | Medium | High   | Low         | Medium | High   |
| Applied Generals        | 15496       | 58284  | 16956  | 49995       | 120118 | 36248  |
| Core Maths              | 388         | 2827   | 2767   | 767         | 5015   | 5514   |
| EPQ                     | 633         | 8290   | 33495  | 787         | 8382   | 36093  |
| GCE A level             | 8813        | 169407 | 462173 | 14239       | 202769 | 501532 |
| GCE AS level            | 3298        | 47064  | 95195  | 2024        | 17527  | 31736  |
| GCSE English            | 56675       | 11064  | 1152   | 56463       | 2463   | 363    |
| GCSE Maths              | 54034       | 15968  | 931    | 64633       | 7559   | 356    |
| Other GQ Level 3        | 490         | 3288   | 24916  | 734         | 3577   | 21722  |
| Other Level 1 / Level 2 | 161334      | 48296  | 17153  | 148302      | 37411  | 12208  |
| Other VTQ/VRQ Level 3   | 41899       | 86583  | 24199  | 32117       | 41751  | 13091  |
| T Levels                |             |        |        | 327         | 921    | 221    |
| Tech Levels             | 4354        | 12254  | 3256   | 10407       | 20507  | 5428   |
| Technical Certificates  | 270         | 36     |        | 955         | 40     |        |

Table B3: Qualifications completed by the end of Key Stage 5, by socio-economic deprivation – IDACI (number of students)

| Qualifications          | 2017 cohort |        |        | 2020 cohort |        |        |
|-------------------------|-------------|--------|--------|-------------|--------|--------|
|                         | Low         | Medium | High   | Low         | Medium | High   |
| Applied Generals        | 29078       | 30050  | 28896  | 63411       | 67514  | 69011  |
| Core Maths              | 2486        | 1834   | 1410   | 4642        | 3481   | 2656   |
| EPQ                     | 17366       | 10946  | 6514   | 17605       | 11071  | 6546   |
| GCE A level             | 249499      | 176160 | 125036 | 274578      | 201818 | 143945 |
| GCE AS level            | 51556       | 44120  | 37810  | 16577       | 16197  | 14746  |
| GCSE English            | 15036       | 22452  | 29686  | 11714       | 19331  | 26760  |
| GCSE Maths              | 15793       | 23260  | 29942  | 15460       | 23790  | 31585  |
| Other GQ Level 3        | 6498        | 5176   | 3443   | 6168        | 5533   | 3358   |
| Other Level 1 / Level 2 | 54634       | 73469  | 89236  | 45442       | 62195  | 82145  |
| Other VTQ/VRQ Level 3   | 47774       | 50676  | 48284  | 27708       | 28612  | 27172  |
| T Levels                |             |        |        | 445         | 524    | 463    |
| Tech Levels             | 6648        | 6657   | 6129   | 11400       | 11779  | 12310  |
| Technical Certificates  | 58          | 103    | 133    | 133         | 340    | 508    |

Table B4: Qualifications completed by the end of Key Stage 5, by socio-economic deprivation – free school meals eligibility

| Qualifications          | 2017 cohort |      |       |      | 2020 cohort |      |       |      |
|-------------------------|-------------|------|-------|------|-------------|------|-------|------|
|                         | No          |      | Yes   |      | No          |      | Yes   |      |
|                         | N           | %    | N     | %    | N           | %    | N     | %    |
| Applied Generals        | 68711       | 77.9 | 19446 | 22.1 | 153845      | 76.9 | 46331 | 23.1 |
| Core Maths              | 4816        | 83.9 | 925   | 16.1 | 9212        | 85.4 | 1581  | 14.6 |
| EPQ                     | 31027       | 89.0 | 3853  | 11.0 | 31612       | 89.6 | 3660  | 10.4 |
| GCE A level             | 475270      | 86.2 | 76330 | 13.8 | 537459      | 86.5 | 83644 | 13.5 |
| GCE AS level            | 109822      | 82.2 | 23854 | 17.8 | 38795       | 81.5 | 8784  | 18.5 |
| GCSE English            | 42379       | 63.0 | 24920 | 37.0 | 34061       | 58.8 | 23850 | 41.2 |
| GCSE Maths              | 43760       | 63.3 | 25373 | 36.7 | 43059       | 60.7 | 27910 | 39.3 |
| Other GQ Level 3        | 13303       | 87.8 | 1846  | 12.2 | 13310       | 88.3 | 1762  | 11.7 |
| Other Level 1 / Level 2 | 139234      | 63.9 | 78557 | 36.1 | 119908      | 63.1 | 70206 | 36.9 |
| Other VTQ/VRQ Level 3   | 111910      | 76.2 | 35042 | 23.8 | 63935       | 76.5 | 19689 | 23.5 |
| T Levels                |             |      |       |      | 1122        | 78.3 | 311   | 21.7 |
| Tech Levels             | 15115       | 77.7 | 4347  | 22.3 | 27345       | 77.0 | 8181  | 23.0 |
| Technical Certificates  | 183         | 62.2 | 111   | 37.8 | 585         | 59.6 | 397   | 40.4 |

Table B5: Qualifications completed by the end of Key Stage 5, by special educational needs

| Qualifications          | 2017 cohort |      |       |      | 2020 cohort |      |       |      |
|-------------------------|-------------|------|-------|------|-------------|------|-------|------|
|                         | No          |      | Yes   |      | No          |      | Yes   |      |
|                         | N           | %    | N     | %    | N           | %    | N     | %    |
| Applied Generals        | 81784       | 92.8 | 6373  | 7.2  | 183008      | 91.4 | 17168 | 8.6  |
| Core Maths              | 5409        | 94.2 | 332   | 5.8  | 10177       | 94.3 | 616   | 5.7  |
| EPQ                     | 33520       | 96.1 | 1360  | 3.9  | 33688       | 95.5 | 1584  | 4.5  |
| GCE A level             | 530544      | 96.2 | 21056 | 3.8  | 592742      | 95.4 | 28361 | 4.6  |
| GCE AS level            | 128043      | 95.8 | 5633  | 4.2  | 45098       | 94.8 | 2481  | 5.2  |
| GCSE English            | 50379       | 74.9 | 16921 | 25.1 | 37796       | 65.3 | 20116 | 34.7 |
| GCSE Maths              | 54310       | 78.6 | 14824 | 21.4 | 50424       | 71.0 | 20546 | 29.0 |
| Other GQ Level 3        | 14327       | 94.6 | 822   | 5.4  | 14382       | 95.4 | 690   | 4.6  |
| Other Level 1 / Level 2 | 163260      | 75.0 | 54531 | 25.0 | 136348      | 71.7 | 53769 | 28.3 |
| Other VTQ/VRQ Level 3   | 132023      | 89.8 | 14929 | 10.2 | 71759       | 85.8 | 11865 | 14.2 |
| T Levels                |             |      |       |      | 1293        | 90.2 | 140   | 9.8  |
| Tech Levels             | 17695       | 90.9 | 1767  | 9.1  | 31406       | 88.4 | 4120  | 11.6 |
| Technical Certificates  | 221         | 75.2 | 73    | 24.8 | 708         | 72.1 | 274   | 27.9 |



Table B6: Qualifications completed by the end of Key Stage 5, by ethnicity (number of students)

| Qualifications          | 2017 cohort |       |       |         |       |        | 2020 cohort |       |       |         |       |        |
|-------------------------|-------------|-------|-------|---------|-------|--------|-------------|-------|-------|---------|-------|--------|
|                         | Other       | Asian | Black | Chinese | Mixed | White  | Other       | Asian | Black | Chinese | Mixed | White  |
| Applied Generals        | 1393        | 11569 | 5679  | 228     | 3438  | 65075  | 4146        | 27943 | 16290 | 466     | 10060 | 138883 |
| Core Maths              | -           | 706   | 275   | -       | 221   | 4350   | 162         | 1331  | 526   | 45      | 484   | 8122   |
| EPQ                     | 543         | 3903  | 1476  | 300     | 1567  | 26660  | 620         | 4598  | 1693  | 284     | 1936  | 25699  |
| GCE A level             | 10030       | 72809 | 29807 | 4367    | 26491 | 402210 | 13857       | 92312 | 38456 | 4491    | 35418 | 428430 |
| GCE AS level            | 2984        | 20088 | 8236  | 1012    | 6272  | 93758  | 1180        | 9410  | 3328  | 288     | 2284  | 30501  |
| GCSE English            | 1366        | 7507  | 4800  | 208     | 3092  | 49690  | 1439        | 6338  | 4461  | 96      | 3092  | 41775  |
| GCSE Maths              | 1286        | 7969  | 5502  | 79      | 3443  | 50195  | 1478        | 7523  | 5892  | 65      | 4097  | 51007  |
| Other GQ Level 3        | 396         | 1270  | 1498  | 258     | 1041  | 10403  | 417         | 1518  | 1912  | 277     | 1376  | 9360   |
| Other Level 1 / Level 2 | 3125        | 17711 | 12126 | 360     | 9827  | 172894 | 3472        | 16702 | 11778 | 227     | 9963  | 145806 |
| Other VTQ/VRQ Level 3   | 1942        | 12829 | 8344  | 297     | 6181  | 116082 | 820         | 3710  | 3932  | 122     | 4237  | 69889  |
| T Levels                |             |       |       |         |       |        | -           | 134   | 47    | -       | 46    | 1162   |
| Tech Levels             | 187         | 1357  | 700   | 41      | 573   | 16436  | 396         | 2667  | 1487  | 50      | 1397  | 29139  |
| Technical Certificates  | -           | 49    | 22    | -       | 12    | 204    | -           | 237   | 163   | -       | 68    | 456    |

Table B7: Qualifications completed by the end of Key Stage 5, by type of school (number of students)

| Qualifications          | 2017 cohort   |             |       |                  |           | 2020 cohort   |             |       |                  |           |
|-------------------------|---------------|-------------|-------|------------------|-----------|---------------|-------------|-------|------------------|-----------|
|                         | Comprehensive | Independent | Other | Secondary Modern | Selective | Comprehensive | Independent | Other | Secondary Modern | Selective |
| Applied Generals        | 77079         | 2417        | 336   | 4509             | 1402      | 188782        | 5686        | 957   | 8152             | 2643      |
| Core Maths              | 5080          | -           | -     | 155              | 269       | 9806          | 486         | 16    | 224              | 756       |
| EPQ                     | 27568         | 7483        | 34    | 895              | 4766      | 28891         | 9949        | 83    | 1104             | 5228      |
| GCE A level             | 454148        | 87990       | 1122  | 13561            | 57790     | 539268        | 96676       | 1360  | 15074            | 65665     |
| GCE AS level            | 116076        | 11613       | 944   | 2601             | 7131      | 42819         | 3534        | 273   | 768              | 3874      |
| GCSE English            | 58541         | 840         | 1774  | 2579             | 235       | 54521         | 395         | 2314  | 1902             | 67        |
| GCSE Maths              | 60521         | 1050        | 1680  | 2534             | 117       | 66945         | 503         | 2425  | 2533             | 49        |
| Other GQ Level 3        | 7334          | 13489       | 46    | 887              | 6175      | 6737          | 10923       | 18    | 1106             | 7240      |
| Other Level 1 / Level 2 | 185241        | 6098        | 9180  | 7394             | 2298      | 176238        | 4316        | 9162  | 6396             | 1443      |
| Other VTQ/VRQ Level 3   | 130651        | 5097        | 1144  | 4374             | 1623      | 78848         | 2766        | 1160  | 3187             | 940       |
| T Levels                |               |             |       |                  |           | 1413          | -           | 11    | 12               | -         |
| Tech Levels             | 17192         | 349         | 99    | 663              | 228       | 33653         | 669         | 250   | 1429             | 327       |
| Technical Certificates  | 251           | -           | -     | 19               |           | 898           | -           | 26    | 62               | -         |

## Appendix C: Uptake of individual A level and Applied General subjects

Table C1: Uptake of individual A level subjects – comparison between the 2020 and 2017 Key Stage 4 cohorts

| A level subject               | 2017 cohort |                    | 2020 cohort |                    | Difference<br>2020 – 2017 |
|-------------------------------|-------------|--------------------|-------------|--------------------|---------------------------|
|                               | N           | %<br>(of students) | N           | %<br>(of students) |                           |
| Accounting/Finance            | 1805        | 0.3                | 2074        | 0.3                | 0.03                      |
| Ancient History               | 570         | 0.1                | 612         | 0.1                | 0.00                      |
| Arabic                        | 336         | 0.1                | 309         | 0.1                | -0.01                     |
| Art & Design                  | 4501        | 0.8                | 5071        | 0.8                | 0.05                      |
| Art & Design (3d Studies)     | 1074        | 0.2                | 1737        | 0.3                | 0.10                      |
| Art & Design (Fine Art)       | 11805       | 2.1                | 13193       | 2.2                | 0.11                      |
| Art & Design (Graphics)       | 4131        | 0.7                | 4794        | 0.8                | 0.07                      |
| Art & Design (Photography)    | 10020       | 1.8                | 10385       | 1.7                | -0.04                     |
| Art & Design (Textiles)       | 2631        | 0.5                | 2906        | 0.5                | 0.02                      |
| Biology                       | 54787       | 9.7                | 59430       | 9.9                | 0.20                      |
| Business Studies: Single      | 26380       | 4.7                | 36060       | 6.0                | 1.34                      |
| Chemistry                     | 46367       | 8.2                | 48336       | 8.1                | -0.16                     |
| Chinese                       | 517         | 0.1                | 288         | 0.0                | -0.04                     |
| Classical Civilisation        | 2496        | 0.4                | 2602        | 0.4                | -0.01                     |
| Classical Greek               | 182         | 0.0                | 183         | 0.0                | 0.00                      |
| Computer Studies/Computing    | 9274        | 1.6                | 14119       | 2.4                | 0.71                      |
| D&T Engineering               | 275         | 0.0                | 543         | 0.1                | 0.04                      |
| D&T Product Design            | 7541        | 1.3                | 8166        | 1.4                | 0.03                      |
| D&T Textiles Technology       | 741         | 0.1                | 519         | 0.1                | -0.04                     |
| Dance                         | 1026        | 0.2                | 1112        | 0.2                | 0.00                      |
| Drama & Theatre Studies       | 8579        | 1.5                | 8541        | 1.4                | -0.10                     |
| Economics                     | 25121       | 4.5                | 32705       | 5.5                | 1.00                      |
| Electronics                   | 517         | 0.1                | 473         | 0.1                | -0.01                     |
| English Language              | 12418       | 2.2                | 13319       | 2.2                | 0.02                      |
| English Language & Literature | 6659        | 1.2                | 6320        | 1.1                | -0.13                     |
| English Literature            | 33686       | 6.0                | 30508       | 5.1                | -0.88                     |
| Environmental Science         | 722         | 0.1                | 1065        | 0.2                | 0.05                      |
| Film Studies                  | 4980        | 0.9                | 5559        | 0.9                | 0.04                      |
| French                        | 6639        | 1.2                | 6750        | 1.1                | -0.05                     |
| Geography                     | 29652       | 5.3                | 32772       | 5.5                | 0.21                      |
| Geology                       | 1017        | 0.2                | 838         | 0.1                | -0.04                     |
| German                        | 2404        | 0.4                | 2403        | 0.4                | -0.03                     |
| Government & Politics         | 15940       | 2.8                | 17514       | 2.9                | 0.10                      |
| History                       | 43213       | 7.7                | 40402       | 6.7                | -0.92                     |
| History of Art                | 368         | 0.1                | 542         | 0.1                | 0.03                      |
| <i>Key Stage 4 students</i>   | 563577      |                    | 598823      |                    |                           |

Table C1 (continued): Uptake of individual A level subjects – comparison between the 2020 and 2017 Key Stage 4 cohorts

| A level subject                   | 2017 cohort |                    | 2020 cohort |                    | Difference<br>2020 – 2017 |
|-----------------------------------|-------------|--------------------|-------------|--------------------|---------------------------|
|                                   | N           | %<br>(of students) | N           | %<br>(of students) |                           |
| Italian                           | 508         | 0.1                | 551         | 0.1                | 0.00                      |
| Latin                             | 992         | 0.2                | 991         | 0.2                | -0.01                     |
| Law                               | 9861        | 1.7                | 12739       | 2.1                | 0.38                      |
| Logic/ Philosophy                 | 2408        | 0.4                | 2937        | 0.5                | 0.06                      |
| Mathematics                       | 69125       | 12.3               | 78730       | 13.1               | 0.88                      |
| Mathematics (Further)             | 11148       | 2.0                | 12598       | 2.1                | 0.13                      |
| Mathematics (Statistics)          | 547         | 0.1                | 670         | 0.1                | 0.01                      |
| Media/Film/Tv Studies             | 12521       | 2.2                | 12914       | 2.2                | -0.07                     |
| Music                             | 3533        | 0.6                | 3773        | 0.6                | 0.00                      |
| Music Technology                  | 1112        | 0.2                | 1162        | 0.2                | 0.00                      |
| Physical Education/Sports Studies | 9232        | 1.6                | 11544       | 1.9                | 0.29                      |
| Physics                           | 30716       | 5.5                | 32906       | 5.5                | 0.04                      |
| Polish                            | 551         | 0.1                | 478         | 0.1                | -0.02                     |
| Portuguese                        | 300         | 0.1                | 172         | 0.0                | -0.02                     |
| Psychology                        | 54972       | 9.8                | 70626       | 11.8               | 2.04                      |
| Religious Studies                 | 14679       | 2.6                | 14435       | 2.4                | -0.19                     |
| Russian                           | 438         | 0.1                | 411         | 0.1                | -0.01                     |
| Sociology                         | 31236       | 5.5                | 40053       | 6.7                | 1.15                      |
| Spanish                           | 6784        | 1.2                | 7818        | 1.3                | 0.10                      |
| Turkish                           | 317         | 0.1                | 276         | 0.0                | -0.01                     |
| Urdu                              | 227         | 0.0                | 168         | 0.0                | -0.01                     |
| <i>Key Stage 4 students</i>       | 563577      |                    | 598823      |                    |                           |

Table C2: Uptake of individual Applied General subjects – comparison between the 2020 and 2017 Key Stage 4 cohorts

| Applied General subject              | 2017 cohort |                    | 2020 cohort |                    | Difference<br>2020 – 2017 |
|--------------------------------------|-------------|--------------------|-------------|--------------------|---------------------------|
|                                      | N           | %<br>(of students) | N           | %<br>(of students) |                           |
| Applied Business                     | 1828        | 0.3                | 2018        | 0.3                | 0.01                      |
| Applied Sciences                     | 11013       | 2.0                | 18888       | 3.2                | 1.20                      |
| Art & Design                         | 1778        | 0.3                | 3853        | 0.6                | 0.33                      |
| Business Studies                     | 16094       | 2.9                | 35873       | 6.0                | 3.13                      |
| Childcare Skills                     | 502         | 0.1                | 796         | 0.1                | 0.04                      |
| Computer Appreciation / Introduction | 2654        | 0.5                | 4350        | 0.7                | 0.26                      |
| Computer Architecture / Systems      | 5391        | 1.0                | 7978        | 1.3                | 0.38                      |
| Computing and IT Advanced Technician | 791         | 0.1                | 2361        | 0.4                | 0.25                      |
| Engineering Studies                  | 1530        | 0.3                | 5424        | 0.9                | 0.63                      |
| Finance / Accounting (General)       | 7071        | 1.3                | 10679       | 1.8                | 0.53                      |
| Health Studies                       | 15817       | 2.8                | 31990       | 5.3                | 2.54                      |
| Law / Legal Studies                  | 1911        | 0.3                | 6926        | 1.2                | 0.82                      |
| Medical Science                      | 423         | 0.1                | 1013        | 0.2                | 0.09                      |
| Multimedia                           | 3511        | 0.6                | 4830        | 0.8                | 0.18                      |
| Nutrition / Diet                     | 1004        | 0.2                | 1372        | 0.2                | 0.05                      |
| Small Business Management            | 259         | 0.0                | 808         | 0.1                | 0.09                      |
| Social Science                       | 6675        | 1.2                | 31721       | 5.3                | 4.11                      |
| Speech & Drama                       | 3348        | 0.6                | 3351        | 0.6                | -0.03                     |
| Sports / Movement Science            | 762         | 0.1                | 4735        | 0.8                | 0.66                      |
| Sports Studies                       | 8219        | 1.5                | 16806       | 2.8                | 1.35                      |
| <i>Key Stage 4 students</i>          | 563577      |                    | 598823      |                    |                           |

## Appendix D: Regression analysis – progression to Key Stage 5

Table D1: Progression to Key Stage 5 (at least one qualification at Level 3) ~ Key Stage 2 prior attainment ( $N = 928746$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | -5.188   | 0.030          | <.0001  |
| Gender                     | Female                 | 0.618    | 0.005          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | Independent            | -2.070   | 0.218          | <.0001  |
|                            | Other                  | -2.168   | 0.042          | <.0001  |
|                            | Secondary Modern       | 0.037    | 0.042          | 0.3774  |
|                            | Selective              | 1.202    | 0.043          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | 0.669    | 0.008          | <.0001  |
|                            | Medium                 | 0.326    | 0.007          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | -0.601   | 0.008          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | 0.914    | 0.025          | <.0001  |
|                            | Asian                  | 1.045    | 0.012          | <.0001  |
|                            | Black                  | 0.852    | 0.014          | <.0001  |
|                            | Chinese                | 1.546    | 0.072          | <.0001  |
|                            | Mixed                  | 0.206    | 0.012          | <.0001  |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | 1.217    | 0.007          | <.0001  |
| Cohort                     | 2017                   | -0.970   | 0.041          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | 0.178    | 0.009          | <.0001  |
|                            | [2020]                 | .        | .              | .       |

Table D2: Progression to Key Stage 5 (at least one qualification at Level 3) ~ Key Stage 4 prior attainment ( $N = 1024426$ )

| Variables                  |                        |      | Estimate | Standard Error | p-value |
|----------------------------|------------------------|------|----------|----------------|---------|
| Intercept                  |                        |      | 3.236    | 0.035          | <.0001  |
| Gender                     | Female                 |      | 0.235    | 0.006          | <.0001  |
|                            | [Male]                 |      | .        | .              | .       |
| School Type                | Independent            |      | -1.510   | 0.222          | <.0001  |
|                            | Other                  |      | -1.346   | 0.038          | <.0001  |
|                            | Secondary Modern       |      | 0.154    | 0.034          | <.0001  |
|                            | Selective              |      | 0.490    | 0.036          | <.0001  |
|                            | [Comprehensive]        |      | .        | .              | .       |
| IDACI                      | Low                    |      | 0.311    | 0.008          | <.0001  |
|                            | Medium                 |      | 0.144    | 0.007          | <.0001  |
|                            | [High]                 |      | .        | .              | .       |
| SEN                        | Yes                    |      | -0.118   | 0.009          | <.0001  |
|                            | [No]                   |      | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group |      | 0.495    | 0.024          | <.0001  |
|                            | Asian                  |      | 0.744    | 0.012          | <.0001  |
|                            | Black                  |      | 0.848    | 0.014          | <.0001  |
|                            | Chinese                |      | 0.695    | 0.066          | <.0001  |
|                            | Mixed                  |      | 0.208    | 0.014          | <.0001  |
|                            | [White]                |      | .        | .              | .       |
| KS4 deciles                | 01                     |      | -6.258   | 0.038          | <.0001  |
|                            | 02                     |      | -4.621   | 0.035          | <.0001  |
|                            | 03                     |      | -3.496   | 0.034          | <.0001  |
|                            | 04                     |      | -2.815   | 0.035          | <.0001  |
|                            | 05                     |      | -2.347   | 0.035          | <.0001  |
|                            | 06                     |      | -1.960   | 0.035          | <.0001  |
|                            | 07                     |      | -1.613   | 0.036          | <.0001  |
|                            | 08                     |      | -1.161   | 0.037          | <.0001  |
|                            | 09                     |      | -0.713   | 0.039          | <.0001  |
|                            | [10]                   |      | .        | .              | .       |
| Cohort                     | 2017                   |      | -0.135   | 0.048          | 0.0046  |
|                            | [2020]                 |      | .        | .              | .       |
| KS4 deciles<br>*<br>Cohort | 01                     | 2017 | -0.390   | 0.055          | <.0001  |
|                            | 02                     | 2017 | -0.472   | 0.049          | <.0001  |
|                            | 03                     | 2017 | -0.466   | 0.048          | <.0001  |
|                            | 04                     | 2017 | -0.262   | 0.048          | <.0001  |
|                            | 05                     | 2017 | -0.130   | 0.049          | 0.0074  |
|                            | 06                     | 2017 | -0.105   | 0.049          | 0.0339  |
|                            | 07                     | 2017 | -0.101   | 0.050          | 0.0418  |
|                            | 08                     | 2017 | -0.104   | 0.051          | 0.0424  |
|                            | 09                     | 2017 | -0.002   | 0.055          | 0.9748  |
|                            | [10]                   | 2017 | .        | .              | .       |

Table D3: Progression to Key Stage 5 (qualifications at Level 3 only) ~ Key Stage 2 prior attainment ( $N = 928746$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | -7.332   | 0.032          | <.0001  |
| Gender                     | Female                 | 0.518    | 0.005          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | Independent            | -2.063   | 0.283          | <.0001  |
|                            | Other                  | -2.371   | 0.056          | <.0001  |
|                            | Secondary Modern       | 0.079    | 0.047          | 0.0922  |
|                            | Selective              | 0.822    | 0.043          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | 0.639    | 0.007          | <.0001  |
|                            | Medium                 | 0.317    | 0.007          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | -0.766   | 0.009          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | 0.792    | 0.023          | <.0001  |
|                            | Asian                  | 0.950    | 0.011          | <.0001  |
|                            | Black                  | 0.584    | 0.013          | <.0001  |
|                            | Chinese                | 1.248    | 0.056          | <.0001  |
|                            | Mixed                  | 0.145    | 0.012          | <.0001  |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | 1.588    | 0.007          | <.0001  |
| Cohort                     | 2017                   | -1.251   | 0.043          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | 0.202    | 0.010          | <.0001  |
|                            | [2020]                 | .        | .              | .       |



Table D4: Progression to Key Stage 5 (qualifications at Level 3 only) ~ Key Stage 4 prior attainment ( $N = 1024426$ )

| Variables                  |                        |      | Estimate | Standard Error | p-value |
|----------------------------|------------------------|------|----------|----------------|---------|
| Intercept                  |                        |      | 2.486    | 0.025          | <.0001  |
| Gender                     | Female                 |      | 0.002    | 0.006          | 0.7899  |
|                            | [Male]                 |      | .        | .              | .       |
| School Type                | Independent            |      | -1.586   | 0.292          | <.0001  |
|                            | Other                  |      | -1.389   | 0.056          | <.0001  |
|                            | Secondary Modern       |      | 0.216    | 0.039          | <.0001  |
|                            | Selective              |      | 0.346    | 0.035          | <.0001  |
|                            | [Comprehensive]        |      | .        | .              | .       |
| IDACI                      | Low                    |      | 0.281    | 0.008          | <.0001  |
|                            | Medium                 |      | 0.133    | 0.008          | <.0001  |
|                            | [High]                 |      | 0.000    | .              | .       |
| SEN                        | Yes                    |      | -0.325   | 0.010          | <.0001  |
|                            | [No]                   |      | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group |      | 0.263    | 0.023          | <.0001  |
|                            | Asian                  |      | 0.567    | 0.012          | <.0001  |
|                            | Black                  |      | 0.479    | 0.014          | <.0001  |
|                            | Chinese                |      | 0.330    | 0.052          | <.0001  |
|                            | Mixed                  |      | 0.105    | 0.013          | <.0001  |
|                            | [White]                |      | .        | .              | .       |
| KS4 deciles                | 01                     |      | -8.214   | 0.073          | <.0001  |
|                            | 02                     |      | -5.663   | 0.029          | <.0001  |
|                            | 03                     |      | -3.753   | 0.024          | <.0001  |
|                            | 04                     |      | -2.694   | 0.023          | <.0001  |
|                            | 05                     |      | -2.015   | 0.024          | <.0001  |
|                            | 06                     |      | -1.546   | 0.024          | <.0001  |
|                            | 07                     |      | -1.143   | 0.024          | <.0001  |
|                            | 08                     |      | -0.745   | 0.025          | <.0001  |
|                            | 09                     |      | -0.378   | 0.027          | <.0001  |
|                            | [10]                   |      | .        | .              | .       |
| Cohort                     | 2017                   |      | -0.302   | 0.032          | <.0001  |
|                            | [2020]                 |      | .        | .              | .       |
| KS4 deciles<br>*<br>Cohort | 01                     | 2017 | 0.231    | 0.108          | 0.0321  |
|                            | 02                     | 2017 | -1.000   | 0.052          | <.0001  |
|                            | 03                     | 2017 | -0.870   | 0.035          | <.0001  |
|                            | 04                     | 2017 | -0.573   | 0.032          | <.0001  |
|                            | 05                     | 2017 | -0.360   | 0.032          | <.0001  |
|                            | 06                     | 2017 | -0.207   | 0.033          | <.0001  |
|                            | 07                     | 2017 | -0.121   | 0.033          | 0.0003  |
|                            | 08                     | 2017 | -0.077   | 0.034          | 0.0253  |
|                            | 09                     | 2017 | -0.045   | 0.036          | 0.2163  |
|                            | [10]                   | 2017 | .        | .              | .       |

## Appendix E: Regression analysis – dropout of A levels

Table E1: Drop out at least one A level by the end of Key Stage 5 ~ Key Stage 2 prior attainment ( $N = 298286$ )

| Variables                     |                        | Estimate | Standard Error | p-value |
|-------------------------------|------------------------|----------|----------------|---------|
| Intercept                     |                        | -0.345   | 0.059          | <.0001  |
| Gender                        | Female                 | -0.052   | 0.009          | <.0001  |
|                               | [Male]                 | .        | .              | .       |
| School Type                   | Independent            | 0.315    | 0.824          | 0.702   |
|                               | Other                  | 1.044    | 0.215          | <.0001  |
|                               | Secondary Modern       | -0.124   | 0.062          | 0.046   |
|                               | Selective              | -0.278   | 0.048          | <.0001  |
|                               | [Comprehensive]        | .        | .              | .       |
| IDACI                         | Low                    | -0.346   | 0.013          | <.0001  |
|                               | Medium                 | -0.185   | 0.012          | <.0001  |
|                               | [High]                 | .        | .              | .       |
| SEN                           | Yes                    | 0.349    | 0.019          | <.0001  |
|                               | [No]                   | .        | .              | .       |
| Ethnic Group                  | Any Other Ethnic Group | -0.183   | 0.033          | <.0001  |
|                               | Asian                  | -0.255   | 0.016          | <.0001  |
|                               | Black                  | -0.256   | 0.021          | <.0001  |
|                               | Chinese                | -0.286   | 0.055          | <.0001  |
|                               | Mixed                  | -0.010   | 0.019          | 0.592   |
|                               | [White]                | .        | .              | .       |
| Number of A levels (in PLAMS) |                        | 0.805    | 0.006          | <.0001  |
| KS2 average score             |                        | -0.463   | 0.012          | <.0001  |
| Cohort                        | 2017                   | 0.595    | 0.089          | <.0001  |
|                               | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort    | 2017                   | -0.039   | 0.018          | 0.035   |
|                               | [2020]                 | .        | .              | .       |

Table E2: Drop out at least one A level by the end of Key Stage 5 ~ Key Stage 4 prior attainment ( $N = 315527$ )

| Variables                     |                        |      | Estimate | Standard Error | p-value |
|-------------------------------|------------------------|------|----------|----------------|---------|
| Intercept                     |                        |      | -4.341   | 0.033          | <.0001  |
| Gender                        | Female                 |      | 0.111    | 0.009          | <.0001  |
|                               | [Male]                 |      | .        | .              | .       |
| School Type                   | Independent            |      | 1.048    | 0.801          | 0.191   |
|                               | Other                  |      | 0.994    | 0.212          | <.0001  |
|                               | Secondary Modern       |      | -0.227   | 0.064          | 0.000   |
|                               | Selective              |      | -0.178   | 0.050          | 0.000   |
|                               | [Comprehensive]        |      | .        | .              | .       |
| IDACI                         | Low                    |      | -0.250   | 0.013          | <.0001  |
|                               | Medium                 |      | -0.136   | 0.013          | <.0001  |
|                               | [High]                 |      | .        | .              | .       |
| SEN                           | Yes                    |      | 0.199    | 0.019          | <.0001  |
|                               | [No]                   |      | .        | .              | .       |
| Ethnic Group                  | Any Other Ethnic Group |      | -0.128   | 0.031          | <.0001  |
|                               | Asian                  |      | -0.215   | 0.016          | <.0001  |
|                               | Black                  |      | -0.319   | 0.020          | <.0001  |
|                               | Chinese                |      | -0.189   | 0.053          | 0.000   |
|                               | Mixed                  |      | -0.034   | 0.019          | 0.077   |
|                               | [White]                |      | .        | .              | .       |
| Number of A levels (in PLAMS) |                        |      | 1.122    | 0.006          | <.0001  |
| KS4 deciles                   | 01                     |      | 4.639    | 0.194          | <.0001  |
|                               | 02                     |      | 3.829    | 0.071          | <.0001  |
|                               | 03                     |      | 2.789    | 0.037          | <.0001  |
|                               | 04                     |      | 2.163    | 0.029          | <.0001  |
|                               | 05                     |      | 1.559    | 0.025          | <.0001  |
|                               | 06                     |      | 1.073    | 0.022          | <.0001  |
|                               | 07                     |      | 0.683    | 0.021          | <.0001  |
|                               | 08                     |      | 0.377    | 0.020          | <.0001  |
|                               | 09                     |      | 0.172    | 0.020          | <.0001  |
|                               | [10]                   |      | .        | .              | .       |
| Cohort                        | 2017                   |      | 0.487    | 0.033          | <.0001  |
|                               | [2020]                 |      | .        | .              | .       |
| KS4 deciles<br>*<br>Cohort    | 01                     | 2017 | 0.169    | 0.386          | 0.661   |
|                               | 02                     | 2017 | 0.080    | 0.129          | 0.533   |
|                               | 03                     | 2017 | 0.169    | 0.061          | 0.005   |
|                               | 04                     | 2017 | 0.119    | 0.043          | 0.005   |
|                               | 05                     | 2017 | 0.143    | 0.036          | <.0001  |
|                               | 06                     | 2017 | 0.111    | 0.033          | 0.001   |
|                               | 07                     | 2017 | 0.062    | 0.031          | 0.043   |
|                               | 08                     | 2017 | -0.025   | 0.030          | 0.400   |
|                               | 09                     | 2017 | -0.044   | 0.029          | 0.133   |
|                               | [10]                   | 2017 | .        | .              | .       |

Table E3: Percentage of A levels dropped out by the end of Key Stage 5 ~ Key Stage 2 prior attainment ( $N = 298286$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | 57.779   | 0.841          | <.0001  |
| Gender                     | Female                 | -1.317   | 0.135          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | Independent            | 1.830    | 12.319         | 0.882   |
|                            | Other                  | 18.099   | 2.967          | <.0001  |
|                            | Secondary Modern       | -2.845   | 0.840          | 0.001   |
|                            | Selective              | -6.570   | 0.641          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | -6.492   | 0.191          | <.0001  |
|                            | Medium                 | -3.600   | 0.181          | <.0001  |
|                            | [High]                 | 0.000    | .              | .       |
| SEN                        | Yes                    | 6.275    | 0.284          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | -2.700   | 0.473          | <.0001  |
|                            | Asian                  | -4.391   | 0.223          | <.0001  |
|                            | Black                  | -4.042   | 0.294          | <.0001  |
|                            | Chinese                | -4.403   | 0.776          | <.0001  |
|                            | Mixed                  | -0.075   | 0.279          | 0.789   |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | -6.339   | 0.167          | <.0001  |
| Cohort                     | 2017                   | 15.139   | 1.282          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | -1.845   | 0.264          | <.0001  |
|                            | [2020]                 | .        | .              | .       |

Table E4: Percentage of A levels dropped out by the end of Key Stage 5 ~ Key Stage 4 prior attainment ( $N = 315527$ )

| Variables                  |                        |      | Estimate | Standard Error | p-value |
|----------------------------|------------------------|------|----------|----------------|---------|
| Intercept                  |                        |      | 15.978   | 0.324          | <.0001  |
| Gender                     | Female                 |      | 1.031    | 0.126          | <.0001  |
|                            | [Male]                 |      | .        | .              | .       |
| School Type                | Independent            |      | 17.656   | 11.157         | 0.114   |
|                            | Other                  |      | 14.976   | 2.639          | <.0001  |
|                            | Secondary Modern       |      | -4.732   | 0.792          | <.0001  |
|                            | Selective              |      | -3.049   | 0.605          | <.0001  |
|                            | [Comprehensive]        |      | .        | .              | .       |
| IDACI                      | Low                    |      | -4.373   | 0.179          | <.0001  |
|                            | Medium                 |      | -2.502   | 0.169          | <.0001  |
|                            | [High]                 |      | .        | .              | .       |
| SEN                        | Yes                    |      | 3.212    | 0.264          | <.0001  |
|                            | [No]                   |      | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group |      | -1.290   | 0.421          | 0.002   |
|                            | Asian                  |      | -3.203   | 0.206          | <.0001  |
|                            | Black                  |      | -4.426   | 0.269          | <.0001  |
|                            | Chinese                |      | -1.941   | 0.700          | 0.006   |
|                            | Mixed                  |      | -0.084   | 0.259          | 0.746   |
|                            | [White]                |      | .        | .              | .       |
| KS4 deciles                | 01                     |      | 68.944   | 2.081          | <.0001  |
|                            | 02                     |      | 53.019   | 0.908          | <.0001  |
|                            | 03                     |      | 35.607   | 0.492          | <.0001  |
|                            | 04                     |      | 26.161   | 0.376          | <.0001  |
|                            | 05                     |      | 18.566   | 0.319          | <.0001  |
|                            | 06                     |      | 13.036   | 0.291          | <.0001  |
|                            | 07                     |      | 8.234    | 0.275          | <.0001  |
|                            | 08                     |      | 4.101    | 0.265          | <.0001  |
|                            | 09                     |      | 1.603    | 0.259          | <.0001  |
|                            | [10]                   |      | .        | .              | .       |
| Cohort                     | 2017                   |      | 4.345    | 0.415          | <.0001  |
|                            | [2020]                 |      | .        | .              | .       |
| KS4 deciles<br>*<br>Cohort | 01                     | 2017 | -3.715   | 3.665          | 0.311   |
|                            | 02                     | 2017 | 5.817    | 1.566          | 0.000   |
|                            | 03                     | 2017 | 7.998    | 0.819          | <.0001  |
|                            | 04                     | 2017 | 6.870    | 0.582          | <.0001  |
|                            | 05                     | 2017 | 6.560    | 0.482          | <.0001  |
|                            | 06                     | 2017 | 5.308    | 0.445          | <.0001  |
|                            | 07                     | 2017 | 3.828    | 0.413          | <.0001  |
|                            | 08                     | 2017 | 1.913    | 0.399          | <.0001  |
|                            | 09                     | 2017 | 0.590    | 0.390          | 0.131   |
|                            | [10]                   | 2017 | .        | .              | .       |

## Appendix F: Key Stage 5 performance, by students' background characteristics

Table F1: Students achieving a “*medium*” level of overall Level 3 performance, broken down by students' background characteristics

| Characteristics                |                  | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                                |                  | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| Gender                         | Female           | 183839      | 62236                  | 33.9                   | 210608      | 64491                  | 30.6                   | -3.2                      |
|                                | Male             | 159238      | 49402                  | 31.0                   | 181809      | 53733                  | 29.6                   | -1.5                      |
| School Type                    | 6th Form College | 43853       | 14718                  | 33.6                   | 40960       | 12870                  | 31.4                   | 2.1                       |
|                                | Comprehensive    | 156502      | 53881                  | 34.4                   | 183163      | 58371                  | 31.9                   | -2.6                      |
|                                | FE College       | 80701       | 26460                  | 32.8                   | 99388       | 32362                  | 32.6                   | -0.2                      |
|                                | Independent      | 29531       | 6975                   | 23.6                   | 30958       | 5422                   | 17.5                   | -6.1                      |
|                                | Other            | 1184        | 426                    | 36.0                   | 1506        | 389                    | 25.8                   | -10.1                     |
|                                | Secondary Modern | 4776        | 1712                   | 35.8                   | 5603        | 2075                   | 37.0                   | 1.2                       |
|                                | Selective        | 22951       | 6090                   | 26.5                   | 25864       | 5160                   | 20.0                   | -6.6                      |
| Prior Attainment<br>(Terciles) | Low              | 39774       | 11836                  | 29.8                   | 55552       | 16203                  | 29.2                   | -0.6                      |
|                                | Medium           | 130043      | 46575                  | 35.8                   | 148777      | 58067                  | 39.0                   | 3.2                       |
|                                | High             | 173260      | 53227                  | 30.7                   | 188088      | 43954                  | 23.4                   | -7.4                      |
| Prior Attainment<br>(Deciles)  | 01               | 1968        | 599                    | 30.4                   | 3570        | 852                    | 23.9                   | -6.6                      |
|                                | 02               | 8791        | 2484                   | 28.3                   | 13601       | 3330                   | 24.5                   | -3.8                      |
|                                | 03               | 19363       | 5736                   | 29.6                   | 28710       | 8775                   | 30.6                   | 0.9                       |
|                                | 04               | 29448       | 9364                   | 31.8                   | 36100       | 12752                  | 35.3                   | 3.5                       |
|                                | 05               | 38660       | 13109                  | 33.9                   | 42864       | 16596                  | 38.7                   | 4.8                       |
|                                | 06               | 39505       | 14448                  | 36.6                   | 47433       | 19199                  | 40.5                   | 3.9                       |
|                                | 07               | 48321       | 19286                  | 39.9                   | 51436       | 20225                  | 39.3                   | -0.6                      |
|                                | 08               | 49995       | 20568                  | 41.1                   | 54226       | 18565                  | 34.2                   | -6.9                      |
|                                | 09               | 52295       | 18762                  | 35.9                   | 56558       | 13582                  | 24.0                   | -11.9                     |
|                                | 10               | 54731       | 7282                   | 13.3                   | 57919       | 4348                   | 7.5                    | -5.8                      |

Table F1 (continued): Students achieving a “*medium*” level of overall Level 3 performance, broken down by students’ background characteristics

| Characteristics |                        | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                 |                        | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| IDACI           | Low                    | 121852      | 40095                  | 32.9                   | 136433      | 40420                  | 29.6                   | -3.3                      |
|                 | Medium                 | 101017      | 33811                  | 33.5                   | 117183      | 37033                  | 31.6                   | -1.9                      |
|                 | High                   | 83844       | 28410                  | 33.9                   | 99832       | 32856                  | 32.9                   | -1.0                      |
| FSM             | No                     | 251202      | 83716                  | 33.3                   | 289781      | 89491                  | 30.9                   | -2.4                      |
|                 | Yes                    | 55996       | 18774                  | 33.5                   | 64118       | 20956                  | 32.7                   | -0.8                      |
| SEN             | No                     | 287194      | 96018                  | 33.4                   | 326324      | 101846                 | 31.2                   | -2.2                      |
|                 | Yes                    | 20004       | 6472                   | 32.4                   | 27575       | 8601                   | 31.2                   | -1.2                      |
| Ethnic Group    | Any Other Ethnic Group | 5272        | 1740                   | 33.0                   | 7214        | 2239                   | 31.0                   | -2.0                      |
|                 | Asian                  | 36765       | 11845                  | 32.2                   | 46387       | 13873                  | 29.9                   | -2.3                      |
|                 | Black                  | 18084       | 5932                   | 32.8                   | 23645       | 7610                   | 32.2                   | -0.6                      |
|                 | Chinese                | 1663        | 455                    | 27.4                   | 1722        | 411                    | 23.9                   | -3.5                      |
|                 | Mixed                  | 14041       | 4618                   | 32.9                   | 19188       | 5776                   | 30.1                   | -2.8                      |
|                 | White                  | 228217      | 76898                  | 33.7                   | 251269      | 79234                  | 31.5                   | -2.2                      |

Table F2: Average Level 3 performance, broken down by students' background characteristics

| Characteristics                |                  | 2017 cohort |       |                       | 2020 cohort |       |                       | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|-------|-----------------------|-------------|-------|-----------------------|---------------------------|
|                                |                  | N           | Mean  | Standard<br>Deviation | N           | Mean  | Standard<br>Deviation |                           |
| Gender                         | Female           | 183839      | 34.58 | 11.69                 | 210608      | 36.46 | 12.57                 | 1.88                      |
|                                | Male             | 159238      | 32.66 | 12.47                 | 181809      | 34.20 | 13.27                 | 1.54                      |
| School Type                    | 6th Form College | 43853       | 35.54 | 11.26                 | 40960       | 36.42 | 12.13                 | 0.88                      |
|                                | Comprehensive    | 156502      | 32.79 | 11.51                 | 183163      | 35.99 | 12.03                 | 3.19                      |
|                                | FE College       | 80701       | 30.48 | 12.09                 | 99388       | 28.97 | 12.26                 | -1.51                     |
|                                | Independent      | 29531       | 41.38 | 11.64                 | 30958       | 45.26 | 11.23                 | 3.87                      |
|                                | Other            | 1184        | 34.05 | 12.60                 | 1506        | 38.17 | 12.87                 | 4.12                      |
|                                | Secondary Modern | 4776        | 29.01 | 10.51                 | 5603        | 31.93 | 11.26                 | 2.92                      |
|                                | Selective        | 22951       | 39.57 | 11.68                 | 25864       | 43.62 | 11.69                 | 4.06                      |
| Prior Attainment<br>(Terciles) | Low              | 39774       | 25.75 | 11.06                 | 55552       | 23.83 | 10.53                 | -1.92                     |
|                                | Medium           | 130043      | 29.29 | 10.72                 | 148777      | 30.70 | 10.54                 | 1.41                      |
|                                | High             | 173260      | 38.81 | 10.97                 | 188088      | 42.57 | 10.99                 | 3.76                      |
| Prior Attainment<br>(Deciles)  | 01               | 1968        | 22.64 | 9.89                  | 3570        | 19.78 | 10.36                 | -2.86                     |
|                                | 02               | 8791        | 24.45 | 10.98                 | 13601       | 21.59 | 10.33                 | -2.86                     |
|                                | 03               | 19363       | 26.09 | 11.11                 | 28710       | 24.62 | 10.42                 | -1.46                     |
|                                | 04               | 29448       | 27.49 | 11.05                 | 36100       | 27.11 | 10.39                 | -0.38                     |
|                                | 05               | 38660       | 28.60 | 10.90                 | 42864       | 29.43 | 10.36                 | 0.82                      |
|                                | 06               | 39505       | 29.64 | 10.63                 | 47433       | 31.66 | 10.31                 | 2.02                      |
|                                | 07               | 48321       | 30.98 | 10.17                 | 51436       | 34.20 | 10.20                 | 3.22                      |
|                                | 08               | 49995       | 33.41 | 9.76                  | 54226       | 37.32 | 10.02                 | 3.91                      |
|                                | 09               | 52295       | 37.78 | 9.32                  | 56558       | 42.16 | 9.60                  | 4.38                      |
|                                | 10               | 54731       | 46.83 | 8.60                  | 57919       | 50.36 | 8.30                  | 3.53                      |



Table F2(continued): Average Level 3 performance, broken down by students' background characteristics

| Characteristics |                        | 2017 cohort |       |                       | 2020 cohort |       |                       | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|-------|-----------------------|-------------|-------|-----------------------|---------------------------|
|                 |                        | N           | Mean  | Standard<br>Deviation | N           | Mean  | Standard<br>Deviation |                           |
| IDACI           | Low                    | 121852      | 34.70 | 11.87                 | 136433      | 37.03 | 12.59                 | 2.33                      |
|                 | Medium                 | 101017      | 32.59 | 11.84                 | 117183      | 34.15 | 12.66                 | 1.56                      |
|                 | High                   | 83844       | 30.87 | 11.64                 | 99832       | 31.67 | 12.39                 | 0.80                      |
| FSM             | No                     | 251202      | 33.61 | 11.86                 | 289781      | 35.50 | 12.64                 | 1.90                      |
|                 | Yes                    | 55996       | 30.04 | 11.61                 | 64118       | 30.30 | 12.34                 | 0.26                      |
| SEN             | No                     | 287194      | 33.16 | 11.86                 | 326324      | 34.93 | 12.66                 | 1.78                      |
|                 | Yes                    | 20004       | 30.07 | 12.01                 | 27575       | 30.13 | 12.86                 | 0.06                      |
| Ethnic Group    | Any Other Ethnic Group | 5272        | 32.05 | 12.06                 | 7214        | 34.02 | 12.91                 | 1.97                      |
|                 | Asian                  | 36765       | 32.72 | 12.09                 | 46387       | 34.76 | 13.01                 | 2.04                      |
|                 | Black                  | 18084       | 29.78 | 11.44                 | 23645       | 31.05 | 12.47                 | 1.26                      |
|                 | Chinese                | 1663        | 38.13 | 12.76                 | 1722        | 41.40 | 12.91                 | 3.27                      |
|                 | Mixed                  | 14041       | 32.68 | 12.11                 | 19188       | 34.52 | 13.10                 | 1.84                      |
|                 | White                  | 228217      | 33.24 | 11.83                 | 251269      | 34.83 | 12.61                 | 1.59                      |

Table F3: Students achieving a “*medium*” level of A level performance, broken down by students’ background characteristics

| Characteristics                |                  | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                                |                  | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| Gender                         | Female           | 130896      | 40826                  | 31.2                   | 148100      | 38641                  | 26.1                   | -5.1                      |
|                                | Male             | 105434      | 29817                  | 28.3                   | 121187      | 31582                  | 26.1                   | -2.2                      |
| School Type                    | 6th Form College | 34144       | 10766                  | 31.5                   | 31450       | 8459                   | 26.9                   | -4.6                      |
|                                | Comprehensive    | 134130      | 42210                  | 31.5                   | 156354      | 44238                  | 28.3                   | -3.2                      |
|                                | FE College       | 14116       | 4712                   | 33.4                   | 19211       | 5865                   | 30.5                   | -2.9                      |
|                                | Independent      | 27629       | 6062                   | 21.9                   | 29288       | 4731                   | 16.2                   | -5.8                      |
|                                | Other            | 489         | 168                    | 34.4                   | 611         | 168                    | 27.5                   | -6.9                      |
|                                | Secondary Modern | 3657        | 1145                   | 31.3                   | 4233        | 1281                   | 30.3                   | -1.0                      |
|                                | Selective        | 22029       | 5541                   | 25.2                   | 24778       | 4613                   | 18.6                   | -6.5                      |
| Prior Attainment<br>(Terciles) | Low              | 4974        | 937                    | 18.8                   | 8314        | 2091                   | 25.2                   | 6.3                       |
|                                | Medium           | 72187       | 23264                  | 32.2                   | 87686       | 30870                  | 35.2                   | 3.0                       |
|                                | High             | 159169      | 46442                  | 29.2                   | 173287      | 37262                  | 21.5                   | -7.7                      |
| Prior Attainment<br>(Deciles)  | 01               | 67          | 16                     | 23.9                   | 82          | 13                     | 15.9                   | -8.0                      |
|                                | 02               | 371         | 63                     | 17.0                   | 768         | 142                    | 18.5                   | 1.5                       |
|                                | 03               | 2403        | 430                    | 17.9                   | 4926        | 1250                   | 25.4                   | 7.5                       |
|                                | 04               | 8229        | 1792                   | 21.8                   | 11966       | 3559                   | 29.7                   | 8.0                       |
|                                | 05               | 17624       | 4869                   | 27.6                   | 21931       | 7363                   | 33.6                   | 5.9                       |
|                                | 06               | 24589       | 7976                   | 32.4                   | 31635       | 11578                  | 36.6                   | 4.2                       |
|                                | 07               | 37130       | 14250                  | 38.4                   | 40826       | 14844                  | 36.4                   | -2.0                      |
|                                | 08               | 43914       | 17564                  | 40.0                   | 47881       | 15475                  | 32.3                   | -7.7                      |
|                                | 09               | 49357       | 17089                  | 34.6                   | 53283       | 12052                  | 22.6                   | -12.0                     |
|                                | 10               | 52646       | 6594                   | 12.5                   | 55989       | 3947                   | 7.0                    | -5.5                      |
| IDACI                          | Low              | 90604       | 27737                  | 30.6                   | 101340      | 26048                  | 25.7                   | -4.9                      |
|                                | Medium           | 65943       | 20460                  | 31.0                   | 76696       | 21416                  | 27.9                   | -3.1                      |
|                                | High             | 47898       | 14976                  | 31.3                   | 56697       | 16562                  | 29.2                   | -2.1                      |

Table F3 (continued): Students achieving a “*medium*” level of A level performance, broken down by students’ background characteristics

| Characteristics |                        | 2017 cohort |                        |                        | 2020 cohort |                        |                        | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|------------------------|------------------------|-------------|------------------------|------------------------|---------------------------|
|                 |                        | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) | N<br>(All)  | N<br>(achieving level) | %<br>(achieving level) |                           |
| FSM             | No                     | 175043      | 53982                  | 30.8                   | 201520      | 54045                  | 26.8                   | -4.0                      |
|                 | Yes                    | 29746       | 9310                   | 31.3                   | 33503       | 10064                  | 30.0                   | -1.3                      |
| SEN             | No                     | 196349      | 60788                  | 31.0                   | 223465      | 60826                  | 27.2                   | -3.7                      |
|                 | Yes                    | 8440        | 2504                   | 29.7                   | 11558       | 3283                   | 28.4                   | -1.3                      |
| Ethnic Group    | Any Other Ethnic Group | 3611        | 1096                   | 30.4                   | 5056        | 1345                   | 26.6                   | -3.7                      |
|                 | Asian                  | 26483       | 7926                   | 29.9                   | 33879       | 8887                   | 26.2                   | -3.7                      |
|                 | Black                  | 11246       | 3514                   | 31.2                   | 14772       | 4389                   | 29.7                   | -1.5                      |
|                 | Chinese                | 1439        | 344                    | 23.9                   | 1513        | 312                    | 20.6                   | -3.3                      |
|                 | Mixed                  | 9629        | 2970                   | 30.8                   | 13171       | 3508                   | 26.6                   | -4.2                      |
|                 | White                  | 150242      | 46801                  | 31.2                   | 163617      | 44902                  | 27.4                   | -3.7                      |

Table F4: Average A level performance, broken down by students' background characteristics

| Characteristics                |                  | 2017 cohort |       |                       | 2020 cohort |       |                       | Difference<br>2020 – 2017 |
|--------------------------------|------------------|-------------|-------|-----------------------|-------------|-------|-----------------------|---------------------------|
|                                |                  | N           | Mean  | Standard<br>Deviation | N           | Mean  | Standard<br>Deviation |                           |
| Gender                         | Female           | 130896      | 34.64 | 12.16                 | 148100      | 38.37 | 12.75                 | 3.73                      |
|                                | Male             | 105434      | 33.31 | 13.32                 | 121187      | 36.66 | 13.76                 | 3.35                      |
| School Type                    | 6th Form College | 34144       | 33.56 | 12.23                 | 31450       | 36.99 | 13.01                 | 3.43                      |
|                                | Comprehensive    | 134130      | 32.24 | 12.40                 | 156354      | 36.05 | 12.96                 | 3.81                      |
|                                | FE College       | 14116       | 31.30 | 11.73                 | 19211       | 32.70 | 12.73                 | 1.40                      |
|                                | Independent      | 27629       | 41.34 | 11.91                 | 29288       | 45.41 | 11.53                 | 4.07                      |
|                                | Other            | 489         | 32.29 | 12.18                 | 611         | 37.19 | 12.91                 | 4.90                      |
|                                | Secondary Modern | 3657        | 27.72 | 11.77                 | 4233        | 31.81 | 12.85                 | 4.09                      |
|                                | Selective        | 22029       | 39.53 | 11.93                 | 24778       | 43.73 | 11.96                 | 4.20                      |
| Prior Attainment<br>(Terciles) | Low              | 4974        | 19.71 | 11.16                 | 8314        | 21.79 | 11.74                 | 2.08                      |
|                                | Medium           | 72187       | 25.39 | 10.20                 | 87686       | 29.21 | 11.14                 | 3.82                      |
|                                | High             | 159169      | 38.42 | 11.36                 | 173287      | 42.61 | 11.42                 | 4.18                      |
| Prior Attainment<br>(Deciles)  | 01               | 67          | 24.33 | 14.59                 | 82          | 18.60 | 14.94                 | -5.73                     |
|                                | 02               | 371         | 19.71 | 12.86                 | 768         | 18.68 | 12.54                 | -1.04                     |
|                                | 03               | 2403        | 19.01 | 11.06                 | 4926        | 21.71 | 11.67                 | 2.71                      |
|                                | 04               | 8229        | 21.05 | 10.50                 | 11966       | 24.25 | 11.22                 | 3.20                      |
|                                | 05               | 17624       | 23.25 | 10.11                 | 21931       | 26.98 | 11.04                 | 3.73                      |
|                                | 06               | 24589       | 25.62 | 10.00                 | 31635       | 29.75 | 10.75                 | 4.13                      |
|                                | 07               | 37130       | 28.44 | 9.81                  | 40826       | 33.01 | 10.67                 | 4.57                      |
|                                | 08               | 43914       | 32.11 | 9.79                  | 47881       | 36.72 | 10.43                 | 4.61                      |
|                                | 09               | 49357       | 37.41 | 9.50                  | 53283       | 42.08 | 9.94                  | 4.67                      |
|                                | 10               | 52646       | 46.85 | 8.78                  | 55989       | 50.57 | 8.41                  | 3.73                      |

Table F4 (continued): Average A level performance, broken down by students' background characteristics

| Characteristics |                        | 2017 cohort |       |                       | 2020 cohort |       |                       | Difference<br>2020 – 2017 |
|-----------------|------------------------|-------------|-------|-----------------------|-------------|-------|-----------------------|---------------------------|
|                 |                        | N           | Mean  | Standard<br>Deviation | N           | Mean  | Standard<br>Deviation |                           |
| IDACI           | Low                    | 90604       | 34.92 | 12.37                 | 101340      | 38.77 | 12.77                 | 3.8                       |
|                 | Medium                 | 65943       | 32.50 | 12.45                 | 76696       | 36.10 | 13.08                 | 3.6                       |
|                 | High                   | 47898       | 30.41 | 12.31                 | 56697       | 33.57 | 13.16                 | 3.2                       |
| FSM             | No                     | 175043      | 33.70 | 12.47                 | 201520      | 37.34 | 13.00                 | 3.6                       |
|                 | Yes                    | 29746       | 29.47 | 12.17                 | 33503       | 32.43 | 13.10                 | 3.0                       |
| SEN             | No                     | 196349      | 33.17 | 12.49                 | 223465      | 36.76 | 13.10                 | 3.6                       |
|                 | Yes                    | 8440        | 31.11 | 12.80                 | 11558       | 34.33 | 13.47                 | 3.2                       |
| Ethnic Group    | Any Other Ethnic Group | 3611        | 32.38 | 12.65                 | 5056        | 36.11 | 13.31                 | 3.7                       |
|                 | Asian                  | 26483       | 32.19 | 12.82                 | 33879       | 36.19 | 13.63                 | 4.0                       |
|                 | Black                  | 11246       | 29.63 | 12.02                 | 14772       | 33.17 | 12.92                 | 3.5                       |
|                 | Chinese                | 1439        | 38.37 | 13.26                 | 1513        | 42.57 | 12.97                 | 4.2                       |
|                 | Mixed                  | 9629        | 33.37 | 12.64                 | 13171       | 36.93 | 13.29                 | 3.6                       |
|                 | White                  | 150242      | 33.44 | 12.41                 | 163617      | 36.98 | 12.96                 | 3.5                       |

## Appendix G: Performance in Level 3 qualifications

Table G1: Performance in Level 3 qualifications ~ Key Stage 4 prior attainment ( $N = 644234$ )

| Variables                       |                        |      | Estimate | Standard Error | p-value |
|---------------------------------|------------------------|------|----------|----------------|---------|
| Intercept                       |                        |      | 46.574   | 0.090          | <.0001  |
| Gender [Male]                   | Female                 |      | 1.032    | 0.025          | <.0001  |
| School Type [Comprehensive]     | 6th form college       |      | 2.817    | 0.369          | <.0001  |
|                                 | FE college             |      | 0.761    | 0.217          | 0.001   |
|                                 | Independent            |      | 2.390    | 0.224          | <.0001  |
|                                 | Other                  |      | 0.644    | 0.696          | 0.355   |
|                                 | Secondary Modern       |      | -0.891   | 0.344          | 0.010   |
|                                 | Selective              |      | 1.612    | 0.236          | <.0001  |
| IDACI [High]                    | Low                    |      | 1.499    | 0.036          | <.0001  |
|                                 | Medium                 |      | 0.796    | 0.034          | <.0001  |
| SEN [No]                        | Yes                    |      | 0.434    | 0.048          | <.0001  |
| Ethnic Group [White]            | Any Other Ethnic Group |      | -0.716   | 0.093          | <.0001  |
|                                 | Asian                  |      | -0.877   | 0.044          | <.0001  |
|                                 | Black                  |      | -1.476   | 0.057          | <.0001  |
|                                 | Chinese                |      | 0.478    | 0.169          | 0.005   |
|                                 | Mixed                  |      | -0.594   | 0.057          | <.0001  |
| KS4 deciles [10]                | 01                     |      | -28.413  | 0.181          | <.0001  |
|                                 | 02                     |      | -26.635  | 0.103          | <.0001  |
|                                 | 03                     |      | -23.834  | 0.081          | <.0001  |
|                                 | 04                     |      | -21.418  | 0.075          | <.0001  |
|                                 | 05                     |      | -19.232  | 0.071          | <.0001  |
|                                 | 06                     |      | -17.156  | 0.069          | <.0001  |
|                                 | 07                     |      | -14.842  | 0.068          | <.0001  |
|                                 | 08                     |      | -11.993  | 0.067          | <.0001  |
|                                 | 09                     |      | -7.514   | 0.066          | <.0001  |
| Cohort [2020]                   | 2017                   |      | -3.568   | 0.069          | <.0001  |
| KS4 deciles * Cohort [10, 2020] | 01                     | 2017 | 6.274    | 0.305          | <.0001  |
|                                 | 02                     | 2017 | 6.346    | 0.155          | <.0001  |
|                                 | 03                     | 2017 | 5.101    | 0.116          | <.0001  |
|                                 | 04                     | 2017 | 3.946    | 0.104          | <.0001  |
|                                 | 05                     | 2017 | 2.797    | 0.098          | <.0001  |
|                                 | 06                     | 2017 | 1.617    | 0.097          | <.0001  |
|                                 | 07                     | 2017 | 0.430    | 0.094          | <.0001  |
|                                 | 08                     | 2017 | -0.216   | 0.093          | 0.021   |
|                                 | 09                     | 2017 | -0.749   | 0.094          | <.0001  |

Table G2: Performance in Level 3 qualifications ~ Key Stage 4 prior attainment, model with interactions ( $N = 644234$ )

| Variables                                  |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Intercept                                  |                        |      | 46.456   | 0.095          | <.0001  |
| Gender [Male]                              | Female                 |      | 1.136    | 0.034          | <.0001  |
| School Type [Comprehensive]                | 6th Form College       |      | 1.584    | 0.369          | <.0001  |
|  | FE College             |      | -0.874   | 0.217          | <.0001  |
|  | Independent            |      | 2.428    | 0.267          | <.0001  |
|  | Other                  |      | 1.141    | 0.715          | 0.110   |
|  | Secondary Modern       |      | -0.949   | 0.355          | 0.008   |
|  | Selective              |      | 1.792    | 0.238          | <.0001  |
| IDACI [High]                               | Low                    |      | 1.849    | 0.046          | <.0001  |
|  | Medium                 |      | 0.968    | 0.045          | <.0001  |
| SEN [No]                                   | Yes                    |      | 0.492    | 0.063          | <.0001  |
| Ethnic Group [White]                       | Any Other Ethnic Group |      | -0.571   | 0.120          | <.0001  |
|  | Asian                  |      | -0.831   | 0.056          | <.0001  |
|  | Black                  |      | -1.387   | 0.073          | <.0001  |
|  | Chinese                |      | 0.593    | 0.237          | 0.012   |
|  | Mixed                  |      | -0.493   | 0.074          | <.0001  |
| KS4 deciles [10]                           | 01                     |      | -27.236  | 0.183          | <.0001  |
|  | 02                     |      | -25.553  | 0.106          | <.0001  |
|  | 03                     |      | -22.955  | 0.083          | <.0001  |
|  | 04                     |      | -20.698  | 0.077          | <.0001  |
|  | 05                     |      | -18.656  | 0.073          | <.0001  |
|  | 06                     |      | -16.708  | 0.070          | <.0001  |
|  | 07                     |      | -14.511  | 0.068          | <.0001  |
|  | 08                     |      | -11.769  | 0.067          | <.0001  |
|  | 09                     |      | -7.391   | 0.066          | <.0001  |
| Cohort [2020]                              | 2017                   |      | -3.195   | 0.098          | <.0001  |
| Gender * Cohort [M, 2020]                  | Female                 | 2017 | -0.211   | 0.049          | <.0001  |
| School Type * Cohort [Comprehensive, 2020] | 6th Form College       |      | 2.295    | 0.080          | <.0001  |
|  | FE College             |      | 3.399    | 0.065          | <.0001  |
|  | Independent            |      | -0.062   | 0.299          | 0.836   |
|  | Other                  |      | -1.133   | 0.401          | 0.005   |
|  | Secondary Modern       |      | 0.160    | 0.199          | 0.421   |
|  | Selective              |      | -0.415   | 0.101          | <.0001  |
| IDACI * Cohort [High, 2020]                | 1-Low                  |      | -0.811   | 0.065          | <.0001  |
|  | 2-Medium               |      | -0.432   | 0.064          | <.0001  |
| SEN * Cohort [No, 2020]                    | Yes                    |      | -0.122   | 0.097          | 0.210   |

Table G2 (continued): Performance in Level 3 qualifications ~ Key Stage 4 prior attainment, model with interactions ( $N = 644234$ )

| Variables                              |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Ethnic Group * Cohort<br>[White, 2020] | Any Other Ethnic Group | 2017 | -0.386   | 0.180          | 0.032   |
|  | Asian                  | 2017 | -0.147   | 0.077          | 0.057   |
|  | Black                  | 2017 | -0.253   | 0.105          | 0.016   |
|  | Chinese                | 2017 | -0.280   | 0.337          | 0.405   |
|  | Mixed                  | 2017 | -0.254   | 0.113          | 0.024   |
| KS4 deciles * Cohort<br>[10, 2020]     | 01                     | 2017 | 3.735    | 0.310          | <.0001  |
|  | 02                     | 2017 | 3.914    | 0.164          | <.0001  |
|  | 03                     | 2017 | 3.071    | 0.124          | <.0001  |
|  | 04                     | 2017 | 2.303    | 0.111          | <.0001  |
|  | 05                     | 2017 | 1.472    | 0.104          | <.0001  |
|  | 06                     | 2017 | 0.571    | 0.101          | <.0001  |
|  | 07                     | 2017 | -0.346   | 0.097          | 0.000   |
|  | 08                     | 2017 | -0.739   | 0.095          | <.0001  |
|  | 09                     | 2017 | -1.036   | 0.094          | <.0001  |



## Appendix H: Performance in A level qualifications

Table H1: Performance in A level qualifications ~ Key Stage 4 prior attainment, model with interactions ( $N = 430694$ )

| Variables                                  |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Intercept                                  |                        |      | 46.108   | 0.106          | <.0001  |
| Gender [Male]                              | Female                 |      | 1.042    | 0.042          | <.0001  |
| School Type [Comprehensive]                | 6th Form College       |      | 0.850    | 0.409          | 0.038   |
|  | FE College             |      | -2.222   | 0.321          | <.0001  |
|  | Independent            |      | 3.077    | 0.283          | <.0001  |
|  | Other                  |      | 0.060    | 1.026          | 0.954   |
|  | Secondary Modern       |      | -1.415   | 0.412          | 0.001   |
|  | Selective              |      | 2.459    | 0.263          | <.0001  |
| IDACI [High]                               | Low                    |      | 2.090    | 0.058          | <.0001  |
|  | Medium                 |      | 1.127    | 0.057          | <.0001  |
| SEN [No]                                   | Yes                    |      | 0.919    | 0.094          | <.0001  |
| Ethnic Group [White]                       | Any Other Ethnic Group |      | -0.349   | 0.143          | 0.015   |
|  | Asian                  |      | -1.082   | 0.066          | <.0001  |
|  | Black                  |      | -1.152   | 0.091          | <.0001  |
|  | Chinese                |      | 0.809    | 0.251          | 0.001   |
|  | Mixed                  |      | -0.246   | 0.089          | 0.006   |
| KS4 deciles [10]                           | 01                     |      | -27.030  | 1.191          | <.0001  |
|  | 02                     |      | -28.097  | 0.368          | <.0001  |
|  | 03                     |      | -25.935  | 0.153          | <.0001  |
|  | 04                     |      | -23.658  | 0.106          | <.0001  |
|  | 05                     |      | -21.255  | 0.086          | <.0001  |
|  | 06                     |      | -18.750  | 0.077          | <.0001  |
|  | 07                     |      | -15.838  | 0.072          | <.0001  |
|  | 08                     |      | -12.488  | 0.069          | <.0001  |
|  | 09                     |      | -7.623   | 0.067          | <.0001  |
| Cohort [2020]                              | 2017                   |      | -2.798   | 0.110          | <.0001  |
| Gender * Cohort [M, 2020]                  | Female                 | 2017 | -0.438   | 0.059          | <.0001  |
| School Type * Cohort [Comprehensive, 2020] | 6th Form College       | 2017 | 0.544    | 0.090          | <.0001  |
|  | FE College             | 2017 | 1.732    | 0.121          | <.0001  |
|  | Independent            | 2017 | 0.105    | 0.310          | 0.734   |
|  | Other                  | 2017 | -1.178   | 0.616          | 0.056   |
|  | Secondary Modern       | 2017 | 0.419    | 0.226          | 0.064   |
|  | Selective              | 2017 | -0.526   | 0.102          | <.0001  |
| IDACI * Cohort [High, 2020]                | 1-Low                  | 2017 | -0.920   | 0.082          | <.0001  |
|  | 2-Medium               | 2017 | -0.512   | 0.082          | <.0001  |
| SEN * Cohort [No, 2020]                    | Yes                    | 2017 | -0.086   | 0.143          | 0.550   |

Table H1 (continued): Performance in A level qualifications ~ Key Stage 4 prior attainment, model with interactions ( $N = 430694$ )

| Variables                              |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Ethnic Group * Cohort<br>[White, 2020] | Any Other Ethnic Group | 2017 | -0.751   | 0.215          | 0.001   |
|  | Asian                  | 2017 | -0.618   | 0.091          | <.0001  |
|  | Black                  | 2017 | -0.435   | 0.132          | 0.001   |
|  | Chinese                | 2017 | -0.483   | 0.357          | 0.177   |
|  | Mixed                  | 2017 | -0.278   | 0.134          | 0.039   |
| KS4 deciles * Cohort<br>[10, 2020]     | 01                     | 2017 | 5.116    | 1.894          | 0.007   |
|  | 02                     | 2017 | 3.318    | 0.698          | <.0001  |
|  | 03                     | 2017 | 0.826    | 0.265          | 0.002   |
|  | 04                     | 2017 | 0.208    | 0.162          | 0.198   |
|  | 05                     | 2017 | -0.223   | 0.126          | 0.077   |
|  | 06                     | 2017 | -0.618   | 0.112          | <.0001  |
|  | 07                     | 2017 | -1.004   | 0.102          | <.0001  |
|  | 08                     | 2017 | -0.952   | 0.098          | <.0001  |
|  | 09                     | 2017 | -0.993   | 0.095          | <.0001  |

## **Appendix I: Achievement of at least a grade A in individual A level subjects**

This Appendix, in an Excel file, includes the outputs of the regression models looking at **achievement of at least a grade A**, pre- and post- pandemic, in some of the most popular A level subjects.

Link: [Progression of the 2020 KS4 cohort to post-16 study ~ Appendix I.](#)

## **Appendix J: Achievement of at least a grade C in individual A level subjects**

This Appendix, in an Excel file, includes the outputs of the regression models looking at **achievement of at least a grade C**, pre- and post- pandemic, in some of the most popular A level subjects.

Link: [Progression of the 2020 KS4 cohort to post-16 study ~ Appendix J.](#)

## Appendix K: Achievement of at least 30 Level 3 points

Table K1: Achievement of at least 30 Level 3 points ~ Key Stage 4 prior attainment (*N* = 1024426)

| Variables                       |                        |      | Estimate | Standard Error | p-value |
|---------------------------------|------------------------|------|----------|----------------|---------|
| Intercept                       |                        |      | 2.542    | 0.025          | <.0001  |
| Gender [Male]                   | Female                 |      | 0.322    | 0.005          | <.0001  |
| School Type [Comprehensive]     | Independent            |      | -0.998   | 0.283          | 0.000   |
|                                 | Other                  |      | -0.904   | 0.051          | <.0001  |
|                                 | Secondary Modern       |      | -0.033   | 0.039          | 0.400   |
|                                 | Selective              |      | 0.236    | 0.035          | <.0001  |
| IDACI [High]                    | Low                    |      | 0.307    | 0.008          | <.0001  |
|                                 | Medium                 |      | 0.144    | 0.007          | <.0001  |
| SEN [No]                        | Yes                    |      | -0.007   | 0.010          | 0.458   |
| Ethnic Group [White]            | Any Other Ethnic Group |      | 0.139    | 0.021          | <.0001  |
|                                 | Asian                  |      | 0.181    | 0.010          | <.0001  |
|                                 | Black                  |      | 0.124    | 0.013          | <.0001  |
|                                 | Chinese                |      | 0.342    | 0.045          | <.0001  |
|                                 | Mixed                  |      | -0.002   | 0.012          | 0.899   |
| KS4 deciles [10]                | 01                     |      | -6.952   | 0.042          | <.0001  |
|                                 | 02                     |      | -5.560   | 0.029          | <.0001  |
|                                 | 03                     |      | -4.600   | 0.026          | <.0001  |
|                                 | 04                     |      | -3.970   | 0.025          | <.0001  |
|                                 | 05                     |      | -3.457   | 0.025          | <.0001  |
|                                 | 06                     |      | -2.982   | 0.025          | <.0001  |
|                                 | 07                     |      | -2.511   | 0.025          | <.0001  |
|                                 | 08                     |      | -1.950   | 0.025          | <.0001  |
|                                 | 09                     |      | -1.199   | 0.026          | <.0001  |
| Cohort [2020]                   | 2017                   |      | -0.379   | 0.031          | <.0001  |
| KS4 deciles * Cohort [10, 2020] | 01                     | 2017 | 0.072    | 0.063          | 0.247   |
|                                 | 02                     | 2017 | 0.222    | 0.041          | <.0001  |
|                                 | 03                     | 2017 | 0.182    | 0.036          | <.0001  |
|                                 | 04                     | 2017 | 0.182    | 0.034          | <.0001  |
|                                 | 05                     | 2017 | 0.076    | 0.034          | 0.024   |
|                                 | 06                     | 2017 | -0.053   | 0.034          | 0.119   |
|                                 | 07                     | 2017 | -0.166   | 0.034          | <.0001  |
|                                 | 08                     | 2017 | -0.205   | 0.034          | <.0001  |
|                                 | 09                     | 2017 | -0.176   | 0.035          | <.0001  |

Table K2: Achievement of at least 30 Level 3 points ~ Key Stage 4 prior attainment, model with interactions ( $N = 1024426$ )

| Variables                                  |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Intercept                                  |                        |      | 2.465    | 0.026          | <.0001  |
| Gender [Male]                              | Female                 |      | 0.358    | 0.007          | <.0001  |
| School Type [Comprehensive]                | Independent            |      | -0.890   | 0.682          | 0.192   |
|  | Other                  |      | -0.918   | 0.060          | <.0001  |
|  | Secondary Modern       |      | -0.005   | 0.042          | 0.912   |
|  | Selective              |      | 0.316    | 0.038          | <.0001  |
| IDACI [High]                               | Low                    |      | 0.360    | 0.010          | <.0001  |
|  | Medium                 |      | 0.164    | 0.010          | <.0001  |
| SEN [No]                                   | Yes                    |      | 0.028    | 0.013          | 0.029   |
| Ethnic Group [White]                       | Any Other Ethnic Group |      | 0.216    | 0.027          | <.0001  |
|  | Asian                  |      | 0.241    | 0.013          | <.0001  |
|  | Black                  |      | 0.187    | 0.016          | <.0001  |
|  | Chinese                |      | 0.428    | 0.067          | <.0001  |
|  | Mixed                  |      | 0.037    | 0.016          | 0.024   |
| KS4 deciles [10]                           | 01                     |      | -6.939   | 0.042          | <.0001  |
|  | 02                     |      | -5.547   | 0.030          | <.0001  |
|  | 03                     |      | -4.585   | 0.026          | <.0001  |
|  | 04                     |      | -3.955   | 0.025          | <.0001  |
|  | 05                     |      | -3.444   | 0.025          | <.0001  |
|  | 06                     |      | -2.970   | 0.025          | <.0001  |
|  | 07                     |      | -2.500   | 0.025          | <.0001  |
|  | 08                     |      | -1.942   | 0.025          | <.0001  |
|  | 09                     |      | -1.195   | 0.027          | <.0001  |
| Cohort [2020]                              | 2017                   |      | -0.209   | 0.034          | <.0001  |
| Gender * Cohort [M, 2020]                  | Female                 | 2017 | -0.077   | 0.010          | <.0001  |
| School Type * Cohort [Comprehensive, 2020] | Independent            | 2017 | -0.128   | 0.745          | 0.864   |
|  | Other                  | 2017 | 0.028    | 0.081          | 0.726   |
|  | Secondary Modern       | 2017 | -0.066   | 0.030          | 0.026   |
|  | Selective              | 2017 | -0.158   | 0.028          | <.0001  |
| IDACI * Cohort [High, 2020]                | 1-Low                  | 2017 | -0.115   | 0.014          | <.0001  |
|  | 2-Medium               | 2017 | -0.046   | 0.013          | 0.001   |
| SEN * Cohort [No, 2020]                    | Yes                    | 2017 | -0.079   | 0.019          | <.0001  |

Table K2 (continued): Achievement of at least 30 Level 3 points ~ Key Stage 4 prior attainment, model with interactions ( $N = 1024426$ )

| Variables                              |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Ethnic Group * Cohort<br>[White, 2020] | Any Other Ethnic Group | 2017 | -0.175   | 0.040          | <.0001  |
|  | Asian                  | 2017 | -0.130   | 0.017          | <.0001  |
|  | Black                  | 2017 | -0.141   | 0.023          | <.0001  |
|  | Chinese                | 2017 | -0.161   | 0.091          | 0.078   |
|  | Mixed                  | 2017 | -0.085   | 0.024          | 0.001   |
| KS4 deciles * Cohort<br>[10, 2020]     | 01                     | 2017 | 0.044    | 0.063          | 0.486   |
|  | 02                     | 2017 | 0.190    | 0.041          | <.0001  |
|  | 03                     | 2017 | 0.146    | 0.036          | <.0001  |
|  | 04                     | 2017 | 0.146    | 0.035          | <.0001  |
|  | 05                     | 2017 | 0.044    | 0.034          | 0.200   |
|  | 06                     | 2017 | -0.083   | 0.034          | 0.015   |
|  | 07                     | 2017 | -0.192   | 0.034          | <.0001  |
|  | 08                     | 2017 | -0.225   | 0.034          | <.0001  |
|  | 09                     | 2017 | -0.188   | 0.036          | <.0001  |

## Appendix L: Achievement of at least 50 Level 3 points

Table L1: Performance in Level 3 qualifications, achieving at least 50 Level 3 points ~ Key Stage 2 prior attainment ( $N = 928746$ )

| Variables                  |                        | Estimate | Standard Error | p-value |
|----------------------------|------------------------|----------|----------------|---------|
| Intercept                  |                        | -10.407  | 0.052          | <.0001  |
| Gender                     | Female                 | 0.464    | 0.008          | <.0001  |
|                            | [Male]                 | .        | .              | .       |
| School Type                | Independent            | -0.619   | 0.475          | 0.193   |
|                            | Other                  | -1.250   | 0.093          | <.0001  |
|                            | Secondary Modern       | -0.314   | 0.052          | <.0001  |
|                            | Selective              | 0.708    | 0.040          | <.0001  |
|                            | [Comprehensive]        | .        | .              | .       |
| IDACI                      | Low                    | 0.552    | 0.012          | <.0001  |
|                            | Medium                 | 0.296    | 0.012          | <.0001  |
|                            | [High]                 | .        | .              | .       |
| SEN                        | Yes                    | -0.237   | 0.017          | <.0001  |
|                            | [No]                   | .        | .              | .       |
| Ethnic Group               | Any Other Ethnic Group | 0.130    | 0.033          | <.0001  |
|                            | Asian                  | 0.197    | 0.015          | <.0001  |
|                            | Black                  | -0.203   | 0.022          | <.0001  |
|                            | Chinese                | 0.636    | 0.047          | <.0001  |
|                            | Mixed                  | -0.013   | 0.018          | 0.450   |
|                            | [White]                | .        | .              | .       |
| KS2 average score          |                        | 1.618    | 0.010          | <.0001  |
| Cohort                     | 2017                   | 1.979    | 0.075          | <.0001  |
|                            | [2020]                 | .        | .              | .       |
| KS2 average score * Cohort | 2017                   | -0.478   | 0.016          | <.0001  |
|                            | [2020]                 | .        | .              | .       |



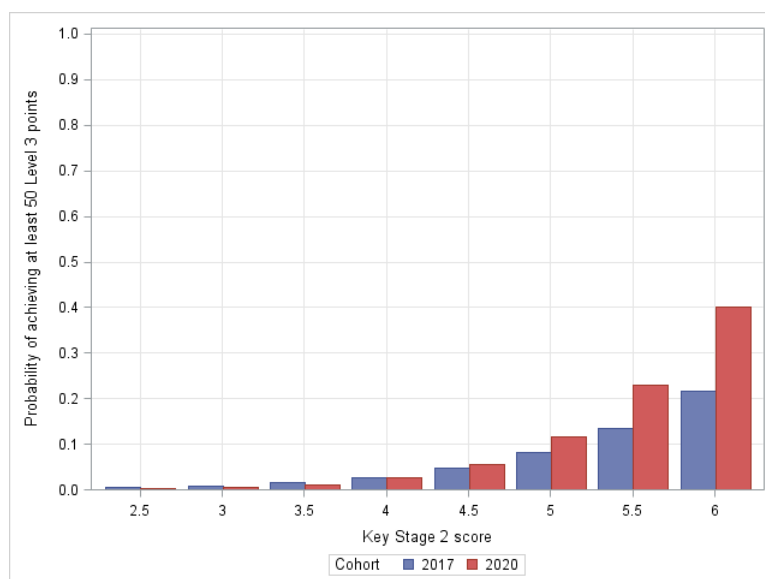


Figure L1: Achievement of at least 50 Level 3 points ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Table L2: Achievement of at least 50 Level 3 points ~ Key Stage 4 prior attainment (*N* = 1024426)

| Variables                       |                        |      | Estimate | Standard Error | p-value |
|---------------------------------|------------------------|------|----------|----------------|---------|
| Intercept                       |                        |      | 0.193    | 0.017          | <.0001  |
| Gender [Male]                   | Female                 |      | 0.049    | 0.009          | <.0001  |
| School Type [Comprehensive]     | Independent            |      | -0.299   | 0.458          | 0.513   |
|                                 | Other                  |      | -0.211   | 0.086          | 0.014   |
|                                 | Secondary Modern       |      | -0.123   | 0.049          | 0.012   |
|                                 | Selective              |      | 0.240    | 0.036          | <.0001  |
| IDACI [High]                    | Low                    |      | 0.255    | 0.012          | <.0001  |
|                                 | Medium                 |      | 0.140    | 0.012          | <.0001  |
| SEN [No]                        | Yes                    |      | 0.165    | 0.017          | <.0001  |
| Ethnic Group [White]            | Any Other Ethnic Group |      | -0.093   | 0.032          | 0.003   |
|                                 | Asian                  |      | -0.096   | 0.015          | <.0001  |
|                                 | Black                  |      | -0.286   | 0.022          | <.0001  |
|                                 | Chinese                |      | 0.148    | 0.046          | 0.001   |
|                                 | Mixed                  |      | -0.098   | 0.019          | <.0001  |
| KS4 deciles [10]                | 01                     |      | -7.171   | 0.125          | <.0001  |
|                                 | 02                     |      | -5.564   | 0.058          | <.0001  |
|                                 | 03                     |      | -4.622   | 0.036          | <.0001  |
|                                 | 04                     |      | -4.071   | 0.029          | <.0001  |
|                                 | 05                     |      | -3.673   | 0.025          | <.0001  |
|                                 | 06                     |      | -3.332   | 0.022          | <.0001  |
|                                 | 07                     |      | -2.963   | 0.020          | <.0001  |
|                                 | 08                     |      | -2.420   | 0.017          | <.0001  |
|                                 | 09                     |      | -1.523   | 0.015          | <.0001  |
| Cohort [2020]                   | 2017                   |      | -0.828   | 0.015          | <.0001  |
| KS4 deciles * Cohort [10, 2020] | 01                     | 2017 | 0.797    | 0.184          | <.0001  |
|                                 | 02                     | 2017 | 1.440    | 0.073          | <.0001  |
|                                 | 03                     | 2017 | 1.402    | 0.047          | <.0001  |
|                                 | 04                     | 2017 | 1.335    | 0.038          | <.0001  |
|                                 | 05                     | 2017 | 1.170    | 0.033          | <.0001  |
|                                 | 06                     | 2017 | 0.917    | 0.032          | <.0001  |
|                                 | 07                     | 2017 | 0.483    | 0.030          | <.0001  |
|                                 | 08                     | 2017 | 0.032    | 0.028          | 0.248   |
|                                 | 09                     | 2017 | -0.238   | 0.023          | <.0001  |

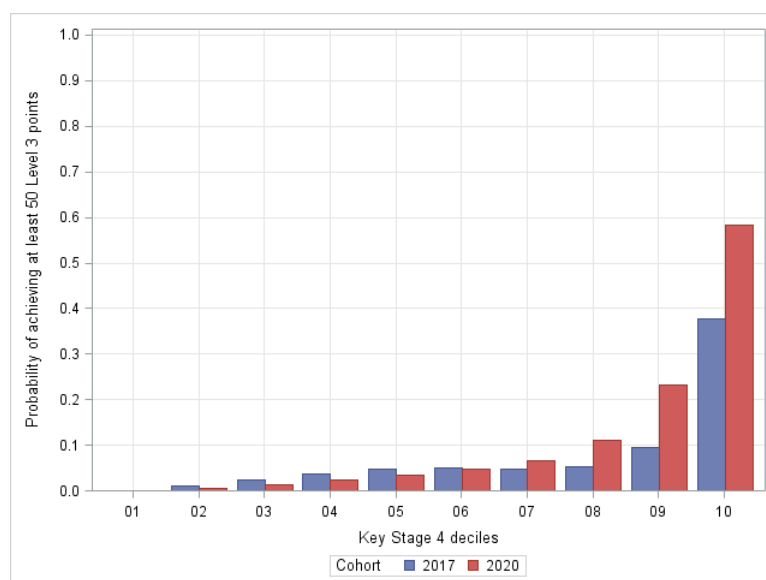


Figure L2: Achievement of at least 30 Level 3 points ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

Table L3: Achievement of at least 50 Level 3 points ~ Key Stage 4 prior attainment, model with interactions ( $N = 1024426$ )

| Variables                                  |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Intercept                                  |                        |      | 0.093    | 0.020          | <.0001  |
| Gender [Male]                              | Female                 |      | 0.093    | 0.020          | <.0001  |
| School Type [Comprehensive]                | Independent            |      | 0.076    | 0.011          | <.0001  |
|  | Other                  |      | -0.341   | 1.217          | 0.780   |
|  | Secondary Modern       |      | -0.059   | 0.100          | 0.556   |
|  | Selective              |      | -0.133   | 0.055          | 0.015   |
| IDACI [High]                               | Low                    |      | 0.348    | 0.038          | <.0001  |
|  | Medium                 |      | 0.337    | 0.016          | <.0001  |
| SEN [No]                                   | Yes                    |      | 0.187    | 0.016          | <.0001  |
| Ethnic Group [White]                       | Any Other Ethnic Group |      | 0.235    | 0.023          | <.0001  |
|  | Asian                  |      | -0.033   | 0.040          | 0.412   |
|  | Black                  |      | -0.099   | 0.018          | <.0001  |
|  | Chinese                |      | -0.267   | 0.028          | <.0001  |
|  | Mixed                  |      | 0.142    | 0.063          | 0.024   |
| KS4 deciles [10]                           | 01                     |      | -7.167   | 0.125          | <.0001  |
|  | 02                     |      | -5.534   | 0.058          | <.0001  |
|  | 03                     |      | -4.597   | 0.036          | <.0001  |
|  | 04                     |      | -4.043   | 0.029          | <.0001  |
|  | 05                     |      | -3.648   | 0.025          | <.0001  |
|  | 06                     |      | -3.309   | 0.022          | <.0001  |
|  | 07                     |      | -2.944   | 0.020          | <.0001  |
|  | 08                     |      | -2.406   | 0.017          | <.0001  |
|  | 09                     |      | -1.514   | 0.015          | <.0001  |
| Cohort [2020]                              | 2017                   |      | -0.584   | 0.027          | <.0001  |
| Gender * Cohort [M, 2020]                  | Female                 | 2017 | -0.062   | 0.016          | 0.000   |
| School Type * Cohort [Comprehensive, 2020] | Independent            | 2017 | 0.046    | 1.312          | 0.972   |
|  | Other                  | 2017 | -0.362   | 0.127          | 0.004   |
|  | Secondary Modern       | 2017 | 0.014    | 0.055          | 0.796   |
|  | Selective              | 2017 | -0.257   | 0.027          | <.0001  |
| IDACI * Cohort [High, 2020]                | 1-Low                  | 2017 | -0.189   | 0.023          | <.0001  |
|  | 2-Medium               | 2017 | -0.109   | 0.023          | <.0001  |
| SEN * Cohort [No, 2020]                    | Yes                    | 2017 | -0.159   | 0.035          | <.0001  |

Table L3 (continued): Achievement of at least 50 Level 3 points ~ Key Stage 4 prior attainment, model with interactions ( $N = 1024426$ )

| Variables                              |                        |      | Estimate | Standard Error | p-value |
|--|------------------------|------|----------|----------------|---------|
| Ethnic Group * Cohort<br>[White, 2020] | Any Other Ethnic Group | 2017 | -0.151   | 0.063          | 0.017   |
|  | Asian                  | 2017 | 0.004    | 0.026          | 0.890   |
|  | Black                  | 2017 | -0.047   | 0.042          | 0.267   |
|  | Chinese                | 2017 | 0.010    | 0.092          | 0.912   |
|  | Mixed                  | 2017 | -0.114   | 0.038          | 0.003   |
| KS4 deciles * Cohort<br>[10, 2020]     | 01                     | 2017 | 0.763    | 0.185          | <.0001  |
|  | 02                     | 2017 | 1.369    | 0.074          | <.0001  |
|  | 03                     | 2017 | 1.328    | 0.048          | <.0001  |
|  | 04                     | 2017 | 1.258    | 0.039          | <.0001  |
|  | 05                     | 2017 | 1.098    | 0.034          | <.0001  |
|  | 06                     | 2017 | 0.850    | 0.032          | <.0001  |
|  | 07                     | 2017 | 0.426    | 0.030          | <.0001  |
|  | 08                     | 2017 | -0.013   | 0.028          | 0.641   |
|  | 09                     | 2017 | -0.266   | 0.024          | <.0001  |

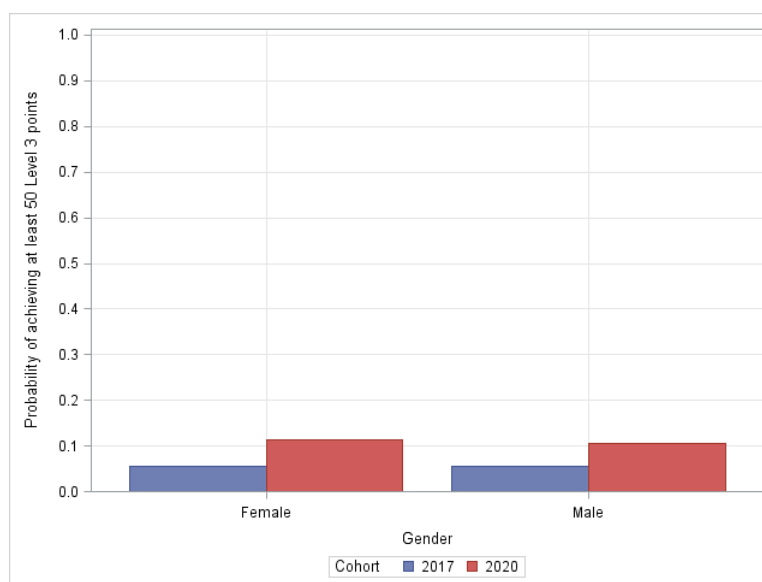


Figure L3: Achievement of at least 50 Level 3 points ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 08 decile)

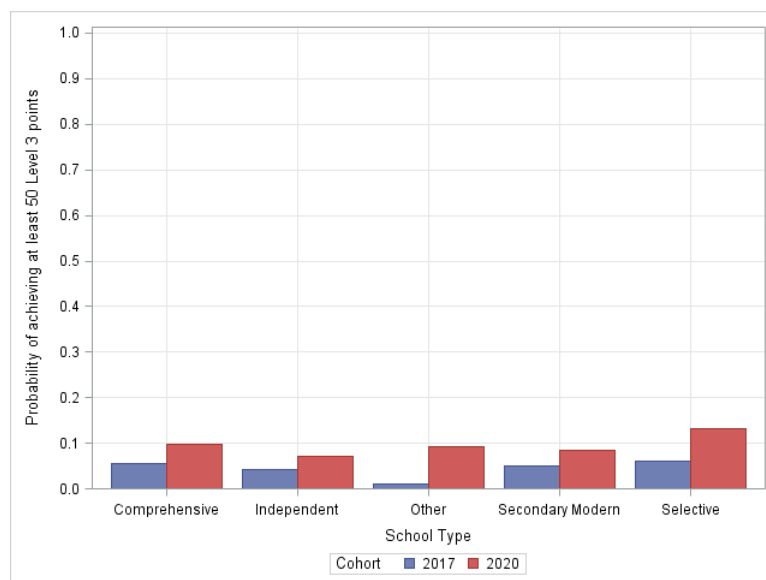


Figure L4: Achievement of at least 550 Level 3 points ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 08 decile)

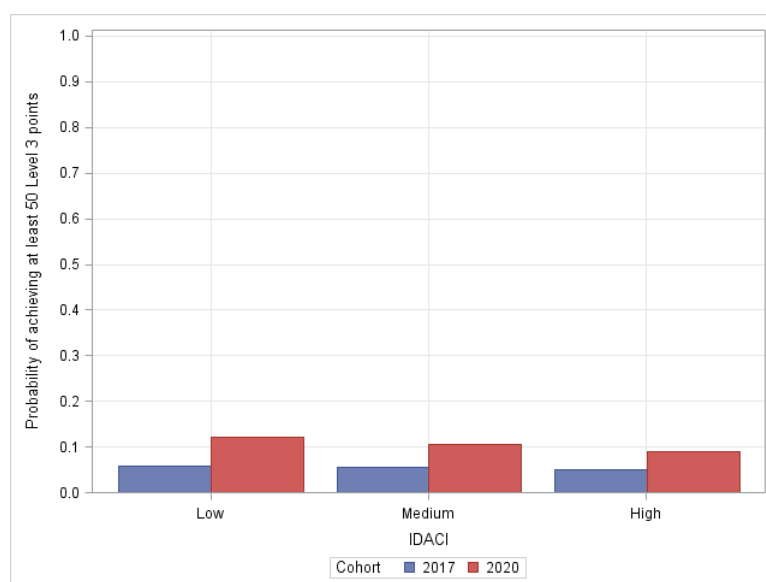


Figure L5: Achievement of at least 50 Level 3 points ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 08 decile)

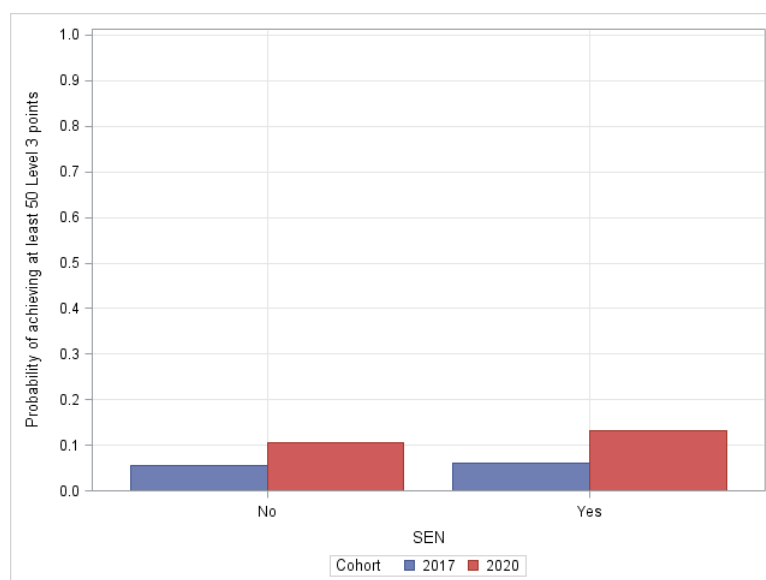


Figure L6: Achievement of at least 50 Level 3 points ~ SEN (Gender = Male; School Type = Comprehensive; Deprivation = Medium; Ethnicity = White Key Stage 4 prior attainment = 08 decile)

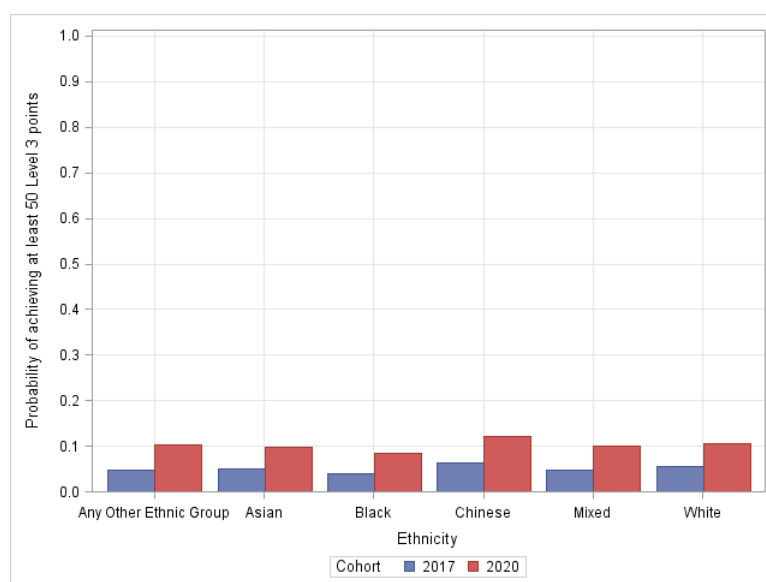


Figure L7: Achievement of at least 50 Level 3 points ~ ethnicity (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Key Stage 4 prior attainment = 08 decile)