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

Research Report

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24 July 2024

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How to cite this publication:

Vidal Rodeiro, C.L. (2024). *Progression of the 2020 Key Stage 4 cohort to post-16 study*. Cambridge University Press & Assessment.

Acknowledgements:

This work was carried out in the Secure Research Service, part of the Office for National Statistics (ONS). It contains statistical data from ONS which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

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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)[1]. 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:

[1] 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 that 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/ofquals-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)[2] 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)[3]. 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[4], providing information on the type of school (Gill, 2017).

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[2] Students were awarded "whatever was higher, CAG or calculated grade". However, calculated grades were rarely higher than the CAGs.

[3] 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.

[4] 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[5]/VRQ[6] 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

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

[6] 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[7] 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.

[7] "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[8]. 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

[8] 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 2020 – 2017
	N	% (out of KS4 cohort)	N	% (out of 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
Key Stage 4 candidates		*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 2020 – 2017
		N (in KS4)	N (progressing)	% (progressing)	N (in KS4)	N (progressing)	% (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 (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 (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 2020 – 2017
		N (in KS4)	N (progressing)	% (progressing)	N (in KS4)	N (progressing)	% (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 2020 – 2017
		N (in KS4)	N (progressing)	% (progressing)	N (in KS4)	N (progressing)	% (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 (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 (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 2020 – 2017
		N (in KS4)	N (progressing)	% (progressing)	N (in KS4)	N (progressing)	% (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 2020 – 2017
		N (in KS4)	N (progressing)	% (progressing)	N (in KS4)	N (progressing)	% (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 (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 (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 2020 – 2017
		N (in KS4)	N (progressing)	% (progressing)	N (in KS4)	N (progressing)	% (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 3rd to 6th. 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).

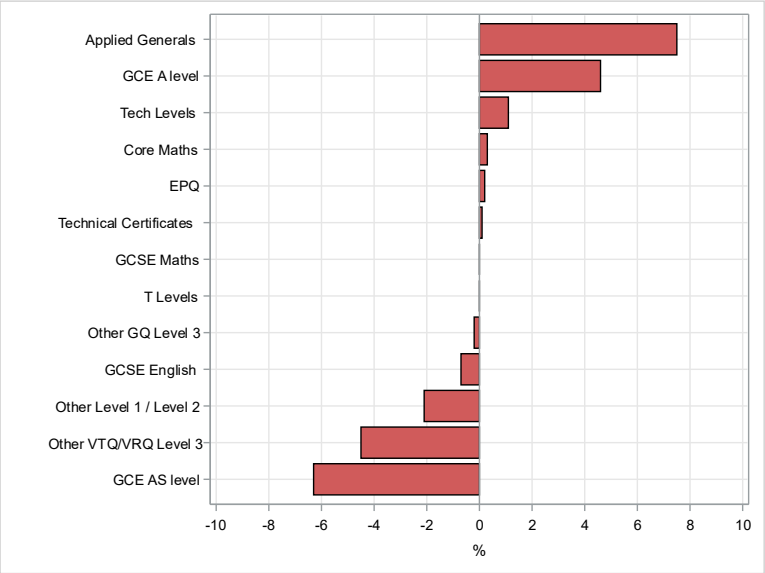

Figure 1: Key Stage 5 qualifications - difference, between 2020 and 2017 Key Stage 4 cohorts, in the percentage (out of total number of qualifications at Key Stage 5) completing the qualification type

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[9].

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 that the average number of qualifications taken by the students in the 2017 cohort (average = 2.65; standard deviation = 1.89)[10]. 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.

[9] 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.

[10] 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 that 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.

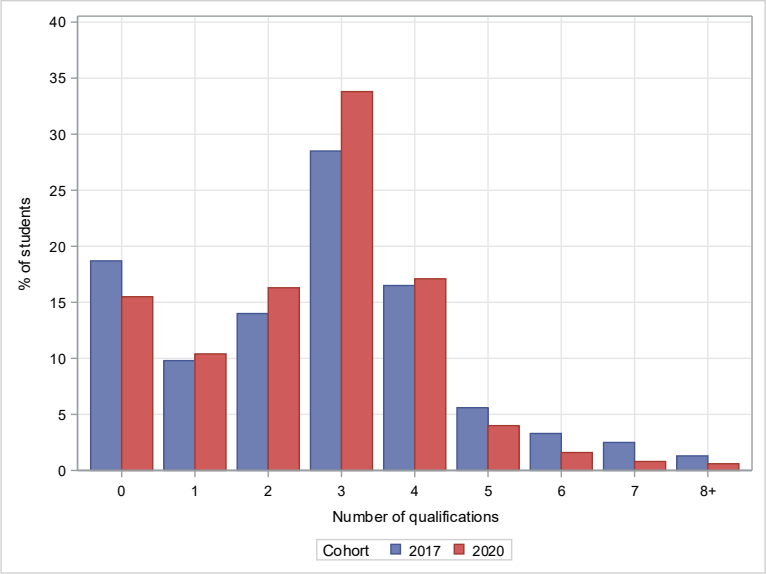

Figure 2: Number of Key Stage 5 qualifications taken per student

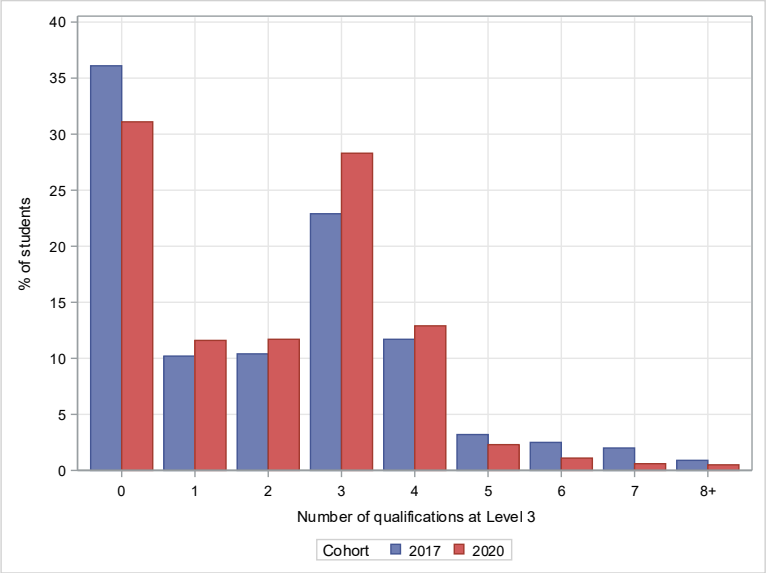

Figure 3: Number of Key Stage 5 qualifications at Level 3 taken per student

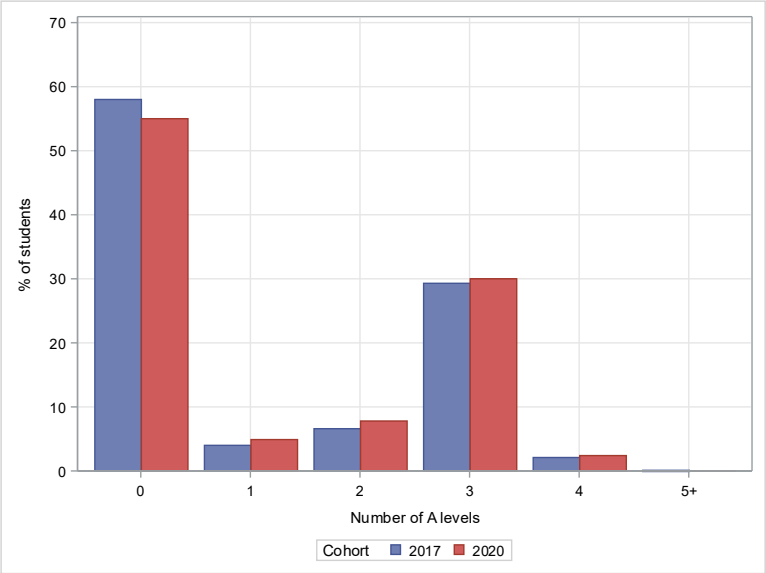

Figure 4: Number of A levels taken per student

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.

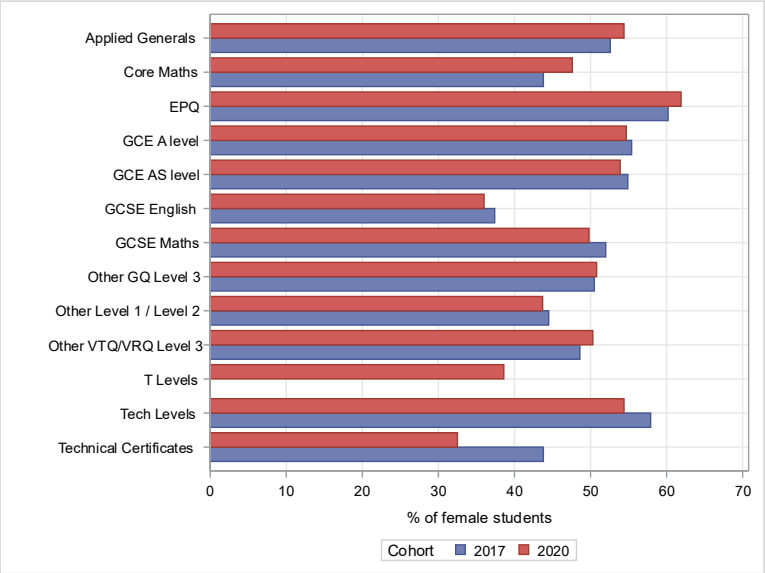

Figure 5: Qualifications completed by the end of Key Stage 5, by gender

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).

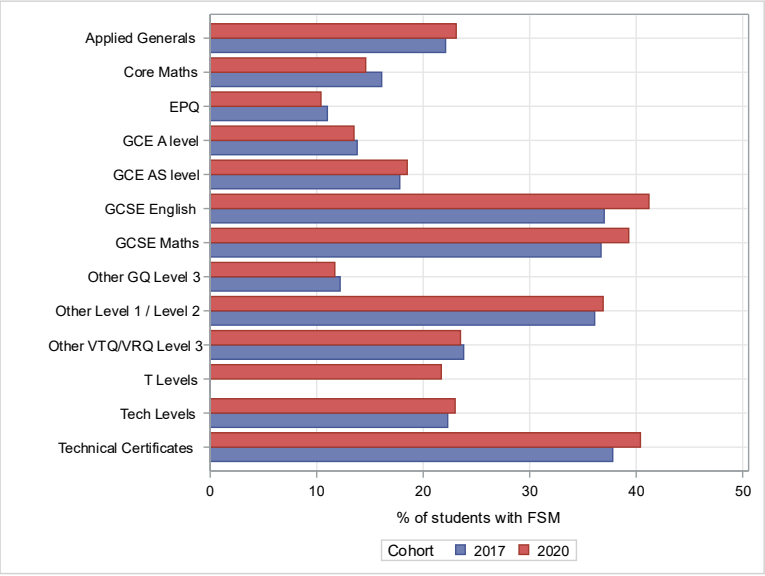

Figure 6: Qualifications completed by the end of Key Stage 5, by socio-economic deprivation – free school meals eligibility (percentage of students)

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).

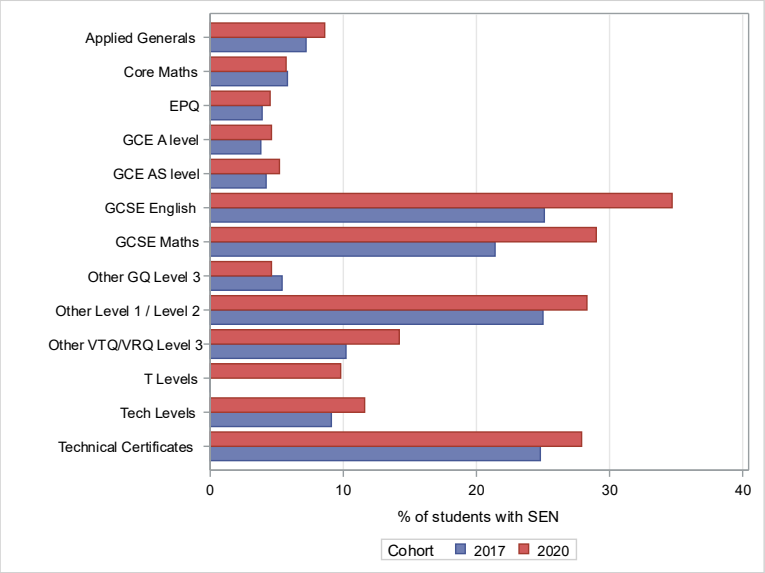

Figure 7: Qualifications completed by the end of Key Stage 5, by special educational needs (percentage of students)

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.

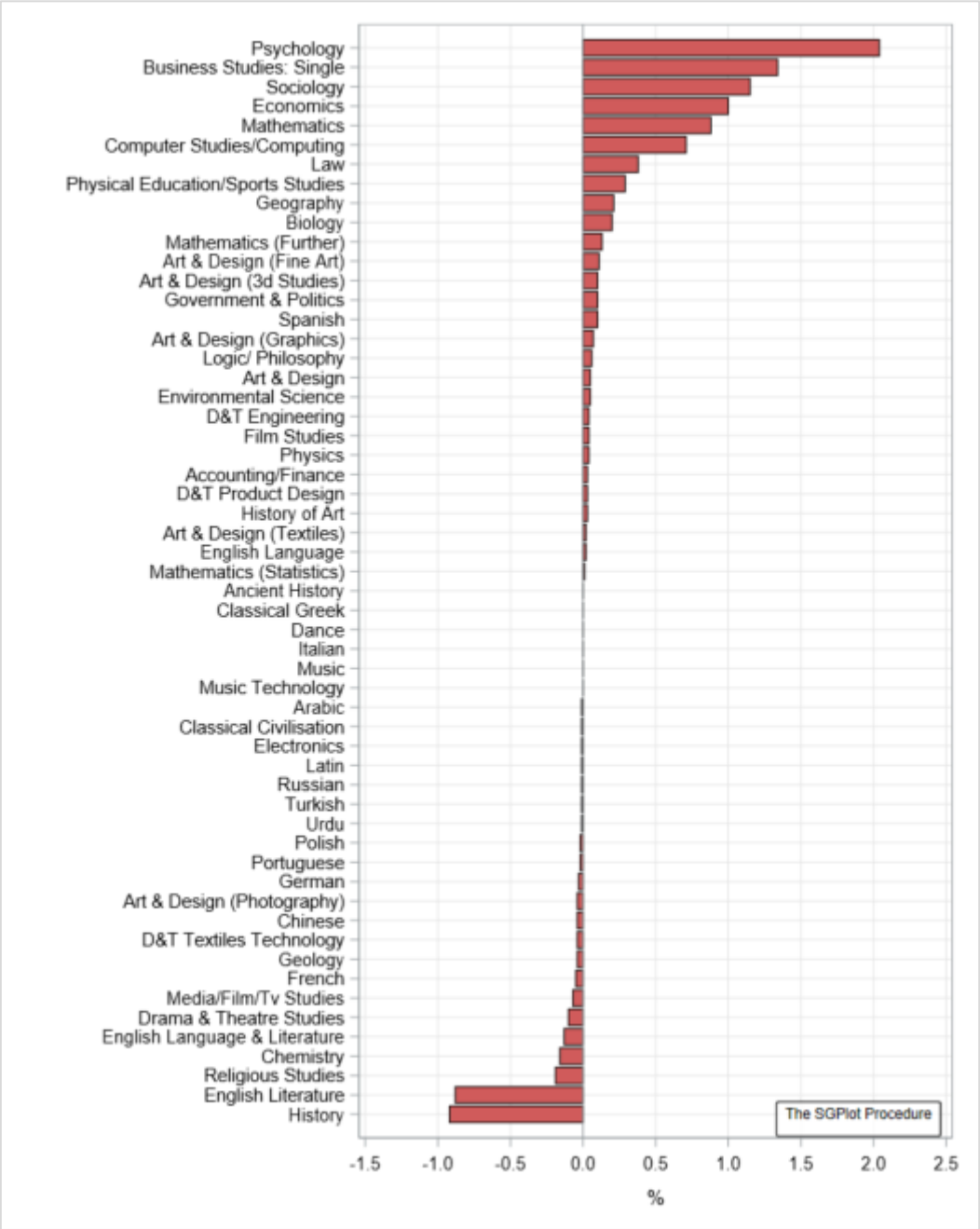

Figure 8: Uptake of individual A level subjects – comparison between the 2020 and the 2017 Key Stage 4 cohorts

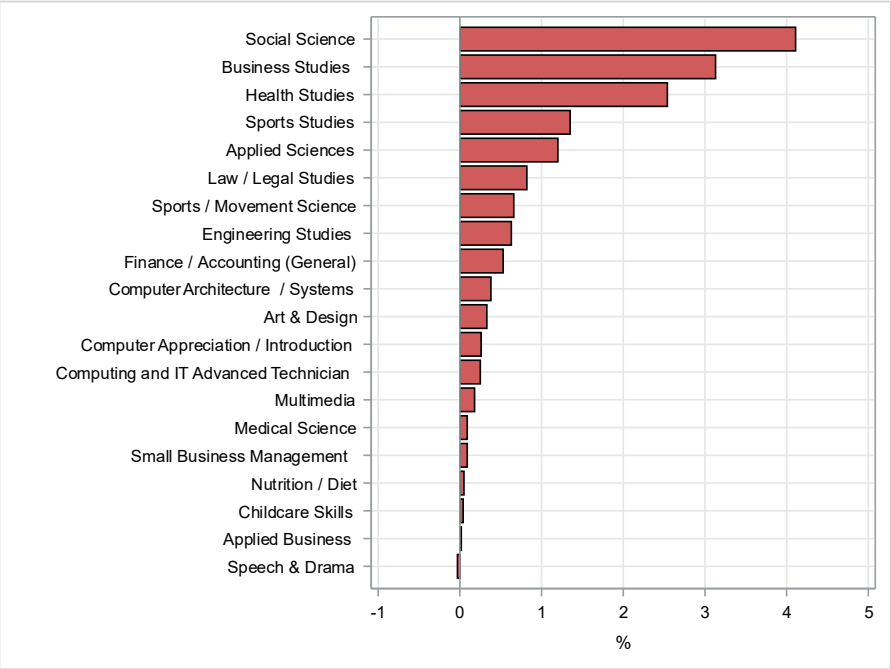

Figure 9: Uptake of individual Applied General subjects – comparison between the 2020 and the 2017 Key Stage 4 cohorts

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.

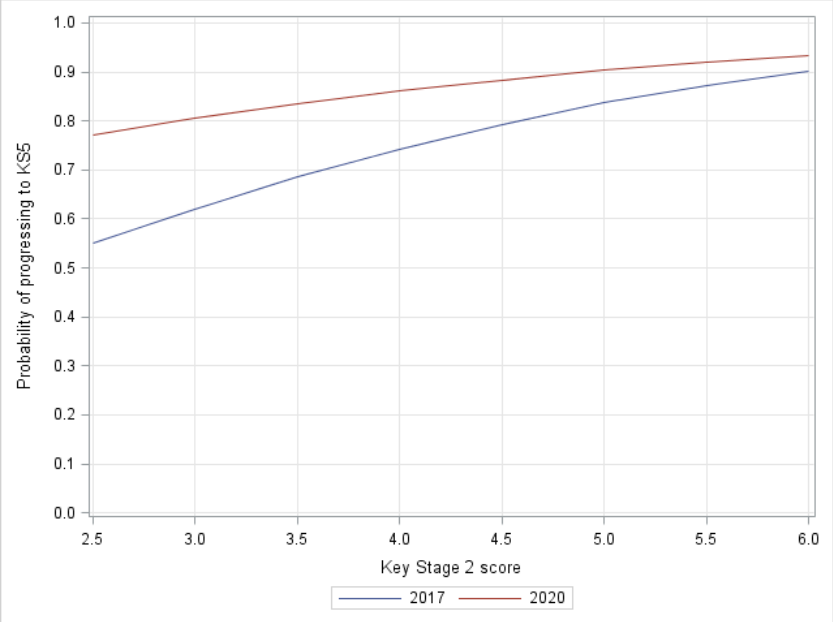

Figure 10: Probability of progression to Key Stage 5 (qualifications at any level) ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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 * 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	.	.	.

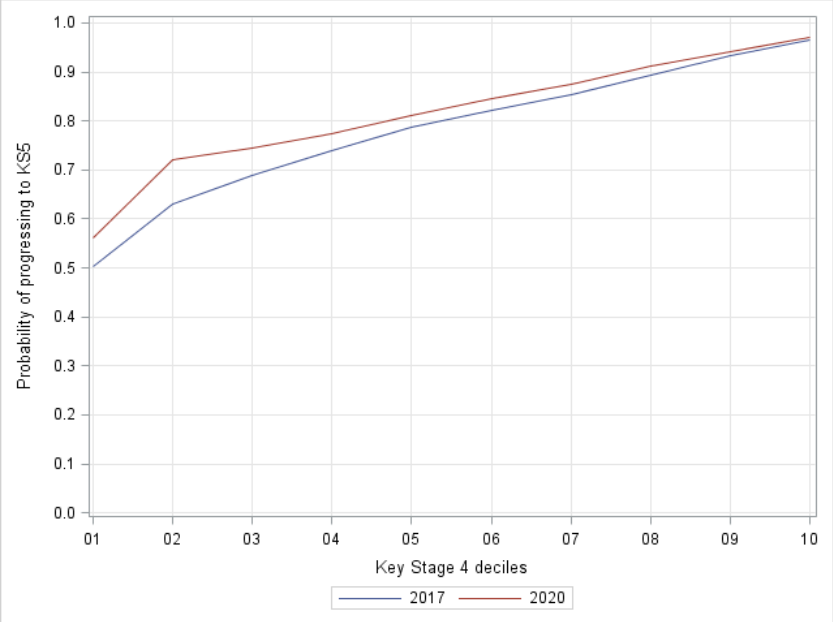

Figure 11: Probability of progression to Key Stage 5 (qualifications at any level) ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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.

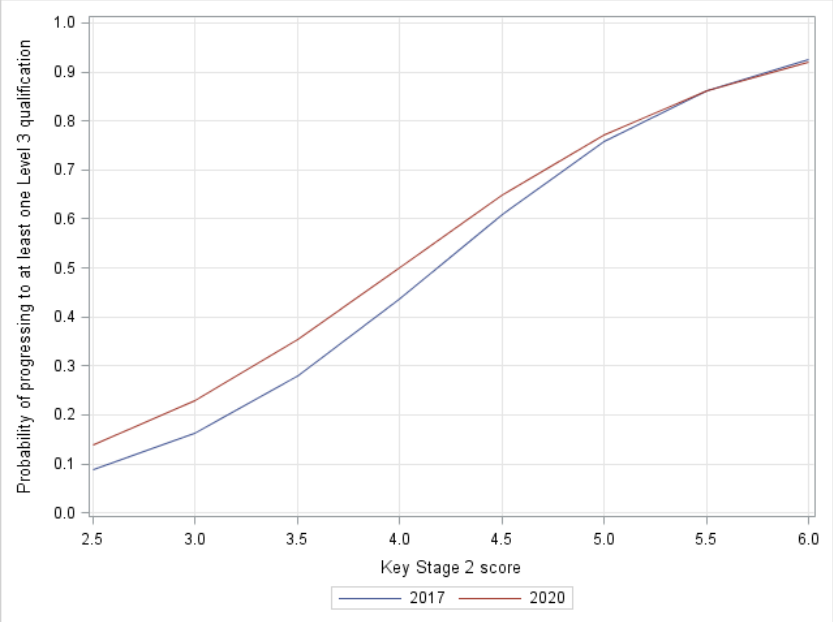

Figure 12: Probability of progression to Key Stage 5 (at least one qualification at Level 3) ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

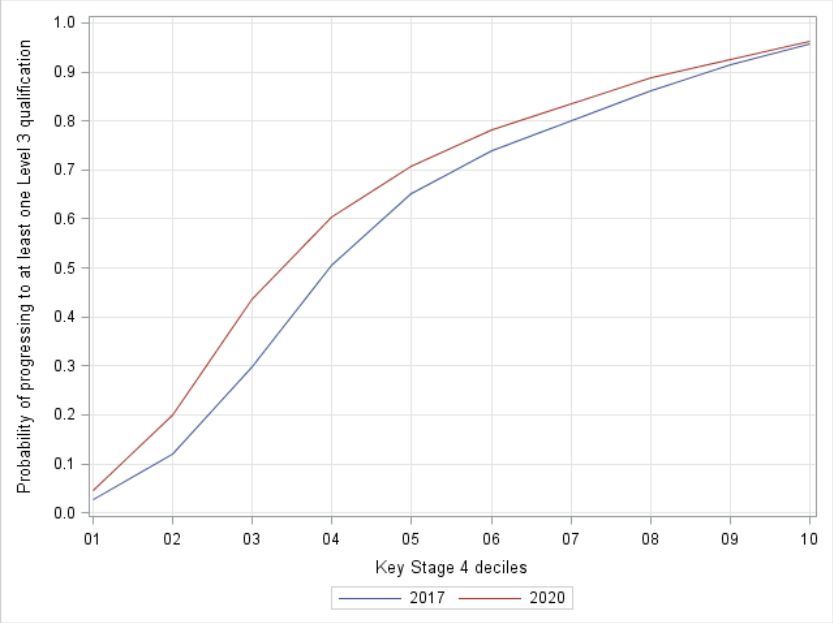

Figure 13: Probability of progression to Key Stage 5 (at least one qualification at Level 3) ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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.

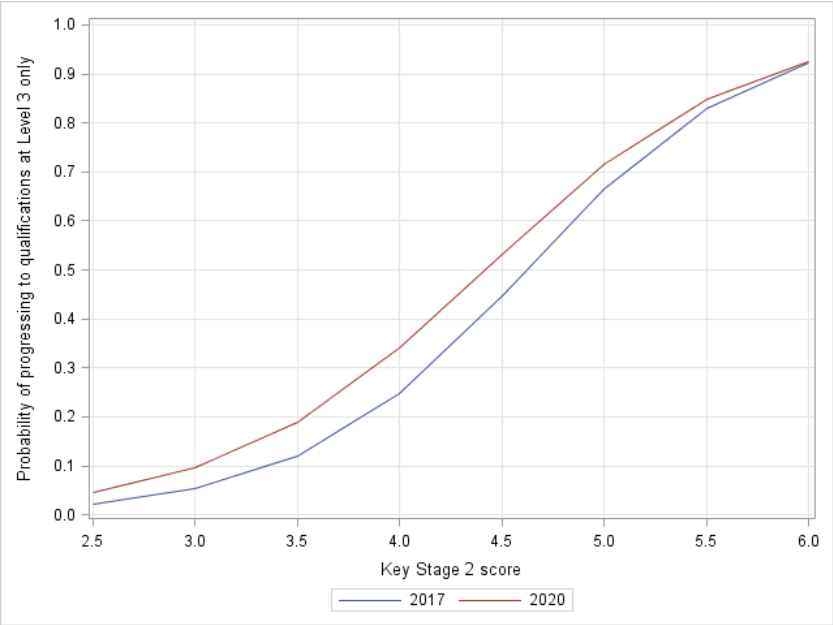

Figure 14: Probability of progression to Key Stage 5 (qualifications at Level 3 only) ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

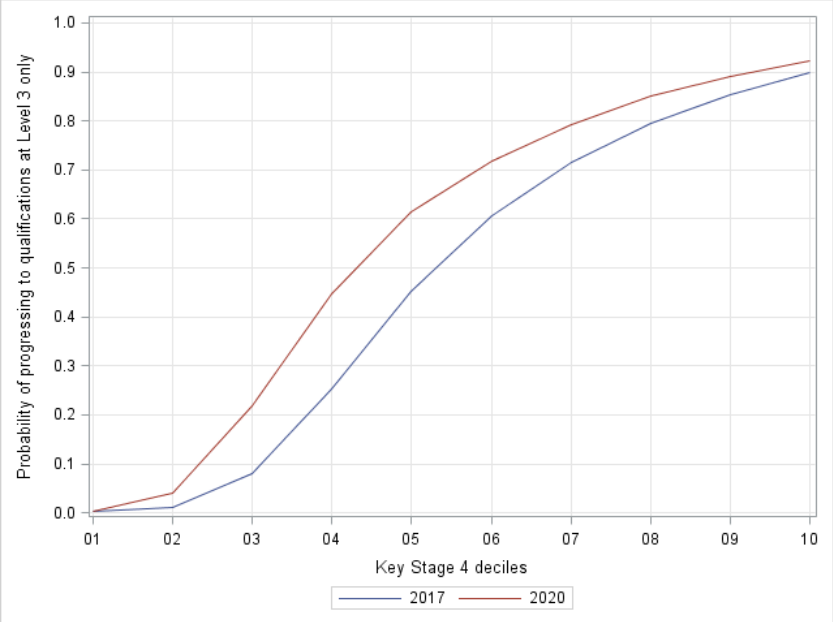

Figure 15: Probability of progression to Key Stage 5 (qualifications at Level 3 only) ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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[11], 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

[11] 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 9th and 10th (between 9 and 10 percentage points). Decreases were highest (from 13 to 14.5 percentage points) amongst students of medium attainment in the 4th to 7th 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[12].

[12] 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 2020 – 2017
		N (in KS4 and PLAMS)	N (dropping out)	% (dropping out)	N (in KS4 and PLAMS)	N (dropping out)	% (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 (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 (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 2020 – 2017
		N (in KS4 and PLAMS)	N (dropping out)	% (dropping out)	N (in KS4 and PLAMS)	N (dropping out)	% (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]	.	.	.

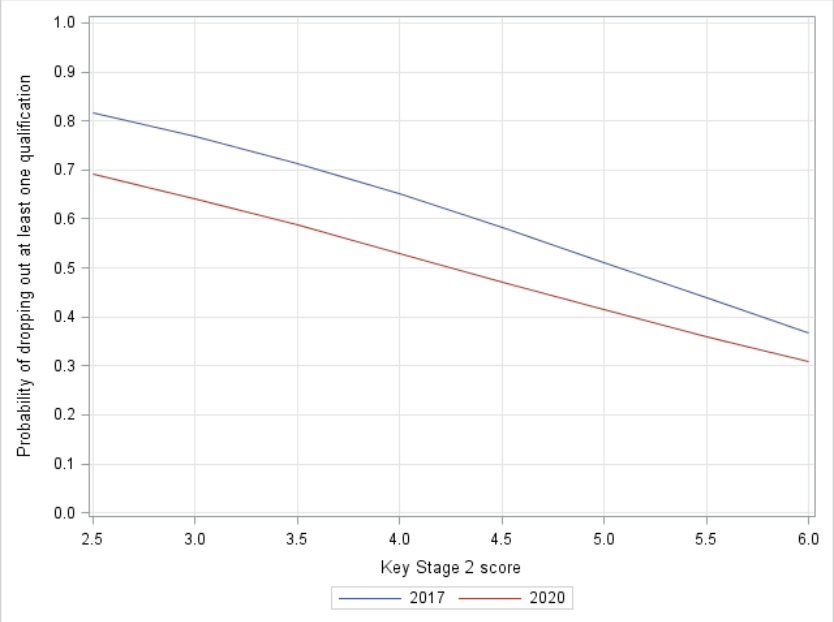

Figure 16: Probability of dropping out at least one qualification by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of qualifications = 3)

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 4th to 7th, 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 * 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	.	.	.

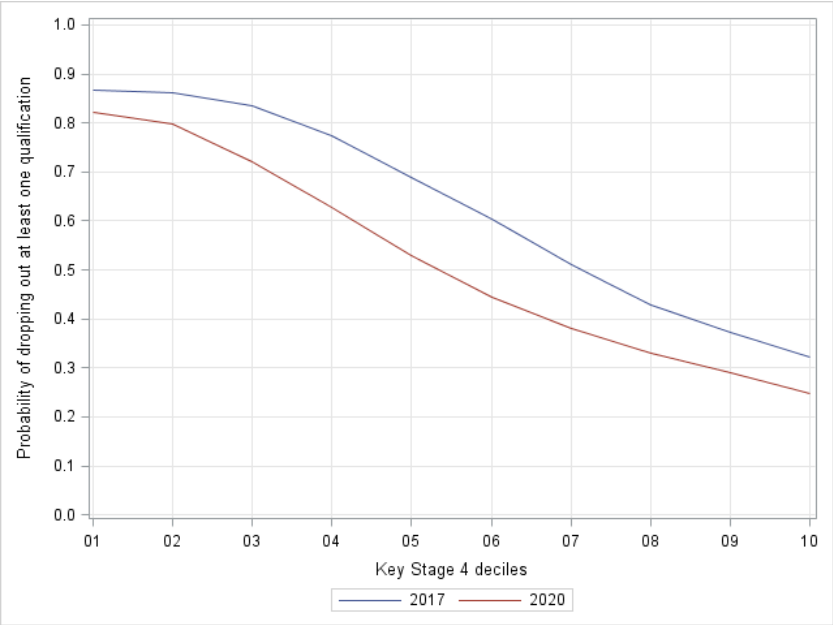

Figure 17: Probability of dropping out at least one qualification by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of qualifications = 3)

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 * 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	.	.	.

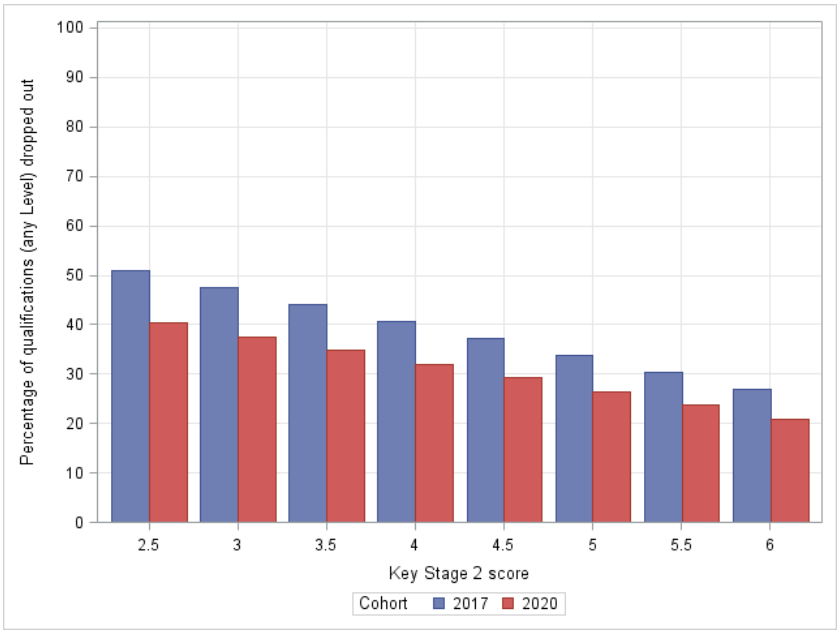

Figure 18: Percentage of qualifications (any level) dropped out by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

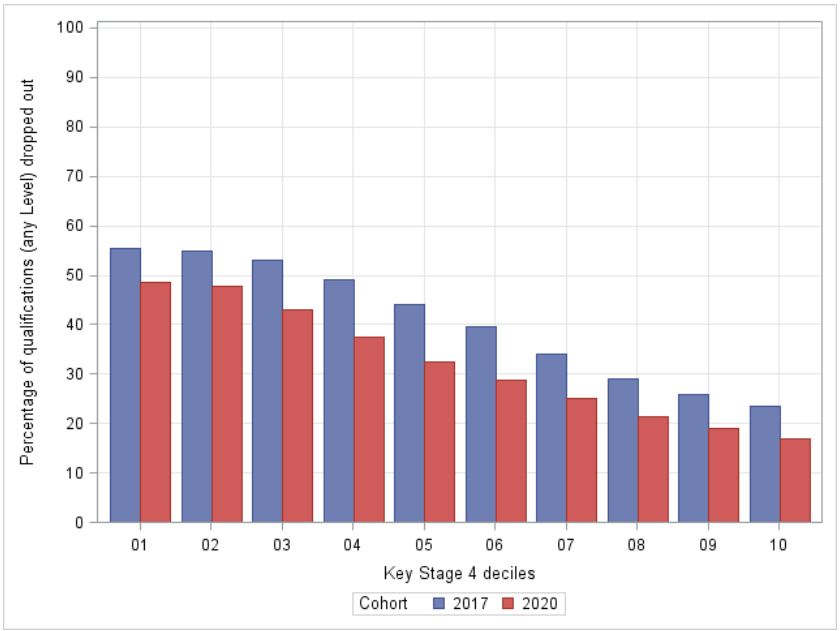

Figure 19: Percentage of qualifications (any level) dropped out by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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 4th to 7th). 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 9th and 10th (between 5 and 6 percentage points). Decreases were highest (between 10 and 12 percentage points) amongst students of medium attainment in the 3rd to 6th 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 2020 – 2017
		N (in KS4 and PLAMS)	N (dropping out)	% (dropping out)	N (in KS4 and PLAMS)	N (dropping out)	% (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 (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 (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 2020 – 2017
		N (in KS4 and PLAMS)	N (dropping out)	% (dropping out)	N (in KS4 and PLAMS)	N (dropping out)	% (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 (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.

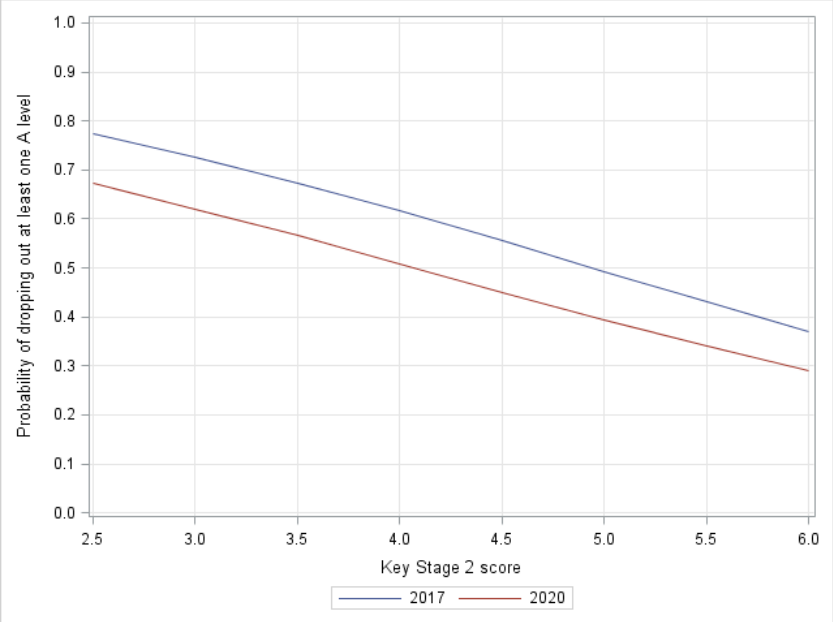

Figure 20: Probability of dropping out at least one A level by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of A levels = 3)

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 1st and 2nd) and highest amongst students with medium prior attainment (those in deciles 5th to 7th) 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).

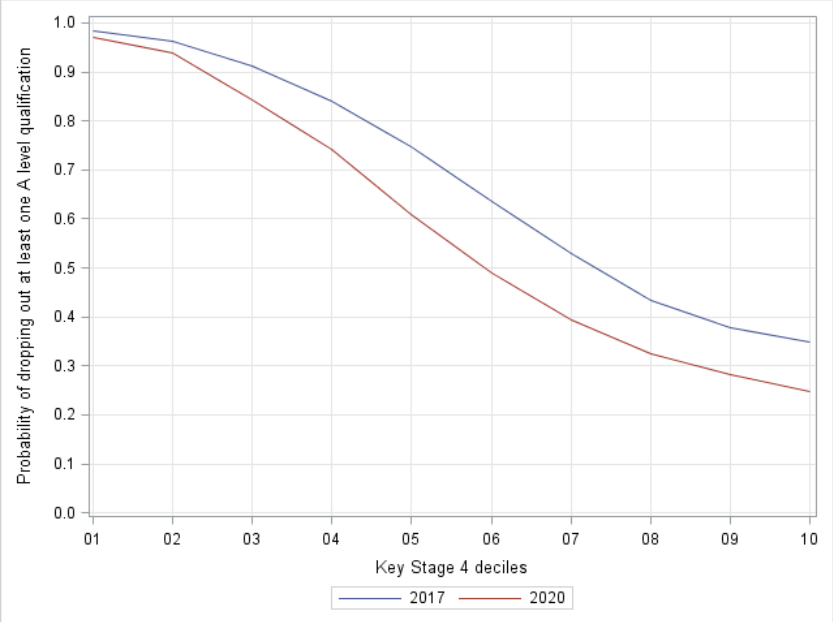

Figure 21: Probability of dropping out at least one A level qualification by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive; Number of qualifications = 3)

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.

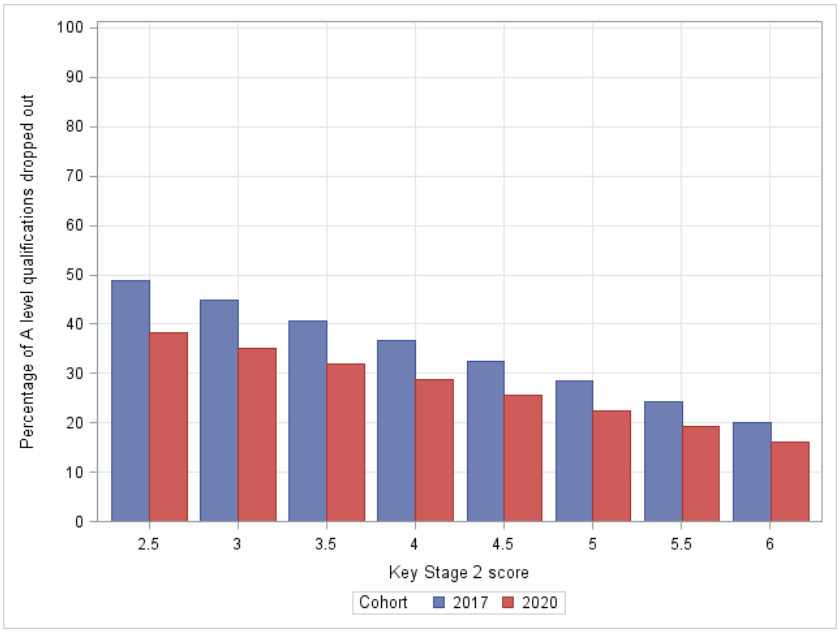

Figure 22: Percentage of A levels dropped out by the end of Key Stage 5 ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

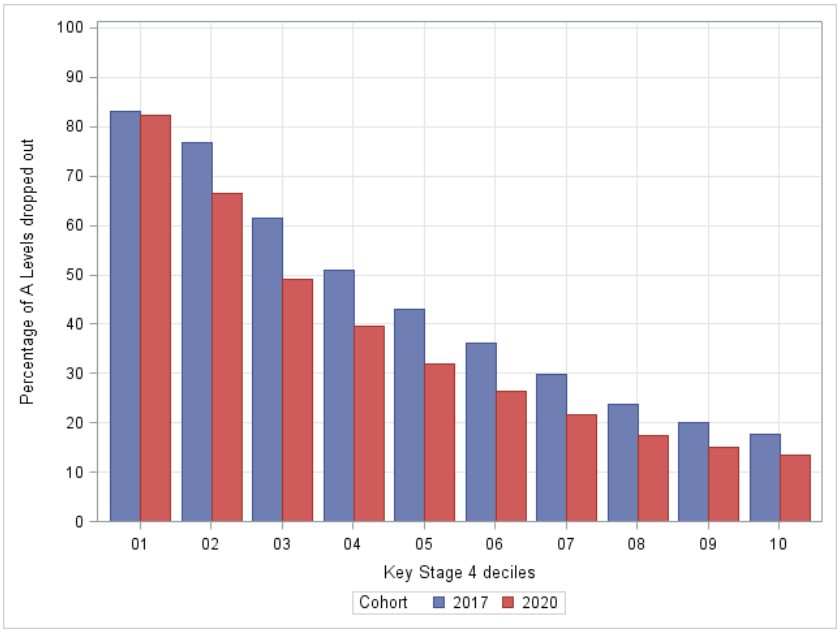

Figure 23: Percentage of A levels dropped out by the end of Key Stage 5 ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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[13].

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.

[13] 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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 (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 (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 (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 (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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]	.	.	.

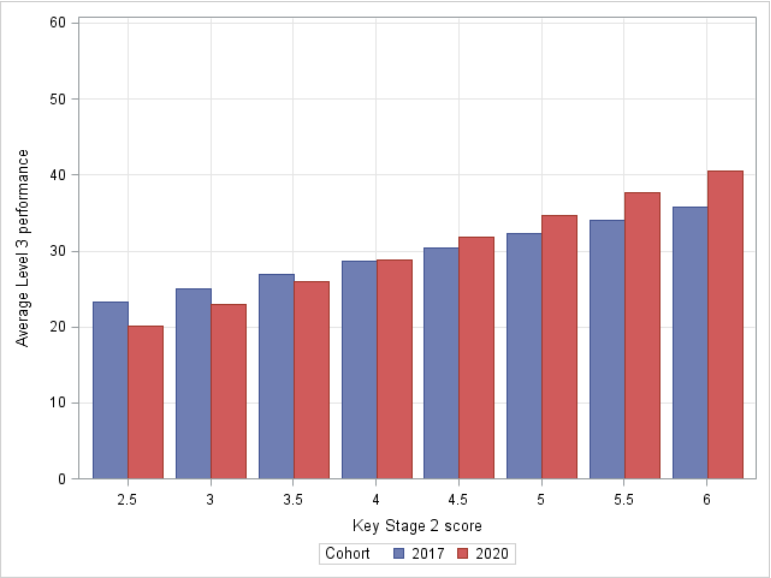

Figure 24: Average performance in Level 3 qualifications ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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.

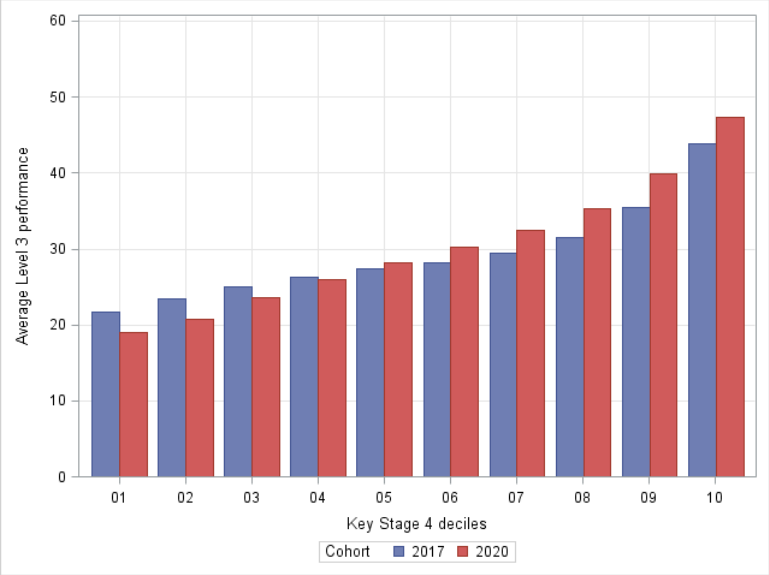

Figure 25: Average performance in Level 3 qualifications ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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 State 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).

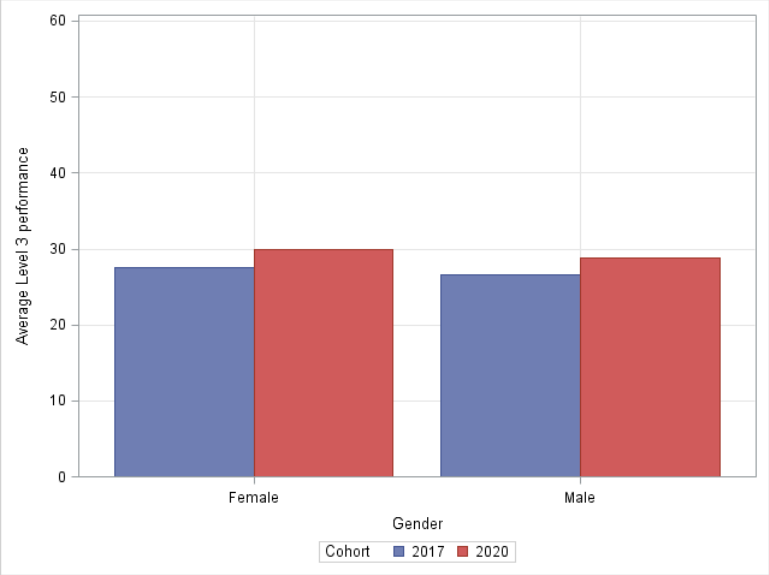

Figure 26: Average performance in Level 3 qualifications ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

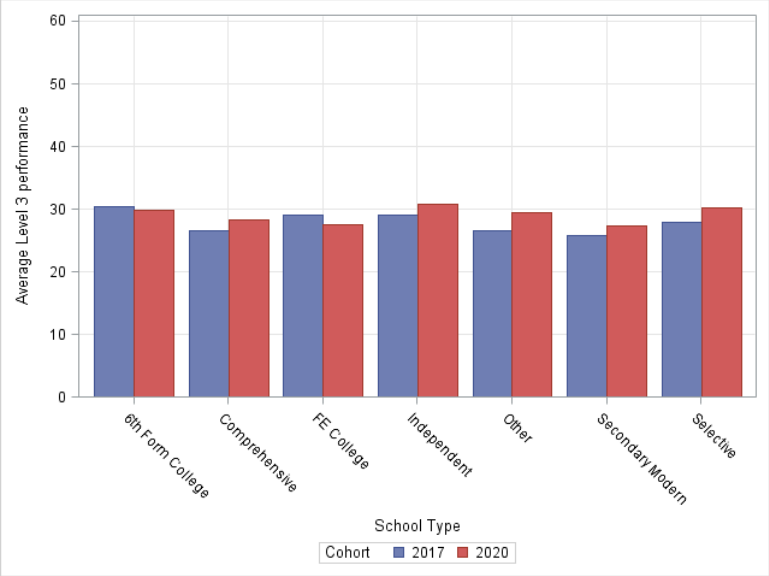

Figure 27: Average performance in Level 3 qualifications ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

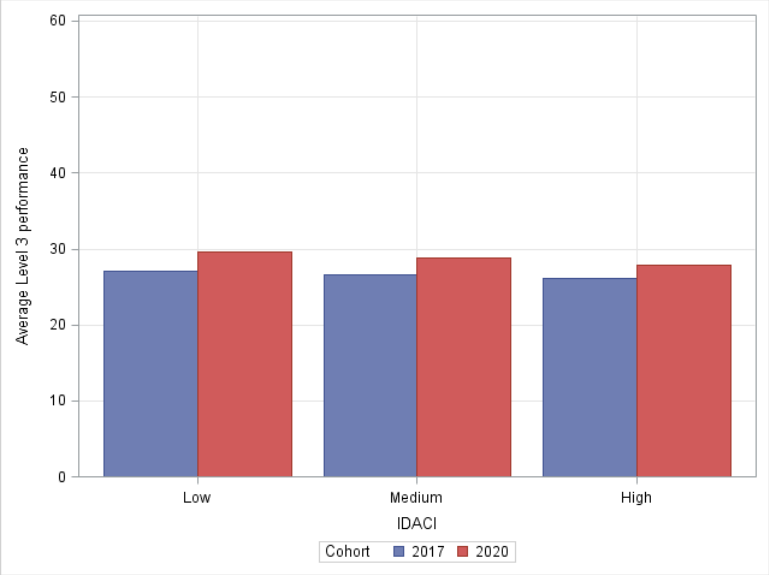

Figure 28: Average performance in Level 3 qualifications ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

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[14]. 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 than pre-pandemic (*e.g.*, "high" performance increase by 14.7 percentages points).

[14] 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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 (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 (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 (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 (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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.

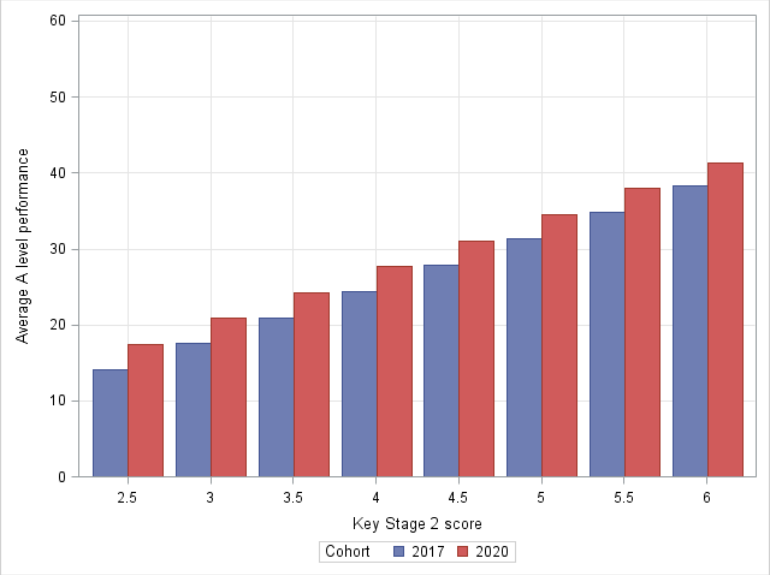

Figure 29: Average performance in A level qualifications ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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

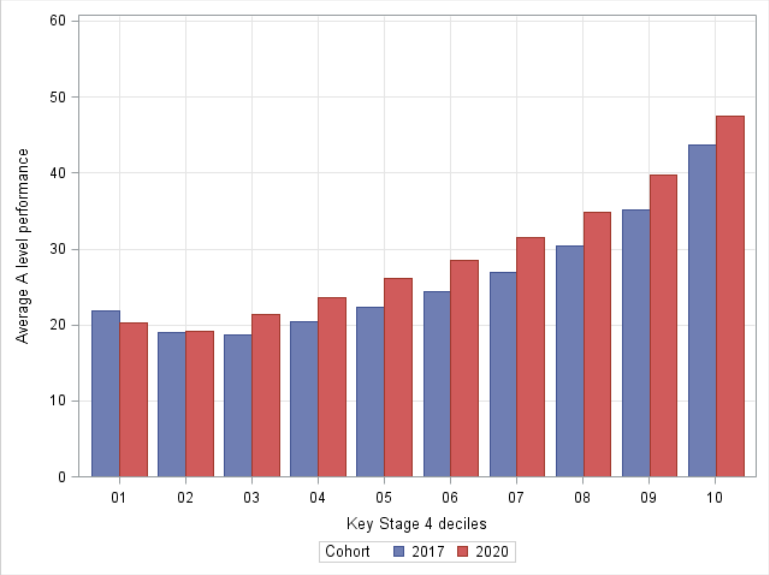

Figure 30: Average performance in A level qualifications ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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).

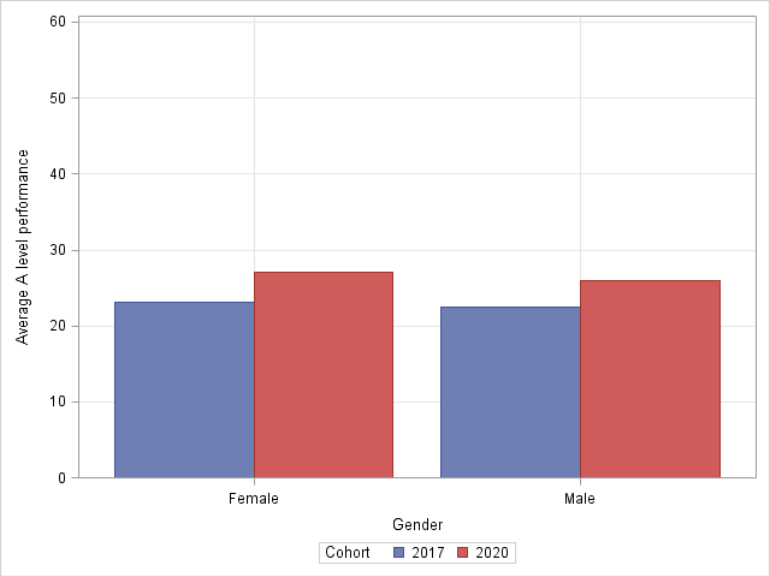

Figure 31: Average performance in A level qualifications ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

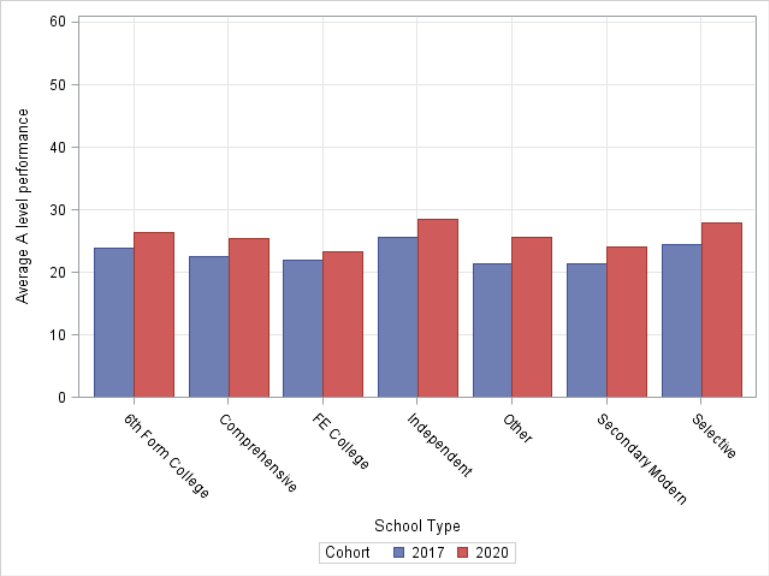

Figure 32: Average performance in A level qualifications ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

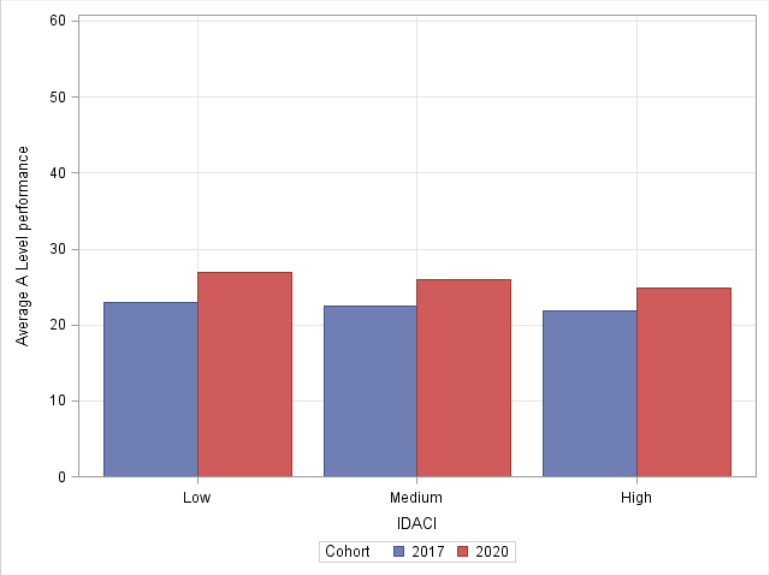

Figure 33: Average performance in A level qualifications ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

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[15].

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

[15] 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 (2017 KS4 cohort)	2022 (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 (2017 KS4 cohort)		2022 (2020 KS4 cohort)		Difference 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 (2017 KS4 cohort)		2022 (2020 KS4 cohort)		Difference 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.

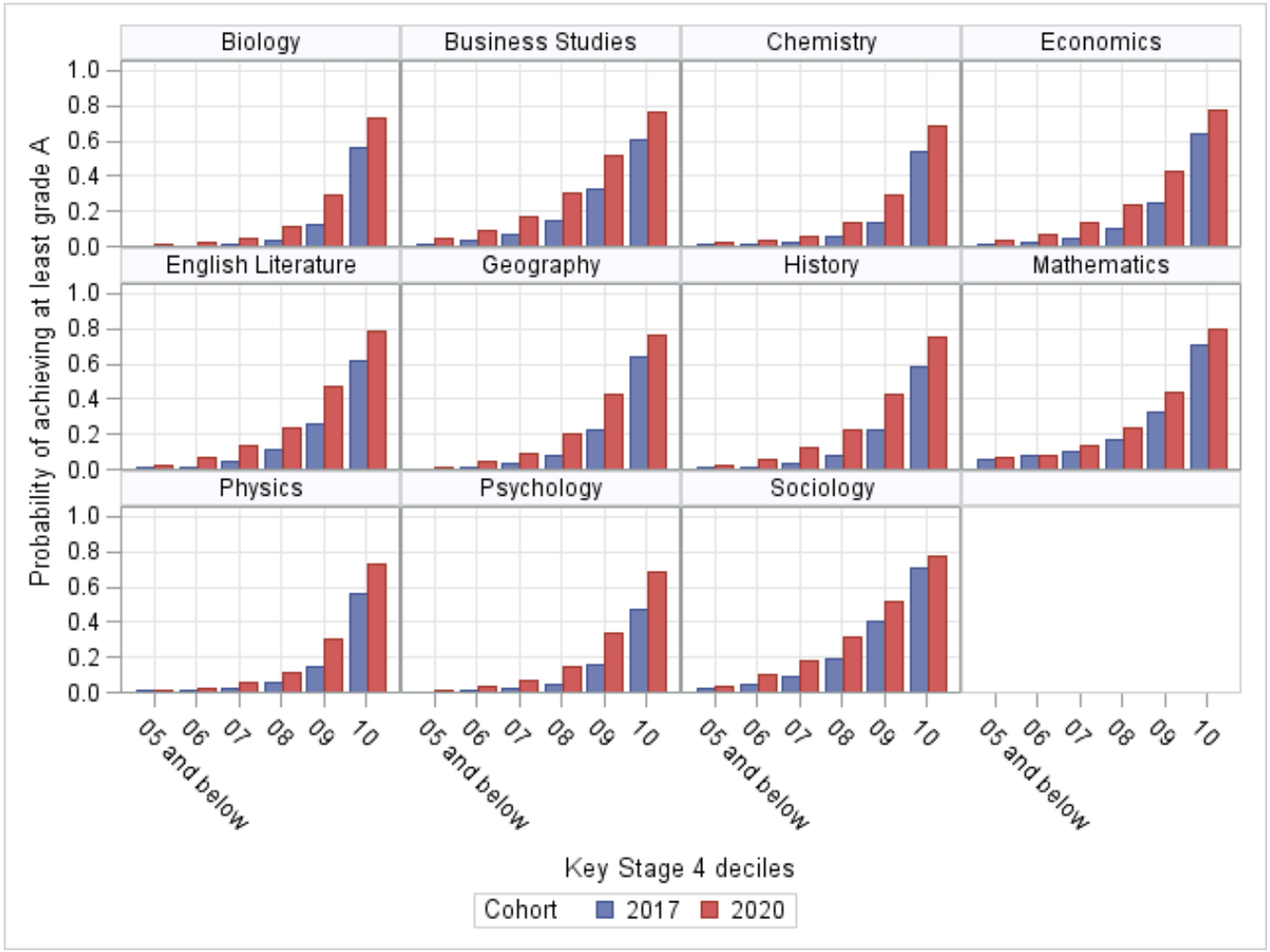

Figure 34: Probability of achieving at least grade A at A level by prior attainment at Key Stage 4 in each A level subject (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White)

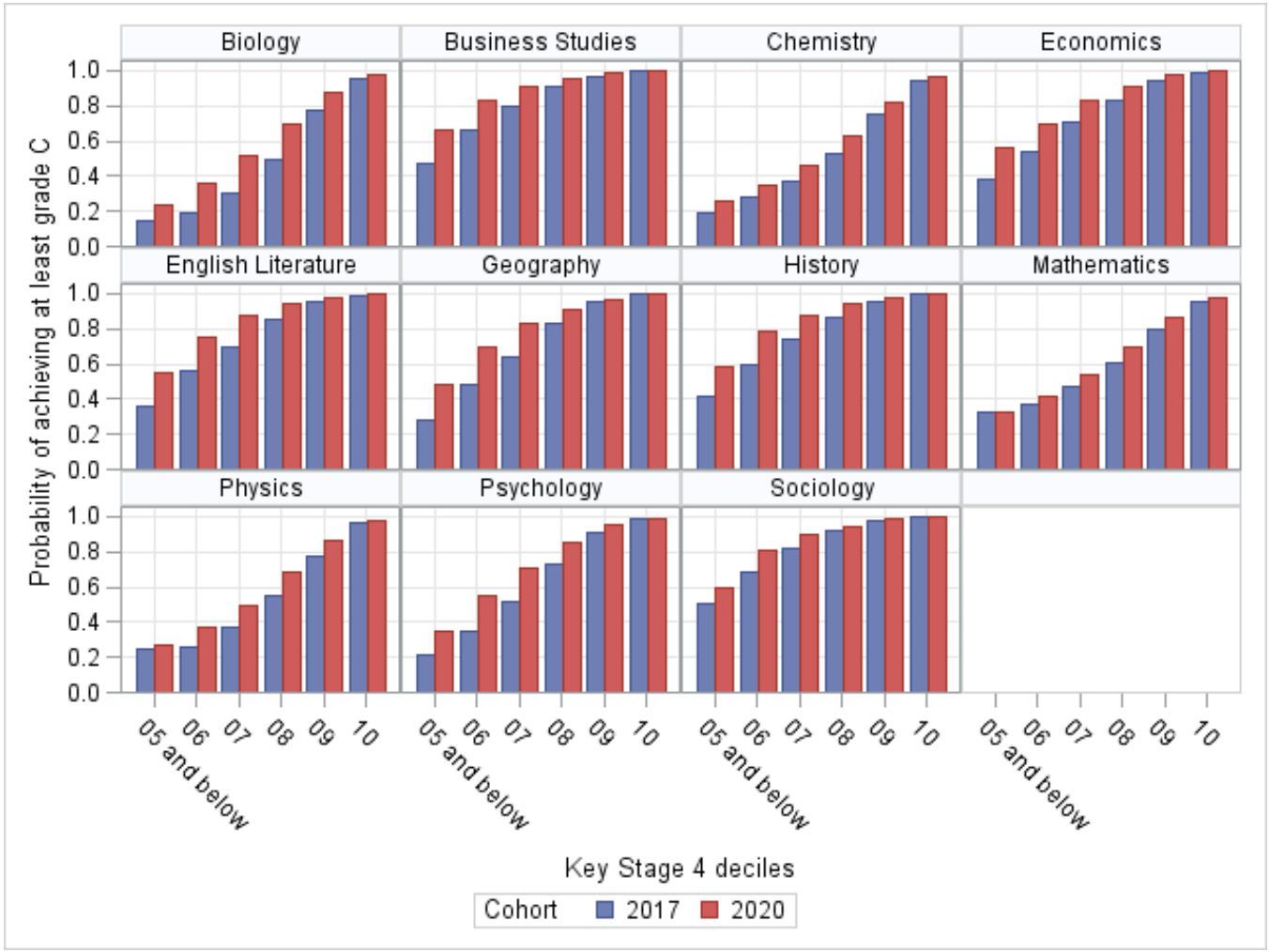

Figure 35: Probability of achieving at least grade C at A level by prior attainment at Key Stage 4 in each A level subject (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White)

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[16]. 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 2020 – 2017
	N	% (out of KS4 cohort)	N	% (out of 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
Key Stage 4 candidates		*563577*		*598823*	

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.

[16] 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 2020 – 2017
		N (in KS4)	N (at least 30 L3 points)	% (at least 30 L3 points)	N (in KS4)	N (at least 30 L3 points)	% (at least 30 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 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 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 2020 – 2017
		N (in KS4)	N (at least 30 L3 points)	% (at least 30 L3 points)	N (in KS4)	N (at least 30 L3 points)	% (at least 30 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 2020 – 2017
		N (in KS4)	N (at least 50 L3 points)	% (at least 50 L3 points)	N (in KS4)	N (at least 50 L3 points)	% (at least 50 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 (Key Stage 4 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 (Key Stage 4 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 2020 – 2017
		N (in KS4)	N (at least 50 L3 points)	% (at least 50 L3 points)	N (in KS4)	N (at least 50 L3 points)	% (at least 50 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 percentages 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]	.	.	.

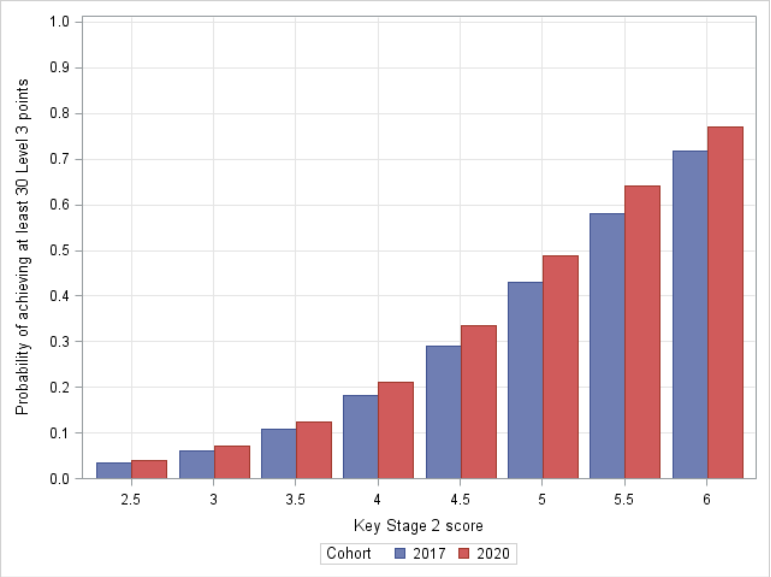

Figure 36: Achievement of at least 30 Level 3 points ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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.

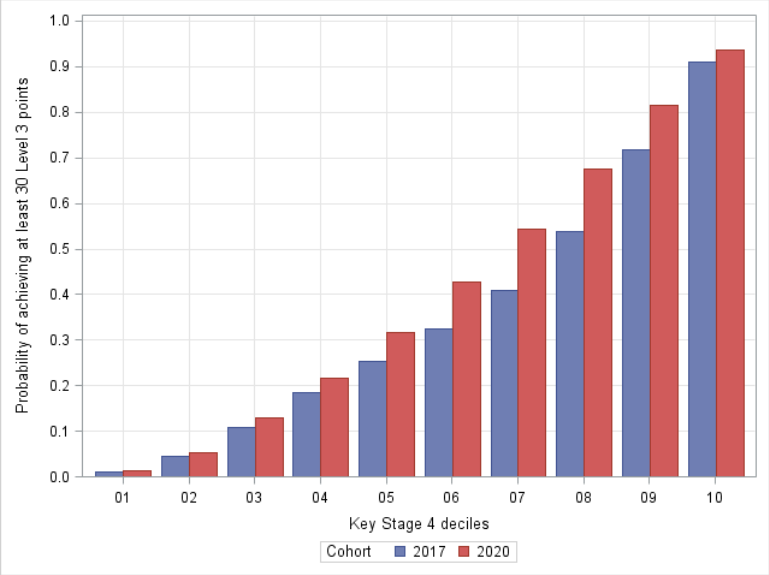

Figure 37: Achievement of at least 30 Level 3 points ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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).

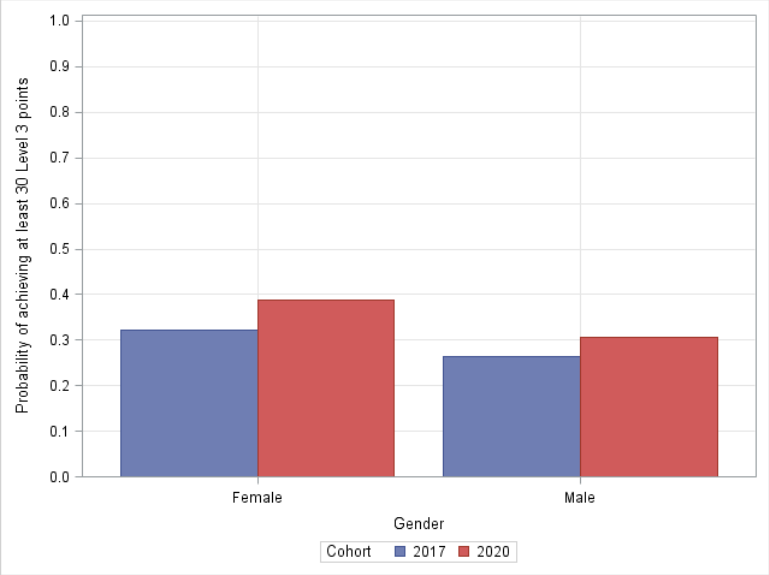

Figure 38: Achievement of at least 30 Level 3 points ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

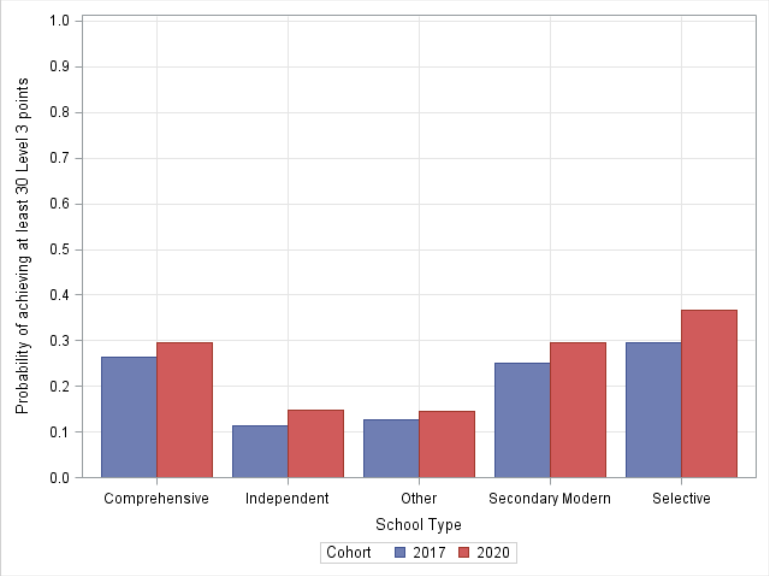

Figure 39: Achievement of at least 30 Level 3 points ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

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).

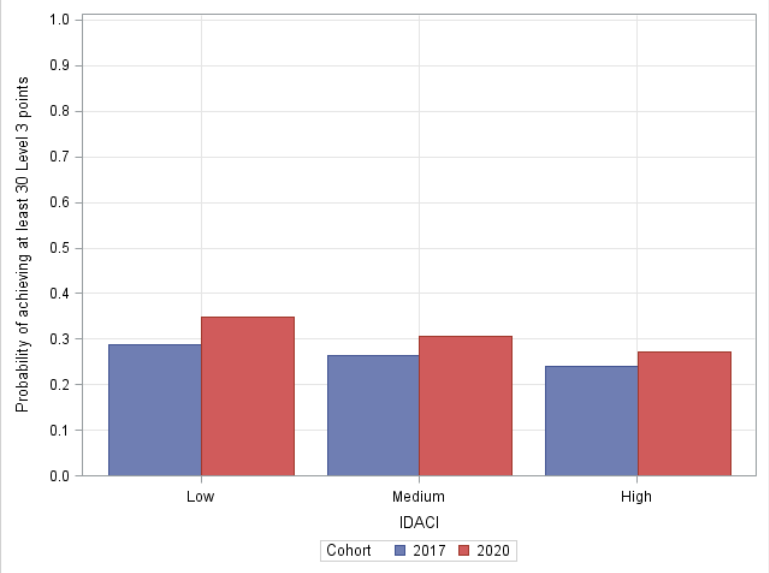

Figure 40: Achievement of at least 30 Level 3 points ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 05 decile)

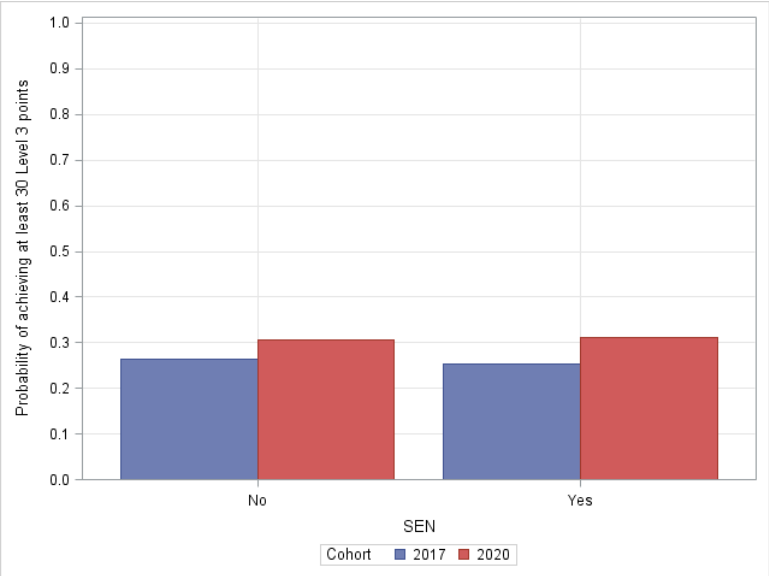

Figure 41: Achievement of at least 30 Level 3 points ~ SEN (Gender = Male; School Type = Comprehensive; Deprivation = Medium; Ethnicity = White Key Stage 4 prior attainment = 05 decile)

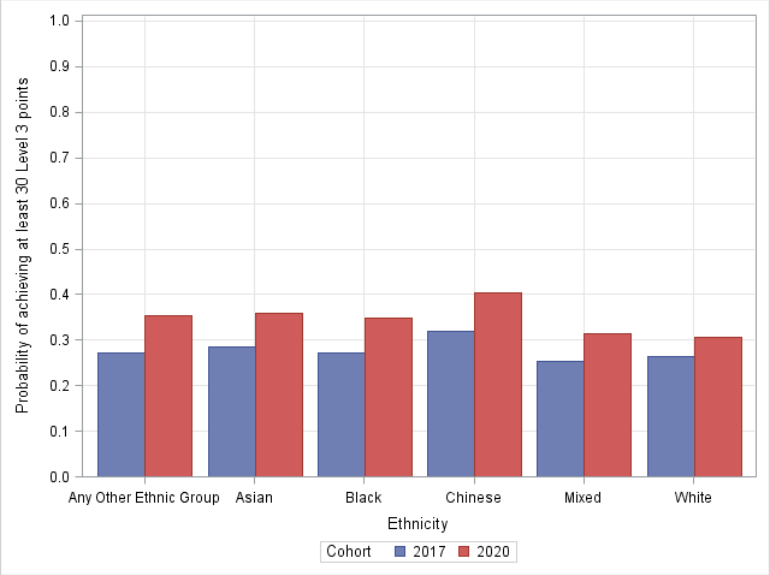

Figure 42: Achievement of at least 30 Level 3 points ~ ethnicity (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Key Stage 4 prior attainment = 05 decile)

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 that 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	% (of total quals)	N	% (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
Total number of qualifications		*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 2020 – 2017
	N	% (of students)	N	% (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
Key Stage 4 students		*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 2020 – 2017
	N	% (of students)	N	% (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
Key Stage 4 students		*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 2020 – 2017
	N	% (of students)	N	% (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
Key Stage 4 students		*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 * 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 * 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 * 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 * 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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 (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 (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 2020 – 2017
		N	Mean	Standard Deviation	N	Mean	Standard 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 (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 (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 2020 – 2017
		N	Mean	Standard Deviation	N	Mean	Standard 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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 (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 (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 2020 – 2017
		N (All)	N (achieving level)	% (achieving level)	N (All)	N (achieving level)	% (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 2020 – 2017
		N	Mean	Standard Deviation	N	Mean	Standard 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 (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 (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 2020 – 2017
		N	Mean	Standard Deviation	N	Mean	Standard 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	2017	2.295	0.080	<.0001
	FE College	2017	3.399	0.065	<.0001
	Independent	2017	-0.062	0.299	0.836
	Other	2017	-1.133	0.401	0.005
	Secondary Modern	2017	0.160	0.199	0.421
	Selective	2017	-0.415	0.101	<.0001
IDACI * Cohort [High, 2020]	1-Low	2017	-0.811	0.065	<.0001
	2-Medium	2017	-0.432	0.064	<.0001
SEN * Cohort [No, 2020	Yes	2017	-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 [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 [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 [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 [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 [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 [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]	.	.	

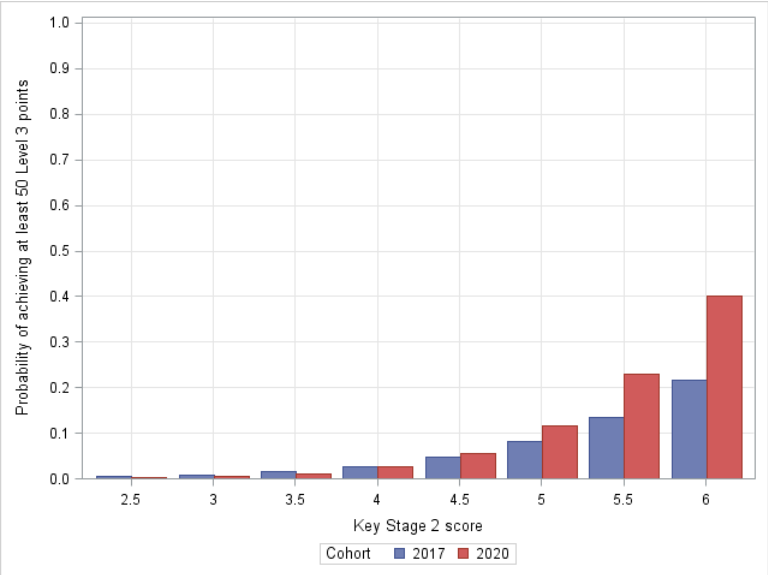

Figure L1: Achievement of at least 50 Level 3 points ~ Key Stage 2 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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

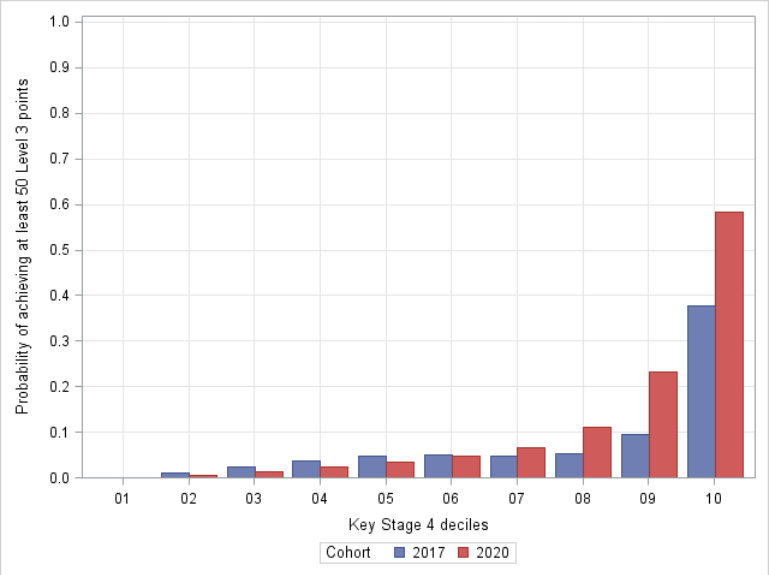

Figure L2: Achievement of at least 30 Level 3 points ~ Key Stage 4 prior attainment (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; School Type = Comprehensive)

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 [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 [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

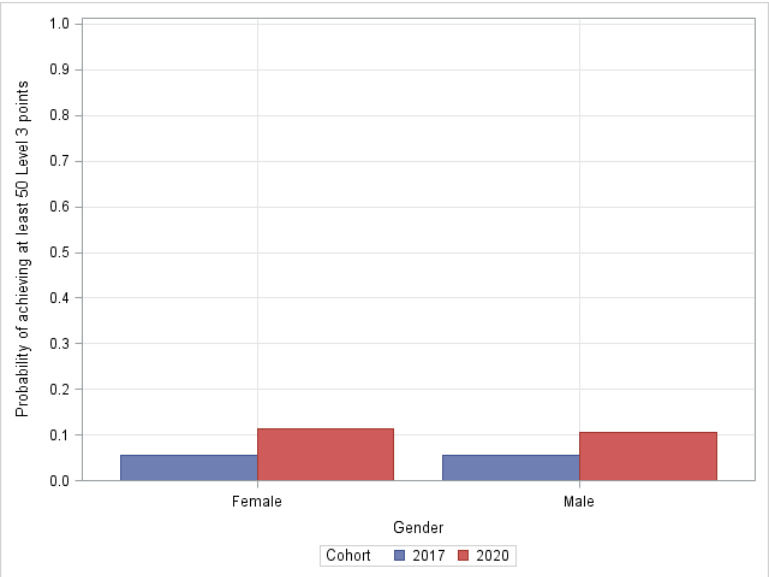

Figure L3: Achievement of at least 50 Level 3 points ~ gender (School Type = Comprehensive; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 08 decile)

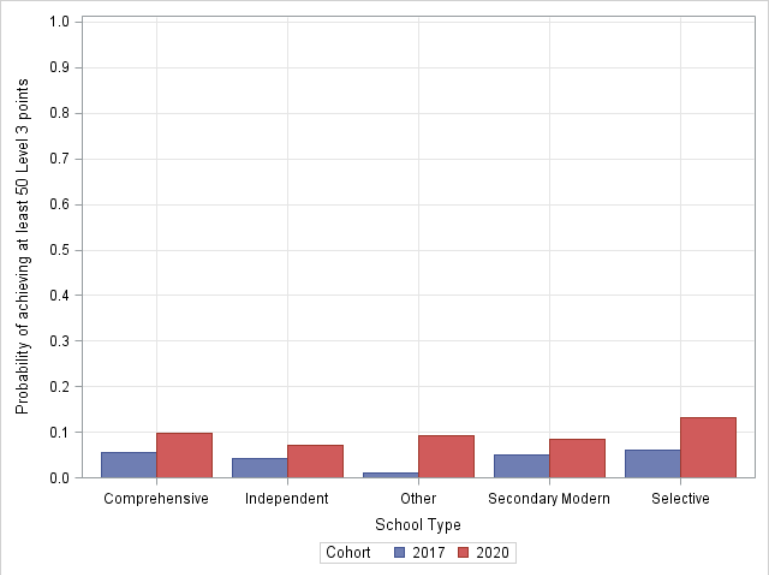

Figure L4: Achievement of at least 550 Level 3 points ~ school type (Gender = Male; Deprivation = Medium; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 08 decile)

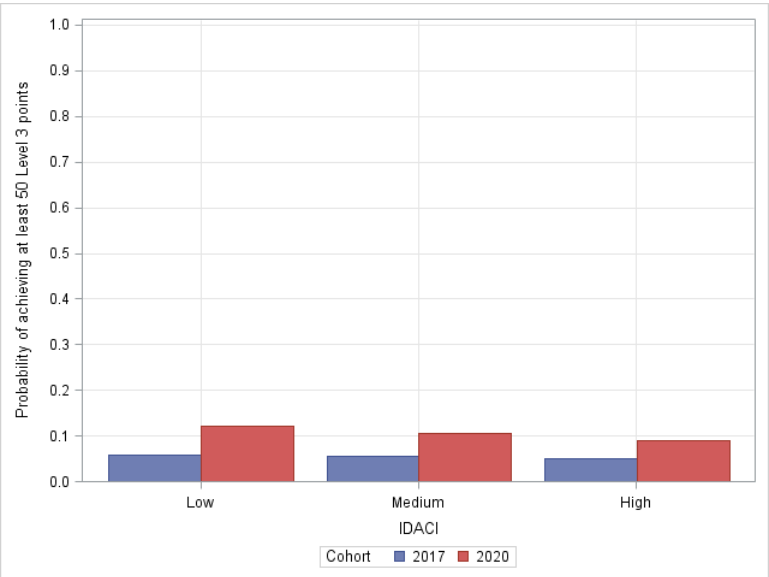

Figure L5: Achievement of at least 50 Level 3 points ~ deprivation (Gender = Male; School Type = Comprehensive; SEN = No; Ethnicity = White; Key Stage 4 prior attainment = 08 decile)

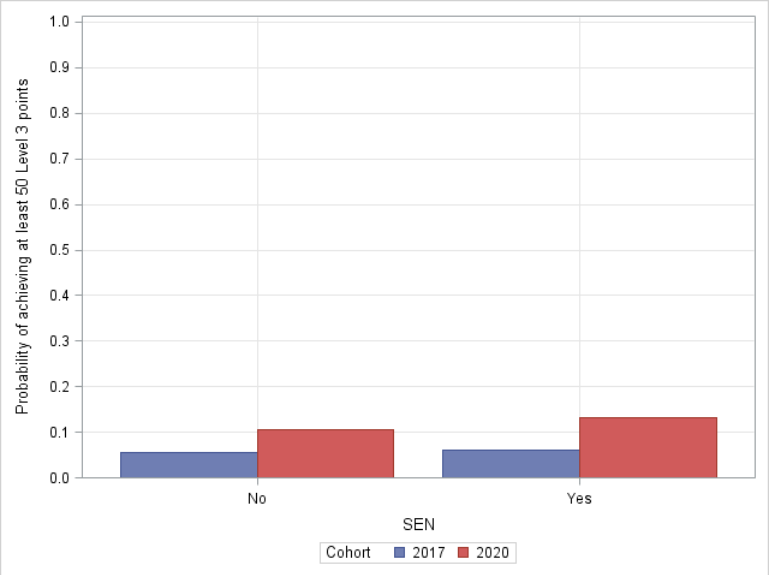

Figure L6: Achievement of at least 50 Level 3 points ~ SEN (Gender = Male; School Type = Comprehensive; Deprivation = Medium; Ethnicity = White Key Stage 4 prior attainment = 08 decile)

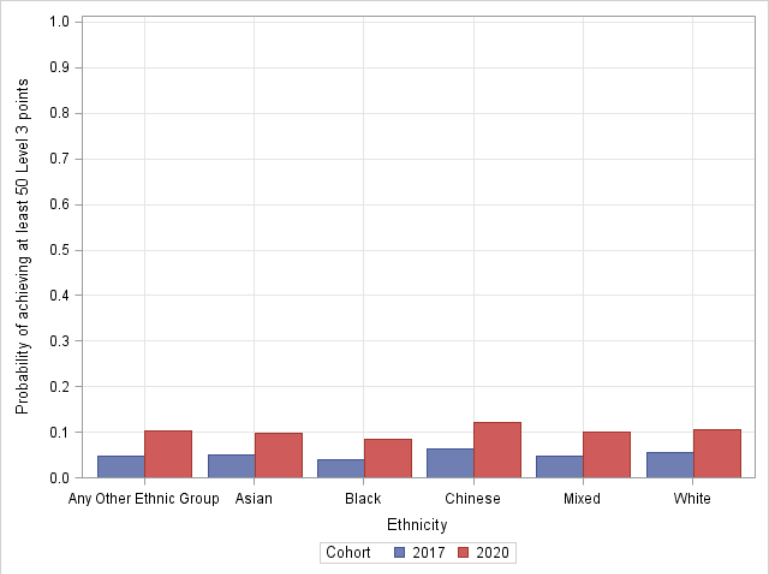

Figure L7: Achievement of at least 50 Level 3 points ~ ethnicity (Gender = Male; School Type = Comprehensive; Deprivation = Medium; SEN = No; Key Stage 4 prior attainment = 08 decile)