Education Endowment Foundation

Impact of school closures in Key Stage 1 on attainment and social skills of pupils in Year 4 and Year 5 in academic year 2023/2024

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NFER National Foundation for Educational Research

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Contents

About the evaluator

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Executive summary

About the study

This longitudinal observational study follows a group of children who were at the very start of primary school during the Covid-19 partial school closures in 2020. The study aims to understand the long-term impact of Covid-19 and closures on pupils' attainment and social skills. The youngest children in this study had not completed their Reception year before the first set of partial school closures. Similarly, Year 1 children moving into Year 2 missed much of their first year of formal education. The study builds on findings from that 'baseline' study (Rose *et al.,* 2021) and tracks the same pupils for a further three years, once in 2021/2022 when they were in Year 2 and Year 3, in 2022/2023 when they were in Year 3 and Year 4, and again in 2023/2024 when they were in Year 4 and Year 5. This report covers the results in the school year of 2023/2024.

The research aims to estimate the 'Covid-19 gap' and the 'disadvantage gap' and track changes in these over time to gain an understanding of how quickly pupils' attainment catches up to where it might be expected to be, had the pandemic not happened.

Attainment outcomes of pupils in Year 4 and Year 5 in Spring Term 2024, measured by the National Foundation for Educational Research (NFER) assessments of reading and mathematics, are compared with attainment outcomes of a representative sample of pupils assessed in 2017 before the pandemic. Additionally, the study utilises a repeated measures design such that the reading and mathematics outcomes from pupils in Year 4 and Year 5 are compared with their outcomes from the three previous academic years of the study, when the same pupils were in Year 1 and Year 2 in 2021, Year 2 and Year 3 in 2022, and Year 3 and Year 4 in 2023.

In the original study in 2020/2021, 168 schools participated. However, many schools withdrew after the first year of the study, due to continuing Covid-19-related pressures in schools, resulting in 87 schools participating in 2021/2022 and 82 schools participating in 2022/2023. In 2023/2024, a total of 4,765 pupils in Year 4 (2,374 pupils) and Year 5 (2,391 pupils) in 59 schools were followed up. In each year, the analysis was weighted to school-level Key Stage 2 performance to ensure that the retained sample remained representative and comparable to the standardisation sample and the general population in terms of attainment. In addition to measuring reading and mathematics attainment, teachers completed a measure of social skills for a subsample of 12 pupils within each year group in each school. Contextual information about the challenges facing schools, school practices, and any support activities being undertaken with the pupils was also collected through a survey of 51 headteachers.

Key terminology

- **Covid-19 gap**: The difference between the mean scores of pupils in the 2023/2024 academic year and those of pre-pandemic samples.
- **Disadvantage gap**: The difference between the mean scores of pupils eligible for free school meals (FSM) and those of their peers not eligible for FSM.
- **Very low-attaining pupils**: Pupils who score fewer raw marks than that required to be awarded a standardised score.

Findings

Table 1 highlights the key findings from the study relating to the impact of partial school closures on the Covid-19 attainment gap, disadvantage gap, children's social skills, and schools' strategies to support pupils.

Table 1: Summary of study findings

Research question	Finding
1. To what extent does pupils' attainment in reading and mathematics recover by spring 2024?	Overall, the Covid-19 gap appears to have closed for Year 4 and Year 5 pupils on average in both reading and mathematics. Indeed, in Year 4 mathematics and Year 5 reading there was no significant difference in pupils' performance compared with the 2017 pre-pandemic standardisation samples (ES = 0.055, and 0.002, respectively) i.e. their reading and mathematics was at a similar level to where we would expect them to be. Moreover, in Year 4 reading, pupils were two months ahead although this was not statistically significant (ES = 0.110) and in Year 5 mathematics pupils were three months ahead of expectations compared with the 2017 pre-pandemic standardisation sample (ES = 0.218). In each of reading and mathematics, for both Year 4 and Year 5, the Covid-19 gap significantly reduced from spring 2021 to spring 2024 (i.e. the repeated measures analysis showed a constant improvement in scores between spring 2021 and spring 2024).
2. To what extent do different groups recover by spring 2024; in particular, how is the gap between disadvantaged children and their peers changing over time?	The disadvantage gaps for reading in spring 2024 for Year 4 and Year 5 are around seven and six months' progress, respectively. For Year 4 pupils' reading, there has been a reduction in the disadvantage gap since we measured it in spring 2021. For Year 5 pupils' reading, although disadvantaged pupils scored significantly higher in spring 2024 than in spring 2021, the change in scores was at the same rate as for pupils not eligible for FSM, i.e. the gap has not decreased since spring 2021. The disadvantage gaps for mathematics in spring 2024 for Year 4 and Year 5 are both around seven months' progress. For Year 4 pupils' mathematics, there has been a reduction in the disadvantage gap since we measured it in spring 2021. For Year 5 pupils' mathematics, although disadvantaged pupils scored significantly higher in spring 2024 than in spring 2021, the change in scores was at the same rate as for pupils not eligible for FSM, i.e. the gap has not decreased since spring 2021. Overall, these disadvantage gaps remain wider than gaps reported pre-pandemic (for example, see Rose et al., 2021).
3. What practices have been adopted and what learning opportunities have been provided by schools to help pupils catch up; and what challenges have been faced by staff?	Whilst Covid-specific disruption, such as Covid-related absences, has reduced in schools this year, the longer-term fallout of the pandemic is evident in the challenges reported by schools. The most common were absences, difficulties obtaining external support for pupils, and increased staff workload relating to pupil behaviour and wellbeing (both of the latter more so than in previous years of this study). Small group work and staff redeployment are still commonly used strategies for learning recovery, along with one to one catch up, although less so than last year. Schools are also frequently using small group wellbeing sessions and external support to improve pupil wellbeing. The majority of schools felt that parents were as capable of providing support in 2023/2024 as they had been in the previous academic year. This was also the case for parents' willingness to provide support. Nearly all schools were prioritising additional support for very low-attaining pupils, and two-thirds (fewer than last year) were doing so for disadvantaged pupils.
4. Are social skills at or behind expectations, and to what extent do they improve between subsequent academic years?	On average, the social maturity of pupils in 2023/2024 was not significantly different to those expected of children of the same age had the pandemic not happened. Most pupils were broadly average in terms of their social maturity, although disadvantaged pupils, and boys, were assessed as having significantly lower social skills than non-disadvantaged pupils and girls, respectively.

Implications for schools and teachers

The results of the study indicate that the negative impact of school closures seen in the immediate years after the pandemic has started to wane for the year groups we are following in this study. Four years on from the first school closures, the positive findings (i.e. closing of gaps on average and the constant improvement of scores from spring 2021 through to spring 2024) in reading and mathematics for both Year 4 and Year 5 pupils, suggest that the strategies, which schools have been putting in place to support recovery are reducing the impact of the disruption to pupils' learning.

However, our study does not collect the context in schools pre-pandemic, and so there may be other factors at play that we have not captured that are contributing to these trends.

Our study continues to raise some concerns about the very lowest attainers, in particular this year in Year 5 reading—the proportion is twice that in the pre-pandemic sample. Last year (2022/2023) we were particularly concerned about the proportion of low attainers in Year 3 reading. Whilst we have not observed this in our data this year (for what are now the Year 4 pupils), we saw a higher proportion of pupils deemed as 'unable to access the curriculum' and therefore they did not take the relevant assessments in 2023/2024. Overall, 5.7% of Year 5 and 3.6% of Year 4 pupils were indicated as such, which is far higher than the national percentage (around 1%) indicated on the Department for Education (DfE) Key Stage 2 attainment reports (GOV.UK, 2024). However, the NFER assessments are optional for schools and as many of these pupils had low scores (less than 70) in the 2022/2023 assessments, it is feasible that their schools decided not to ask these low-attaining pupils to undertake the tests in 2023/2024, especially if it was likely to impact their wellbeing. This may be masking a tail of low attainment, not observed this year, but potentially still an issue. Indeed, almost all schools were still highlighting the importance of focusing on low attainers in their recovery work this year. In the coming year, schools may want to continue their focus on reading and mathematics support, and especially in schools in disadvantaged areas that are more likely to have higher proportions of lower performing pupils (Julius and Ghosh, 2022).

In addition to this, a substantial disadvantage gap remains despite both disadvantaged and non-disadvantaged pupils increasing their scores when compared to the 2021 cohort. We observed a reduction in the disadvantage gap in Year 4 reading and Year 4 mathematics since we first measured it in spring 2021, but we did not see this reduction with the Year 5 cohort. Schools in our study were focusing additional support on disadvantaged pupils, although less so this year compared with last year. It was clear from the first year of this study that disadvantaged pupils had been worse affected by the disruption caused by the pandemic; disadvantage gaps were wider than those reported pre-pandemic according to Key Stage 1 data (Rose *et al*., 2021). The gap remains wide, suggesting that continued targeted approaches are needed in order to address closing this gap.

Whilst our study again did not suggest that pupils' social maturity *per se* was an issue, the main challenges reported by schools in the 2023/2024 academic year continue to be related to pupils' behaviour and wellbeing including teachers' workload in supporting this. Schools also have difficulties obtaining external support for pupils, and this year report strong challenges with pupil absences and engagement from parents to provide support. Tackling these challenges to pupils' learning, engagement, and wellbeing may require a new approach, away from 'learning recovery' directly to a more holistic approach within and beyond the school community.

Implications for policymakers

The continued signs of recovery seen in Year 4 and Year 5 reading and mathematics suggest that with long-term support for pupils, learning recovery is possible. However, new areas of difficulty are presenting challenges for schools, especially pupil attendance and accessing appropriate external support. This study highlights the importance of policymakers ensuring that schools have the appropriate resources to identify not only learning recovery needs, but the wider support that pupils need, including around wellbeing, attendance, and behaviour. It also suggests there is a continued issue with very low attainment (given the proportions in our study that did not take the assessments); supporting schools with addressing learning for what appears to be a very wide range of abilities post-pandemic will be important. Our evidence suggests that catch-up support seems to be having an effect on pupils in the year groups we have studied, but that the focus should be on very low-attaining pupils and closing the disadvantage gap. It is essential that schools are both adequately funded and supported, including on issues wider than academic learning, to ensure that the required long-term support can be delivered.

Implications for future research

This current study shows some promising closing of the gaps in attainment in the year groups we have studied compared with pupils before the pandemic. However, our study focused on two specific year groups; other year groups may not yet be recovering at the same rate. Indeed, the wider evidence is mixed and not yet conclusive about recovery across all subjects and year groups (Andrews, 2023; Andrews, 2024; Kennedy and Strietholt, 2023). There is a case for further research particularly for younger year groups who were babies and pre-schoolers prior to the pandemic, and may have missed out on early learning, language, and socialisation opportunities (National Institute of Economic and Social Research, 2022; Mulkey, Bearer, and Molloy, 2023; Clarence-Smith, 2024; Montacute and Holt-White, n.d.). Continued

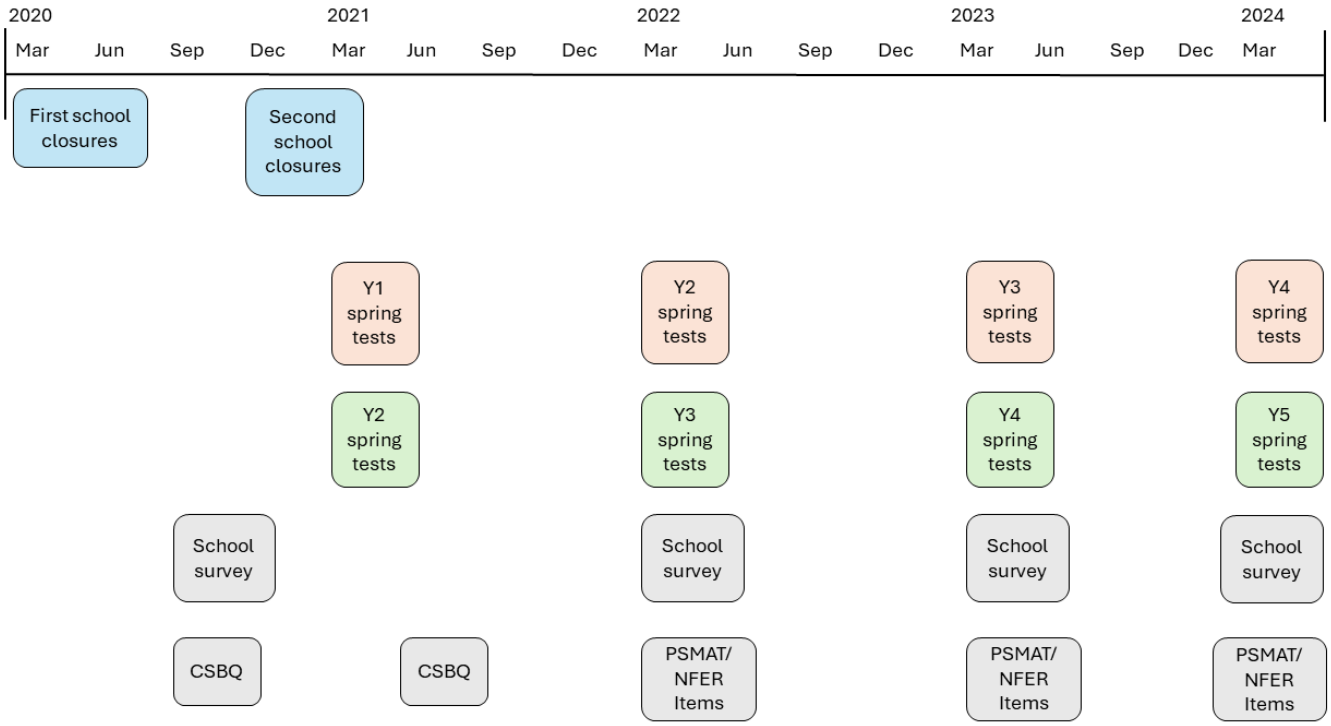
research into the longer-term effects of the pandemic on children's learning and development, and crucially how schools and other agencies can support them, is vital and should be a policy priority.

Introduction

Background and policy relevance

In this report, we analyse the attainment and social skills of pupils in Year 4 and Year 5 in the 2023/2024 academic year; the youngest school-aged children affected by the pandemic. This longitudinal study, with a baseline (2020/2021) established during the pandemic and comparisons to pre-pandemic standardisation samples, aims to understand how quickly pupils catch up to the level that might be expected, had the pandemic not happened. The pupils in the sample were in Reception and Year 1 when schools in England were closed to most children from March 2020 until June 2020, and in Year 1 and Year 2 when schools were closed again to most pupils from January 2021 until March 2021. Figure 1 shows the timeline of events for this study.

Figure 1: Timeline of school closures and data collections for analysis in this longitudinal study



Note that during the partial schools' closures, schools were open to key workers and vulnerable children. CSBQ=Child Self-regulation and Behaviour Questionnaire; NFER=National Foundation for Educational Research; PSMAT=Peer Social Maturity Scale; Y=Year group.

As a result of the disruption caused by the pandemic, pupils' opportunities for formal learning and social interaction were reduced for a significant part of two school years. The National Foundation for Educational Research (NFER) was appointed by the Education Endowment Foundation (EEF) to conduct research on the impact of Covid-19 school closures and subsequent support strategies on attainment and socio-emotional wellbeing in Key Stage 1 during the 2020/2021 academic year (Rose *et al.*, 2021). This baseline study found that the disruption to Key Stage 1 pupils' education during the pandemic resulted in significantly lower achievement in reading and mathematics compared with pupils before the pandemic. In addition, the partial closures of schools led to an increase in the disadvantage gap (i.e. the gap between pupils eligible for free school meals [FSM] and their peers). However, there was some evidence of the first steps of recovery in mathematics toward the end of the 2020/2021 academic year (Rose *et al.*, 2021). In the second year of the study, we found that whilst pupils had on average caught up in mathematics in Year 2 and Year 3, and in reading in Year 3, the negative impact of school closures on learning was still evident in Year 2 pupils' reading (Wheater *et al.*, 2022). In addition, the disadvantage gap remained wide, and there was a higher proportion of very low-attaining pupils who were unable to access the assessments effectively in both subjects and both year groups (compared to the pre-pandemic standardisation sample). In the third year of the study (2022/2023), we found that on average both Year 3 and Year 4 pupils had caught up in both reading and mathematics, compared to where we would have expected them

to be before the pandemic. Indeed, Year 3 pupils were, on average, two months ahead in mathematics, and Year 4 pupils were three months ahead in reading. However, the number of very low-attaining younger readers (Year 3) in the typical classroom continued to be higher than pre-pandemic levels; and the attainment gap between disadvantaged pupils and their peers continued to be larger than pre-pandemic levels, although there were some signs of improvement in mathematics.

Despite signs of some recovery, the evidence was mixed and indicated that there were still concerns by age and subject. Our study (up to 2022/2023) and other studies on the impact of Covid-19 on pupil attainment and the disadvantage gap indicate that pupils' learning recovery in reading and in mathematics at primary schools remains a concern, and that the disadvantage gap remains wide (Rose *et al.*, 2021; EEF, 2022a; Twist, Jones, and Treleaven, 2022; Wheater *et al.*, 2022; Andrews, 2023). In the immediate year after the pandemic, evidence suggested that for pupils in Key Stage 1, their reading attainment was particularly affected compared with attainment before the pandemic (Blainey and Hannay, 2021; Rose *et al.*, 2021); whereas mathematics attainment was most affected in Key Stage 2 pupils (Blainey and Hannay, 2021; Renaissance Learning and Education Policy Institute, 2021) with evidence also of a decrease in writing attainment at Key Stage 2 (Christodoulou, 2021). Indeed, the percentage of pupils meeting the expected standard in Key Stage 1 teacher assessments in 2021/2022 were all down from 2019 levels (i.e. in the phonics screening check, reading, writing, and mathematics) (DfE, 2022a); and Key Stage 2 headline attainment results from 2021/2022 showed results staying below pre-pandemic levels (DfE, 2022b).

Four years on from the first school closures, the evidence on recovery remains mixed. The latest Key Stage 2 results (DfE, 2024) indicate that overall there are good signs of learning recovery: 73% of pupils met the expected standards in mathematics, unchanged from 2023, but up from 71% in 2022, but still below the 79% in pre-pandemic standards in 2019; and 74% of pupils met the expected standard in reading, up from 73% in 2023 and in line with pre-pandemic standards (where 73% met the expected standard in reading in 2019). However, there is also evidence that primary school pupils have not yet recovered in mathematics (with average scores below pre-pandemic levels) (Andrews, 2023) and that there are more lower attainers in reading (Andrews, 2023). Follow-on analysis to the report by Andrews (2023) (Andrews, 2024; The Sutton Trust, 2024) published in March 2024 further explored the attainment gaps. They reported that for reading, the primary score was very slightly higher than pre-pandemic (less than one month) and for primary mathematics the gap was two months lower than pre-pandemic. We note that other studies use different approaches and measures to ours. Andrews (2023, 2024) uses a different sample of schools, different year groups, different analyses, and different effect size converters to our current study. More widely, an international review of trend data from more than 300,000 pupils in 29 countries found a substantial negative effect of school closures on student reading achievement (Kennedy and Strietholt, 2023). Although there are differences by country: in England, testing in Year 5 in 2022 showed no difference from pre-pandemic levels (2016 PIRLS data) (i.e. no impact of the pandemic) (ibid.). This report of our findings for 2023/2024 provides further findings for this growing body of evidence.

The pandemic has affected disadvantaged pupils disproportionately; the disadvantage gap—wide before the pandemic—has widened further and remains wide (Blainey and Hannay, 2021; Rose *et al.*, 2021; Rose *et al.,* 2023; Wheater *et al.*, 2022; Andrews, 2023). Two follow-on reports to the report by Andrews (2023) (Andrews, 2024; The Sutton Trust, 2024) published in March 2024 explored the disadvantage gaps. They reported that the primary school disadvantage gap for reading had widened to 12.7 months, and for mathematics had widened to 8.7 months. That study uses a different definition of disadvantage to ours: we use FSM status in the current year, whereas Andrews (2023) uses a persistently disadvantaged definition of 'disadvantaged at least 80%' of their time in school (where we might expect lower attainment for this group so perhaps wider gaps than we report are to be expected); they also use different analyses and a different effect size converter. The international review by Kennedy and Strietholt (2023) particularly highlighted that the learning 'loss' was most pronounced for socio-economically disadvantaged pupils and those without home computer access. (Weidmann *et al.*, 2021) also found a widening of the disadvantage gap in mathematics, but not reading in Key Stage 2. There has also been some discussion in the research about the changing characteristics of pupil disadvantage, related, for example, to changes in family circumstances in light of the pandemic. A study by Julius and Ghosh (2022), found that more children (some 300,000) were being drawn into FSM status between January 2000 and January 2021 (e.g. through roll out of Universal Credit, with the trend amplified by the pandemic); and that the pupils who became newly eligible for FSM during the pandemic were disproportionately drawn from more disadvantaged areas. These trends are important to be aware of, as our current study explores results by FSM status. We use pre-pandemic FSM status to track the same pupils over time, and within-year FSM status, obtained from the schools, to explore the disadvantage gap in any given particular academic year. We discuss this further in this report, in terms of tracking disadvantaged pupils' attainment over time.

The 2021/2022 academic year continued to present challenges for schools with high levels of pupil and staff absences persisting (Morton, 2022), indicating that the 2021/2022 academic year remained unlike the pre-pandemic school experience for children in education. In 2022/2023, whilst the very high levels of pupil and staff absence seen previously appear to have much reduced, behavioural and wellbeing issues were now more commonly reported by schools (Rose *et al.*, 2023) suggesting that school life for teachers and pupils had not yet returned to a pre-pandemic experience.

The children involved in this longitudinal study missed an important time at school, when they would have learned about how a school works including a stage when phonics is a focus of learning (as part of the Early Years Foundation Stage Framework and Key Stage 1 national curriculum) and covered rapidly; and they continued to have their education disrupted due to Covid-disruption in 2021/2022 but perhaps less so in 2022/2023.

This current study continues to track the progress of pupils as they moved into Year 4 and Year 5, in 2023/2024, alongside findings about their schools' contexts and their social skills. The cross-sectional analysis compares the current Spring Term 2024 cohort with the standardisation sample. The repeated measures analysis uses the assessment data for each cohort of children in Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024.

Research objectives

The longitudinal study is based on a combination of quantitative research looking at pupil attainment derived from NFER assessments completed in Spring Term 2024, supplemented with evidence of school practices (collected through a headteacher survey) and teachers' perspectives of pupils' social skills (teacher-scored measure of a subsample of pupils). The same pupils were assessed in Spring Term 2021 when they were in Year 1 and Year 2, Spring Term 2022 when they were in Year 2 and Year 3, and Spring Term 2023 when they were in Year 3 and Year 4.

The focus of this report is the measurement of two attainment gaps:

- The 'Covid-19 gap': The extent of the impact on pupils' attainment in reading and mathematics by partial school closures. This is measured by the difference between pupil performance in Spring Term 2024 compared with the performance of the pre-Covid-19 standardisation sample of the equivalent year group.

- The 'disadvantage gap': The extent to which pupils eligible for FSM show lower reading and mathematics performance compared to their peers who are not eligible. This is measured by the difference in attainment between pupils who are eligible and not eligible for FSM. The analysis in this report compares the gap in Spring Term 2024 with Spring Term 2021, Spring Term 2022, and Spring Term 2023.

This study provides a deeper understanding of the long-term impact of school closures on pupil attainment, and the support this cohort needs.

Research questions

The study seeks to answer the following four research questions in relation to assessments taken by pupils in Spring Term 2024:

1. To what extent does pupils' attainment in reading and mathematics recover by spring 2024?
2. To what extent do different groups recover by spring 2024; in particular, how is the gap between disadvantaged children and their peers changing over time?
3. What practices have been adopted and what learning opportunities have been provided by schools to help pupils catch up; and what challenges have been faced by staff?
4. Are social skills at or behind expectations, and to what extent do they improve between subsequent academic years?

Unlike previous years of this study, the 2023/2024 study does not explore pupils' performance in the different domains within the subjects and any differences by pupil characteristics (i.e. gender and FSM eligibility). In previous years of this study, the domain analysis showed continued similar findings, with pupils finding explaining the meaning of words in context challenging in reading and concepts of geometry and statistics challenging in mathematics. For this reason, along with commissioning budget considerations, this research question does not form part of the study in 2023/2024.

Ethics and data protection

This research project received ethical approval during NFER's standard project start-up procedures and from the Code of Practice Committee. The study was conducted following NFER's data protection principles. NFER was responsible for all communications with schools, data collection, and analysis of the data. Further details are in Appendix A.

The legal basis for processing personal data is covered by the General Data Protection Regulation (GDPR) Article 6 (1) (f). We carried out a legitimate interest assessment, which demonstrated that the research fulfils one of our core business purposes (undertaking research, evaluation, and information activities). The research project has broader societal benefits and will contribute to improving the lives of learners by identifying if any pupil-level factors are associated with the degree of impact of the Covid-19 school closures on pupils' attainment and their recovery over the academic year.

Methods

Study design

This study uses a cross-sectional and repeated measures design, which follows a sample of pupils who have been affected by Covid-19 partial school closures. It compares their reading and mathematics attainment outcomes with a representative sample assessed before Covid-19 over four academic years between 2021 and 2024, as well as looking at the change over this time period. This report focuses on the assessment data from all four years.

NFER assessment data for reading and mathematics was collected for Year 1 and Year 2 pupils in Spring Term 2021, for pupils in Year 2 and Year 3 in the same schools in Spring Term 2022, for pupils in Year 3 and Year 4 in Spring Term 2023, and for pupils in Year 4 and Year 5 in Spring Term 2024. These were compared against a standardisation sample from before the Covid-19 pandemic to estimate the 'Covid-gap'. A standardisation sample is a large group of individuals that is representative of the entire population of potential assessment takers.[1] The performance of this group on the assessment being standardised is used to estimate the average performance level and its distribution. Any difference between the scores in the 2023/2024 academic year and the standardisation sample for that assessment is the Covid-19 gap and will be referred to as such throughout the report. The standardisations were carried out in 2017 for both Year 4 and Year 5 Spring Term assessments (see previous reports for results when the study cohort was in Year 1, Year 2, and Year 3). The standardisation sample was restricted to state schools, and independent schools were removed since independent schools were not included in the sample for this study. More information about the assessments used (including their duration and number of marks available) can be found in Appendix C.

Further analysis compared the scores of pupils eligible for FSM, and those not eligible, to determine the disadvantage gap between these two groups in 2023/2024. Our estimates of the disadvantage gap for each assessment are contextualised with a best estimate for before the pandemic (as FSM identifiers are not available for the standardisation sample). We can then estimate the effect of the pandemic on the size of this gap.

In addition to comparing scores obtained in 2024 with the standardisation sample of 2017 (Covid-19 gap) and comparing 2024 FSM to 2024 non-FSM scores (disadvantage gap), a repeated measures analysis was undertaken to quantify how the Covid-19 gap and disadvantage gap changed between Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024. Any significant reductions or significant increases between 2021, 2022, 2023, and 2024 could be taken to indicate a change in the magnitude of the Covid-19 and the disadvantage gaps.

All cross-sectional analyses report both standardised scores and raw scores. Standardised scores are reported because their original means of 100 and standard deviations (SDs) of 15 points make them more interpretable and comparable across year and subject and because they are more familiar for educators. More importantly, standardised scores allow for the reporting of the number of pupils unable to fully access the assessments, namely, those who did not score sufficient raw marks to gain the minimum available standardised score and were therefore awarded a score of 69. The proportion of pupils unable to fully access the assessment is an important indicator of differences between samples as it indicates changes in the proportion of students that were unable to perform at a minimum level. Nevertheless, since standardised scores restrict the score range from a minimum of 69 to a maximum of 141 points for the lowest and highest achievers, there is a risk that this restriction can distort group mean comparisons; particularly when the proportion of pupils below 69 or above the cut-off of 141 differ between the groups being compared. To address the potential effect of censoring, all statistical significance tests for the Covid-19 and disadvantage gaps are generated using raw assessment scores. Raw assessment scores are simple summations of the number of questions responded to correctly. Consequently, when assessing, for example, whether the 2024 Year 4 mathematics pupil sample differed significantly from the 2017 benchmarking sample used to standardise the assessment (the Covid-19 gap), the statistical significance is based on the comparison of the mean raw scores for these two samples. Moreover, the significance of the t-tests for the raw scores incorporates the effect of school clustering. Mean group comparisons that do not incorporate the clustering effect that result from sampling schools versus sampling pupils directly overestimate the p-values of comparisons when intracluster correlation coefficients (ICCs) are high. The significance and confidence

[1] Technical manuals, which include steps taken to ensure the standardisation sample was nationally representative, can be available at: https://www.nfer.ac.uk/media/4znnyyfd/technical_information_for_nfer_tests_in_reading_mathematics_and_grammar_and_punctuation_suite_2_spring.pdf

intervals (CIs) of raw scores is obtained using complex survey analysis methodology, which uses inverse-probability weighting and design-based standard errors (Lumley, 2004).

Whereas cross-sectional analyses report both standardised and raw scores, longitudinal analyses report only standardised scores. Since the psychometric properties of the assessments are different, raw scores cannot be used. Consequently, there is no way of avoiding the potential effects of standardised score censoring when comparing the performance of pupils across time. Furthermore, all repeated measures analyses were produced using multilevel modelling regressions. Multilevel modelling takes into account the effect of school clustering and thus the significance of regression coefficients is robust against the effect of sampling schools instead of sampling pupils directly.

Besides assessments measuring reading and mathematics attainment, teachers completed a measure of social skills development for a randomly selected subsample of pupils within each school. The measure used was different from that used in 2021, as the original measure was not suitable for use with older children (for details see section 'Results' subsection 'Research question 4: Are social skills at or behind expectations, and to what extent do they improve between subsequent academic years?'). Subsequently, comparisons could not be made between social skills development of pupils in 2021 and later years but could be made with the pre-pandemic validation sample of that measure. However, the measure used from 2022 onwards, along with some additionally developed items, was used in 2022, 2023, and 2024 and therefore comparisons can be made between social skills development of pupils in these years.

Contextual information was also collected through a school survey of headteachers/Key Stage 2 leaders, to identify school practices and any catch-up activities being undertaken with the pupils. The study design is described in Table 2.

Table 2: Study design

Design		Longitudinal observational study
Unit of analysis		Schools, pupils, and timepoint
Number of units included in analysis		59 schools and 4,765 pupils (2,374 in Year 4 and 2,391 in Year 5)
Primary outcome 1	Variable	Mathematics attainment
	Measure (instrument, scale, source)	NFER Spring Term tests: raw scores and standardised assessment scores, 69–141
Primary outcome 2	Variable	Reading attainment
	Measure (instrument, scale, source)	NFER Spring Term tests: raw scores and standardised assessment scores 69–141
Secondary outcome	Variable	Social skills and wellbeing
	Measure (instrument, scale, source)	Peer Social Maturity Scale (PSMAT), 1–7 for each scale

Participants

All 168 schools, which participated in the baseline research into the impact of school closures in 2020/2021, were invited to continue taking part in this study in October 2021, in October 2022, and in October 2023. The 168 schools were a self-selecting sample from 1,775 schools invited to participate in the baseline study. The invited schools were state schools in England who were NFER Test customers. School engagement was very good during the 2020/2021 academic year; 155 of the 168 schools, which took part in the Autumn Term 2020 data collection were involved in the Summer Term 2021 data collection. Autumn Term 2021 was very challenging for schools as they faced high staff and pupil absences. In 2022, a total of 87 schools agreed to take part in the study and submitted attainment data. In 2022/2023, 69 of these schools agreed to continue in the study and submitted their assessments. In addition to this, a further 12[2] schools from the baseline study, re-engaged as a result of reduced requirements resulting in a total of 82 schools taking part in 2022/2023. In 2023/2024, 59 schools agreed to participate and submitted their assessments. Weighting was used to address the self-selection nature of the sample and is explained below.

To note, the longitudinal analysis compared only those schools involved in 2021, 2022, 2023, and 2024, so that the different wave samples were more comparable to each other. Notwithstanding only using the subset of schools that participated in all waves of the study, for longitudinal analyses purposes, we included all pupils available in those schools, even if they had left or were new to the school for a particular wave. Consequently, the participants were all pupils in Year 4 (eight to nine years old) and Year 5 (nine to ten years old) in participating schools. Further details about the sample can be found in section 'Research findings' subsection 'Pupil and school characteristics'.

The following factors have been employed throughout the four years of the study to encourage participation:

- provision of free spring assessments to schools as a pre-incentive;
- marking of tests (with the exception of 2021/2022 where tests were marked by teachers, see below for details);
- a discount for future NFER assessments for participating schools; and
- summary results and recommendations disseminated through a school feedback leaflet.

The incentives package in the baseline study (2020/2021) also included the provision of diagnostic information and item-level scores to schools, which required NFER to mark the assessments. Part of the rationale for this package for schools was to minimise any additional burdens on schools—particularly important during the continuation and immediate aftermath of the pandemic. In response to commissioning budget considerations, in 2021/2022 teachers marked the assessments and provided the item-level scores to NFER. It was felt that the change to teacher marking was not a big risk to reliability as the NFER mark schemes are designed to be used by teachers, we provided a webinar to support teachers with the marking and a helpdesk in case of any queries. However, the additional burden in 2021/2022 of marking and providing their data may have contributed to some schools being unable to participate that year, as well as citing continued challenges relating to the pandemic (81 of 168 schools continued with the study that year). In 2022/2023, in response to schools' feedback, it was decided to return to NFER marking including a two-week turnaround in sharing the data with schools. This proved effective in not only retaining the majority of schools from 2021/2022 in the study, but also in 13 schools who had participated in the baseline study returning (82 schools took part in 2022/2023). These changes were maintained in 2023/2024, although we saw a reduction in the number of schools participating (to 59). This was for a number of reasons including some schools joining a Multi-Academy Trust and thus employing a different assessment system.

Participating schools received sets of NFER Tests (for Years 4 and 5 mathematics and reading) to be used during the second half of the Spring Term in 2023/2024. Schools were asked to administer the assessments to all pupils in each year group within the testing window. Where a pupil missed a paper through absence they were not included in the study for that subject (note the reading assessment has one paper, the mathematics assessment has three papers, and pupils are only included in the analysis where they sit all three papers). Other circumstances where pupils did not sit the assessments and/or were not included in the analysis included pupils indicated by their teacher(s) as unable to access the curriculum.

[2] One of the 12 schools, which re-engaged was restructured into two, and therefore a total of 13 schools can be said to have re-engaged.

Measures

Outcome measures

The main outcome measures were attainment data from NFER Tests in reading and mathematics for individual pupils.[3] Assessment data was collected during the second half of the Spring Term for Year 4 and Year 5 pupils in 2024 (20 February 2024 – 28 March 2024). Schools were provided with spring Year 4 and spring Year 5 assessment papers from the NFER Key Stage 2 suite of assessments. All assessments were marked by NFER.

The NFER Tests have a strong alignment to the English national curriculum in reading and mathematics and have robust technical properties,[4] including good reliability (e.g. the Year 4 spring assessments all have Cronbach's alphas between 0.88 and 0.93 and the Year 5 spring assessments between 0.87 and 0.94). Outcomes include standardised scores and age standardised scores (i.e. scores based on large, nationally representative samples). Standardised scores compare a pupil's performance to that of a nationally representative sample of pupils from the relevant year group, who will have all taken the same assessment at the same time of year. Raw scores on NFER assessments were transformed to produce standardised scores ranging from 69 to 141 using look-up tables from the pre-pandemic standardisation. NFER Tests were standardised so that the average, nationally standardised score is 100 and the SD is 15. This means that a pupil scoring 100 on NFER Tests is obtaining the national average score.[5]

Each NFER assessment used in our study was previously standardised on a representative sample of schools (in terms of Key Stage 2 overall performance, primary school type, school governance, urban/rural classification, and geographical region) following the introduction of the 2014 national curriculum and at the same time of the academic year as the study assessments were scheduled. This was 2017 for Year 4 and Year 5 spring assessments.

These historical reference points allowed us to assess the Covid-19 gap by comparing the performance of pupils with the performance of other pupils in previous standardisation years. However, since no independent schools were included in this study's sample, the historical reference point was recalculated excluding independent schools, which resulted in a slight reduction of the expected mean of 100. Furthermore, similar comparisons for the disadvantage gap in reference to previous standardisation years was not possible as no data was available on the performance of FSM and non-FSM pupils in those earlier standardisation years. Nevertheless, attainment of FSM and non-FSM pupils was compared with Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 to analyse the change in the disadvantage gap.

Non-attainment outcomes: Survey of social skills development

Alongside attainment outcomes, pupils' social skills and level of wellbeing are important to capture. This is particularly relevant for pupils in Key Stage 1 during partial school closures, as they may have missed opportunities for communication, social skills, and emotional development. School staff have reported challenges with pupil wellbeing over the course of the 2020/2021 academic year (Rose *et al.,* 2021; Lucas *et al.,* 2020; Nelson *et al.,* 2021).

In the 2020/2021 baseline study (Rose *et al.,* 2021), the Child Self-regulation and Behaviour Questionnaire (CSBQ; Howard and Melhuish, 2017) was used to measure the social skills of pupils. The CSBQ was designed for use with children aged three to six years, which is younger than the cohort included in the present study. A number of alternatives were considered, with the criteria that the scale should not be burdensome to complete, not require training to complete, be completed by an adult rather than self-report (due to the age of the pupils involved), should not collect special category data (which has implications for gaining consent), have an appropriate granular scale, and should be validated with an appropriately aged cohort for this study.

The Peer Social Maturity Scale (PSMAT) by Peterson *et al.* (2007) was selected. The PSMAT, like the CSBQ, included items examining group entry, interactive social play, self-assertion, tolerance, leadership, social sensitivity, and overall

[3] Information on NFER Tests for Key Stage 1 and Key Stage 2 are available at: https://www.nfer.ac.uk/for-schools/products-services/nfer-tests
[4] Technical manuals, which include steps taken to ensure the standardisation sample was nationally representative, are available at: https://www.nfer.ac.uk/media/4znnyyfd/technical_information_for_nfer_tests_in_reading_mathematics_and_grammar_and_punctuation_suite_2_spring.pdf
[5] In order to make the standardisation sample comparable to the study sample, the standardisation sample was restricted to state schools and thus slightly differed from 100.

skill maturity. However, unlike the CSBQ, the PSMAT did not include items covering attention/focus, interactions with relevant adults, independence, persistence, and emotional regulation. It was decided therefore to supplement the seven items of the PSMAT with a further seven bespoke items written by NFER. Response options were anchored on a 1 to 7 scale denoting respectively 'very much less mature than the average child' to 'very much more mature than the average child'. Table 3 shows the PSMAT items and the supplementary items and includes the constructs that the new items were designed to measure.

Table 3: Items of the Peer Social Maturity Scale (PSMAT) and supplementary items

PSMAT items	
The child's skill and willingness to make social overtures, join groups, or welcome others into own activities	
The child's skill at asserting him/herself appropriately to express opinions or convince peers	
The child's leadership skills with peers	
The maturity of the child's everyday modes of playing sociably with peers	
The child's skills in coping with peers who frustrate or interfere with the group's goals and activities	
The child's ability to understand the needs of peers who differ from the norm	
The overall maturity of the child's social skills	
Supplementary items	Related construct
The child's ability to focus on an activity or task	Attention/focus
The child's ability to deal with minor conflict and disappointment	Emotional regulation
The child's ability to initiate and maintain appropriate interactions with relevant adults in school	Interactions with relevant adults
The child's ability to undertake appropriate tasks independently	Independence
The child's willingness to persist with a task or activity after a setback	Persistence
The child's ability to make choices for themselves	Independence
The child's ability to manage their own feelings	Emotional regulation

The validation of the PSMAT (Fink *et al.,* 2013) is two-fold: one study based on a sample of 145 pupils in Australia, and another longitudinal study based on 114 pupils in Australia starting in Kindergarten and tracking to Grade 2. (Details on the validation, including age of pupils; along with the results for Year 2 and Year 3 pupils in this study; and the performance of the bespoke items can be found in section 'Results' subsection 'Research question 4: Are social skills at or behind expectations, and to what extent do they improve between subsequent academic years?').

As with the baseline study, and in each subsequent year of the study, to minimise burden, we selected a subsample of 12 pupils per year group in each school for whom teachers completed the questionnaire. It was estimated that it would take a maximum of five minutes per child to complete the survey. The subsample was randomly selected by NFER from the full pupil list.

Survey data: Contextual factors

In addition to attainment outcomes and social skills outcomes, we collected data about recovery approaches, support, and challenges.

The school-level survey (see Appendix E) was sent to headteachers for completion during March 2024. The survey used similar themes and common questions to those used in the baseline study, Spring Term 2021, Spring Term 2022, and Spring Term 2023. Importantly, questions and areas of interest were updated each year in response to previous survey results and to recognise the increasing time elapsed between the school closures and the point at which the survey was being completed. The results from the school-level survey were intended to be used cross-sectionally and collected information about:

- remote learning, including how schools are supporting vulnerable children not in school or those missing large periods of school-based learning;
- new practices following partial school closures (divided into):
    - enforced practices and their impact; and
    - practices schools have chosen to retain because they have found they are a better way of working.
- challenges for staff, for instance, coping with staff absences and any additional continuing professional development (CPD) requirements;
- social and emotional support for pupils;
- how schools are approaching tutoring;
- an overview of catch-up strategies/recovery actions;
- specific support provided for disadvantaged pupils or very low-attaining pupils;
- parental engagement and whether it has been sustained (both in terms of capability and willingness); and
- an open question to allow headteachers to tell us about anything additional happening in their school, which they think is relevant.

In 2023/2024, the survey included some new questions including items focused on the growing issue of pupil absence, as well as pupil and staff wellbeing. The online survey software Questback was used for developing and hosting the school-level survey.

Additional data collections

Pupil background data

Schools were asked to provide basic pupil background data, which included: name; date of birth; unique pupil number; gender; year group; and FSM status.

The baseline study asked schools to provide the status of the pupils' FSM eligibility in the January census before lockdown (i.e. January 2020) as well as at each academic term during the 2020/2021 academic year. We therefore have a pre-pandemic FSM status and a further FSM status in each of Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024. The aim of the planned analysis on the change in the disadvantage gap over the 2021, 2022, and 2023 academic years was to identify the impact of school closure on those pupils who were considered disadvantaged prior to school closure. However, the Covid-19 gap analysis undertaken at each term considered FSM status as it was in that specific term. In both of these cases, if the FSM status of the pupil was missing at the necessary timepoint but available at a different timepoint, the information available was utilised.

School background data

School background characteristics such as the proportion of children eligible for FSM, the proportion of pupils meeting the expected standard in reading, writing, and mathematics at Key Stage 2 in 2019, the proportion of pupils with special educational needs and disability (SEND), the proportion of pupils with English as an Additional Language (EAL), the academy status of the school, whether the school is in an urban or rural area, and the geographical region in which a school is located were obtained from the Department for Education (DfE) website.

Sample size

Power calculation assumptions

Power calculations were carried out separately for the longitudinal analyses (using simulations) and the comparison between project and pre-Covid standardisation samples (using calculations). The simulated power calculations took into account the following overall assumptions: a power of 0.80, alpha of 0.05, school ICC = 0.09 (result obtained from the 2022/2023 study by Rose *et. al.*, 2023) and FSM proportion of 0.16 (value obtained from the first wave of the 2020/2021 study by Rose *et.al.,* 2021 and replicated from the models run in the study in 2022/2023; Rose *et al.*, 2023), for a longitudinal design of four waves (baseline, plus three more waves). Additionally, we assumed that there are, on average, 38 pupils per school based on the number of pupils and schools in earlier waves. These results should hold conservatively for further waves. For the calculation method, assumptions were the same as above but an ICC = 0.12, with a different number of pupils and schools (discussed below). The simulations and calculations are outlined further below.

Simulations for changes over time, for a range of school sample sizes

To estimate the power of the study to detect standardised mean difference effect sizes, a power analysis by simulation was undertaken (Arnold *et al.,* 2011). Power was calculated separately for changes in the Covid-gap and changes in the disadvantage gap over time, for all combinations of 45, 60, and 80 schools (after attrition) and effect sizes between 0.01 and 0.3 in intervals of 0.01 (i.e. 0.01, 0.02, 0.03,…,0.28, 0.29, 0.3). For each of the N/effect size combinations, 1,000 data sets were simulated in the proposed longitudinal design of four timepoints (baseline, plus Year 1, Year 2, and Year 3 of the current project) and 38 pupils per school. The school-level ICC was taken to be 0.09 and the pupil-level ICC was taken to be 0.65. These came from a model run in the previous study in 2022/2023 (Rose *et al.*, 2023). Setting the sum of the school level and pupil level and residual variances to be 1 meant that the school level and pupil level and residual variances used to simulate the variability in the data were ICC_{school}, $ICC_{pupil} - ICC_{school}$ and $1 - ICC_{pupil}$, respectively. This ensured that the coefficients of models were on the effect size scale.

For changes in the Covid-19 gap over time, a difference of the desired size was induced at one of the post-baseline timepoints. A linear mixed effects model was fitted to each of the simulated data sets with school as the random effect and timepoint as the fixed effect. All between timepoint contrasts were tested for significance at a 5% significance threshold. For changes in the disadvantage gap over time, 16% of simulated pupils were labelled as FSM and the desired effect size was induced in the FSM pupils at one of the timepoints. A linear mixed effects model was fitted to each of the simulated data sets with school as the random effect and timepoint, FSM and their interaction as the fixed effects. The difference between FSM and non-FSM pupils was compared between all pairwise combinations of timepoints and tested for significance at a 5% significance threshold.

For both changes in the Covid-19 gap and changes in the disadvantage gap, the power for a given combination of number of schools and effect size was calculated as the proportion of the 1,000 simulated data sets where all comparisons involving the timepoint where the effect was induced were declared as significant. The minimum detectable effect size (MDES) for a particular number of schools was the smallest effect size where the power was greater than 80% (i.e. a statistically significant effect was inferred in more than 800 of the simulated datasets).

MDES calculation for the Covid-gap (project sample and pre-Covid sample)

The calculations of MDES for the Covid-19 gap (effect size between project sample and pre-Covid standardisation sample) have not used the simulation method, as the number of pupils was different for the two samples (the simulations assumed balance between the two groups). Instead, they were calculated using NFER's standard power calculation spreadsheets for an unbalanced design. This calculation used an ICC of 0.12, and an average class size of 38 in the project sample and an average class size of 26 in 76 schools for our standardisation sample.

MDES summary

Table 4 shows the calculated and simulated MDES's for achieved samples.

Table 4: Calculated and simulated MDES

Number of schools analysed (i.e. achieved sample)	MDES for Covid-19 gap (effect size between project sample and pre-Covid standardisation sample) (calculated)	MDES for change in Covid-19 gap (effect size between project sample at two timepoints, e.g. spring 2021 and spring 2022) (simulated)	MDES for change in disadvantage gap (simulated)
45	0.22	0.08	0.20
60	0.21	0.07	0.17
80	0.19	0.06	0.15

To estimate the power of the study to detect standardised mean difference effect sizes, a power analysis by simulation was undertaken (Arnold *et al.,* 2011). Power was calculated separately for the Covid-19 gap and the disadvantage gap, for all combinations of 80 to 150 schools (after attrition) and effect sizes between 0.01 and 0.3 in intervals of 0.01 (i.e. 0.01, 0.02, 0.03,…,0.28, 0.29, 0.3). For each of the N/effect size combinations, 1,000 data sets were simulated in the proposed longitudinal design of four timepoints (baseline, plus Year 1, Year 2, and Year 3 of the current project) and 38 pupils per school. The ICC was taken to be 0.12. The number of pupils per school and the ICC were calculated from a preliminary analysis of the 2020/2021 data as this was considered to most closely represent the future data that would be collected. Setting the sum of the school level and residual variances to be 1 meant that the school level and residual variances used to simulate the variability in the data were the ICC and 1-ICC, respectively. This also ensured that the coefficients of models were on the effect size scale.

Sample representativeness

When estimating national population parameters of attainment, such as the Covid-19 gap, representativeness is critical. The longitudinal sample comprises 45 schools, which took part in the Covid-19 baseline study and subsequent waves of the study (i.e. 2020/2021, 2021/2022, 2022/2023, and 2023/2024). In the 45 schools, which took part in all of these waves of the project, approximately 23% of pupils were eligible for FSM in 2023/2024 academic year. Given that FSM eligibility changed after the pandemic, we decided to use pre-closure school percentage FSM to assess representativeness. Representativeness of the sample is less critical for the attainment gap between disadvantaged and non-disadvantaged pupils as it is a relative measure, and we are interested in seeing how this gap changes between the two timepoints of assessment.

It is important to check the representativeness of our achieved sample of schools for Key Stage 2 performance,[6] in particular, for our estimation of the Covid-19 gap. Other school-level variables were also investigated, including characteristics such as school type, geographical location, and academy status. If and when required, we weighted the results by Key Stage 2 performance, which is discussed in the 'Statistical analysis' section below.

Statistical analysis

Weighting

Particular attention was given to ensuring our sample was as close to the standardisation sample as possible, particularly for the analysis, which estimated the Covid-19 gap. We wanted to ensure the sample of participating schools was representative based on school-level performance at Key Stage 2 in 2019. The variable 'KS2rwmExp_19', the proportion of pupils meeting the expected standard in reading, writing, and mathematics available from the DfE website,[7] was used to determine the representativeness of the sample of the population of primary schools.[8] To address the issue of analysis being undertaken at pupil level but information on the sample being at school level, the analysis to determine representativeness was also weighted by the number of pupils in the school. Therefore, for Year 4, the population was

[6] Key Stage 2 was used here as the DfE does not release school-level Key Stage 1 data. Key Stage 2 therefore, remains the best way to differentiate schools by the performance of pupils in these schools.
[7] https://www.compare-school-performance.service.gov.uk/download-data
[8] The Key Stage 2 variable has been put into quintiles of school performance with a further category that identifies schools with missing data.

weighted by the number of pupils on roll in Year 4 in spring 2024 and the schools in our sample were weighted by the number of pupils who took the assessment within each school. Whilst not producing analysis ensuring the sample of pupils is representative of pupil population characteristics, this ensured the sample did not introduce bias due to too many pupils from schools with particular characteristics, for example, too many pupils from high-performing schools. This procedure was replicated for the Year 5 assessments.

The Covid-19 gap (research question 1a)

We estimated the Covid-19 gap (research question 1a) counterfactual using the standardisation sample for the spring Year 4 and Year 5 assessments. By taking the weighted mean raw score for our sample along with its standard error, we determined whether the sample mean was different from the mean of the standardisation sample having excluded independent schools. Independent sample t-tests accounting for clustering effects were run to compare the mean of the sample at each timepoint for each subject to the corresponding mean in previous standardisation years. The effect size estimates were converted to additional months' progress using the EEF toolkit.[9]

The disadvantage gap (research question 2a)

For Year 4 and Year 5, we calculated the disadvantage gap by comparing the mean raw scores for FSM pupils with their non-FSM peers obtained in 2024. Clustered t-tests were carried out to compare means, and the effect size estimates were converted into months of progress using the EEF toolkit.[9]

The Covid-19 and disadvantage gap over time (research questions 1b and 2b)

In order to monitor change in both the Covid-19 and disadvantage gaps over the period 2020/2021 to 2023/2024, we applied a multilevel structure to the models and a repeated measures design. The models had three levels: time; pupil; and schools, and these were run separately for each year group (Year 4 or Year 5) and subject (reading or mathematics), resulting in four individual models. These were run to identify how any Covid-19 gap at the first timepoint changed between Spring Term 2021 and Spring Term 2024. The outcome variable was the reading or mathematics standardised score. The predictors entered into the model were time (to identify whether there was a significant difference in the change in standardised score between the Spring Term 2021 baseline, Spring Term 2022, Spring Term 2023, and Spring Term 2024, indicated with values 0, 1, 2, and 3, respectively) and FSM status 2020. For the disadvantage gap, an interaction term between time and FSM status would indicate whether disadvantaged pupils are changing at a different rate than their non-disadvantaged peers.

The repeated measures analysis used the FSM status of a pupil prior to school closures (i.e. FSM2020) as the FSM eligibility indicator variable; this ensured we tracked the same pupils over time, as we know that eligibility can change over time and avoided us having to take account of new trends affected by the pandemic (Julius and Ghosh, 2022; discussed further in section 'Limitations'). (Note: the cross-sectional analysis uses FSM data at the time of the assessment.) The analysis was also weighted by pupil headcount at school and Key Stage 2 performance for the population and sample at the start of the study in Autumn Term 2020. The percentage of pupils eligible for FSM, gender, percentage of pupils with EAL, percentage of pupils with SEND, academy status, and geographical region of the school were included as covariates in the disadvantage gap models. Percentage of pupils eligible for FSM, academy status, and geographical region of the school were included as covariates in the Covid-19 gap models. The 2021 means were recalculated to include only those schools that took part in 2022, 2023, and 2024. Therefore, changes to the sample composition are not a limitation to the findings.

All analyses were run in R version 4.1.2 (The R Foundation, 2023) and using the lme4 package version 1.1-34 (Bates, *et al.,* 2015).

Analysis of contextual data (research question 3)

Analysis of contextual data from the headteacher survey was descriptive in order to give an indication of what schools focused on in the 2023/2024 academic year.

[9] https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits

Analysis of social skills development (research question 4)

We report descriptive information on social skills development for the PSMAT and additional bespoke items from a subsample of approximately 12 pupils from Year 4 and 12 pupils from Year 5 in each school, and report by pupils eligible for FSM and those not eligible for FSM, and additionally by gender. FSM eligibility is considered at January 2020 (i.e. before school closures). The results of the PSMAT were compared to the results from the original measure validation. The bespoke items were assessed for reliability using Cronbach's alpha, using the absolute cut-off score of at least 0.7 (deemed acceptable; Bland and Altman, 1997). The mean of the sumscores for these items were also reported in Spring Term 2022. The means of the sumscore were sufficiently reliable that they formed a baseline, which has been compared to pupils in Year 4 and Year 5 in Spring Term 2023 and Spring Term 2024, to track progress in their social skills and wellbeing recovery/development.

Research findings

Participant flow and attrition

The recruitment to the longitudinal study took place during a very challenging time for schools. The 168 schools, which had participated in the baseline study were approached in September 2021. Schools were facing very high rates of staff and pupil absence and were providing online learning, and many felt unable to commit to the study for a further two years. The school-level attrition rates compared to the baseline study for each of the 2021/2022, 2022/2023, and 2023/2024 studies are shown in Table 5.

Table 5: Annual school-level attrition rates from the baseline study for each subject and each year group in 2022, 2023, and 2024

	Response rate	
	Mathematics	Reading
Spring Term 2022 Year 2	43.6%	43.6%
Spring Term 2022 Year 3	43.0%	43.0%
Spring Term 2023 Year 3	48.8%	48.8%
Spring Term 2023 Year 4	48.8%	48.8%
Spring Term 2024 Year 4	35.5%	35.5%
Spring Term 2024 Year 5	35.5%	35.5%

The number of schools participating in the project was 81 in both 2021/2022 and 2022/2023 and 59 in 2023/2024. In 2021/2022 not all 81 schools completed all assessments, 75 completed Year 2 and 74 completed Year 3. The number of schools invited to take part were 172 in 2021/2022 and 166 in 2022/2023 and 2023/2024. In each academic year, all schools who had participated in the first year of the study were invited to re-engage unless they had actively withdrawn from the study and asked not to be contacted.

As noted previously, the cross-sectional analysis was weighted by Key Stage 2 attainment. Similarly, the longitudinal analysis was weighted by Key Stage 2 attainment and only compared schools involved in 2021, 2022, 2023, and 2024 ensuring that the smaller sample of schools involved in the longitudinal analysis (compared with the baseline assessment) did not have an impact on the representativeness.

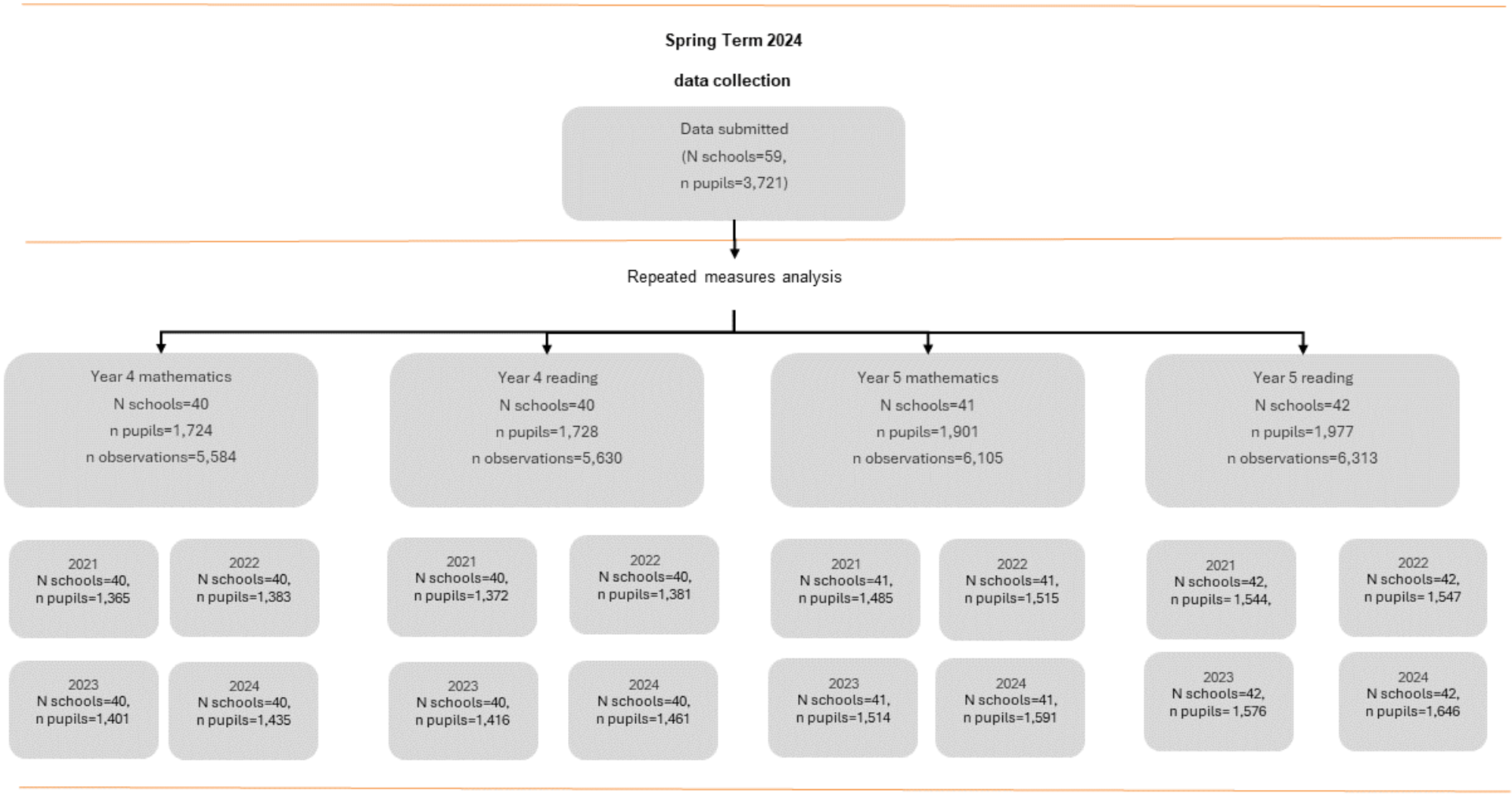
Table 6 shows the number of schools involved in the repeated measures analysis at each successive timepoint.

Table 6: Number of schools analysed for each subject and year group in the longitudinal analysis at each of the successive timepoints i.e. Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024

Academic year	Year group	Subject	Number of schools
Spring Term 2021	Year 1	Mathematics	148
		Reading	150
	Year 2	Mathematics	152
		Reading	155
Spring Term 2022	Year 2	Mathematics	75
		Reading	75
	Year 3	Mathematics	75
		Reading	75
Spring Term 2023	Year 3	Mathematics	59
		Reading	59
	Year 4	Mathematics	59
		Reading	59
Spring Term 2024	Year 4	Mathematics	40
		Reading	40
	Year 5	Mathematics	41
		Reading	42

Figure 2 shows the number of pupils included in the attainment outcome analysis looking at the change of the Covid-19 and disadvantage gaps over time (i.e. repeated measures analysis).

Figure 2: Participant flow diagram for the repeated measures attainment outcome analysis



Note: Only pupils with a total raw score were included.

Pupil and school characteristics

Here we present the characteristics of the samples entered for the repeated measures analysis (Tables 7 to 11). The differences between the population (standardisation sample) and the repeated measures samples can be seen under the differences column as well as in the averaged differences column for each characteristic (FSM percentage in a school, Key Stage 2 2019 attainment, academy/non-academy status, urban/rural classification, SEND %, EAL %, and region). As can be seen in Table 7, for all the samples (Year 4 mathematics, Year 4 reading, Year 5 mathematics, and Year 5 reading), weighting was successful in reducing the Key Stage 2 2019 attainment differences between the population and the samples. Weighting also reduced the averaged differences between the population and the FSM and EAL school percentages. Although weighting increased some differences between the population and samples in regard to academy/non-academy status, urban/rural, EAL, and region, most differences stayed close to the unweighted differences or only slightly increased. Overall, all averaged differences between the population and samples were below 13 percentage points.

Table 7: Averaged differences between population and the unweighted and weighted samples

Average differences								
	Year 4 reading		Year 5 reading		Year 4 mathematics		Year 5 mathematics	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Key Stage 2 2019 attainment	5.51%	1.26%	6.04%	1.15%	5.38%	1.27%	5.79%	1.20%
FSM %	4.02%	4.72%	3.98%	4.96%	4.19%	4.87%	3.97%	5.03%
Academy status	13.85%	14.38%	11.51%	13.38%	14.13%	14.72%	11.28%	13.48%
Rural / urban classification	3.99%	4.31%	4.15%	4.93%	4.11%	4.67%	3.91%	4.70%
SEND %	12.17%	11.85%	12.75%	11.91%	12.07%	11.75%	12.86%	12.02%
EAL %	3.57%	4.62%	3.43%	4.27%	3.49%	4.80%	3.59%	4.20%
Region	4.90%	5.82%	5.50%	6.48%	4.95%	5.81%	5.74%	6.59%

EAL=English as an Additional Language; FSM=free school meals; SEND=special educational needs and disability.

Table 8: Characteristics of the Year 4 reading sample for the repeated measures analysis

		Population		Sample		Percentage differences (absolute)				
		N	%	n	%	Adjusted %	Population – sample	Average	Population – weighted sample	Average
Key Stage 2 2019 attainment	Lowest 20%	3,179	20.71	323	14.55	18.96	6.16		1.75	
	Second lowest 20%	2,802	18.26	550	24.77	19.00	6.52		0.74	
	Middle 20%	3,003	19.57	336	15.14	21.55	4.43		1.98	
	Second highest 20%	2,952	19.23	619	27.88	20.79	8.65		1.56	
	Highest 20%	2,982	19.43	392	17.66	19.70	1.77	5.51	0.27	1.26
% FSM	Lowest 20%	3,057	19.50	374	16.85	15.91	2.65		3.59	
	Second lowest 20%	3,109	19.83	394	17.75	17.21	2.08		2.62	
	Middle 20%	3,112	19.85	574	25.86	26.90	6.01		7.05	
	Second highest 20%	3,109	19.83	511	23.02	23.44	3.19		3.61	
Academy	Academy	6,663	42.50	636	28.65	28.12	13.85		14.38	
	Not an academy	9,014	57.50	1,585	71.35	71.88	13.85	13.85	14.38	14.38
Urban	Rural	4,672	29.80	573	25.81	25.49	3.99		4.31	
	Urban	11,005	70.20	1,648	74.19	74.51	3.99	3.99	4.31	4.31
% SEND	First quartile	3,882	24.80	146	6.58	7.25	18.22		17.55	
	Second quartile	3,937	25.15	908	40.90	41.25	15.75		16.10	
	Third quartile	3,917	25.02	746	33.60	32.62	8.58		7.59	
	Fourth quartile	3,919	25.03	420	18.92	18.89	6.11	12.17	6.15	11.85
% EAL	First quartile	3,930	25.10	399	17.97	17.31	7.13		7.79	
	Second quartile	3,913	25.00	625	28.15	30.96	3.16		5.97	
	Third quartile	3,903	24.93	622	28.02	28.21	3.09		3.28	
	Fourth quartile	3,909	24.97	574	25.86	23.52	0.89	3.57	1.45	4.62
Region	East Midlands	1,500	9.57	227	10.23	9.46	0.66		0.11	
	East of England	1,835	11.71	331	14.91	13.76	3.20		2.05	
	London	1,716	10.95	232	10.45	9.36	0.50		1.59	
	North East	842	5.37	0	0.00	0.00	5.37		5.37	
	North West	2,380	15.18	654	29.46	33.26	14.28		18.08	
	South East	2,241	14.29	172	7.75	6.26	6.55		8.04	
	South West	1,784	11.38	81	3.65	4.32	7.73		7.06	

	West Midlands	1,690	10.78	326	14.68	16.82	3.90		6.04	
	Yorkshire and the Humber	1,689	10.77	197	8.87	6.76	1.90	4.90	4.01	5.82

EAL=English as an Additional Language; FSM=free school meals; SEND=special educational needs and disability.

Table 9: Characteristics of the Year 4 mathematics sample for the repeated measures analysis

		Population		Sample		Percentage differences (absolute)				
		N	%	n	%	Adjusted %	Population – sample	Average	Population – weighted sample	Average
Key Stage 2 2019 attainment	Lowest 20%	3,179	20.71	317	14.62	18.93	6.09		1.78	
	Second lowest 20%	2,802	18.26	528	24.35	19.02	6.10		0.77	
	Middle 20%	3,003	19.57	332	15.31	21.51	4.25		1.94	
	Second highest 20%	2,952	19.23	607	28.00	20.82	8.76		1.58	
	Highest 20%	2,982	19.43	384	17.71	19.72	1.72	5.38		1.27
% FSM	Lowest 20%	3,057	19.50	368	16.97	15.88	2.53		3.62	
	Second lowest 20%	3,109	19.83	374	17.25	16.72	2.58		3.11	
	Middle 20%	3,112	19.8%	560	25.83	26.82	5.98		6.97	
	Second highest 20%	3,109	19.83	509	23.48	23.92	3.65		4.09	
	Highest 20%	3,268	20.85	317	14.62	14.26	6.22	4.19	6.58	4.87
Academy	Academy	6,663	42.50	615	28.37	27.78	14.13		14.72	
	Not an academy	9,014	57.50	1,553	71.63	72.22	14.13	14.13	14.72	14.72
Urban	Rural	4,672	29.80	557	25.69	25.13	4.11		4.67	
	Urban	11,005	70.20	1,611	74.31	74.87	4.11	4.11	4.67	4.67
% SEND	First quartile	3,882	24.80	142	6.55	7.11	18.25		17.69	
	Second quartile	3,937	25.15	887	40.91	41.21	15.76		16.06	
	Third quartile	3,917	25.02	724	33.39	32.47	8.37		7.45	
	Fourth quartile	3,919	25.03	415	19.14	19.22	5.89	12.07	5.82	11.75
% EAL	First quartile	3,930	25.10	393	18.13	17.32	6.98		7.78	
	Second quartile	3,913	25.00	610	28.14	30.84	3.14		5.84	
	Third quartile	3,903	24.93	619	28.55	28.70	3.62		3.76	
	Fourth quartile	3,909	24.97	546	25.18	23.15	0.21	3.49	1.82	4.80
Region	East Midlands	1,500	9.57	226	10.42	9.70	0.86		0.14	
	East of England	1,835	11.71	314	14.48	13.25	2.78		1.54	
	London	1,716	10.95	218	10.06	9.04	0.89		1.90	
	North East	842	5.37	0	0.00	0.00	5.37		5.37	
	North West	2,380	15.18	648	29.89	33.66	14.71		18.48	
	South East	2,241	14.29	174	8.03	6.50	6.27		7.80	

	South West	1,784	11.38	81	3.74	4.39	7.64		6.99	
	West Midlands	1,690	10.78	319	14.71	16.76	3.93		5.9%	
	Yorkshire and the Humber	1,689	10.77	188	8.67	6.70	2.10	4.95	4.0%	5.81

EAL=English as an Additional Language; FSM=free school meals; SEND=special educational needs and disability.

Table 10: Characteristics of the Year 5 reading sample for the repeated measures analysis

		Population		Sample			Percentage differences (absolute)			
		N	%	n	%	Adjusted %	Population – sample	Average	Population – weighted sample	Average
Key Stage 2 2019 attainment	Lowest 20%	3,184	20.78	309	14.06	19.23	6.72		1.55	
	Second lowest 20%	2,803	18.29	491	22.34	19.07	4.04		0.78	
	Middle 20%	3,004	19.61	321	14.60	21.50	5.00		1.89	
	Second highest 20%	2,953	19.27	695	31.62	20.78	12.35		1.51	
	Highest 20%	2,982	19.46	382	17.38	19.42	2.08	6.04	0.04	1.15
% FSM	Lowest 20%	2,915	19.02	351	15.97	14.99	3.05		4.03	
	Second lowest 20%	3,018	19.69	412	18.74	16.54	0.94		3.15	
	Middle 20%	3,046	19.87	551	25.07	26.03	5.20		6.16	
	Second highest 20%	3,073	20.05	525	23.89	25.03	3.84		4.99	
	Highest 20%	3,255	21.23	316	14.38	14.73	6.86	3.98	6.50	4.96
Academy	Academy	6,528	42.59	683	31.07	29.21	11.51		13.38	
	Not an academy	8,801	57.41	1,514	68.93	70.79	11.51	11.51	13.38	13.38
Urban	Rural	4,493	29.31	553	25.16	24.39	4.15		4.93	
	Urban	10,836	70.69	1,644	74.84	75.61	4.15	4.15	4.93	4.93
% SEND	First quartile	3,749	24.49	150	6.82	7.61	17.67		16.88	
	Second quartile	3,856	25.19	940	42.77	41.67	17.58		16.48	
	Third quartile	3,851	25.16	727	33.08	32.51	7.92		7.35	
	Fourth quartile	3,851	25.16	381	17.33	18.21	7.82	12.75	6.95	11.91
% EAL	First quartile	3,745	24.47	387	17.61	16.90	6.86		7.57	
	Second quartile	3,827	25.00	647	29.44	31.70	4.43		6.70	
	Third quartile	3,840	25.09	602	27.39	26.94	2.30		1.8%	
	Fourth quartile	3,895	25.45	562	25.57	24.47	0.12	3.43	0.98	4.27
Region	East Midlands	1,496	9.76	197	8.96	8.11	0.80		1.65	
	East of England	1,757	11.46	403	18.33	15.85	6.87		4.39	
	London	1,714	11.18	236	10.74	9.54	0.44		1.65	
	North East	772	5.04	0	0.00	0.00	5.04		5.04	
	North West	2,380	15.53	652	29.66	33.96	14.14		18.43	
	South East	2,217	14.46	157	7.14	5.97	7.32		8.50	

	South West	1,712	11.17	64	2.91	3.35	8.26		7.82	
	West Midlands	1,595	10.41	311	14.15	16.74	3.74		6.33	
	Yorkshire and the Humber	1,686	11.00	178	8.10	6.49	2.90	5.50	4.51	6.48

EAL=English as an Additional Language; FSM=free school meals; SEND=special educational needs and disability.

Table 11: Characteristics of the Year 5 mathematics sample for the repeated measures analysis

		Population		Sample			Percentage differences (absolute)			
		N	%	n	%	Adjusted %	Population – sample	Average	Population – weighted sample	Average
Key Stage 2 2019 attainment	Lowest 20%	3,184	20.78	316	14.57	19.07	6.21		1.71	
	Second lowest 20%	2,803	18.29	460	21.21	19.08	2.91		0.79	
	Middle 20%	3,004	19.61	318	14.66	21.60	4.94		2.00	
	Second highest 20%	2,953	19.27	697	32.13	20.73	12.86		1.46	
	Highest 20%	2,982	19.46	378	17.43	19.52	2.03	5.79	0.05	1.20
% FSM	Lowest 20%	2,915	19.02	352	16.23	15.18	2.79		3.83	
	Second lowest 20%	3,018	19.69	410	18.90	16.53	0.79		3.16	
	Middle 20%	3,046	19.87	549	25.31	26.35	5.44		6.48	
	Second highest 20%	3,073	20.05	512	23.61	24.91	3.56		4.86	
	Highest 20%	3,255	21.23	303	13.97	14.43	7.26	3.97	6.80	5.03
Academy	Academy	6,528	42.59	679	31.30	29.11	11.28		13.48	
	Not an academy	8,801	57.41	1,490	68.70	70.89	11.28	11.28	13.48	13.48
Urban	Rural	4,493	29.31	551	25.40	24.61	3.91		4.70	
	Urban	10,836	70.69	1,618	74.60	75.39	3.91	3.91	4.70	4.70
% SEND	First quartile	3,749	24.49	149	6.87	7.59	17.62		16.90	
	Second quartile	3,856	25.19	930	42.88	41.78	17.69		16.59	
	Third quartile	3,851	25.16	720	33.20	32.62	8.04		7.46	
	Fourth quartile	3,851	25.16	370	17.06	18.01	8.10	12.86	7.15	12.02
% EAL	First quartile	3,745	24.47	393	18.12	17.35	6.35		7.11	
	Second quartile	3,827	25.00	647	29.83	31.69	4.83		6.69	
	Third quartile	3,840	25.09	595	27.43	26.80	2.35		1.72	
	Fourth quartile	3,895	25.45	534	24.62	24.15	0.83	3.59	1.30	4.20
Region	East Midlands	1,496	9.76	196	9.04	8.16	0.72		1.60	
	East of England	1,757	11.46	399	18.40	15.78	6.93		4.32	
	London	1,714	11.18	219	10.10	9.01	1.08		2.17	
	North East	772	5.04	0	0.00	0.00	5.04		5.04	
	North West	2,380	15.53	667	30.75	34.66	15.23		19.13	
	South East	2,217	14.46	150	6.92	5.93	7.55		8.54	

	South West	1,712	11.17	64	2.95	3.38	8.22		7.79	
	West Midlands	1,595	10.41	305	14.06	16.62	3.66		6.22	
	Yorkshire and the Humber	1,686	11.00	169	7.79	6.46	3.21	5.74	4.54	6.59

EAL=English as an Additional Language; FSM=free school meals; SEND=special educational needs and disability.

Results

The results presented in this chapter cover each of the five research questions in turn.

Research question 1: To what extent does pupils' attainment in reading and mathematics recover by spring 2024?

Summary

Year 4

- Pupils showed, on average, an additional two months' progress in reading in spring 2024 compared to the standardisation sample of 2017. However, this difference was not significant.
- There was no significant difference in the overall performance of pupils in mathematics in Spring Term 2024 and the standardisation sample in 2017.
- In the reading assessment in Spring Term 2024, the proportion of pupils who scored below the lowest standardised score was broadly similar to that seen in the standardisation sample, falling from 1.96% to 1.49%. It was also very similar in the mathematics assessment in Spring Term 2024, rising from 2.71% to 2.91%.
- For both the reading and mathematics assessments, the repeated measures analysis showed a constant improvement in scores between Spring Term 2021 and Spring Term 2024.

Year 5

- There was no significant difference in the overall performance of pupils in reading in Spring Term 2024 and the standardisation sample in 2017.
- The overall performance of pupils in mathematics in Spring Term 2024 was significantly higher than the standardisation sample in 2017, representing an improvement of around an additional three months' progress.
- In the reading assessment in Spring Term 2024, the proportion of pupils who scored below the lowest standardised score was greater than the standardisation sample in 2017, rising from 2.09% to 4.23%.
- In the mathematics assessment in Spring Term 2024, the proportion of pupils who scored below the lowest standardised score was broadly similar to that seen in the standardisation sample, rising from 2.33% to 2.44%.
- For both the reading and mathematics assessment, the repeated measures analysis showed a constant improvement in scores between Spring Term 2021 and Spring Term 2024.

Pupils' raw scores from the Spring Term 2024 assessments were converted into standardised scores using the NFER conversion table,[10] which was created during the 2017 standardisation for Year 4 and Year 5. This enables their performance to be compared with the standardisation sample.

Almost all pupils fall within the standardised score range of 70 and 140 and scores outside of this range can be considered exceptional. Pupils who score fewer raw marks than that required to be awarded a standardised score using the conversion tables are therefore awarded a standardised score of 69. This is due to the fact that their standardised scores cannot be calculated with the necessary statistical reliability and a score of 0 would distort the mean unduly. Similarly, pupils who score above the highest possible standardised score are awarded a score of 141.

[10] This table is provided to schools using NFER assessments.

Year 4 attainment in reading and mathematics: Covid-19 gap

Year 4 attainment in reading: Covid-19 gap

In Year 4, the reading assessment consists of one paper, which was taken by all analysed participants. The total number of Year 4 pupils included in the reading analysis was 2,220 from 59 schools.

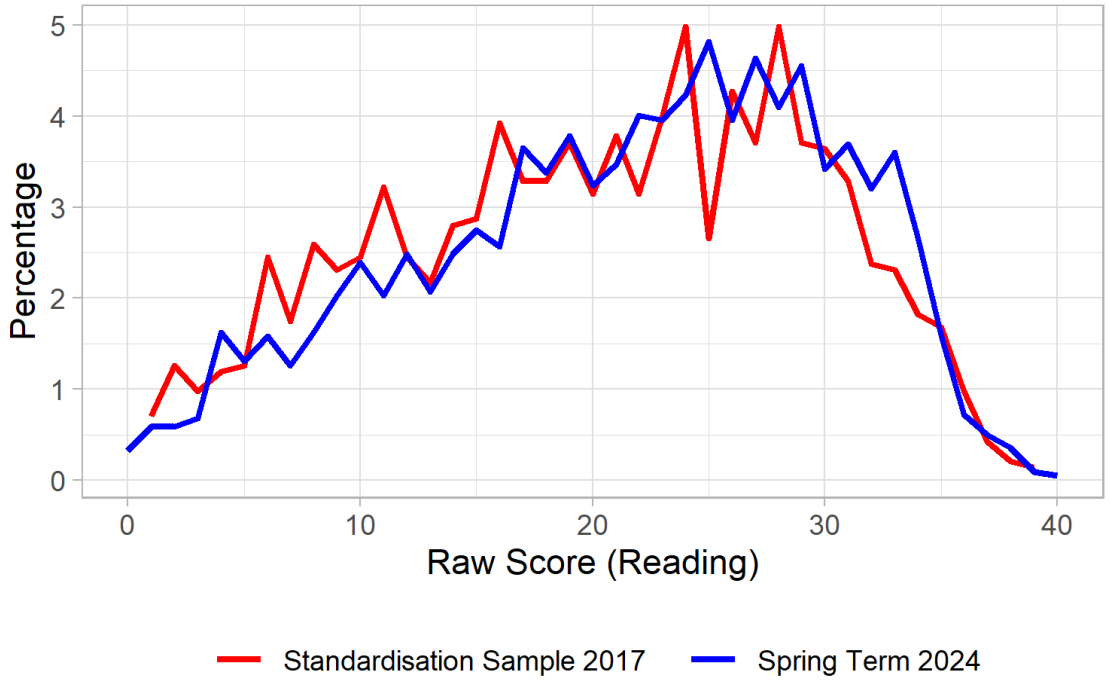
Table 12: Year 4 reading standardised scores

Measure	Standardised scores	
	Standardisation sample 2017	Spring Term 2024
Mean	99.868	101.411
95% confidence interval	98.395–101.34	99.772–103.05
Standard deviation	14.711	14.566
N pupils[a]	1,427	2,220

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples were removed.*

The SD of the study sample is very similar, at 14.566, to that of the standardisation sample. This reflects the similarity in the distributions of their scores.

Figure 3: Distribution of reading standardised scores for the Spring Term 2024 sample of Year 4 pupils



It is noteworthy that 1.49% of pupils, in spring 2024, scored too few marks on the reading assessment to achieve a standardised score of 70, resulting in a standardised score of 69 being awarded. This indicated that a number of pupils were unable to engage effectively with the assessment. In the standardisation sample, the percentage of pupils being awarded this standardised score was 1.96%. In order to test whether the mean differences in performance are significant, without the use of potentially inflated scores for these low achievers, and in order to account for the clustering of the sample, we also carried out analysis of the raw scores.

Table 13:Year 4 reading raw scores

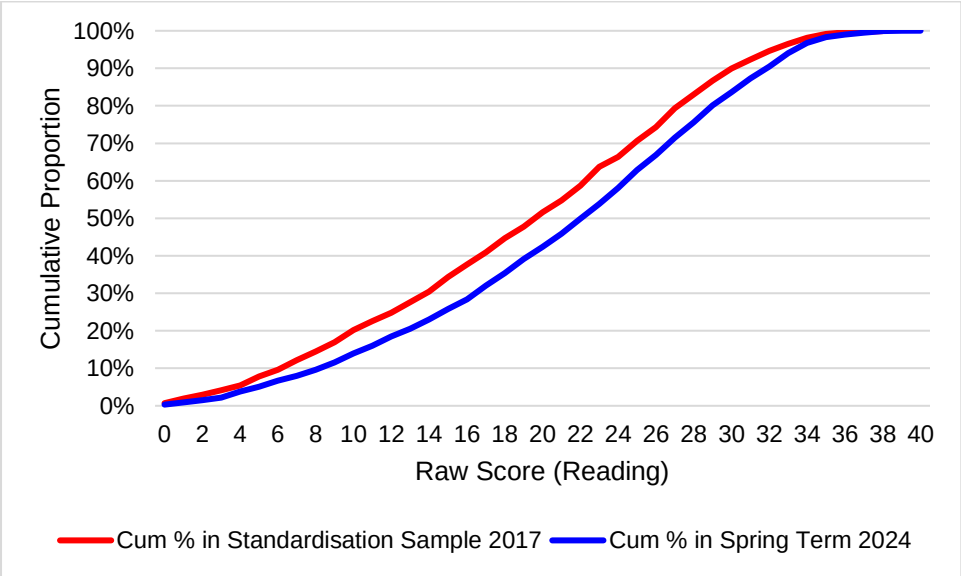
Measure	Raw scores	
	Standardisation sample 2017	Spring Term 2024
Mean	20.317	21.291
95% confidence interval	19.432–21.203	20.319–22.263
Standard deviation	8.882	8.722
N pupils[a]	1,427	2,220

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples were removed.*

There was no significant difference between the overall performance of Year 4 pupils in reading in Spring Term 2024 and the standardisation sample. The mean raw score across the Spring Term 2024 sample was 21.291 compared to 20.317 at standardisation. This equates to an effect size[11] of 0.110 or around two months' progress using the EEF conversion table from the Teaching and Learning/Early Year Toolkit guide.[12]

Figure 4 shows the cumulative proportions for the Year 4 raw reading scores, with the blue line representing the Spring Term 2024 data and the red line representing the 2017 standardisation sample. It reflects the higher mean score seen in Table 13, with slightly higher proportions of pupils achieving higher raw scores in Spring Term 2024, alongside slightly lower proportions of pupils achieving low raw scores compared to the standardisation sample.

Figure 4: Cumulative distribution of reading raw scores for 2017 standardisation sample and Spring Term 2024 sample of Year 4 pupils

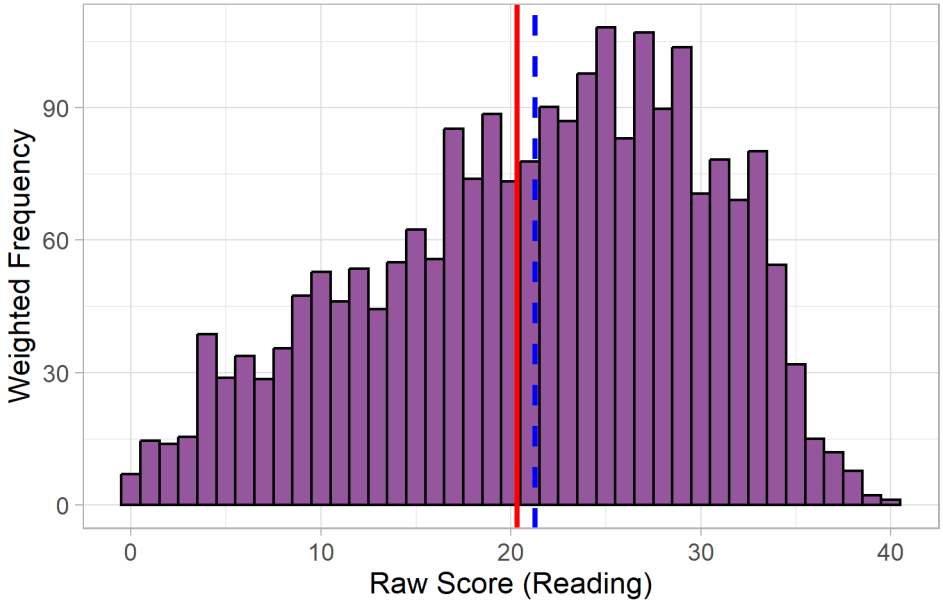


cum=cumulative.

In Figure 5, the red line represents the expected mean if the sample performed exactly as the standardisation sample had, and the blue dotted line represents the observed mean for the sample in Spring Term 2024. The distribution shows a slight negative skew, namely, overall fewer lower scores and more high scores than expected, compared to the standardisation sample.

[11] Covid-19 gap effect sizes were calculated by dividing the difference in standardised score points between the samples by the SD of the standardisation sample.
[12] https://educationendowmentfoundation.org.uk/education-evidence/using-the-toolkits

Figure 5: Distribution of Year 4 reading raw scores for Spring Term 2024 sample



Year 4 reading repeated measures analysis

In order to assess the longitudinal change in the Covid-19 gap, we compared Year 4 pupils' 2024 reading scores with their scores in 2021 (when in Year 1), in 2022 (when in Year 2), and in 2023 (when in Year 3). A total of 1,728 pupils (from 40 schools that participated in 2021, 2022, 2023, and 2024 for the reading assessment for this cohort) were entered into the Year 4 reading repeated measures multilevel models. Out of these 1,728 pupils, 1,070 pupils took the four assessments. Table 14 shows the detail for longitudinal participation.

Table 14: Year 4 reading longitudinal participation

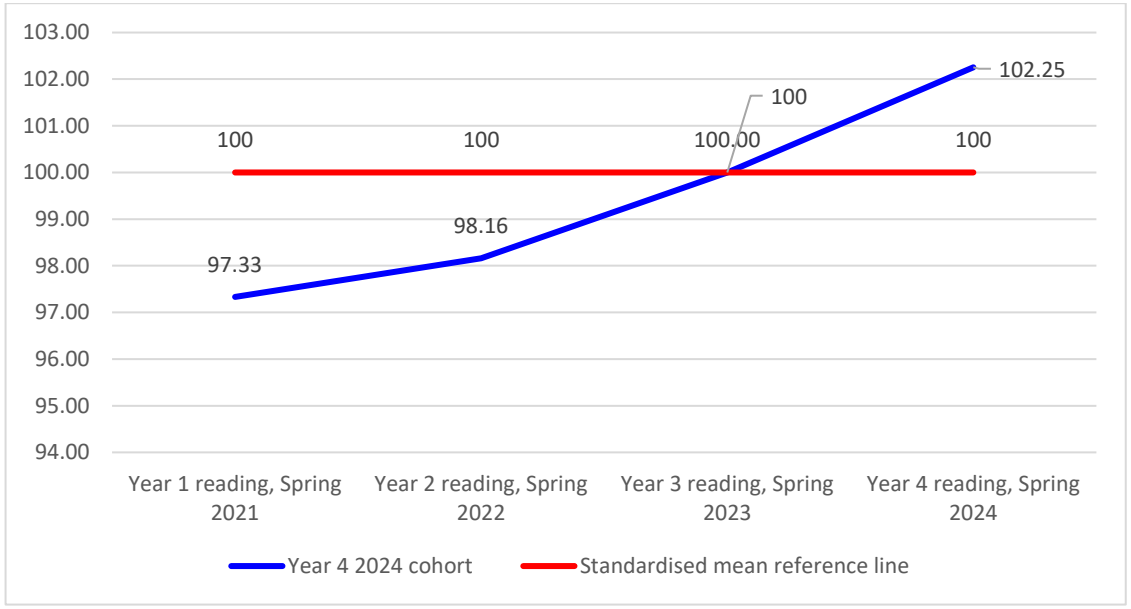
Longitudinal participation	Number of pupils
Spring Term 2021 Only	71
Spring Term 2022 Only	23
Spring Term 2023 Only	15
Spring Term 2024 Only	107
Spring Term 2021 and Spring Term 2022	74
Spring Term 2021 and Spring Term 2023	6
Spring Term 2021 and Spring Term 2024	2
Spring Term 2022 and Spring Term 2023	11
Spring Term 2022 and Spring Term 2024	3
Spring Term 2023 and Spring Term 2024	96
Spring Term 2021, Spring Term 2022, and Spring Term 2023	67
Spring Term 2022, Spring Term 2023, and Spring Term 2024	101
Spring Term 2021, Spring Term 2022, and Spring Term 2024	32
Spring Term 2021, Spring Term 2023, and Spring Term 2024	50
Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024	1,070

Table 15 presents the standardised means of the Year 4 reading responses in Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024. Reading results are higher for each consecutive year after 2021. These are further displayed in Figure 6.

Table 15: Year 4 reading standardised means

Outcome	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 4 reading	1,390	1,269	97.33 (96.49–98.18)	15.39	1,391	1,268	98.16 (97.27–99.06)	16.27	1,426	1,307	100.00 (99.12–100.88)	16.25	1,460	1,354	102.25 (101.50 –103.01)	14.22

Figure 6: Year 4 reading scores



Year 4 reading Covid-19 gap model

Table 16: Year 4 reading Covid-19 gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	99.39 92.21 106.57	3.66	26.78	0.000	
Timepoint	**1.82** **1.62 2.01**	**0.10**	**4090.53**	**0.000**	**0.07** **0.06 0.08**
FSM second lowest 20%	-0.42 -6.80 5.95	3.25	28.01	0.90	-0.02 -0.26 0.23
FSM middle 20%	**-7.12** **-12.40 -1.85**	**2.69**	**28.70**	**0.01**	**-0.27** **-0.48 -0.07**
FSM second highest 20%	**-6.27** **-11.98 -0.55**	**2.92**	**25.03**	**0.04**	**-0.24** **-0.46 -0.02**
FSM highest 20%	-6.99 -14.15 0.17	3.65	25.10	0.07	-0.27 -0.55 0.01
Non-academy	0.88 -4.03 5.79	2.51	28.22	0.73	0.03 -0.16 0.22
East of England	2.45 -3.34 8.23	2.95	27.86	0.41	0.09 -0.13 0.32
London	-0.18 -11.10 10.74	5.57	26.57	0.97	-0.01 -0.43 0.41
South East	3.54 -2.26 9.35	2.96	29.67	0.24	0.14 -0.09 0.36
South West	5.22 -1.18 11.62	3.27	30.39	0.12	0.20 -0.05 0.45
East Midlands	1.00 -5.52 7.53	3.33	28.44	0.77	0.04 -0.21 0.29
West Midlands	-0.94 -7.20 5.32	3.19	25.31	0.77	-0.04 -0.28 0.21
Yorkshire and the Humber	-1.07 -8.24 6.11	3.66	23.23	0.77	-0.04 -0.32 0.24

Note: The reference group for this model was Spring Term 2021 scores, lowest 20% FSM quintile, academy schools, and the East Midlands region. The number of schools is 40, the number of pupils is 1,728. The ICC was 0.08 at school level and 0.65 at pupil level. Significant effects are in bold. CI=confidence interval; FSM=free school meals; ICC=intracluster correlation coefficient; SE=standard error.

The analysis of the Year 4 reading scores used a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 scores were regressed on time, FSM quintiles, academy status, and region. Table 16 presents the results from the model, which measures the impact of time on pupil outcomes. The Covid-19 gap is represented as the difference in the measured reading attainment from the standardised average of 100. The model ascertains whether there was a significant change in this gap between Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024.

There was a significant positive effect of time on Year 4 pupils' reading scores, with an effect size of 0.07 (0.06, 0.08). This means that throughout 2021, 2022, 2023, and 2024, reading scores showed a positive trend. The Covid-19 reading attainment gap has been reduced across the length of the study; and the means in Figure 6 suggest that the gap has been closed and indeed exceeded. This significant increase was found whilst controlling for FSM quintiles, academy status, and region. Effect size and CIs are presented in Table 16.

It is worth noting that being in a school with high FSM (i.e. schools with the highest proportion of FSM pupils) was associated with a medium to large effect on lowering attainment although not all quintiles were statistically significant when compared to the reference (schools with the lowest proportion of FSM pupils).

Year 4 attainment in mathematics: Covid-19 gap

In Year 4, mathematics assessments consisted of three papers, one arithmetic paper and two reasoning papers. All papers are suitable for, and should be taken by, all pupils. Pupils needed to sit all three of the papers in order to be included in the study. The total number of Year 4 pupils included in the mathematics analysis was 2,168 from 59 schools.

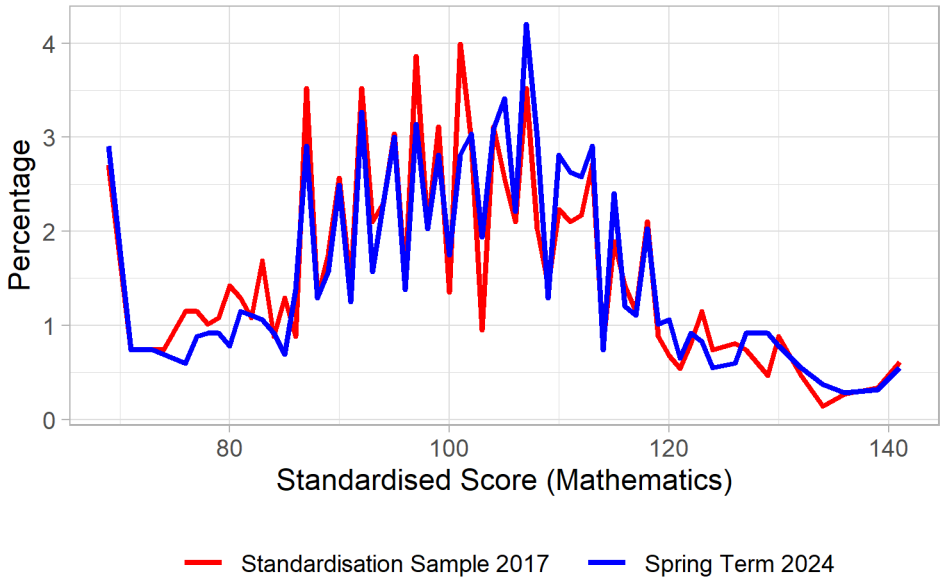
Table 17: Year 4 mathematics standardised scores

Measure	Standardised scores	
	Standardisation sample 2017	Spring Term 2024
Mean	99.771	100.524
95% confidence interval	98.291–101.252	98.754–102.294
Standard deviation	14.802	14.747
N pupils[a]	1,478	2,168

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples were removed.*

The SD of the study sample is very similar, at 14.747, to that of the standardisation sample. This reflects the similarity in the distributions of their scores.

Figure 7: Distribution of mathematics standardised scores for the Spring Term 2024 sample of Year 4 pupils



The proportion of pupils (2.91%) scoring too few marks on the mathematics assessment to achieve a standardised score of 70, resulting in a standardised score of 69, was similar to that of the standardisation sample (2.71%). These are pupils who are unable to engage effectively with the mathematics assessments.

Table 18: Year 4 mathematics raw scores

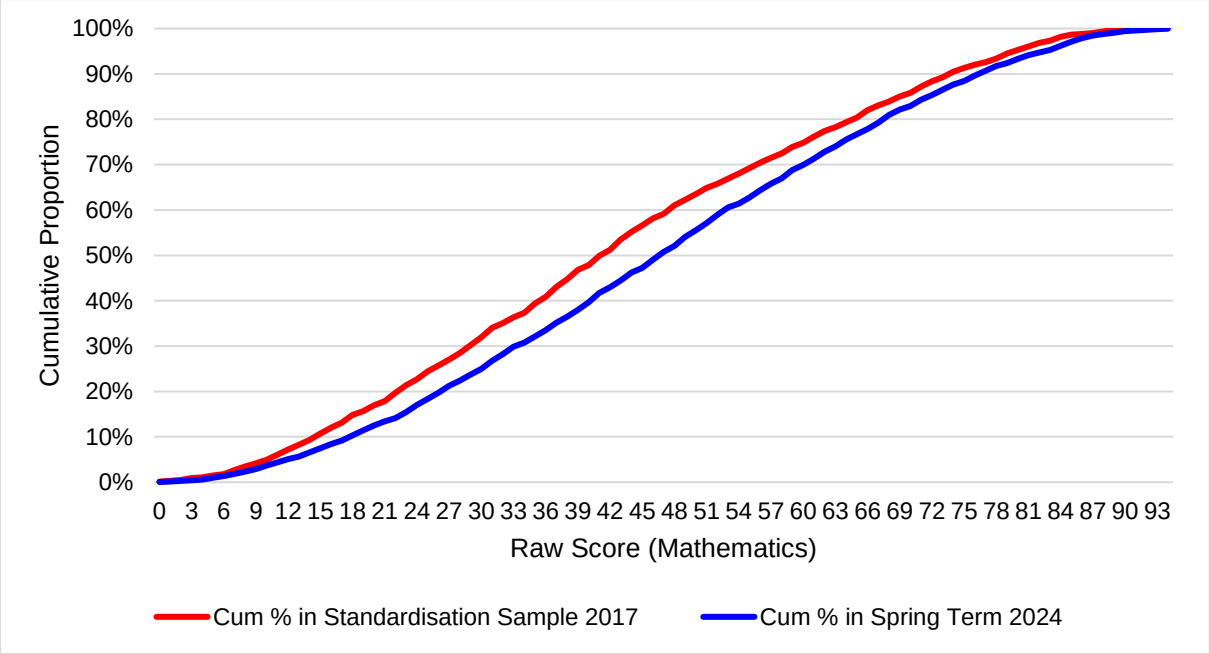
Measure	Raw scores	
	Standardisation sample 2017	Spring Term 2024
Mean	45.318	46.503
95% confidence interval	43.166–47.470	43.919–49.086
Standard deviation	21.650	21.541
N pupils[a]	1,478	2,168

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples were removed.*

There was no significant difference in the overall performance of Year 4 pupils in mathematics in Spring Term 2024 and that of the standardisation sample. The mean raw score across the Spring Term 2024 sample was 46.503, compared to 45.318 at standardisation. This equates to an effect size[13] of 0.055 or zero month's progress using the EEF conversion table from the Teaching and Learning/Early Year Toolkit guide.[14]

Figure 8, which shows the cumulative percentage of mathematics raw scores distribution in both Spring Term 2024 and the standardisation sample, shows the proportion of pupils scoring at the lower and upper end of the range are very similar but slightly improved performance in Spring Term 2024 away from these extremes.

Figure 8: Cumulative distributions of mathematics raw scores for 2017 standardisation sample and Spring Term 2024 sample of Year 4 pupils

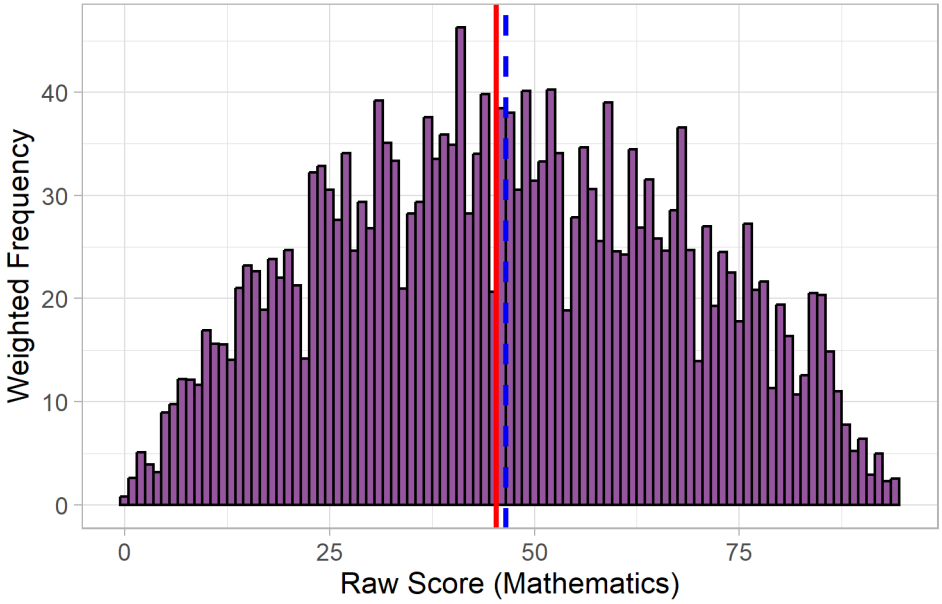


cum=cumulative.

In Figure 9, the red line represents the expected mean if the sample performed exactly as the standardisation sample had, and the blue dotted line represents the observed mean for the sample in Spring Term 2024. The distribution shows that the raw scores are normally distributed.

[13] Covid-19 gap effect sizes were calculated by dividing the difference in standardised score points between the samples by the SD of the standardisation sample.
[14] https://educationendowmentfoundation.org.uk/education-evidence/using-the-toolkits

Figure 9: Distribution of Year 4 mathematics raw scores for Spring Term 2024 sample



Year 4 mathematics repeated measures analysis

In order to assess the longitudinal change in the Covid-19 gap, we compared Year 4 pupils' 2024 mathematics scores with their scores in 2023 (when in Year 3) in 2022 (when in Year 2), and in 2021 (when in Year 1). A total of 1,724 pupils (from 40 schools that participated in 2021, 2022, 2023, and 2024 for the mathematics assessment for this cohort) were entered into the Year 4 reading repeated measures multilevel models. Out of these 1,724 pupils, 1,034 pupils took the four assessments. Table 19 shows the detail for longitudinal participation.

Table 19: Year 4 mathematics longitudinal participation

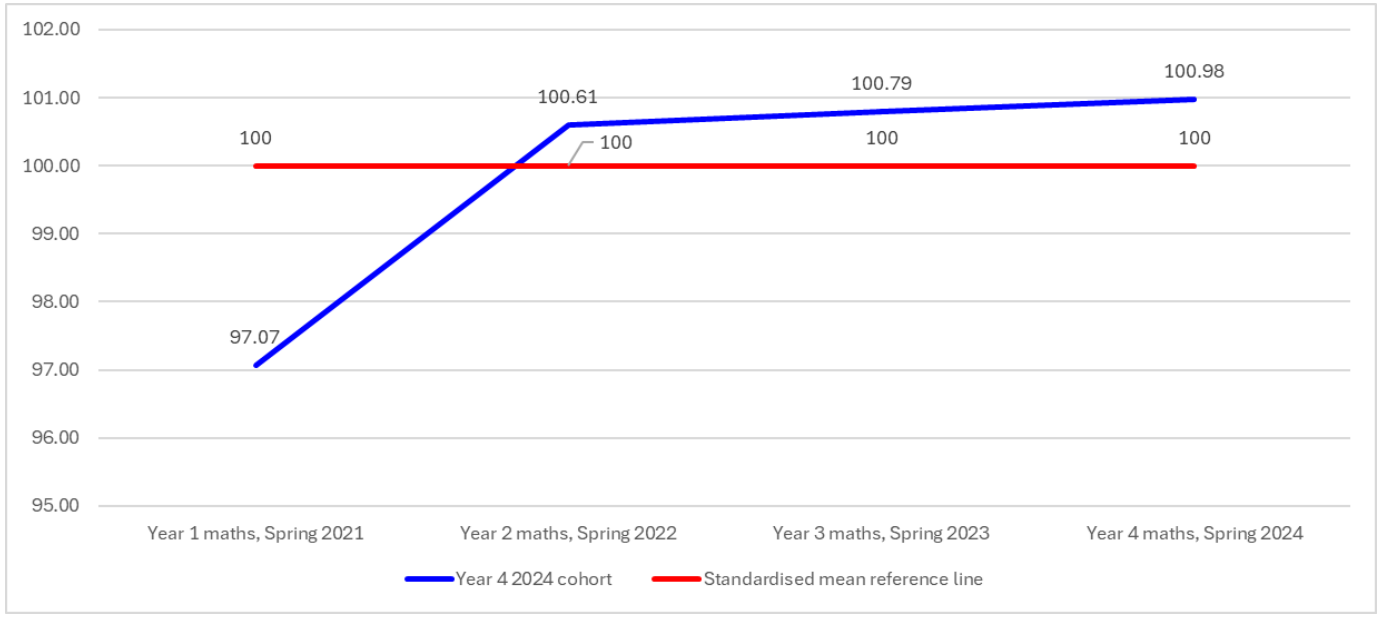
Longitudinal participation	Number of pupils
Spring Term 2021 Only	71
Spring Term 2022 Only	19
Spring Term 2023 Only	18
Spring Term 2024 Only	106
Spring Term 2021 and Spring Term 2022	74
Spring Term 2021 and Spring Term 2023	5
Spring Term 2021 and Spring Term 2024	3
Spring Term 2022 and Spring Term 2023	17
Spring Term 2022 and Spring Term 2024	2
Spring Term 2023 and Spring Term 2024	93
Spring Term 2021, Spring Term 2022, and Spring Term 2023	85
Spring Term 2022, Spring Term 2023, and Spring Term 2024	104
Spring Term 2021, Spring Term 2022, and Spring Term 2024	48
Spring Term 2021, Spring Term 2023, and Spring Term 2024	45
Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024	1,034

Table 20 presents the standardised means of the Year 4 mathematics responses split by term. For pupils overall, Year 4 mathematics results were higher in each subsequent year after Spring Term 2021. These are further displayed in Figure 10.

Table 20: Year 4 mathematics standardised means

	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
Outcome	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 4 mathematics	1,373	1,265	97.07 (96.26–97.88)	14.73	1,387	1,274	100.61 (99.75–101.46)	15.60	1,413	1,296	100.79 (99.98–101.61)	14.97	1,437	1,326	100.98 (100.19 –101.77)	14.73

Figure 10: Year 4 mathematics scores



Year 4 mathematics Covid-19 gap model

The analysis of the Year 4 mathematics scores used a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 scores were regressed on time, FSM quintiles, academy status, and region. Table 21 presents the results from the model, which measures the association between time and pupil outcomes. The Covid-19 gap is represented as the difference between the measured mathematics attainment and the standardised average of 100. The model ascertains whether there was a significant change in this gap between Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024.

There was a significant positive effect of time on Year 4 pupils' mathematics scores, with an effect size of 0.05 (0.04, 0.06). This means that throughout 2021, 2022, 2023, and 2024, mathematics scores showed a positive trend. The Covid-19 mathematics attainment gap has been reduced across the length of the study; and the means in Figure 10 suggest that the gap has been closed and indeed exceeded. This effect was significant whilst controlling for FSM quintiles, academy status, and region. It is worth noting that being in a school in the highest three quintiles of FSM (i.e. schools with the highest proportion of FSM pupils) was associated with a large effect on lowering attainment (although this effect was only significant for the schools in the middle 20% of FSM). Effect size and CIs are presented in Table 21.

Table 21: Year 4 mathematics Covid-19 gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	100.30 92.66 107.95	3.90	28.43	0.000	
Timepoint	**1.21** **1.04 1.37**	**0.08**	**4007.33**	**0.000**	**0.05** **0.04 0.06**
FSM second lowest 20%	-0.13 -6.91 6.65	3.46	29.64	0.97	-0.01 -0.28 0.27
FSM middle 20%	**-6.03** **-11.63 -0.43**	**2.86**	**30.19**	**0.04**	**-0.25** **-0.48 -0.02**
FSM second highest 20%	-5.81 -11.91 0.29	3.11	26.70	0.07	-0.24 -0.49 0.01
FSM highest 20%	-7.50 -15.14 0.13	3.89	26.76	0.06	-0.31 -0.62 0.01
Non-academy	0.51 -4.70 5.73	2.66	29.80	0.85	0.02 -0.19 0.24
East of England	2.07 -4.08 8.22	3.14	29.45	0.51	0.08 -0.17 0.34
London	5.41 -6.20 17.02	5.92	27.94	0.37	0.22 -0.25 0.70
South East	2.52 -3.63 8.68	3.14	30.94	0.43	0.10 -0.15 0.36
South West	4.18 -2.60 10.96	3.46	31.58	0.24	0.17 -0.11 0.45
East Midlands	1.84 -5.09 8.77	3.54	29.90	0.61	0.08 -0.21 0.36
West Midlands	-1.49 -8.17 5.19	3.41	27.03	0.67	-0.06 -0.34 0.21
Yorkshire and the Humber	1.00 -6.66 8.67	3.91	25.00	0.80	0.04 -0.27 0.36

Note: The reference group for this model was Spring Term 2021 scores, lowest 20% FSM quintile, academy schools, and the East Midlands region. The number of schools is 40, the number of pupils is 1,724. The ICC was 0.11 at school level and 0.70 at pupil level. Significant effects are in bold. CI=confidence interval; FSM=free school meals; ICC=intracluster correlation coefficient; SE=standard error.

Year 5 attainment in reading and mathematics: Covid-19 gap

Year 5 attainment in reading: Covid-19 gap

In Year 5, the reading assessment consists of one paper, which is suitable for all pupils. The total number of Year 5 pupils included in the reading analysis was 2,198 from 59 schools.

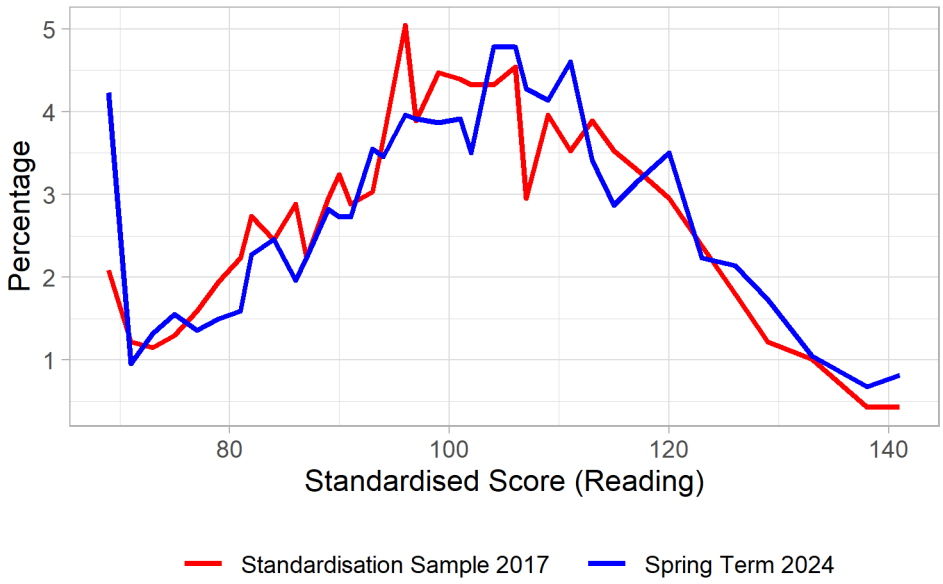
Table 22: Year 5 reading standardised scores

Measure	Standardised scores	
	Standardisation sample 2017	Spring Term 2024
Mean	99.643	99.840
95% confidence interval	98.254–101.032	98.569–101.111
Standard deviation	14.717	15.620
N pupils[a]	1,388	2,198

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples were removed.*

The SD of the study sample is slightly larger, at 15.620, than that of the standardisation sample. This is due in part to a larger proportion of pupils achieving at the higher end of the range of scores.

Figure 11: Distribution of reading standardised scores for the Spring Term 2024 sample of Year 5 pupils



In Spring Term 2024, the proportion of pupils scoring too few marks on the reading assessment to achieve a standardised score of 70, resulting in a standardised score of 69 was 4.23%, which was more than twice that of the standardisation sample of 2.09%.

The standardised score analysis has allowed us to identify the pupils who were unable to engage effectively with the assessment. A raw score analysis was also carried out in order to test whether the mean differences in performance are significant, without the use of potentially inflated scores for these low achievers, and in order to account for the clustering of the sample.

Table 23: Year 5 reading raw scores

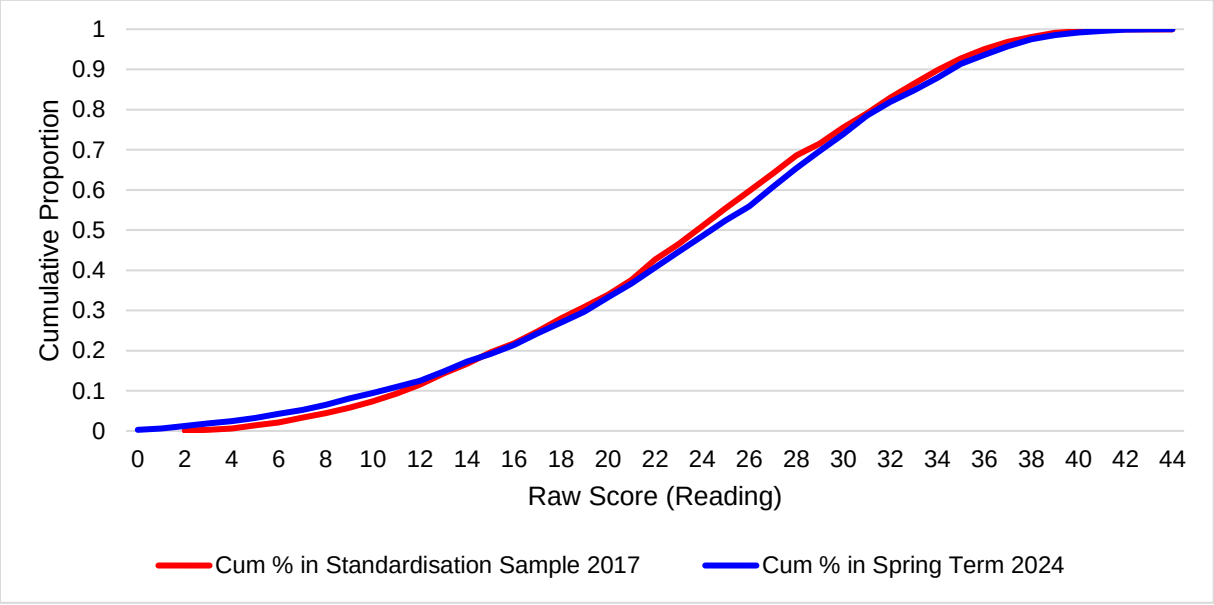
Measure	Raw scores	
	Standardisation sample 2017	Spring Term 2024
Mean	23.715	23.731
95% confidence interval	22.905–24.526	22.996–24.465
Standard deviation	8.458	9.041
N pupils[a]	1,388	2,198

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples were removed.*

There was no significant difference in the overall performance of Year 5 pupils in reading in Spring Term 2024 when compared to the standardisation sample. The mean raw score across the Spring Term 2024 sample was 23.731, compared to 23.715 at standardisation. This equates to an effect size[15] of +0.002 or zero month's progress using the EEF conversion table from the Teaching and Learning/Early Years Toolkit guide.[16]

Figure 12, which shows the cumulative percentage of raw reading scores distribution in both Spring Term 2024 and the standardisation sample, shows the proportion of pupils scoring at all points are very similar in Spring Term 2024.

Figure 12: Cumulative distributions of reading raw scores for 2017 standardisation sample and Spring Term 2024 sample of Year 5 pupils

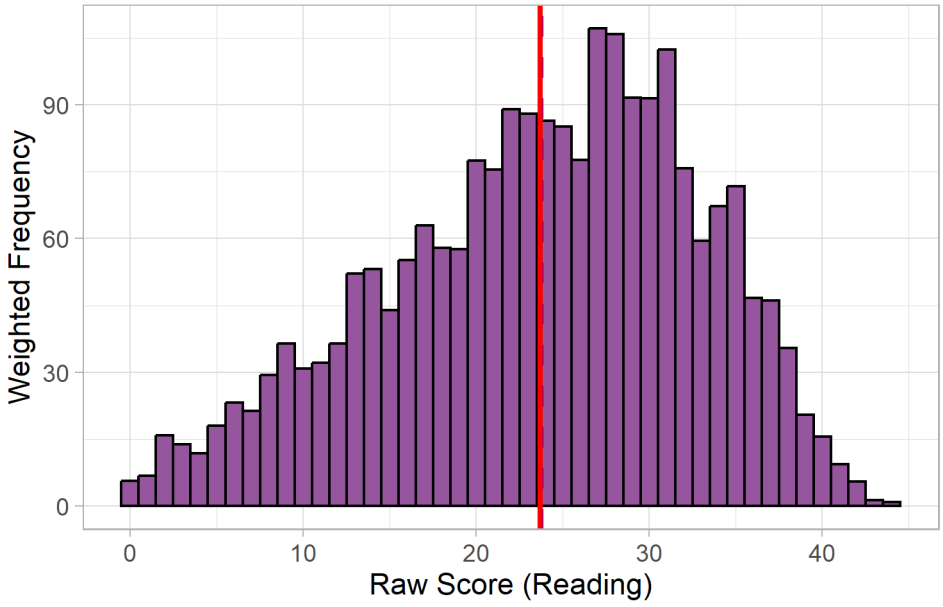


cum=cumulative.

In Figure 13, the red line represents the expected mean if the sample performed exactly as the standardisation sample had. The blue dotted line, which represents the observed mean for the sample in 2024 lies almost on the red line as the expected and observed means are almost the same. The distribution shows a slight negative skew, namely, fewer lower scores and more high scores than expected.

[15] Covid-19 gap effect sizes were calculated by dividing the difference in standardised score points between the samples by the SD of the standardisation sample.
[16] https://educationendowmentfoundation.org.uk/education-evidence/using-the-toolkits

Figure 13: Distribution of Year 5 reading raw scores for Spring Term 2024 sample



Year 5 reading repeated measures analysis

In order to assess the longitudinal change in the Covid-19 gap, we compared Year 5 pupils' 2024 reading scores with their scores in 2023 (when in Year 4), in 2022 (when in Year 3), and in 2021 (when in Year 2). A total of 1,977 pupils (from 42 schools that participated in 2021, 2022, 2023, and 2024 for the reading assessment for this cohort) were entered into the Year 5 reading repeated measures multilevel models. Out of these 1,977 pupils, 1,188 pupils took the four assessments. Table 24 shows the detail for longitudinal participation:

Table 24: Year 5 reading longitudinal participation

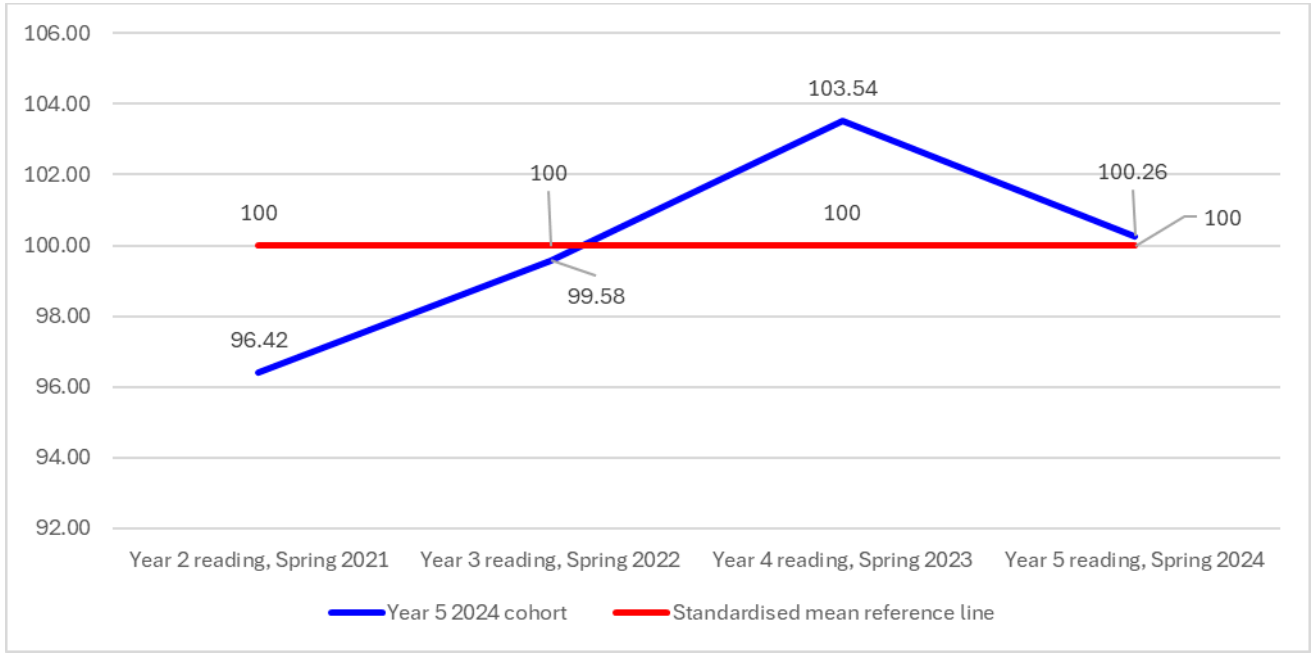
Longitudinal participation	Number of pupils
Spring Term 2021 Only	100
Spring Term 2022 Only	27
Spring Term 2023 Only	20
Spring Term 2024 Only	174
Spring Term 2021 and Spring Term 2022	73
Spring Term 2021 and Spring Term 2023	3
Spring Term 2021 and Spring Term 2024	1
Spring Term 2022 and Spring Term 2023	10
Spring Term 2022 and Spring Term 2024	6
Spring Term 2023 and Spring Term 2024	71
Spring Term 2021, Spring Term 2022, and Spring Term 2023	98
Spring Term 2022, Spring Term 2023, and Spring Term 2024	125
Spring Term 2021, Spring Term 2022, and Spring Term 2024	20
Spring Term 2021, Spring Term 2023, and Spring Term 2024	61
Spring Term 2021, Spring Term 2022, Spring Term 2023 and Spring Term 2024	1,188

Table 25 presents the standardised means of the Year 5 reading scores split by year. For all pupils, scores are higher in each subsequent year between 2021 and 2023. However, 2024 reading results are lower than in 2023. These are further displayed in Figure 14.

Table 25: Year 5 reading standardised means

	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
Outcome	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 5 reading	1,549	1,399	96.42 (95.58–97.25)	15.93	1,535	1,409	99.58 (98.74–100.42)	16.08	1,579	1,424	103.54 (102.76–104.32)	14.697	1,695	1,477	100.26 (99.47 –101.06)	15.52

Figure 14: Year 5 reading scores



Year 5 reading Covid-19 gap model

Table 26: Year 5 reading Covid-19 gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	97.05 (91.18, 102.92)	2.99	29.04	0.000	
Timepoint	**1.69 (1.50, 1.88)**	**0.10**	**4555.52**	**0.000**	**0.07 (0.06, 0.07)**
FSM second lowest 20%	-0.23 (-5.37, 4.91)	2.62	29.81	0.93	-0.01 (-0.21, 0.19)
FSM middle 20%	-2.76 (-6.97, 1.46)	2.15	29.65	0.21	-0.11 (-0.27, 0.06)
FSM second highest 20%	**-5.84 (-10.56, -1.12)**	**2.41**	**25.85**	**0.02**	**-0.23 (-0.42, -0.04)**
FSM highest 20%	-5.00 (-10.83, 0.82)	2.97	25.73	0.10	-0.20 (-0.43, 0.03)
Non-academy	1.98 (-2.27, 6.23)	2.17	32.87	0.37	0.08 (-0.09, 0.25)
East of England	2.62 (-2.12, 7.35)	2.42	29.23	0.29	0.10 (-0.08, 0.29)
London	4.04 (-4.90, 12.98)	4.56	24.66	0.38	0.16 (-0.19, 0.51)
South East	1.86 (-2.85, 6.57)	2.40	30.13	0.44	0.07 (-0.11, 0.26)
South West	3.81 (-1.72, 9.34)	2.82	41.62	0.18	0.15 (-0.07, 0.37)
East Midlands	-1.60 (-6.85, 3.66)	2.68	30.76	0.56	-0.06 (-0.27, 0.14)
West Midlands	0.91 (-3.56, 5.38)	2.28	25.97	0.69	0.04 (-0.14, 0.21)
Yorkshire and the Humber	1.13 (-4.61, 6.88)	2.93	22.66	0.70	0.04 (-0.18, 0.27)

Note: The reference group for this model was Spring Term 2021 scores, lowest 20% FSM quintile, academy schools, and the East Midlands region. The number of schools is 42 and the number of pupils is 1,977. The ICC was 0.05 at school level and 0.69 at pupil level. Significant effects are in bold. CI=confidence interval; FSM=free school meals; ICC=intracluster correlation coefficient; SE=standard error.

The analysis of the Year 5 reading scores was a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 scores were regressed on time, FSM quintiles, academy status, and region. Table 26 presents the results from the model, which measures the impact of time on pupil outcomes. The Covid-19 gap is represented as the difference between the measured reading attainment and the standardised average of 100. The model ascertains whether there was a significant change in this gap between Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024.

There was a significant positive effect of time on Year 5 pupils' reading scores, with an effect size of 0.07 (0.06, 0.07). This means that throughout 2021, 2022, 2023, and 2024, reading scores showed a positive trend, and there was a decrease in the Covid-19 reading attainment gap. This effect was significant whilst controlling for FSM quintiles, academy status, and region. It is worth noting that being in a school in the highest quintiles of FSM (i.e. schools with the

highest proportion of FSM pupils) was associated with a medium effect on lowering attainment (although this was only significant in the case of the second highest quintile). Effect size and CIs are presented in Table 26.

Year 5 attainment in mathematics: Covid-19 gap

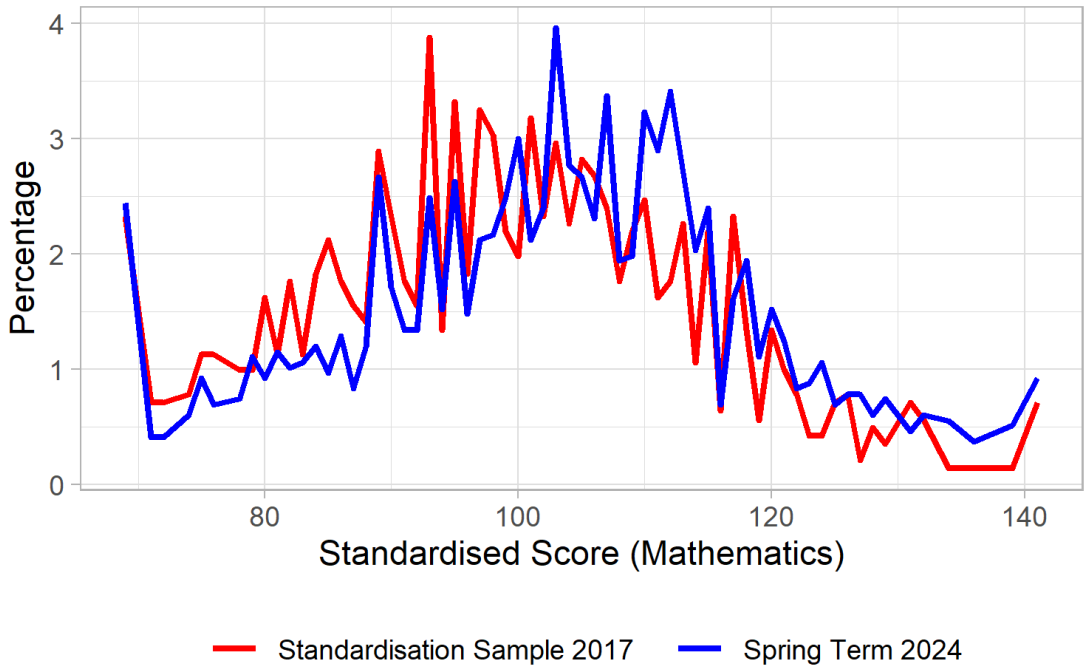
In Year 5, mathematics assessments consist of three papers, one arithmetic paper and two reasoning papers. All three papers are suitable for, and should be taken by, all pupils. Pupils needed to sit all of the papers in their respective assessments in order to be included in the study. The total number of Year 5 pupils included in the mathematics analysis was 2,169 from 59 schools.

Table 27: Year 5 mathematics standardised scores

Measure	Mathematics	
	Standardisation sample 2017	Spring Term 2024
Mean	99.445	102.534
95% confidence interval	98.182–100.707	101.033–104.036
Standard deviation	14.642	15.130
N pupils[a]	1,417	2,169

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples for Year 4 and Year 5 were removed.*

Figure 15: Distribution of mathematics standardised scores for the Spring Term 2024 sample of Year 5 pupils



The SD of the study sample is slightly larger, at 15.130, than that of the standardisation sample at 14.642 (Table 27). The proportion of pupils scoring at the very lowest end of the range, with 2.44% in Spring Term 2024 compared to 2.33% in the standardisation sample, is very similar. However, in Spring Term 2024 there was a greater proportion of higher marks.

In Figure 15, the distribution of scores shows that a very similar proportion of the Spring Term 2024 pupils were awarded the lowest possible standardised score of 69 but a slightly larger proportion scored the highest possible score of 141.

The standardised score analysis allowed us to identify the pupils who were unable to engage effectively with the assessment along with those scoring at the very highest end of the range. However, in order to test whether the mean

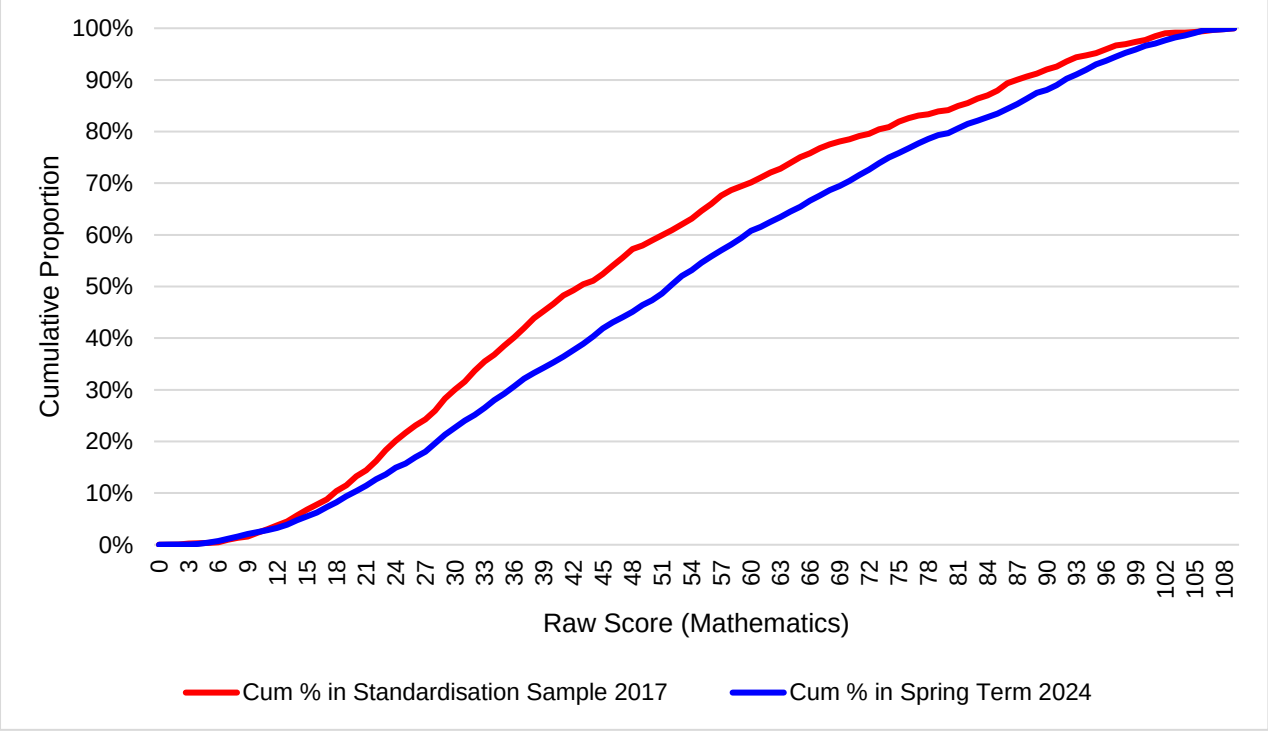
differences in performance are significant, without the use of potentially inflated scores for these low attainers and limits on the scores of the very highest attainers, and in order to account for the clustering of the sample, we also carried out analysis of the raw scores.

Table 28: Year 5 mathematics raw score analysis for Spring Term 2024 sample and 2017 standardisation sample

Measure	Raw scores	
	Standardisation sample 2017	Spring Term 2024
Mean	48.072	53.607
95% confidence interval	45.943–50.201	51.063–56.152
Standard deviation	25.391	26.326
N pupils[a]	1,417	2,169

[a] *The mathematics and reading Spring Term 2024 samples were weighted by Key Stage 2 performance. Data relating to pupils from independent schools in the 2017 standardisation samples for Year 4 and Year 5 were removed.*

Figure 16: Cumulative distributions of mathematics raw scores for 2017 standardisation sample and Spring Term 2024 sample of Year 5 pupils



cum=cumulative.

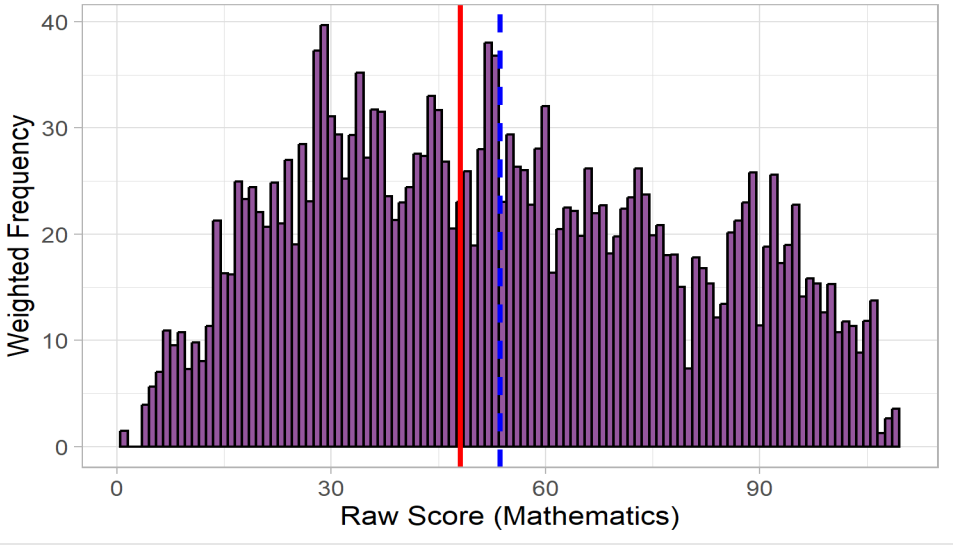
The overall performance of Year 5 pupils in mathematics in Spring Term 2024 was significantly higher than the standardisation sample. The mean raw score across the Spring Term 2024 sample was 53.607, compared to 48.072 at standardisation (Table 28). This equates to an effect size[17] of +0.218 or around an additional three months' progress using the EEF conversion table from the Teaching and Learning/Early Years Toolkit guide.[18]

Figure 16 shows that the proportion of pupils scoring at the very lowest and highest ends of the range are very similar but with overall improved performance in the Spring Term 2024 assessment away from these extremes.

[17] Covid-19 gap effect sizes were calculated by dividing the difference in standardised score points between the samples by the SD of the standardisation sample.
[18] https://educationendowmentfoundation.org.uk/education-evidence/using-the-toolkits

In Figure 17, the red line represents the expected mean if the sample performed exactly as the standardisation sample had, and the blue dotted line represents the observed mean for the sample in Spring Term 2024. The distribution shows that the distribution of the raw scores is bi-modal.

Figure 17: Distribution of Year 5 mathematics raw scores for Spring Term 2024 sample



Year 5 mathematics repeated measures analysis

In order to assess the longitudinal change in the Covid-19 gap, we compared Year 5 pupils' 2024 mathematics scores with their scores in 2021 (when in Year 2), in 2022 (when in Year 3), and in 2023 (when in Year 4). A total of 1,901 pupils (from 41 schools that participated in 2021, 2022, 2023, and 2024 for the mathematics assessment for this cohort) were entered into the Year 5 mathematics repeated measures multilevel models. Out of these 1,901 pupils, 1,155 took the three assessments. Table 29 shows the detail for longitudinal participation:

Table 29: Year 5 mathematics longitudinal participation

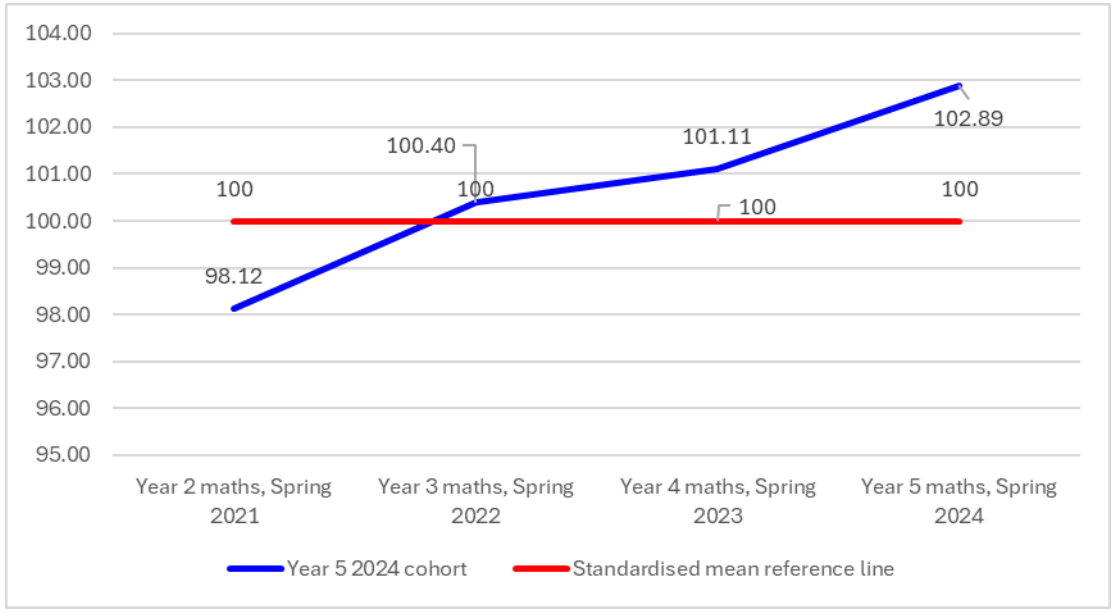
Longitudinal participation	Number of pupils
Spring Term 2021 Only	90
Spring Term 2022 Only	22
Spring Term 2023 Only	15
Spring Term 2024 Only	155
Spring Term 2021 and Spring Term 2022	77
Spring Term 2021 and Spring Term 2023	7
Spring Term 2021 and Spring Term 2024	3
Spring Term 2022 and Spring Term 2023	16
Spring Term 2022 and Spring Term 2024	9
Spring Term 2023 and Spring Term 2024	77
Spring Term 2021, Spring Term 2022, and Spring Term 2023	83
Spring Term 2022, Spring Term 2023, and Spring Term 2024	122
Spring Term 2021, Spring Term 2022, and Spring Term 2024	31
Spring Term 2021, Spring Term 2023, and Spring Term 2024	39
Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024	1,155

Table 30 presents the standardised means of the Year 5 mathematics responses split by year. For all pupils, 2024 mathematics results are higher than in 2023, 2022, and 2021. These are further displayed in Figure 18 below.

Table 30: Year 5 mathematics standardised means

	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
Outcome	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 5 mathematics	1,489	1,323	98.12 (97.29–98.96)	15.50	1,523	1,351	100.40 (99.58–101.21)	15.28	1,520	1,347	101.11 (100.31–101.91)	14.93	1,593	1,411	102.89 (102.11 –103.67)	14.96

Figure 18: Year 5 mathematics scores



Year 5 mathematics Covid-19 gap model

The analysis of the Year 5 mathematics scores was a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 scores were regressed on time, FSM quintiles, academy status, and region. Table 31 presents the results from the model, which measures the impact of time on pupil outcomes. The Covid-19 gap is represented as the difference between the measured mathematics attainment and the standardised average of 100. The model ascertains whether there was a significant change in this gap between Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024.

There was a significant positive effect of time on Year 5 pupils' mathematics scores, with an effect size of 0.07 (0.06, 0.07). Throughout 2021, 2022, 2023, and 2024, mathematics standardised scores showed a positive trend, and there was a decrease in the Covid-19 mathematics attainment gap. This means that Year 5 pupils' mathematics attainment was higher in 2024 than in previous years. This effect was significant whilst controlling for FSM quintiles, academy status, and region. It is worth noting that being in a school in the highest two quintiles of FSM (i.e. schools with the highest proportion of FSM pupils) was associated with a medium effect on lowering attainment. Although this effect was only significant for the second highest 20%. Effect size and CIs are presented in Table 31.

Table 31: Year 5 mathematics Covid-19 gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	94.06 88.19 99.93	2.99	31.06	0.000	
Timepoint	**1.62** **1.48 1.76**	**0.07**	**4324.91**	**0.000**	**0.07** **0.06 0.07**
FSM second lowest 20%	4.51 -0.65 9.67	2.63	32.00	0.10	0.19 -0.03 0.40
FSM middle 20%	-2.20 -6.47 2.06	2.18	31.79	0.32	-0.09 -0.27 0.09
FSM second highest 20%	**-5.01** **-9.67 -0.35**	**2.38**	**27.06**	**0.04**	**-0.21** **-0.40 -0.01**
FSM highest 20%	-2.84 -8.63 2.94	2.95	27.11	0.34	-0.12 -0.36 0.12
Non-academy	**5.57** **1.21 9.94**	**2.23**	**36.64**	**0.02**	**0.23** **0.05 0.41**
East of England	3.12 -1.57 7.81	2.39	30.92	0.20	0.13 -0.07 0.32
London	1.86 -7.03 10.76	4.54	26.17	0.68	0.08 -0.29 0.45
South East	2.63 -2.02 7.28	2.37	31.66	0.28	0.11 -0.08 0.30
South West	1.72 -3.76 7.20	2.80	43.97	0.54	0.07 -0.16 0.30
East Midlands	-1.92 -7.12 3.28	2.65	32.16	0.47	-0.08 -0.30 0.14
West Midlands	0.48 -4.14 5.10	2.36	27.16	0.84	0.02 -0.17 0.21
Yorkshire and the Humber	-0.78 -6.45 4.88	2.89	23.57	0.79	-0.03 -0.27 0.20

Note: The reference group for this model was Spring Term *2021 scores, lowest 20% FSM quintile, academy schools*, *and the East Midlands region. The number of schools is 41 and the number of pupils is 1,901. The ICC was 0.05 at school* level *and 0.80 at pupil level. Significant effects are in bold. CI=confidence interval; FSM=free school meals; ICC=intracluster correlation coefficient; SE=standard error.*

Research question 2: To what extent do different groups recover by spring 2024; in particular, how is the gap between disadvantaged children and their peers changing over time?

Summary

- In Spring Term 2024, the disadvantage gap for both Year 4 reading and Year 4 mathematics was around seven months' progress.
- In Spring Term 2024, the disadvantage gap for Year 5 reading was around six months' progress, and for Year 5 mathematics around seven months' progress.
- The repeated measures models provided evidence of a reduction in the disadvantage gaps in both the reading and mathematics assessments for Year 4 pupils.
- The models provided no evidence of a reduction in the disadvantage gap for Year 5 pupils in either reading or in mathematics.

Year 4 attainment in reading and mathematics: The disadvantage gap

Within the Spring Term 2024 sample, approximately 23% of pupils in Year 4 were classed as disadvantaged (i.e. eligible for FSM as reported by schools). For a very small number of pupils (one pupil in reading and one pupil in mathematics), no FSM eligibility was provided, and these pupils have been excluded from the following calculations. The standardisation sample does not provide data on the performance of disadvantaged and non-disadvantaged pupils. Our disadvantage-gap analysis explores the difference between the mean scores of pupils eligible for FSM and those of their peers not eligible for FSM within each assessment sample.

Analysis of the Covid-19 gap showed that for both year groups in reading and in mathematics, there are a number of pupils who were unable to engage effectively with the assessments. In analysing the disadvantage gap, the use of standardised scores, with the potentially inflated scores for these lowest achievers, would not have been appropriate given that it may have a greater impact on the performance of disadvantaged pupils than their peers. Analysis of the disadvantage gap in Spring Term 2024 was therefore carried out with raw scores. However, it was necessary to work with standardised scores in the repeated measures analysis to allow comparison between different assessments and timepoints.

Year 4 reading attainment: The disadvantage gap

Table 32 shows a summary of the performance of disadvantaged pupils compared to those pupils within the cohort who are not disadvantaged (i.e. eligibility for FSM as reported by schools).

Table 32: Performance of Year 4 pupils in reading for Spring Term 2024

Measure	Standardisation sample 2017	Spring Term 2024 all pupils	Spring Term 2024 FSM	Spring Term 2024 non-FSM
Mean	20.32	21.29	17.52	22.45
95% confidence interval	19.43–21.20	20.32–22.26	16.16–18.89	21.54–23.26
Standard deviation	8.88	8.72	8.84	8.35
N pupils	1,427	2,220	518	1,701

For the Year 4 reading assessments, 23.3% of the cohort were classed as being disadvantaged. The difference between the mean raw scores of disadvantaged pupils and non-disadvantaged is 4.93 points and represents a significant

difference in performance (Table 32). The effect size for this data is 0.55,[19] which using the EEF table,[20] equates to seven months' progress.

Year 4 reading repeated measures analysis

In order to assess the longitudinal change in the disadvantage gap, we compared how Year 4 FSM and non-FSM pupils' reading scores changed from Spring Term 2021 (when in Year 1) to Spring Term 2022 (when in Year 2), Spring Term 2023 (when in Year 3), and Spring Term 2024. A total of 1,728 pupils (from 40 schools that participated in 2021, 2022, 2023, and 2024 for the reading assessment for this cohort) were entered into the Year 4 reading repeated measures multilevel models. Out of these 1,728 pupils, 1,070 pupils took the four assessments. Table 33 shows the detail for longitudinal participation.

Table 33: Year 4 reading longitudinal participation

Longitudinal participation	Number of pupils
Spring Term 2021 Only	71
Spring Term 2022 Only	23
Spring Term 2023 Only	15
Spring Term 2024 Only	107
Spring Term 2021 and Spring Term 2022	74
Spring Term 2021 and Spring Term 2023	6
Spring Term 2021 and Spring Term 2024	2
Spring Term 2022 and Spring Term 2023	11
Spring Term 2022 and Spring Term 2024	3
Spring Term 2023 and Spring Term 2024	96
Spring Term 2021, Spring Term 2022, and Spring Term 2023	67
Spring Term 2022, Spring Term 2023, and Spring Term 2024	101
Spring Term 2021, Spring Term 2022, and Spring Term 2024	32
Spring Term 2021, Spring Term 2023, and Spring Term 2024	50
Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024	1,070

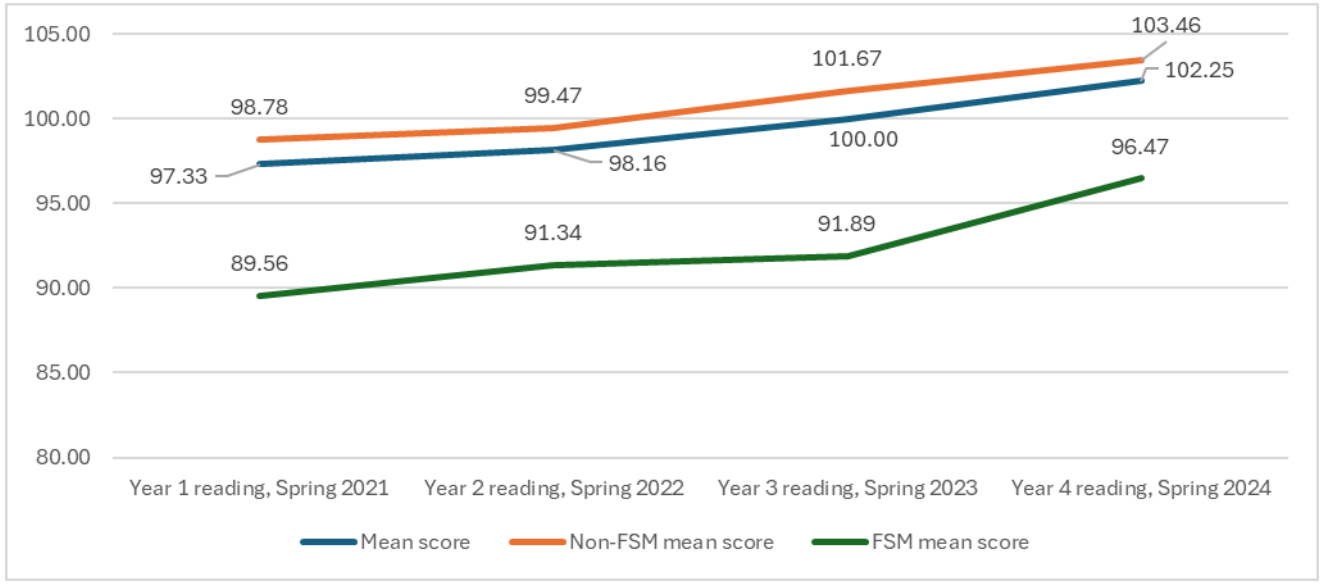
Table 34 presents the standardised mean reading scores of the Year 4 group as a whole, for the non-FSM pupils, and for the FSM pupils in the longitudinal analysis. Each group's scores are split by term. For pupils overall, FSM and non-FSM pupils, 2024 reading results are higher for each consecutive year after 2021. Following the common trend, non-FSM pupils have higher scores at all timepoints than FSM pupils. These mean differences are further displayed in Figure 19 below.

[19] Disadvantage gap effect sizes were calculated by dividing the standardised score point difference between FSM and non-FSM pupils by the overall Spring Term 2024 SD.
[20] https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits/attainment/

Table 34: Reading standardised score mean

Outcome	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 4 reading	1,390	1,269	97.33 (96.49–98.18)	15.39	1,391	1,268	98.16 (97.27–99.06)	16.27	1,426	1,307	100.00 (99.12–100.88)	16.25	1,460	1,354	102.25 (101.50 –103.01)	14.22
Year 4 reading (FSM only)	218	197	89.56 (87.57–91.54)	14.14	223	206	91.34 (89.24–93.44)	15.30	243	221	91.89 (89.81–93.96)	15.63	253	232	96.47 (94.63–98.30)	14.18
Year 4 reading (non-FSM only)	1,172	1,072	98.78 (97.87–99.69)	15.39	1,168	1,062	99.47 (98.49–100.44)	16.13	1,183	1,086	101.67 (100.72–102.61)	15.88	1,206	1,122	103.46 (102.65–104.28)	13.93

Figure 19: Year 4 reading scores



Year 4 reading disadvantage gap model

The analysis of the Year 4 reading scores was a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 standardised scores were regressed on time, FSM eligibility of pupils in January 2020 (i.e. before school closures), FSM quintiles of schools, EAL status, gender, academy status, and region. Table 35 presents the results from the model, which measures the impact of FSM pupil outcomes as a function of time. The disadvantage gap is represented as the difference in the measured reading attainment between FSM and non-FSM pupils. The model ascertains whether there was a significant change in this gap between Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024.

There was a significant positive interaction between time and FSM eligibility on Year 4 pupils' reading scores. This means that between 2021, 2022, 2023, and 2024, FSM pupils' scores changed differently for FSM and non-FSM pupils. Consequently, the disadvantage gap for reading attainment seems to be reducing. This result was obtained whilst controlling for FSM quintiles, gender, EAL status, academy status, and region. It is worth noting that being in a school in the highest three quintiles of FSM (i.e. schools with the highest proportion of FSM pupils) was associated with a medium effect on lowering attainment (although this was significant for the middle 20% of FSM schools only). Effect size and CIs are presented in Table 35.

Table 35: Year 4 reading disadvantage gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	97.73 (90.65, 104.81)	3.61	26.52	0.000	
Timepoint	**1.70 (1.49, 1.91)**	**0.11**	**4068.86**	**0.000**	**0.07 (0.06, 0.07)**
FSM Yes	**-7.35 (-9.28, -5.43)**	**.98**	**2587.65**	**0.00**	**-0.28 (-0.36, -0.21)**
Wave*FSM	**0.83 (0.29, 1.37)**	**0.27**	**4201.95**	**0.00**	**0.03 (0.01, 0.05)**
Gender	**3.16 (1.90, 4.41)**	**0.64**	**1664.80**	**0.00**	**0.12 (0.07, 0.17)**
FSM second lowest 20%	0.42 (-5.84, 6.69)	3.19	27.38	0.90	0.02 (-0.23, 0.26)
FSM middle 20%	**-5.86 (-11.04, -0.67)**	**2.65**	**28.25**	**0.04**	**-0.23 (-0.43, -0.03)**
FSM second highest 20%	-4.92 (-10.55, 0.71)	2.87	24.70	0.10	-0.19 (-0.41, 0.03)
FSM highest 20%	-5.11 (-12.15, 1.93)	3.59	24.73	0.17	-0.20 (-0.47, 0.07)
Non-academy	1.46 (-3.36, 6.29)	2.46	27.60	0.56	0.06 (-0.13, 0.24)
East of England	2.55 (-3.13, 8.23)	2.9	27.19	0.39	0.10 (-0.12, 0.32)
London	-0.07 (-10.80, 10.65)	5.47	25.96	0.99	0.00 (-0.42, 0.41)
South East	3.12 (-2.58, 8.82)	2.91	28.98	0.29	0.12 (-0.10, 0.34)
South West	5.04 (-1.24, 11.33)	3.21	29.66	0.13	0.19 (-0.05, 0.44)
East Midlands	1.61 (-4.80, 8.02)	3.27	27.79	0.63	0.06 (-0.18, 0.31)
West Midlands	-0.92 (-7.06, 5.23)	3.14	24.71	0.77	-0.04 (-0.27, 0.20)
Yorkshire and the Humber	-1.24 (-8.29, 5.80)	3.59	22.69	0.73	-0.05 (-0.32, 0.22)

Note: The reference group for this model was Spring Term 2021 scores, non-FSM pupils, males, non-EAL pupils, lowest 20% FSM quintile, academy schools, and the East Midlands region. The number of schools is 40, the number of pupils is 1,728. The ICC was 0.08 at school level and 0.64 at pupil level. Significant effects are in bold. CI=confidence interval; EAL=English as an Additional Language; FSM=free school meals; ICC=intracluster correlation coefficient; SE=standard error.

Year 4 mathematics attainment: The disadvantage gap

Table 36 shows a summary of the performance of disadvantaged pupils compared to those pupils within the cohort who are not disadvantaged (i.e. eligibility for FSM as reported by schools).

Table 36: Performance of Year 4 pupils in mathematics for Spring Term 2024

Measure	Standardisation sample 2017	Spring Term 2024 all pupils	Spring Term 2024 FSM	Spring Term 2024 non-FSM
Mean	45.32	46.50	37.74	49.13
95% confidence interval	43.17–47.47	43.92–49.09	33.92–41.55	46.86–51.40
Standard deviation	21.65	21.54	20.63	21.12
N pupils	1,478	2,168	491	1,676

For the Year 4 mathematics assessments, 22.6% of the cohort were classed as being disadvantaged. The difference between the mean raw scores of disadvantaged pupils and non-disadvantaged pupils is 11.39 points and represents a significant difference in performance (Table 36). The effect size for this data is 0.53, which using the EEF table,[21] equates to seven months' progress.

Year 4 mathematics repeated measures analysis

In order to assess the longitudinal change in the mathematics disadvantage gap, we compared how Year 4 FSM and non-FSM pupils' scores changed from Spring Term 2021 (when in Year 1) to Spring Term 2022 (when in Year 2) to Spring Term 2023 to Spring Term 2024. A total of 1,724 pupils (from 40 schools that participated in 2021, 2022, 2023, and 2024 for the mathematics assessment for this cohort) were entered into the Year 4 mathematics repeated measures multilevel models. Out of these 1,728 pupils, 1,034 pupils took the four assessments. Table 37 shows the detail for longitudinal participation.

Table 37: Year 4 mathematics longitudinal participation

Longitudinal participation	Number of pupils
Spring Term 2021 Only	71
Spring Term 2022 Only	19
Spring Term 2023 Only	18
Spring Term 2024 Only	106
Spring Term 2021 and Spring Term 2022	74
Spring Term 2021 and Spring Term 2023	5
Spring Term 2021 and Spring Term 2024	3
Spring Term 2022 and Spring Term 2023	17
Spring Term 2022 and Spring Term 2024	2
Spring Term 2023 and Spring Term 2024	93
Spring Term 2021, Spring Term 2022, and Spring Term 2023	85
Spring Term 2022, Spring Term 2023, and Spring Term 2024	104
Spring Term 2021, Spring Term 2022, and Spring Term 2024	48
Spring Term 2021, Spring Term 2023, and Spring Term 2024	45
Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024	1,034

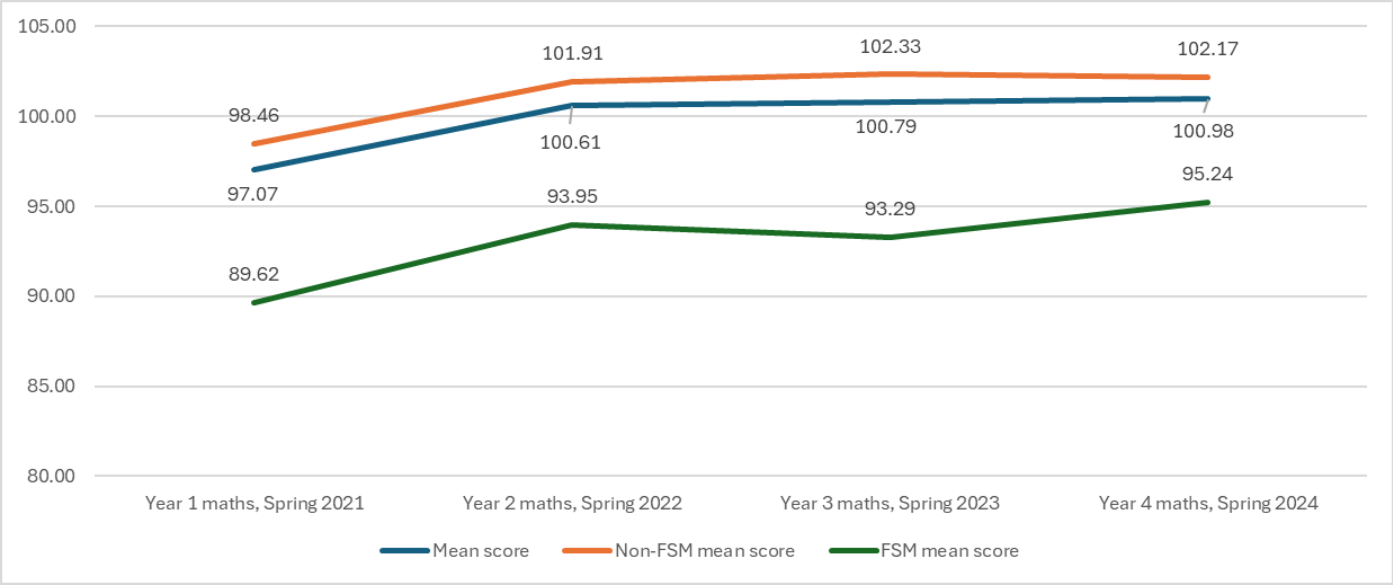
Table 38 presents the standardised mathematics mean scores of the Year 4 group as a whole, for the non-FSM pupils, and for the FSM pupils in the longitudinal analysis. Each group's scores are split by term. For pupils overall, Year 4 mathematics results are higher in Spring Term 2024, than in Spring Term 2023 and higher than in Spring Term 2021. Non-FSM pupils have higher scores at all timepoints than FSM pupils. However, for FSM pupils, results in 2023 are lower than in 2022 and lower than in 2024. These differences are further displayed in Figure 20.

[21] https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits/attainment/

Table 38: Year 4 mathematics standardised means

	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
Outcome	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 4 mathematics	1,373	1,265	97.07 (96.26–97.88)	14.73	1,387	1,274	100.61 (99.75–101.46)	15.60	1,413	1,296	100.79 (99.98–101.61)	14.97	1,437	1,326	100.98 (100.19 –101.77)	14.73
Year 4 mathematics (FSM only)	216	195	89.62 (87.57–91.68)	14.58	227	210	93.95 (91.83–96.08)	15.60	241	218	93.29 (91.21–95.37)	15.60	247	224	95.24 (93.28–97.21)	14.93
Year 4 mathematics (non-FSM only)	1,157	1,070	98.46 (97.59–99.32)	14.73	1,160	1,064	101.91 (100.99–102.83)	15.27	1,172	1,078	102.33 (101.48–103.19)	14.36	1,189	1,102	102.17 (101.32–103.02)	14.42

Figure 20: Year 4 mathematics scores



Year 4 mathematics disadvantage gap model

The analysis of the Year 4 mathematics scores used a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 scores were regressed on time, FSM eligibility of pupils in January 2020 (i.e. before school closures), FSM quintiles of schools, EAL status, gender, academy status, and region. Table 39 presents the results from the model, which measures the impact of FSM pupil outcomes as a function of time. The disadvantage gap is represented as the difference in the measured mathematics attainment between FSM and non-FSM pupils. The model ascertains whether there was a significant change in this gap between Spring Term 2021, Spring Term 2022, Spring Term 2023 and Spring Term 2024.

There was a significant positive interaction between time and FSM eligibility on Year 4 pupils' mathematics scores. This means that after controlling for all variables in the model, there was a reduction in the disadvantage gap for mathematics attainment. This result was obtained controlling for FSM quintiles, gender, EAL status, academy status, and region. Effect size and CIs are presented in Table 38.

Table 39: Year 4 mathematics disadvantage gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	101.33 (93.81 108.85)	3.84	28.29	0.000	
Timepoint	**1.10 (0.92 1.28)**	**0.09**	**3989.96**	**0.000**	**0.05 (0.04 0.05)**
FSM Yes	**-6.59 (-8.43 -4.75)**	**0.94**	**2353.67**	**0.00**	**-0.27 (-0.35 -0.19)**
Wave*FSM	**0.71 (0.26 1.17)**	**0.23**	**4097.60**	**0.00**	**0.03 (0.01 0.05)**
Gender	**-2.71 (-3.94 -1.48)**	**0.63**	**1671.55**	**0.00**	**-0.11 (-0.16 -0.06)**
FSM second lowest 20%	0.18 (-6.47 6.83)	3.39	29.20	0.96	0.01 (-0.27 0.28)
FSM middle 20%	-5.07 (-10.57 0.42)	2.81	29.91	0.08	-0.21 (-0.43 0.02)
FSM second highest 20%	-4.38 (-10.38 1.61)	3.06	26.48	0.16	-0.18 (-0.43 0.07)
FSM highest 20%	-5.97 (-13.47 1.52)	3.83	26.52	0.13	-0.25 (-0.55 0.06)
Non-academy	1.12 (-3.99 6.24)	2.61	29.36	0.67	0.05 (-0.16 0.26)
East of England	2.30 (-3.74 8.33)	3.08	28.97	0.46	0.09 (-0.15 0.34)
London	5.08 (-6.31 16.47)	5.81	27.50	0.39	0.21 (-0.26 0.68)
South East	2.38 (-3.66 8.41)	3.08	30.46	0.45	0.10 (-0.15 0.35)
South West	3.88 (-2.77 10.53)	3.39	31.09	0.26	0.16 (-0.11 0.43)
East Midlands	2.77 (-4.03 9.57)	3.47	29.46	0.43	0.11 (-0.17 0.39)
West Midlands	-1.13 (-7.68 5.43)	3.34	26.58	0.74	-0.05 (-0.31 0.22)
Yorkshire and the Humber	0.83 (-6.69 8.35)	3.84	24.57	0.83	0.03 (-0.27 0.34)

Note: The reference group for this model was Spring Term 2021 scores, non-FSM pupils, males, non-EAL pupils EAL, lowest 20% FSM quintile, academy schools, and the East Midlands region. The number of schools is 40, the number of pupils is 1,724. The ICC was 0.11 at school level and 0.69 at pupil level. Significant effects are in bold. CI=confidence interval; EAL=English as an Additional Language; FSM=free school meals; ICC=intracluster correlation coefficient; SE=standard error

Year 5 attainment in reading and mathematics: The disadvantage gap

Within the Spring Term 2024 sample, approximately 23% of pupils in Year 5 were classed as disadvantaged (i.e. eligible for FSM as reported by schools). FSM data was provided for all pupils in both reading and mathematics pupils so no pupils have been excluded from the following calculations. The standardisation sample does not provide data on the performance of disadvantaged and non-disadvantaged pupils.

Year 5 reading attainment: The disadvantage gap

Table 40 shows a summary of the performance of disadvantaged pupils compared with those pupils in the cohort who are not disadvantaged (i.e. eligibility for FSM as reported by schools).

Table 40: Performance of Year 5 pupils in reading for Spring Term 2024

Measure	Standardisation sample 2017	Spring Term 2024 all pupils	Spring Term 2024 FSM	Spring Term 2024 non-FSM
Mean	23.72	23.73	20.13	24.89
95% confidence interval	22.91–24.53	23.00–24.47	19.07–21.18	24.24–25.54
Standard deviation	8.46	9.04	9.24	8.67
N pupils	1,388	2,198	526	1,672

For the Year 5 reading assessments, 23.9% of the cohort were classed as being disadvantaged. The difference between the mean raw scores of disadvantaged pupils and non-disadvantaged pupils is 4.76 points and represents a significant difference in performance (Table 40). The effect size for these data is 0.508,[22] which using the EEF table,[23] equates to six months' progress.

Year 5 reading repeated measures analysis

In order to assess the longitudinal change in the reading disadvantage gap of Year 5 pupils, we compared how Year 5 FSM and non-FSM pupils' reading scores changed from Spring Term 2021 (when in Year 2) to Spring Term 2022 (when in Year 3) to Spring Term 2023 (when in Year 4) to Spring Term 2024. A total of 2,602 pupils (from 59 schools that participated in 2021, 2022, 2023, and 2024 for the reading assessment for this cohort) were entered into the Year 5 reading repeated measures multilevel models. Out of these 1,977 pupils, 1,188 pupils took the four assessments. Table 41 shows the detail for longitudinal participation.

Table 41: Year 5 reading longitudinal participation

Longitudinal participation	Number of pupils
Spring Term 2021 Only	100
Spring Term 2022 Only	27
Spring Term 2023 Only	20
Spring Term 2024 Only	174
Spring Term 2021 and Spring Term 2022	73
Spring Term 2021 and Spring Term 2023	3
Spring Term 2021 and Spring Term 2024	1
Spring Term 2022 and Spring Term 2023	10
Spring Term 2022 and Spring Term 2024	6
Spring Term 2023 and Spring Term 2024	71
Spring Term 2021, Spring Term 2022, and Spring Term 2023	98
Spring Term 2022, Spring Term 2023, and Spring Term 2024	125
Spring Term 2021, Spring Term 2022, and Spring Term 2024	20
Spring Term 2021, Spring Term 2023, and Spring Term 2024	61
Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024	1,188

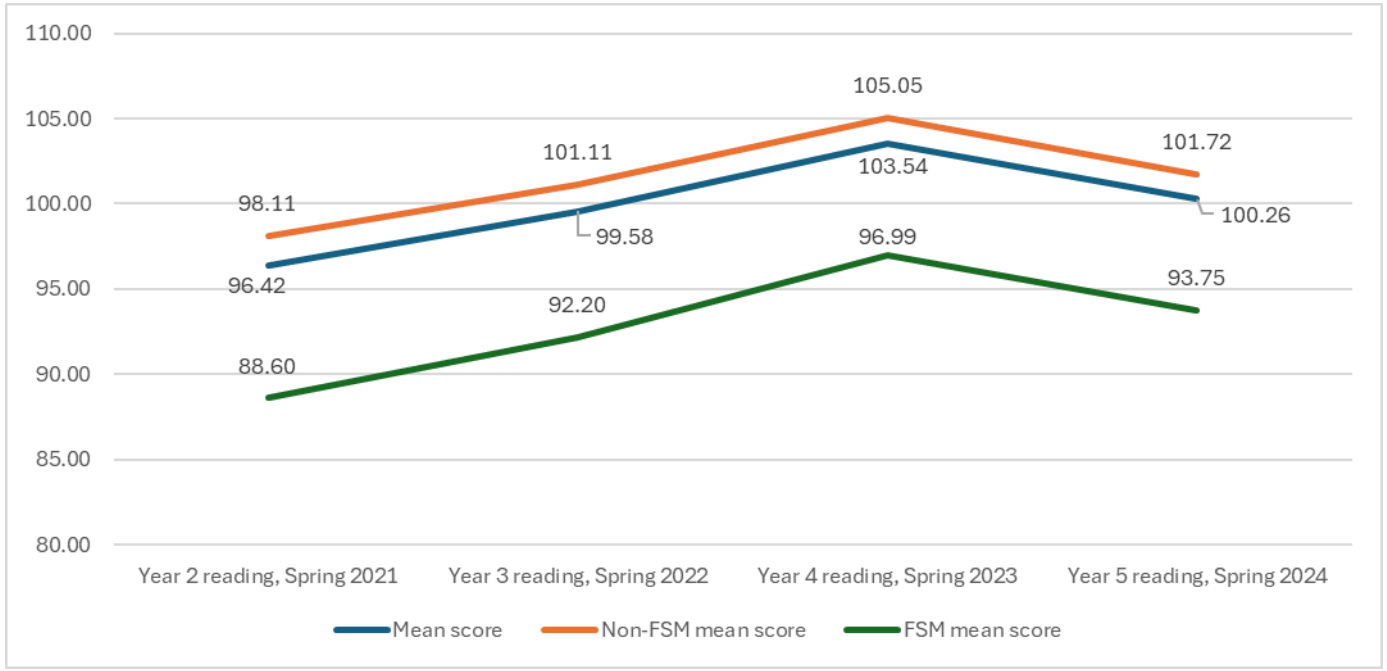
Table 42 presents the standardised means of the Year 4 reading responses for the group as a whole, for non-FSM pupils, and for FSM pupils in the longitudinal analysis. Each groups' scores are split by term. For all pupils, 2024 reading results are lower than in 2023, but higher than in 2022 and 2021. Furthermore, non-FSM pupils have higher scores at all timepoints than FSM pupils. These mean differences are further displayed in Figure 21 below.

[22] Disadvantage gap effect sizes were calculated by dividing the standardised score point difference between FSM and non-FSM pupils by the overall Spring Term 2024 SD.
[23] https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits/attainment/

Table 42: Year 5 reading standardised mean scores

	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
Outcome	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 5 reading	1,549	1,399	96.42 (95.58–97.25)	15.93	1,535	1,409	99.58 (98.74–100.42)	16.08	1,579	1,424	103.54 (102.76–104.32)	14.97	1,645	1,477	100.26 (99.47 –101.06)	15.52
Year 5 reading (FSM only)	276	235	88.60 (86.73–90.48)	14.56	264	229	92.20 (90.34–94.06)	14.29	295	248	96.99 (95.21–98.77)	14.21	301	251	93.75 (91.92–95.58)	14.73
Year 5 reading (non-FSM only)	1,272	1,165	98.11 (97.21–99.02)	15.93	1,271	1,181	101.11 (100.20–102.03)	16.01	1,284	1,178	105.05 (104.21–105.89)	14.74	1,344	1,227	101.72 (100.87–102.58)	15.32

Figure 21: Year 5 reading scores



Year 5 reading disadvantage gap model

The analysis of the Year 5 reading scores was a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 scores were regressed on time, FSM eligibility of pupils in January 2020 (i.e. before school closures), FSM quintiles of schools, EAL status, gender, academy status, and region. Table 43 presents the results from the model, which measures the impact of FSM pupil outcomes as a function of time. The disadvantage gap is represented as the difference in the measured reading attainment between FSM and non-FSM pupils. The model ascertains whether there was a significant change in this gap between Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024.

There was no significant interaction between time and FSM eligibility on Year 4 pupils' reading scores. This means that between 2021, 2022, 2023, and 2024, the disadvantage gap for reading attainment remained stable. This analysis controlled for FSM quintiles, gender, EAL status, academy status, and region. It is worth noting that being in a school in the second highest quintile of FSM (i.e. schools with the second highest proportion of FSM pupils) was associated with a small effect on lowering attainment. Effect size and CIs are presented in Table 42.

Table 43: Year 5 reading disadvantage gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	95.96 (90.29 to 101.63)	2.89	29.38	0.000	
Timepoint	**1.61 (1.41 to 1.82)**	**0.11**	**4548.81**	**0.000**	**0.06 (0.06 to 0.07)**
FSM Yes	**-7.90 (-9.76 to -6.05)**	**0.95**	**2750.17**	**0.00**	**-0.31 (-0.38 to -0.24)**
Wave *FSM	0.44 (-0.06 to 0.94)	0.26	4631.40	0.08	0.02 (0.00 to 0.04)
Gender	**3.18 (1.95 to 4.41)**	**0.63**	**1884.55**	**0.00**	**0.13 (0.08 to 0.17)**
FSM second lowest 20%	0.03 (-4.90 to 4.96)	2.51	29.31	0.99	0.00 (-0.19 to 0.20)
FSM middle 20%	-1.60 (-5.65 to 2.44)	2.06	29.46	0.44	-0.06 (-0.22 to 0.10)
FSM second highest 20%	-4.49 (-9.02 to 0.04)	2.31	25.71	0.06	-0.18 (-0.36 to 0.00)
FSM highest 20%	-2.63 (-8.23 to 2.98)	2.86	25.73	0.37	-0.10 (-0.32 to 0.12)
Non-academy	2.19 (-1.89 to 6.27)	2.08	32.38	0.30	0.09 (-0.07 to 0.25)
East of England	2.63 (-1.91 to 7.16)	2.32	28.78	0.27	0.10 (-0.08 to 0.28)
London	4.61 (-3.95 to 13.16)	4.37	24.23	0.30	0.18 (-0.16 to 0.52)
South East	1.36 (-3.15 to 5.88)	2.3	29.77	0.56	0.05 (-0.12 to 0.23)
South West	2.93 (-2.39 to 8.25)	2.72	41.55	0.29	0.12 (-0.09 to 0.33)
East Midlands	-1.36 (-6.40 to 3.68)	2.57	30.38	0.60	-0.05 (-0.25 to 0.15)
West Midlands	0.82 (-3.46 to 5.10)	2.18	25.50	0.71	0.03 (-0.14 to 0.20)
Yorkshire and the Humber	1.04 (-4.46 to 6.53)	2.80	22.18	0.71	0.04 (-0.18 to 0.26)

Note: The reference group for this model was Spring Term 2021 scores, non-FSM pupils, males, non- EAL pupils, lowest 20% FSM quintile, academy schools, and the East Midlands region. The number of schools is 42 and the number of pupils is 1,977. The ICC was 0.04 at school level and 0.68 at pupil level. Significant effects are in bold. CI=confidence interval; EAL=English as an Additional Language; FSM=free school meals; ICC=intracluster corelation coefficient; SE=standard error.

Year 5 mathematics attainment: The disadvantage gap

Table 44 shows a summary of the performance of disadvantaged pupils compared to those pupils within the cohort who are not disadvantaged (i.e. eligibility for FSM as reported by schools).

Table 44: Performance of Year 5 pupils in mathematics for Spring Term 2024

Measure	Standardisation sample 2017	Spring Term 2024 all pupils	Spring Term 2024 FSM	Spring Term 2024 non-FSM
Mean	48.07	53.607	42.63	57.02
95% confidence interval	45.94–50.20	51.06–56.15	39.15–46.11	54.79–59.26
Standard deviation	25.39	26.33	24.99	25.80
N pupils	1,417	2,169	502	1,667

For the Year 5 mathematics assessments, 23.1% of the cohort were classed as being disadvantaged. The difference between the raw standardised scores of disadvantaged pupils and non-disadvantaged is 14.39 and represents a significant difference in performance (Table 44). The effect size for this data is 0.564, which using the EEF table,[24] equates to seven months' progress.

Year 5 mathematics repeated measures analysis

In order to assess the longitudinal change in the mathematics disadvantage gap of Year 5 pupils, we compared how Year 5 FSM and non-FSM pupils' mathematics scores changed from Spring Term 2021 (when in Year 2) to Spring Term 2022 (when in Year 3) to Spring Term 2023 (when in Year 4) to Spring Term 2024. A total of 1,901 pupils (from 41 schools that participated in 2021, 2022, 2023, and 2024 for the mathematics assessment for this cohort) were entered into the Year 5 mathematics repeated measures multilevel models. Out of these 1,901 pupils, 1,155 pupils took the four assessments. Table 45 shows the detail for longitudinal participation.

Table 45: Year 5 mathematics longitudinal participation

Longitudinal participation	**Number of pupils**
Spring Term 2021 Only	90
Spring Term 2022 Only	22
Spring Term 2023 Only	15
Spring Term 2024 Only	155
Spring Term 2021 and Spring Term 2022	77
Spring Term 2021 and Spring Term 2023	7
Spring Term 2021 and Spring Term 2024	3
Spring Term 2022 and Spring Term 2023	16
Spring Term 2022 and Spring Term 2024	9
Spring Term 2023 and Spring Term 2024	77
Spring Term 2021, Spring Term 2022, and Spring Term 2023	83
Spring Term 2022, Spring Term 2023, and Spring Term 2024	122
Spring Term 2021, Spring Term 2022, and Spring Term 2024	31
Spring Term 2021, Spring Term 2023, and Spring Term 2024	39
Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024	1,155

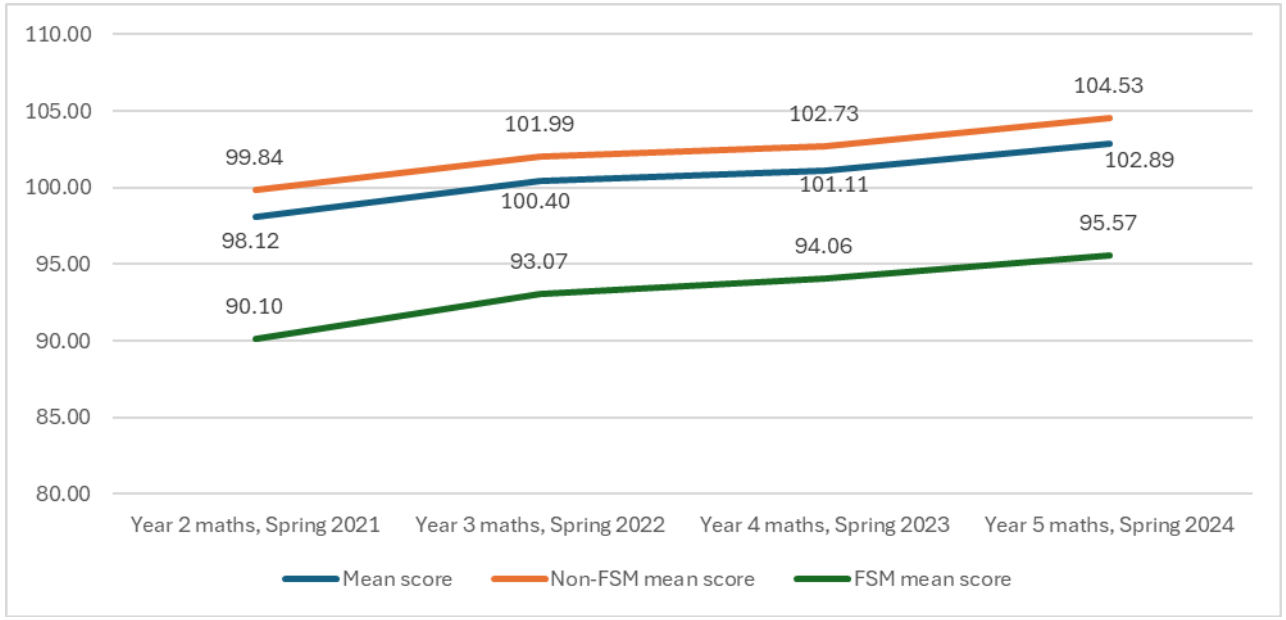
Table 46 presents the standardised mathematics mean scores of the Year 5 group as a whole, for non-FSM pupils, and for FSM pupils in the longitudinal analysis. Each groups' scores are split by term. For all pupils, 2024 mathematics results are higher than in 2023, 2022, and 2021. Furthermore, non-FSM pupils have higher scores at all timepoints than FSM pupils. These mean differences are further displayed in Figure 22 below.

[24] https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits/attainment/

Table 46: Year 5 mathematics standardised mean scores

	Standardised means															
	Spring Term 2021				Spring Term 2022				Spring Term 2023				Spring Term 2024			
Outcome	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD	n	Weighted n	Mean (95% CI)	SD
Year 5 mathematics	1,489	1,323	98.12 (97.29–98.96)	15.50	1,523	1,351	100.40 (99.58–101.21)	15.28	1,520	1,347	101.11 (100.31–101.91)	14.93	1,593	1,411	102.89 (102.11 –103.67)	14.96
Year 5 mathematics (FSM only)	262	224	90.10 (88.20–92.01)	14.47	271	232	93.07 (91.15–94.98)	14.79	285	243	94.06 (92.26–95.85)	14.17	291	245	95.57 (93.66–97.49)	15.18
Year 5 mathematics (non-FSM only)	1,227	1,099	99.84 (98.94–100.74)	15.50	1,251	1,120	101.99 (101.11–102.86)	14.93	1,236	1,104	102.73 (101.87–103.60)	14.63	1,302	1,168	104.53 (103.70–105.36)	14.42

Figure 22: Year 5 mathematics scores



Year 5 mathematics disadvantage gap model

The analysis of the Year 5 mathematics scores was a three-level multilevel model (school, pupil, and timepoint) in which Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024 scores were regressed on time, FSM eligibility of pupils in January 2020 (i.e. before school closures), FSM quintiles of schools, EAL status, gender, academy status, and region. Table 47 presents the results from the model, which measures the impact of FSM pupil outcomes as a function of time. The disadvantage gap is represented as the difference in the measured mathematics attainment between FSM and non-FSM pupils. The model ascertains whether there was a significant change in this gap between 2021, 2022, 2023, and 2024.

There was no statistically significant interaction between time and FSM eligibility on Year 5 pupils' mathematics scores. This means that between 2021, 2022, 2023, and 2024, FSM pupils' scores remained stable in relation to non-FSM pupils and the disadvantage gap for mathematics was not reduced. This result was obtained whilst controlling for FSM quintiles, gender, EAL status, academy status, and region. Effect size and CIs are presented in Table 46.

Table 47: Year 5 mathematics disadvantage gap model

	Model coefficients				Effect size
Coefficients	Estimate (95% CI)	SE	Degrees of freedom	P-value	Hedge's *g* (95% CI)
Intercept	97.66 91.95 103.37	2.91	31.17	0.000	
Timepoint	**1.56** **1.41 1.72**	**0.08**	**4325.06**	**0.000**	**0.06** **0.06 0.07**
FSM Yes	**-8.36** **-10.13 -6.59**	**0.90**	**2324.39**	**0.00**	**-0.35** **-0.42 -0.27**
Wave*FSM	0.34 -0.03 0.71	0.19	4360.31	0.08	0.01 0.00 0.03
Gender	**-5.16** **-6.39 -3.93**	**0.63**	**1842.10**	**0.00**	**-0.21** **-0.27 -0.16**
FSM second lowest 20%	4.27 -0.72 9.25	2.54	31.25	0.10	0.18 -0.03 0.38
FSM middle 20%	-0.97 -5.10 3.17	2.11	31.30	0.65	-0.04 -0.21 0.13
FSM second highest 20%	-3.07 -7.59 1.45	2.31	26.75	0.19	-0.13 -0.32 0.06
FSM highest 20%	-0.49 -6.11 5.12	2.86	26.89	0.86	-0.02 -0.25 0.21
Non-academy	**5.09** **0.87 9.31**	**2.15**	**35.74**	**0.02**	**0.21** **0.04 0.39**
East of England	2.86 -1.67 7.40	2.31	30.17	0.23	0.12 -0.07 0.31
London	2.90 -5.71 11.50	4.39	25.61	0.52	0.12 -0.24 0.48
South East	2.35 -2.14 6.85	2.29	30.91	0.31	0.10 -0.09 0.28
South West	1.05 -4.24 6.35	2.70	42.84	0.70	0.04 -0.18 0.26
East Midlands	-1.25 -6.27 3.78	2.56	31.40	0.63	-0.05 -0.26 0.16
West Midlands	0.23 -4.24 4.70	2.28	26.51	0.92	0.01 -0.18 0.20
Yorkshire and the Humber	-1.41 -6.90 4.07	2.80	23.05	0.62	-0.06 -0.29 0.17

Note: The reference group for this model was Spring Term 2021 scores, non-FSM pupils, males, non-EAL pupils, lowest 20% FSM quintile, academy schools, and the East Midlands region. The number of schools is 41 and the number of pupils is 1,901. The ICC was 0.05 at school level and 0.79 at pupil level. Significant effects are in bold. CI=confidence interval; EAL=English as an Additional Language; FSM=free school meals; ICC=intracluster correlation coefficient; SE=standard error.

Research question 3: What practices have been adopted and what learning opportunities have been provided by schools to help pupils catch up; and what challenges have been faced by staff?

Summary

- In 2023/2024, disruption to learning overall appears to have reduced from levels seen in 2022/2023. Causes of disruption included pupil absences (not directly Covid-19-related), difficulties obtaining external support for pupils, and increased staff workload relating to pupil behaviour and wellbeing.
- For both mathematics and reading, the top strategies implemented for learning recovery were small group work and staff redeployment. This was also the case in Spring Term 2023. One to one catch-up support was also still common, but less so than in Spring Term 2023.
- Nearly all schools provided support for very low-attaining pupils and nearly two-thirds of schools had done so for disadvantaged pupils. This had reduced slightly from the proportions in Spring Term 2023. The most common areas for support were mathematics support, reading support, and small group work. All three of these were more commonly used with very low-attaining pupils than disadvantaged pupils.
- The vast majority of schools responding to the survey have retained increased wellbeing support since implementation during the 2020/2021 academic year.
- The top strategies for social or wellbeing support in 2023/2024 were small group wellbeing sessions, external support, and staff redeployment. The latter two of these were reported to a greater extent than in Spring Term 2023.
- The vast majority of schools felt that parents were as capable of providing support in 2023/2024 as they had been in the previous academic year. This was also the case for parental willingness,

The headteacher survey collected information from schools about the situation in schools following the disruption caused by the Covid-19 pandemic, the challenges faced in the current school year, and how well they were able to support children's learning. The survey is updated each year to reflect previous responses. It should be noted that the relatively small number of responses received overall in 2024 (N=51) means that for some questions, there are a low number of valid responses. Therefore, conclusions drawn from these results should be interpreted with caution.

Disruption to learning in the 2023/2024 academic year

As shown in Figure 23, over half (63%) of schools reported that the learning of Year 4 and Year 5 pupils had not been disrupted during the 2023/2024 academic year. Of the 37% that reported some disruption, the most commonly given reasons were challenges with behaviour/wellbeing (68%) and challenges with pupil attendance (not Covid-19-related) (53%) (as proportions of all the headteachers participating in the study, these represent 25% and 20%, respectively). Nearly half of headteachers (47%) that reported disruption said that it was caused by staff absences (not Covid-19-related) and the same percentage said that it was due to a lack of parental engagement.

The findings for Spring Term 2024 are similar to those found in Spring Term 2023 (which involved pupils in Year 3 and Year 4), when over half (56%) of headteachers said that pupils' learning had not been disrupted, and the most common cause of disruption was challenges with behaviour/wellbeing (63%). Two notable differences between the surveys are the increase in the percentage of schools reporting a lack of parental engagement as a main cause of disruption to learning (up 18 percentage points from 30% in 2023) and the decrease in the percentage of schools reporting insufficient funding to support pupils who have missed learning (down 26 percentage points from 52% in 2023). Figure 24 presents the other reasons for disruption selected by headteachers. The prevalence of attendance-related challenges is also worth highlighting. Our new questions this year about pupil and staff absences showed that non-Covid-19-related absences are a concern for schools, whilst absences relating to Covid-19 itself (e.g. illness/isolation) are no longer a cause for concern.

Figure 23: How would you rate the level of disruption to learning this academic year to date?

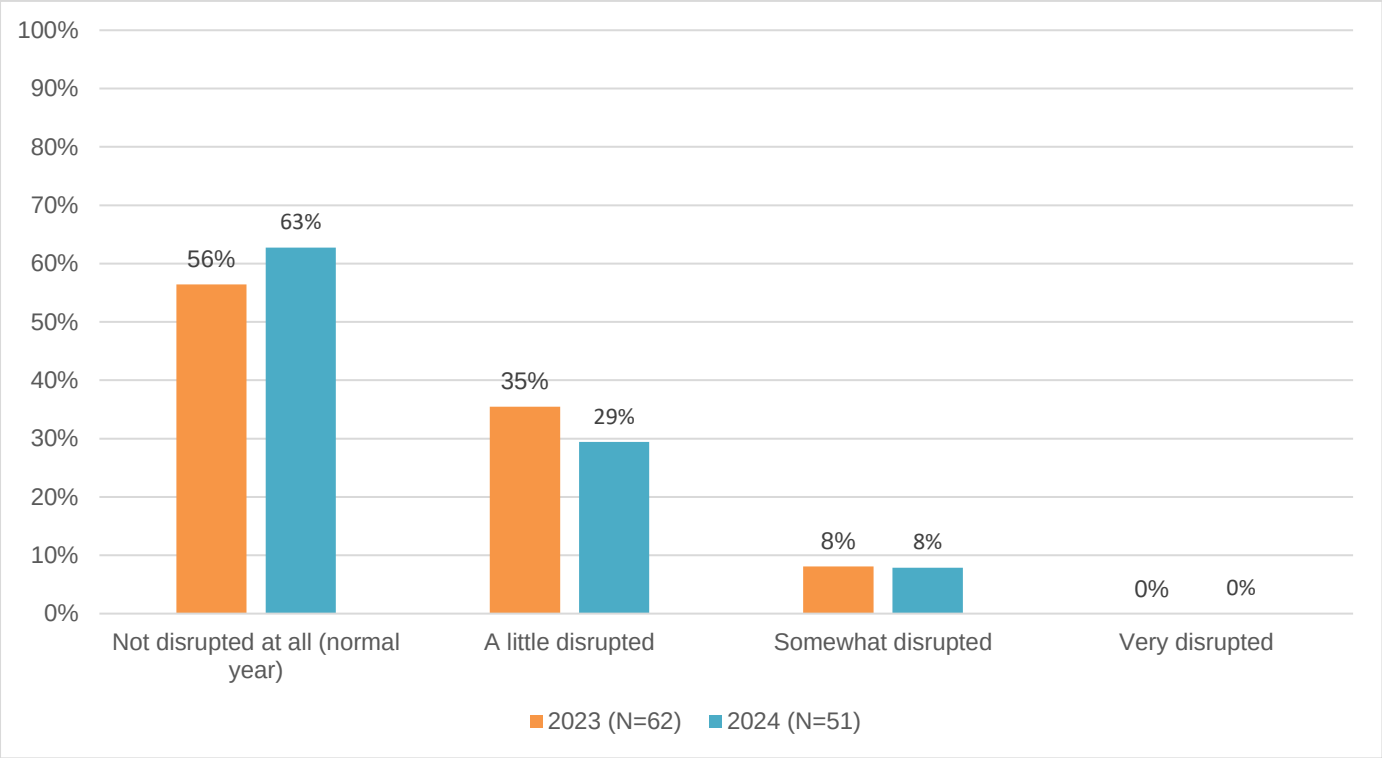
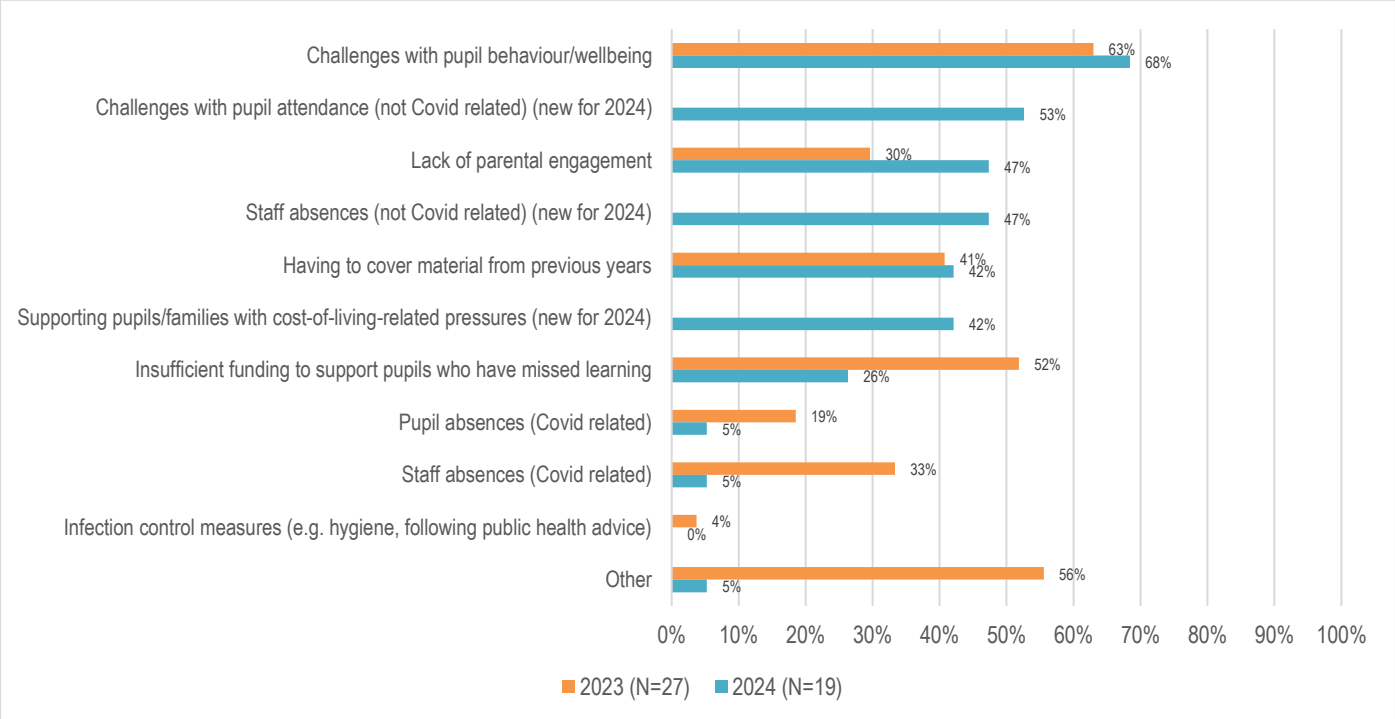


Figure 24: For those reporting disruption: What are the main reasons for this disruption?

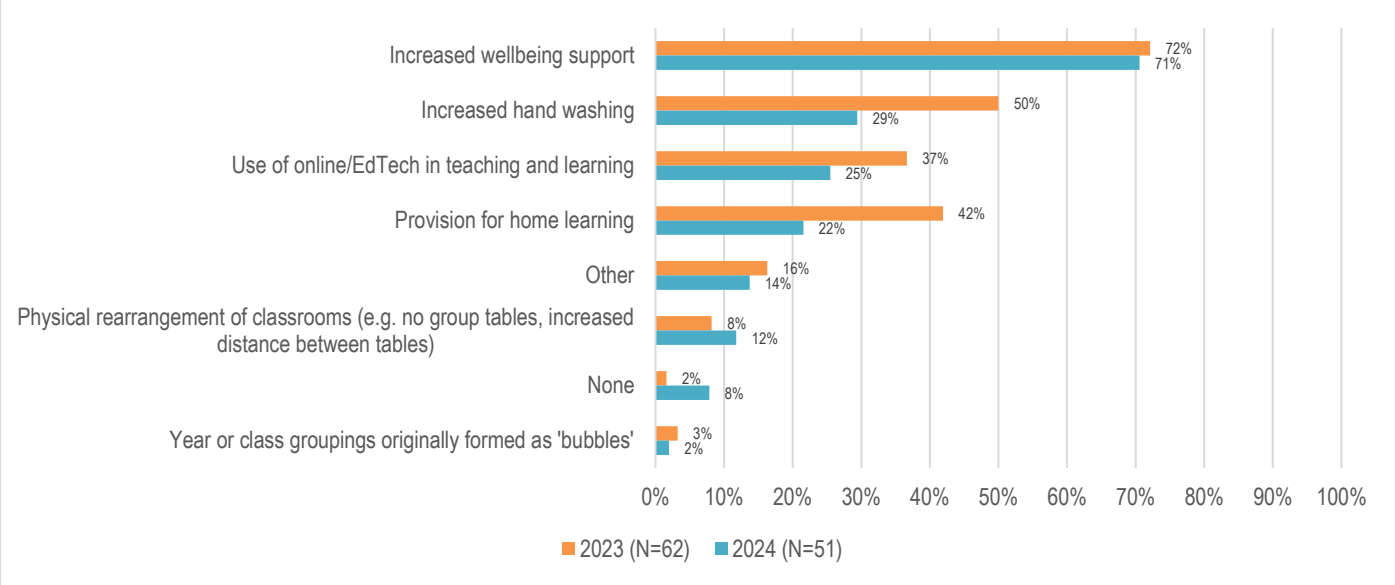


Note: New items were added into this question in 2024 specifically 'Challenges with pupil attendance (not Covid-related)' and 'Staff absences (not Covid-related)'. This was in response to these reasons being given by teachers who selected 'Other' in 2023.

Practices retained after the end of Covid-19-related school closures

During the academic years 2019/2020 to 2020/2021, the vast majority of headteachers introduced practices to their schools as a result of Covid-19. In Spring Term 2022, over 90% of schools were found to have introduced year group or class bubbles, increased hand washing, provision for home learning, reduced extracurricular activities, rearranged classrooms, and increased wellbeing support. In Spring Term 2024, only increased wellbeing support had been retained by the majority of schools because they had been found to be an improvement to pre-pandemic practices. Increased hand washing was found to be the second most commonly retained practice as it had been in Spring Term 2023 but was reported to a lesser extent (29% in 2024 compared with 50% in 2023). Other practices were reported by a quarter or fewer of surveyed schools. The level of retention of Covid-19-related measures is shown in Figure 25.

Figure 25: Are there any practices that your school has found to be an improvement to pre-pandemic practices and therefore chosen to retain for the future?



EdTech=education technology.

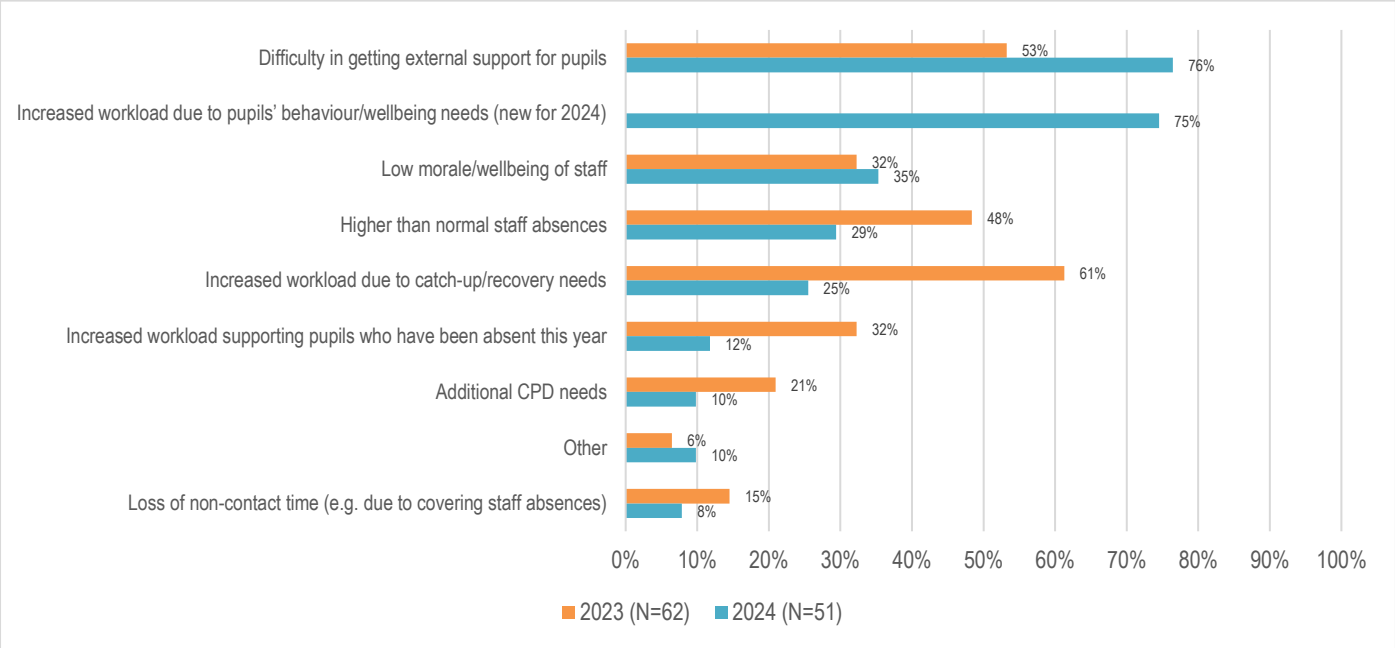
Challenges for school staff in 2023/2024

Across all of the schools participating in the survey (Figure 26), the most commonly reported challenge was in getting external support for Year 4 and Year 5 pupils, reported by just over three-quarters (76%) of schools. This had increased from just over a half (53%) in Spring Term 2023. Whilst we saw in Figure 24, that insufficient funding to support pupils was not as high a concern in schools reporting disruption as it had been in previous years, (noting this is a filtered question), it would seem that access to relevant external support is a challenge for schools.

Three-quarters of schools (75%) also reported increased workload due to pupils' behaviour or wellbeing needs (this item was new for 2024). Around one-third (35%) reported low staff morale/wellbeing (similar in both 2023 and 2024).

However, compared with Spring Term 2023, there was a decrease in the proportions of headteachers reporting that their staff faced each of the other challenges in all other cases (except for the 'Other' category), as shown in Figure 26. Most notably, in Spring Term 2024 the proportion reporting that 'increased workload due to catch-up/recovery needs' was a challenge (for Year 4 and Year 5 staff) was 36 percentage points lower at 25%, though this may be because of the new item introduced in 2024 about workload specifically relating to pupils' behaviour.

Figure 26: Have any of the following challenges been faced by Year 4 and Year 5 school staff this academic year?

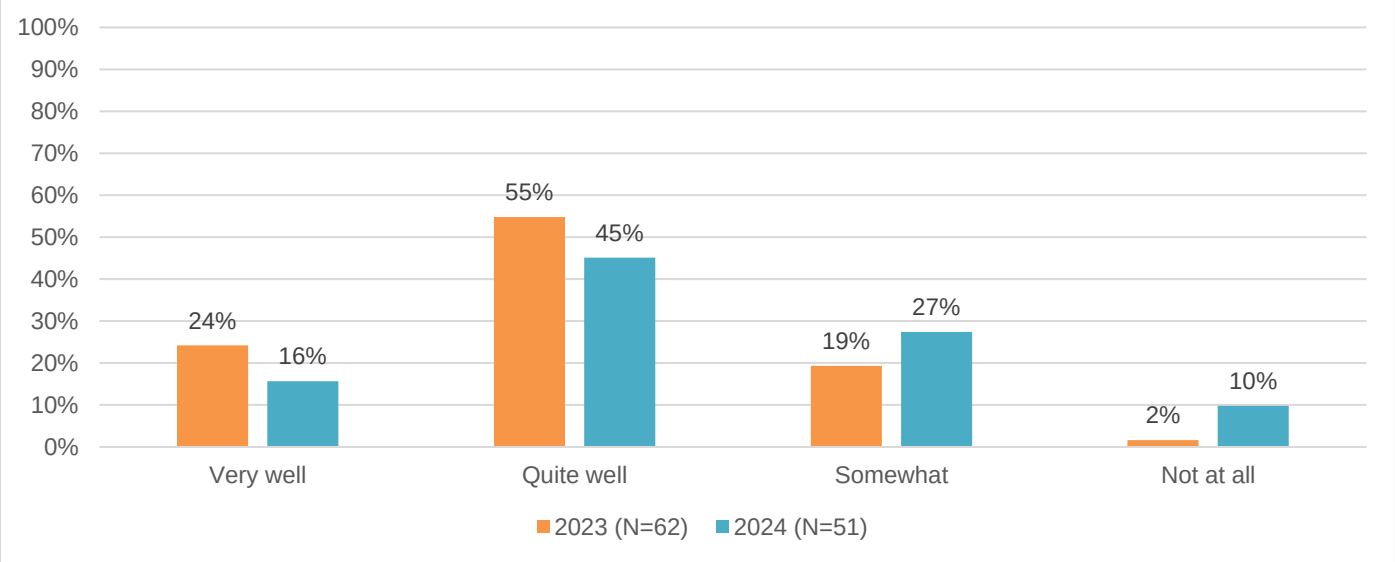


Provision of remote learning for Year 4 and Year 5 pupils

The vast majority of schools indicated that they feel able to support the home learning of pupils who are absent from in-school learning. The proportion of schools using each of the various methods for providing this support has fallen since Spring Term 2023, just as it had done from Spring Terms 2022 to 2023. This suggests that the need is not as great as it had been immediately following the Covid-19-related school closures.

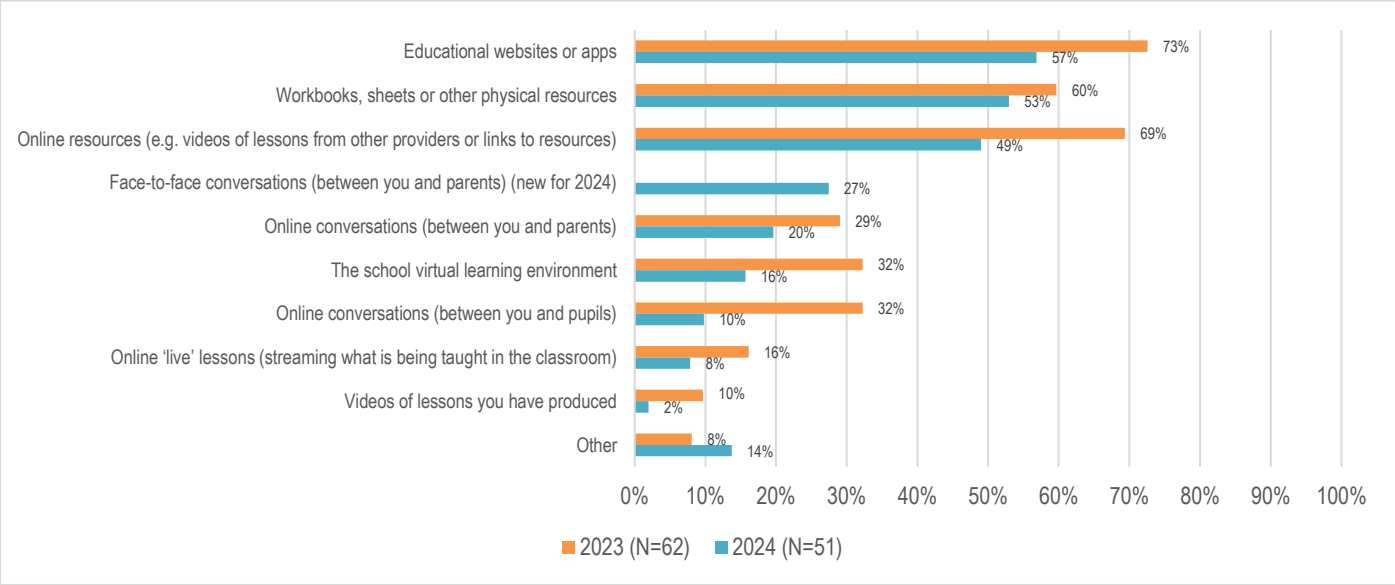
Whilst the majority (61%) of headteachers said they felt they could support home learning for absent pupils 'very well' or 'quite well', this had reduced from (79%) in Spring Term 2023, as shown in Figure 27.

Figure 27: How well do you feel your school is currently able to support home learning for pupils who are absent from in-school learning?



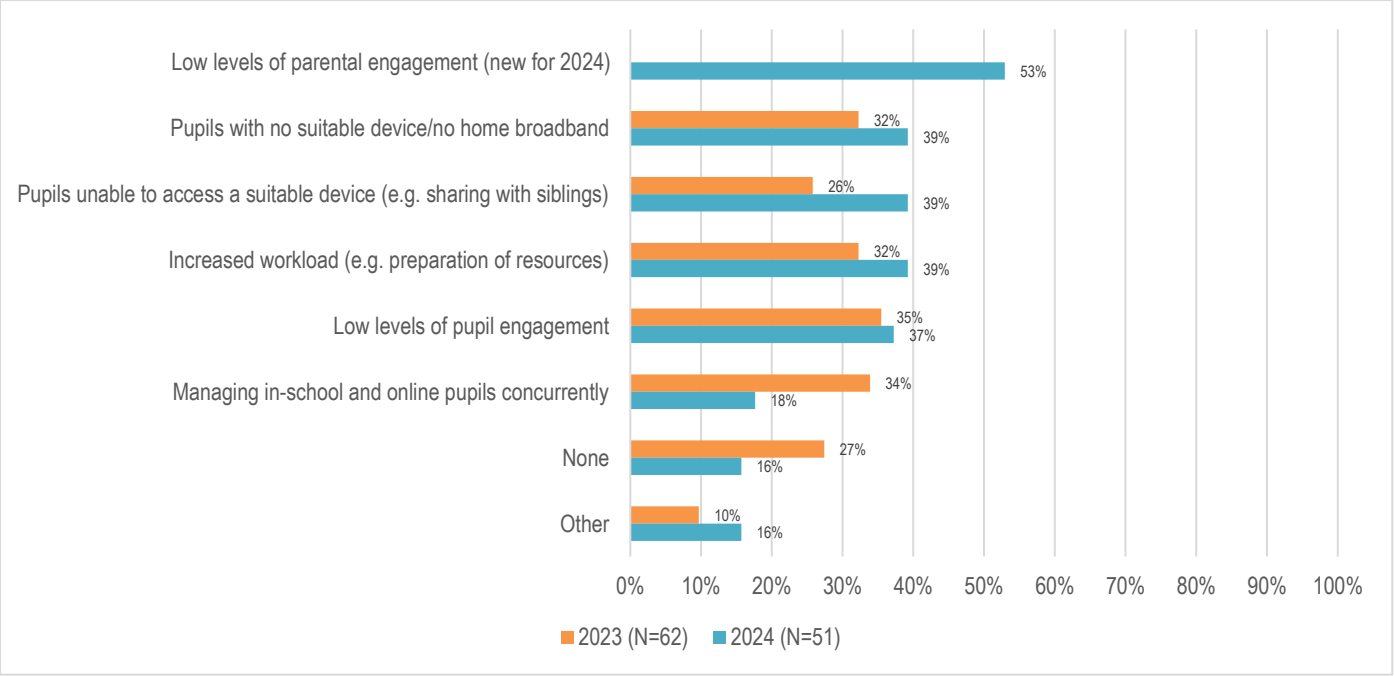
The most common methods for supporting home learning were educational websites or apps (57%); and workbooks, sheets, or other physical resources (53%). Figure 28 presents this information. In comparison with Spring Term 2023, fewer headteachers reported using these options. (The level in 2023 had reduced from the level in Spring Term 2022.) Notably, online conversations between teachers and pupils had reduced by 22 percentage points to 10% in 2024 compared with the 2023 findings.

Figure 28: How does your school support home learning for pupils who are absent from in-school learning?



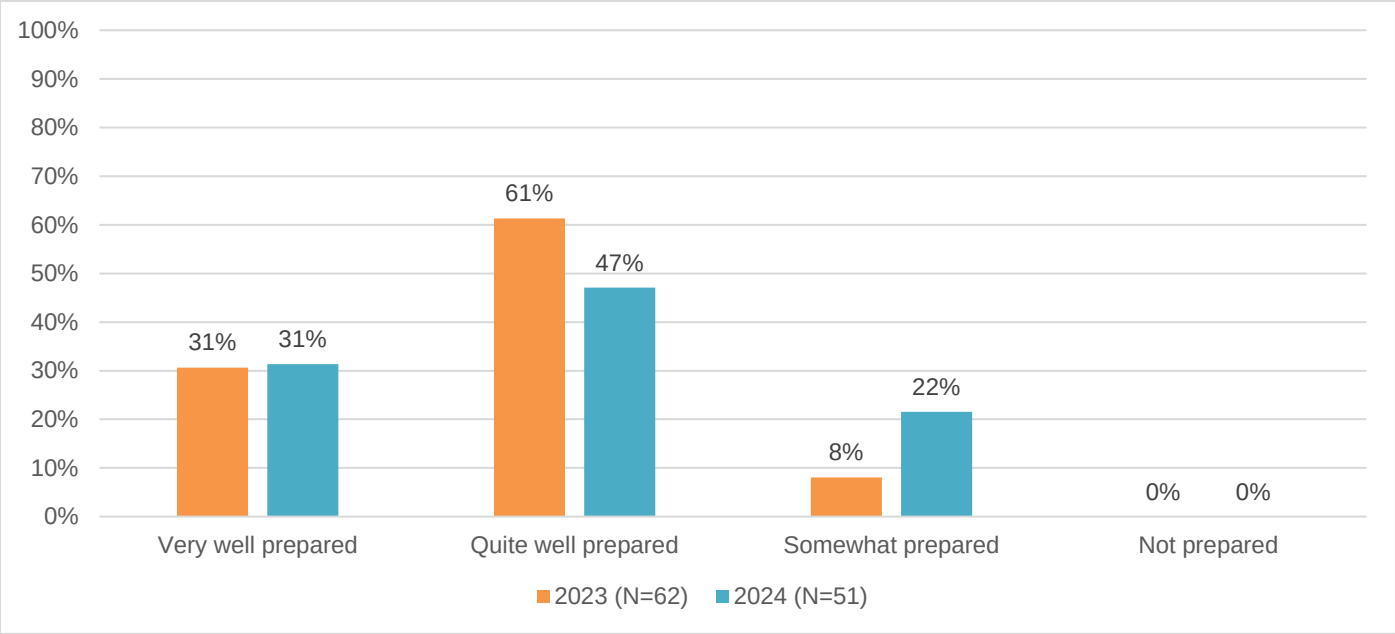
In the 2023 survey, headteachers were asked: What challenges have you encountered with online learning this year? For 2024, this question was changed to: 'Thinking more broadly about all aspects of online learning with your Year 4 and Year 5 pupils, what challenges have you encountered with online learning this year? Please think about online learning used in the classroom, for homework or to support remote learning'. Despite the alteration of the question, the most popular response was for 'low levels of parental engagement' (which was new for 2024). Just over half (53%) of headteachers indicated this hindered online learning. Figure 29 shows the findings for 2024 and 2023.

Figure 29: Thinking more broadly about all aspects of online learning with your Year 4 and Year 5 pupils, what challenges have you encountered with online learning this year? Please think about online learning used in the classroom, for homework, or to support remote learning. (2024 question wording)



When asked how well prepared they felt their school was to deliver effective home learning for all pupils in the event of further school closures, nearly a third of headteachers (31%) said they were 'very well prepared' with just over a fifth of headteachers (22%) saying they were 'somewhat prepared', as shown in Figure 30.

Figure 30: In the event of further school closures, how well prepared do you feel your school is to deliver effective home learning for all pupils?

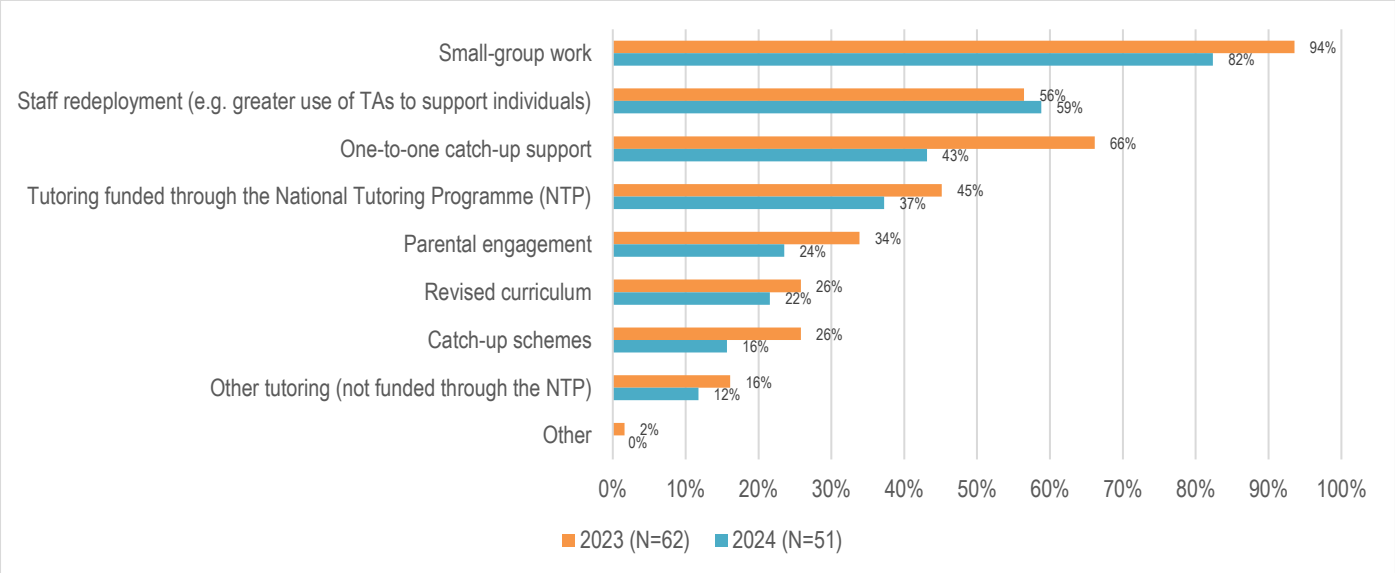


Catch-up strategies in 2023/2024 for Year 4 and Year 5

The strategies implemented in schools to aid pupils' learning recovery were similar for both mathematics and reading, as shown in Figure 31 and Figure 32. The most common strategy for both subjects was small group work (both 82%). The percentages of responding headteachers reporting staff redeployment were similar at 59% for mathematics and 57% for reading. However, for reading, one-to-one catch-up support was more popular, with 61% of headteachers reporting it (compared with 43% for mathematics).

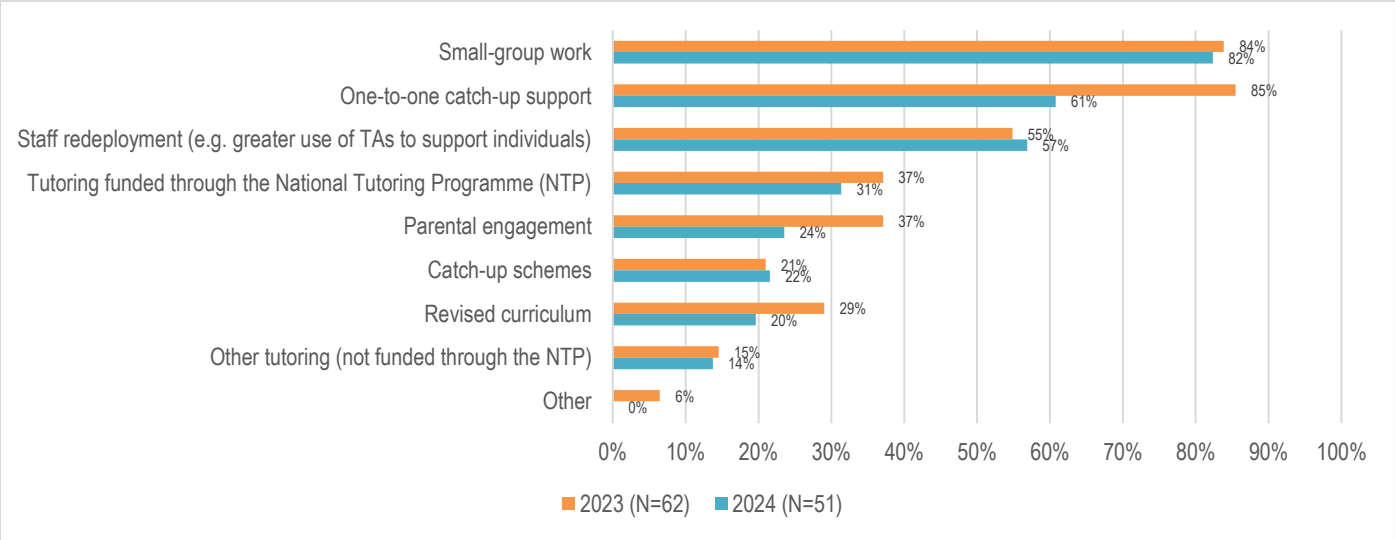
When compared with Spring Term 2023, the biggest differences were for the use of one-to-one catch-up support. For mathematics this was 23 percentage points lower in 2024 than in 2023 and for reading this difference was 25 percentage points. Another strategy that was reported less in 2024 compared with 2023 for both subjects was parental engagement (reduced by 10 percentage points to 24% for mathematics and 14 percentage points to 24% for reading).

Figure 31: Mathematics: What strategies has your school implemented this academic year to aid Year 4 and Year 5 learning recovery?



TAs=teaching assistants.

Figure 32: Reading: What strategies has your school implemented this academic year to aid Year 4 and Year 5 learning recovery?



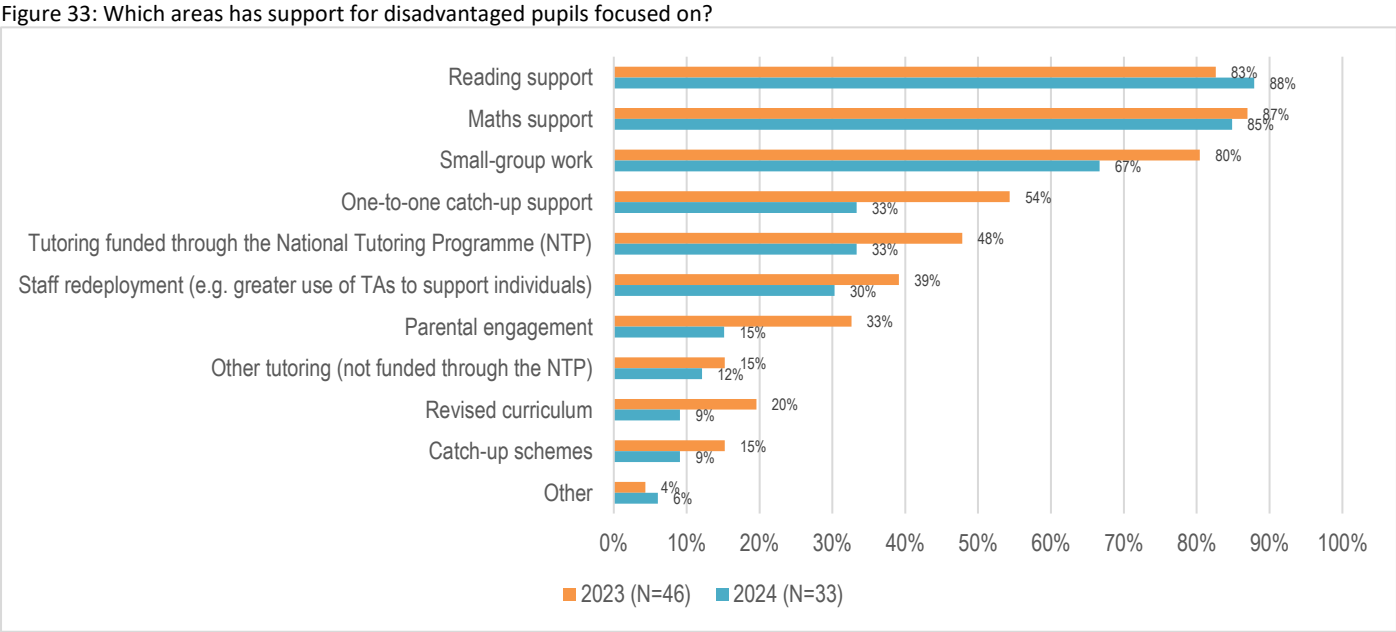
TAs=teaching assistants.

Support for disadvantaged pupils and for very low-attaining pupils

Nearly all schools (84%) had provided support for, or had a focus on, aiding learning recovery for very low-attaining pupils this year (down from 94% in Spring Term 2023). Nearly two-thirds (65%) had done so for disadvantaged pupils (down from 74% in 2023). Of these schools, the type of support most commonly provided for low-attaining pupils was very similar to that provided for disadvantaged pupils. For both groups of pupils, the most popular were mathematics support (91% for low-attaining pupils and 85% for disadvantaged pupils), reading support (86% and 88%, respectively), and small group work (86% and 67%, respectively). In most instances, each type of support was more likely to be provided to low-attaining pupils than for disadvantaged pupils. The proportions are reported in Figure 33 and Figure 34.

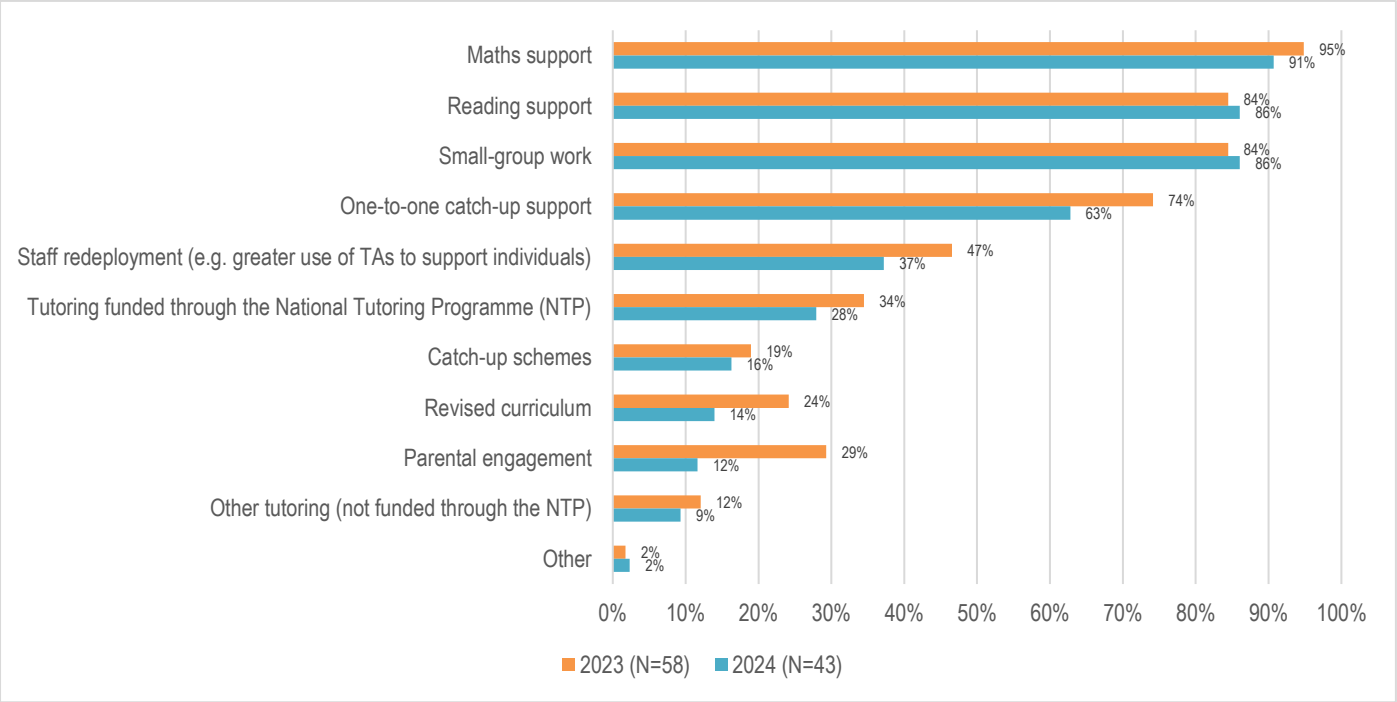
In most cases, the provision of support for low-attaining and disadvantaged pupils was reported to a lesser extent that in Spring Term 2023 for Years 3 and 4. For low-attaining pupils, parental engagement showed the largest difference, 18 percentage points lower in 2024 than in 2023, at 12%. For disadvantaged pupils, the largest drop (21 percentage points) was for one to one catch-up support, to 33%.

Figure 33: Which areas has support for disadvantaged pupils focused on?



TAs=teaching assistants.

Figure 34: Which areas has support for very low-attaining pupils focused on?



TAs=teaching assistants.

Tutoring funded through the National Tutoring Programme

Just over two-fifths of schools (22 schools) reported that they used tutoring funded through the National Tutoring Programme to aid the learning recovery of Year 4 and Year 5 pupils (37% for mathematics and 31% for reading). Of these schools, just under a third (N=7) (32%) were using school-led tuition (down from 83% in Spring Term 2023). Just under a third (32%) of headteachers reported using Tuition Partners and 5% that they hosted Academic Mentors in their school.

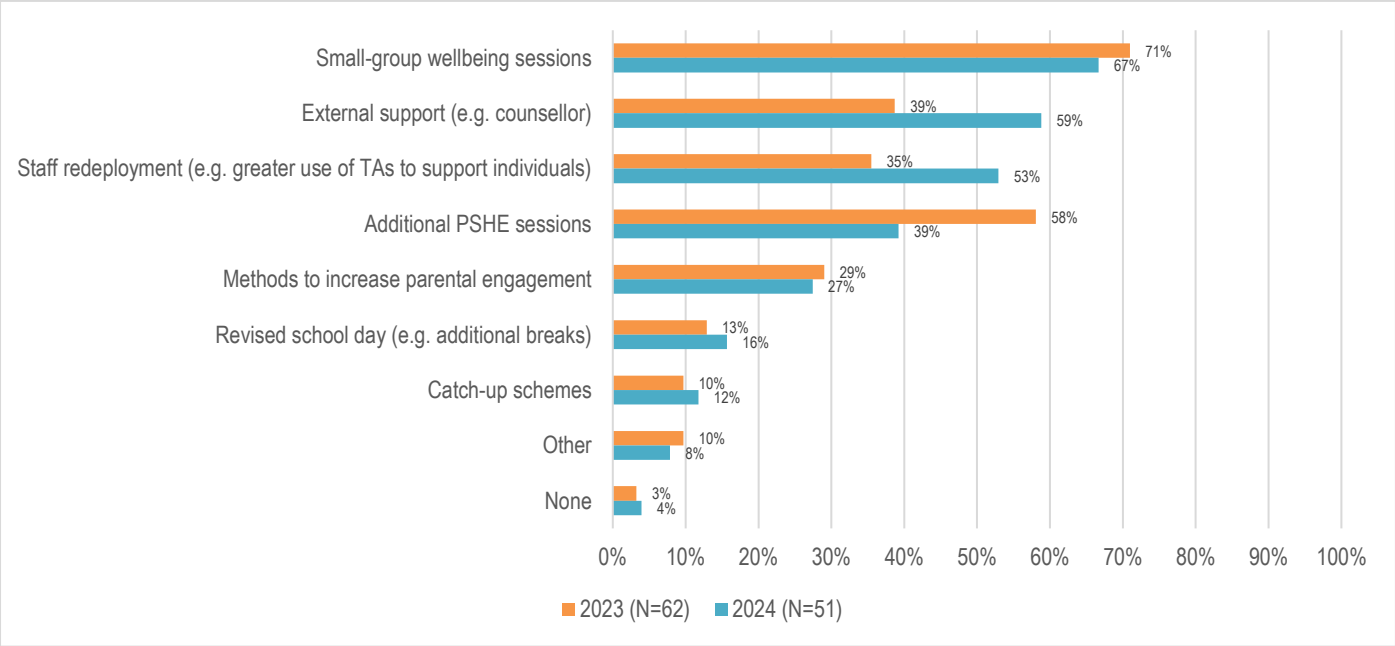
A small proportion (14%) of schools (seven schools) reported that they were providing tutoring that was **not** funded through the National Tutoring Programme (12% for mathematics and 14% for reading). Of these, six schools reported using internal tutors or existing staff and one school reported using external tutors instead of, or in addition to, internal tutors.

Support for social skills and wellbeing for Year 4 and Year 5

The headteacher responses highlight areas of concern for pupils' wellbeing. As reported earlier in this section, 75% of schools reported increased workload due to pupils' behaviour or wellbeing needs (Figure 26) and 68% of schools that reported disruption in the 2023/2024 academic year indicated that this was due to challenges with pupil behaviour and wellbeing (this represents 25% of the schools in the sample, see Figure 24).

The most common strategy for providing social skills or wellbeing support for pupils was small group wellbeing sessions, reported by two-thirds of headteachers (67%). External support (e.g. counsellors) and staff redeployment (e.g. using teaching assistants to support pupils) were also reported by more than half of schools (59% and 53%, respectively). This information is shown in Figure 35. Compared with Spring Term 2023, external support had increased by 20 percentage points from 39% in 2023 whilst additional personal, social, health and economic (PSHE) lessons has decreased by a similar extent (19 percentage points from 58%).

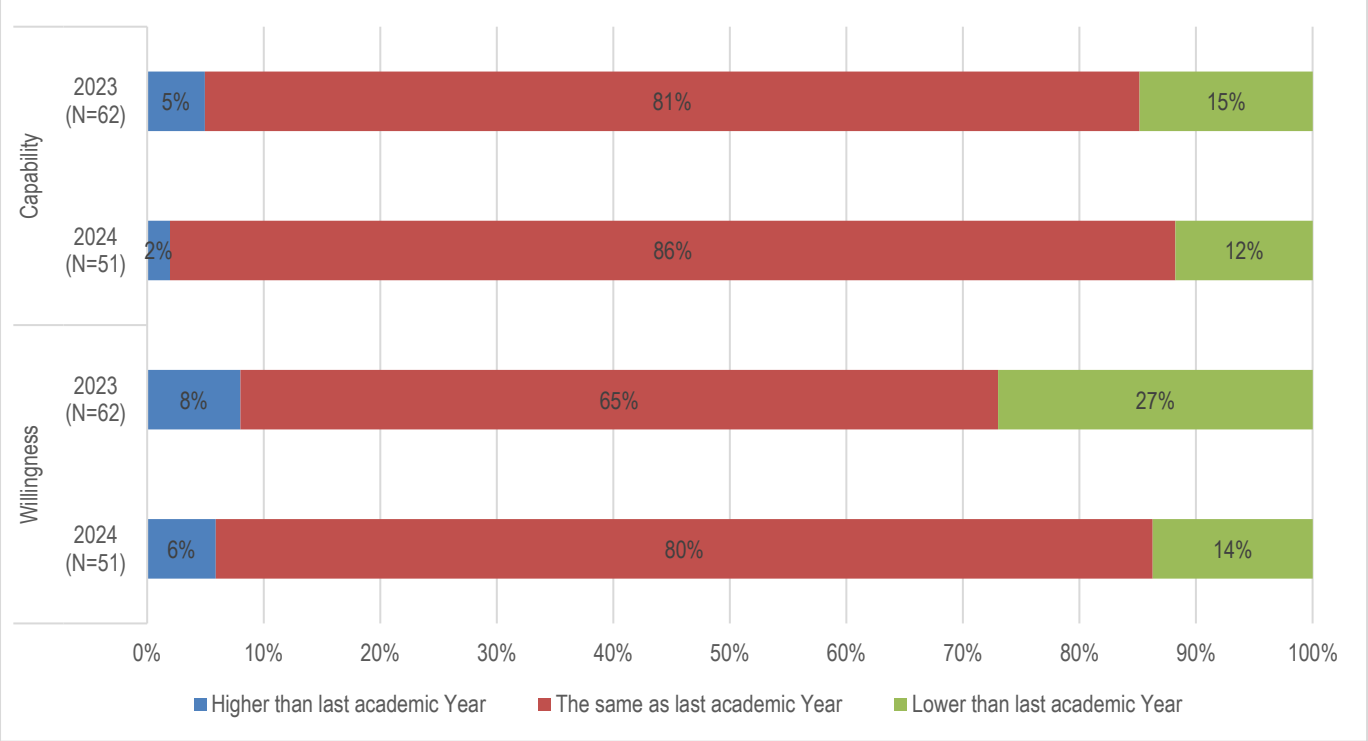
Figure 35: What strategies has your school implemented this academic year to provide social skills/wellbeing support for Year 4 and Year 5?



TA=Teaching Assistants.

When asked about parental support this year, just over a fifth of headteachers (22%) reported that the level of parental support was high, whilst a fifth of headteachers (20%) said it was low. The remaining headteachers (59%) said it was neither high nor low. These proportions are similar to those found in Spring Term 2023.

As shown in Figure 36, the vast majority of headteachers (86%) rated the capability of parents to support their children's learning, for example, having the time or resources to support, as the same as that in the previous academic year; and 12% of headteachers reported that it was lower than the previous year. The responses from headteachers about parents' willingness to support their children's learning was similar, with 80% saying it was the same as the previous year and 14% saying it was lower. Figure 36: How would you rate the level of parental support, in terms of capability and willingness compared to the last academic year?



Headteachers were asked, in an open question, whether there was anything further that they would like to report about the learning and recovery of Year 4 and Year 5 pupils in their school for this academic year. These mainly related to issues already highlighted, with 20% mentioning pupil behaviour issues. In addition, 18% reported that they felt Year 4 pupils had greater learning recovery needs than Year 5 (which broadly reflects the Covid-19 gap effect sizes observed

this year particularly in mathematics where Year 5 recovery is indeed more positive) and 4% of respondents raised the need for further resilience and self-regulation support for pupils.

Research question 4: Are social skills at or behind expectations, and to what extent do they improve between subsequent academic years?

Summary

- Most pupils in Spring Term 2024 were broadly average in terms of their social maturity when compared to the average child of the same age had the pandemic not happened. This is also what we found in spring 2023.
- Pupils eligible for FSM were assessed as having significantly lower social skills than pupils not eligible for FSM.
- Boys were assessed as having significantly lower social skills than girls.

The social skills of pupils in Year 4 and Year 5 in 2023/2024 were measured using PSMAT (Peterson *et al.,* 2007) and bespoke items written for this study. Year 4 and Year 5 teachers were asked to rate 12 pupils randomly selected by NFER on the seven PSMAT items and seven bespoke items using a 7-point scale against typical pupils from before the Covid-19 pandemic. The centre of the scale (4) represents a rating of 'about average for children this age'. Responses 1 to 3 represent 'less mature than the average child of this age' (from 'very much less' [1] to 'a little less' [3]). Reponses 5 to 7 represent 'more mature than the average child of this age' (from 'a little more' [5] to 'very much more' [7]). As discussed in the 'Methods' section of this report, the CSBQ was used to measure the social skills of pupils in the 2020/2021 baseline study (Rose *et al.*, 2021). In the 2021/2022 study (Wheater *et al.,* 2022) and the 2022/2023 study (Rose *et al.*, 2023), the PSMAT was also used to measure social skills, and we are therefore able to make direct comparisons between the social skills of pupils in Spring Term 2024 and Spring Terms 2023 and 2022. In this section of the chapter, we present data on the performance of the PSMAT and bespoke items as a measure of social skills, compare social skills of pupils in Spring Term 2024 with Spring Terms 2023 and 2022 and with the validation of the PSMAT (with caveats), and analyse the differences in social skills of pupils by gender and FSM eligibility.

Performance of the PSMAT and bespoke items

As found in Spring Term 2023 and Spring Term 2022, the PSMAT showed excellent internal consistency for our sample: Cronbach's alpha = 0.96. The supplementary items performed similarly: Cronbach's alpha = 0.96. The sets of items were highly correlated (0.87) and, together, the 14-item scale had a Cronbach's alpha of 0.98. The full range of scores was used for each of the items indicating that teachers were differentiating between children in their responses to the items.

The validation study of the PSMAT was carried out in Australia and reported by Fink *et al.* (2013). It established the convergent validity of the PSMAT with a norm referenced scale, the Social Skills Rating System (SSRS) (Gresham and Elliott, 1990). The first part of the validation study (Study 1) assessed a sample of 145 pupils in Sydney, Australia, with a mean age of six years and six months. The second part of the validation study (Study 2) assessed a separate sample of children on the PSMAT and SSRS longitudinally in Kindergarten, Grade 1, and Grade 2. From an original sample of 114 children in Kindergarten, 96 remained in the Grade 2 group. The sampling in the validation study was poorly documented and appeared non-random.

The mean scores and SDs for pupils assessed in Spring Term 2024 and Spring Terms 2023 and 2022 for the PSMAT and supplementary items, are reported in Table 48 including scores broken down by year group. The distributions of the scores for both the PSMAT and supplementary items showed most data points clustered around the middle of the range with fewer towards the extremes. The distributions show a notable peak at 28, which represents the score for a rating of 4 (the midpoint of the range) on all seven items in the scale. The mean score for pupils assessed in Spring Term 2022 and the validation mean score in Fink *et al.'s* (2013) validation study were very similar. Fink *et al.'s* (2013) score of 27.26 was within the CI around the mean for the whole sample in 2022 but the average age in the validation study was lower than the Spring Term 2022 cohort. In this study and the 2023 study, the mean score from the validation study is just outside the higher limit of the CI around the mean score for all pupils. As noted above, there is insufficient evidence on the quality of the sampling for the validation study. However, if these were reasonable estimates of the pre-pandemic population of Australian children at this age, this comparison suggests that English children post-pandemic are less mature socially.

Comparing findings from Spring Term 2023 with Spring Term 2024, the mean scores are very similar for the whole sample comparisons, within Year 4 (the common year group across samples), within cohorts (e.g. comparing Year 3 in 2023 with Year 4 in 2024), and for both the PSMAT and supplementary items. For each of these comparisons the CIs overlap, suggesting that the level of social maturity of the pupils has not changed.

Table 48: Total mean scores for the PSMAT scale from Spring Terms 2022, 2023, and 2024, plus supplementary items, by year group

Year	Age range (years)	Spring Term 2022				Spring Term 2023				Spring Term 2024			
		PSMAT		Supplementary items		PSMAT		Supplementary items		PSMAT		Supplementary items	
		Mean (95% CI)	SD	Mean (95% CI)	SD	Mean (95% CI)	SD	Mean (95% CI)	SD	Mean (95% CI)	SD	Mean (95% CI)	SD
Year 2	6–7	27.07 (26.47–27.68)	8.53	27.49 (26.89–28.10)	8.55								
Year 3	7–8	26.95 (26.39–27.51)	7.90	27.45 (26.87–28.03)	8.14	26.70 (26.1–27.27)	7.97	27.10 (26.53–27.68)	8.10				
Year 4	8–9					26.51 (25.8–27.16)	8.78	27.04 (26.36–27.72)	9.14	25.80 (25.13–26.47)	7.86	26.40 (25.73–27.06)	7.78
Year 5	9–10									26.94 (26.21–27.67)	8.32	27.95 (27.19–28.71)	8.70
Year 2 and Year 3	6–8	27.01 (26.60–27.42)	8.22	27.47 (27.06–27.89)	8.35								
Year 3 and Year 4	7–9					26.61 (26.1–27.04)	8.36	27.07 (26.63–27.51)	8.61				
Year 4 and Year 5	8–10									26.36 (25.86–26.85)	8.10	27.15 (26.65–27.66)	8.27

Social skills of pupils measured by the PSMAT and bespoke items

As discussed in the previous section, the mean scores for pupils (in Year 4 and Year 5 combined) in Spring Term 2024 are similar to those of the pupils (in Year 3 and Year 4 combined) in Spring Term 2023.

There are seven items in the PSMAT scale and seven supplementary items. For each item, a rating of 3 or below indicates the child is less socially mature than children of the age, and a rating of 5 or above indicates the child is more socially mature. A score of 28 (7×4) is representative of a child who, on average, had the expected level of maturity for children (pre-pandemic) of the same age. Using this approach, a score of 21 (7×3) can be taken as a cut-off point, and children scoring 21 or below can be considered to be, on average, not yet at the expected level of social maturity for children of the same age. Similarly, a score of 35 (7×5) and over would indicate that a child was more mature than a child of the same age. We can therefore, use these cut-off points to look in more detail at the social skills of pupils.

Table 49: Percentages of children rated as less, more, or about average in terms of their social maturity, as measured by the PSMAT

		Less mature than average child	About average	More mature than average child
Spring Term 2022	PSMAT	22%	60%	18%
	Supplementary items	21%	59%	20%
Spring Term 2023	PSMAT	25%	60%	16%
	Supplementary items	24%	57%	19%
Spring Term 2024	PSMAT	25%	59%	16%
	Supplementary items	23%	59%	18%

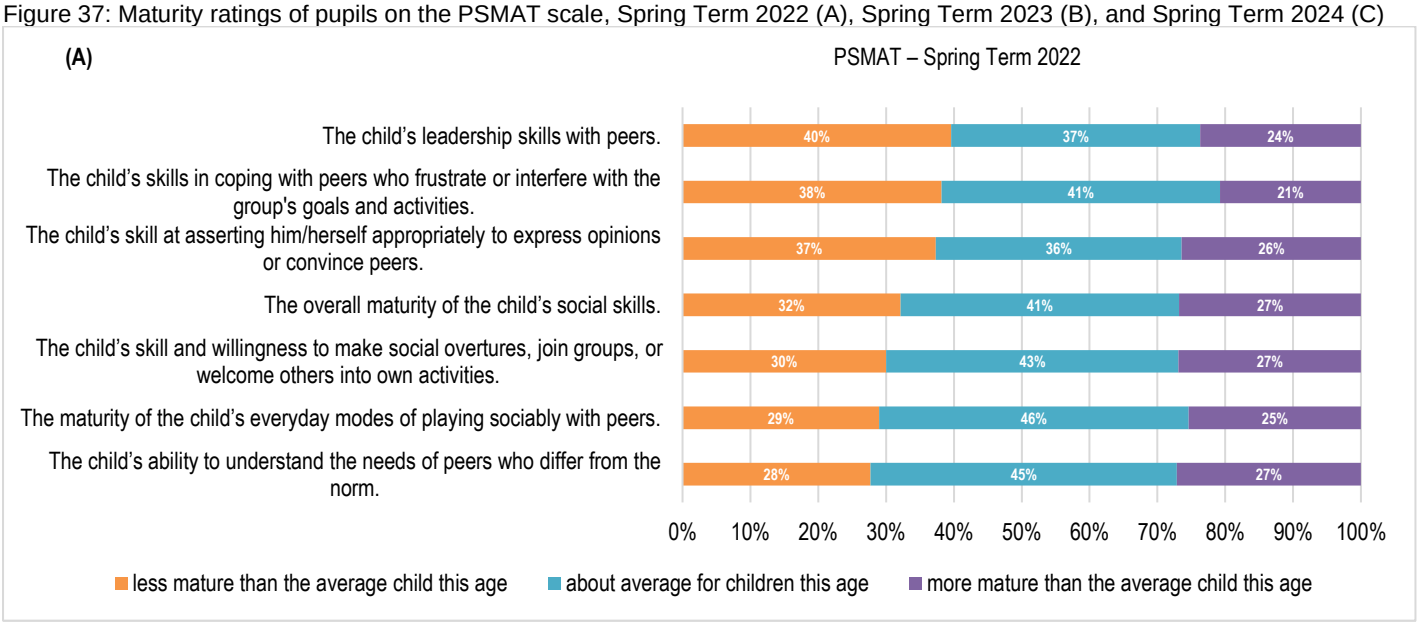
In Spring Term 2024, the majority of pupils were rated as having the same level of social maturity as average children of the same age, with the proportion rated as less mature being slightly larger than those rated as more mature. This gap was the same as that found in Spring Term 2023 (which was greater than that found in Spring Term 2022), as shown in Table 49. Teachers indicated that 59% of pupils had an average level of social maturity for children of the same age on the PSMAT (one percentage point below the proportion in Spring Terms 2023 and 2022). Pupils were rated similarly on the supplementary items, with 59% of teachers indicating pupils had an average level of social maturity for children of the same age, two percentage points above the percentage in 2023 and equal to that in 2022. The differences in the proportions of pupils rated as less than, more than, or about average between the two studies were not statistically significant. This was the case within the 2024 sample as well as when comparing 2024 with 2023.

Figure 37A, 37B, and 37C and Figure 38A, 38B, and 38C present the proportions of ratings of pupils across both year groups on the PSMAT and supplementary items, respectively. It shows the proportions of pupils rated as less mature than the average child, about average, and more mature. The PSMAT item for which the greatest proportion of pupils were rated as being less mature than the average child of the same age was, 'The child's leadership skills with peers' (42% of pupils).

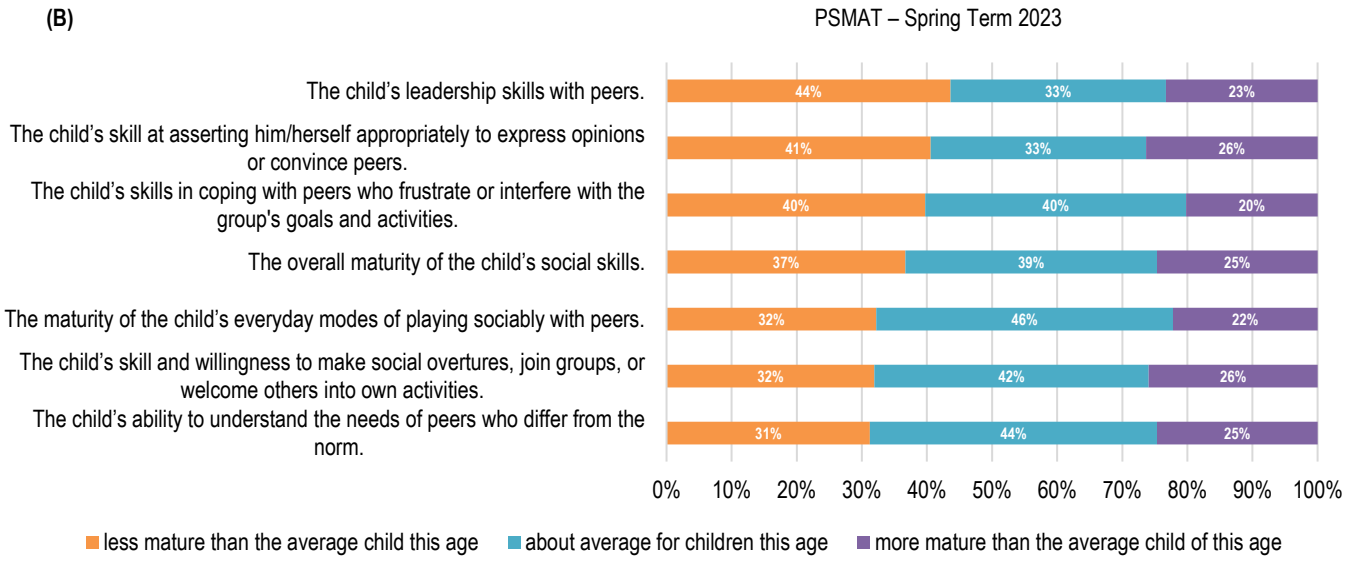
Of the supplementary items, an item intended to measure emotional regulation, 'The child's ability to deal with minor conflict and disappointment', was the item for which the greatest proportion of pupils were rated as less mature than an average child (39% of pupils) and only 19% were rated as more mature than average. The item, 'The child's ability to make choices for themselves', had the lowest proportion of pupils rated as less mature (26%).

In Spring Term 2024, for each item on the PSMAT scale, the percentage of pupils rated as less mature than average was similar to that in Spring Term 2023, but greater than in Spring Term 2022. For the item, 'The overall maturity of the child's social skills', the difference was four percentage points greater in Spring Term 2024 (at 36%) compared with Spring Term 2022. For most of the supplementary items, the percentage of pupils rated as less mature in Spring Term 2024 was lower than that found in Spring Term 2023. For these items, there was no clear pattern of difference between Spring Term 2024 and Spring Term 2022. The greatest difference (3.4 percentage points) was for the item, 'The child's ability to undertake appropriate tasks independently', for which 31% of pupils in Spring Term 2024 were rated as less mature than the average child. For the supplementary items, there was no clear pattern of difference between Spring Term 2024 and Spring Term 2022.

Figure 37: Maturity ratings of pupils on the PSMAT scale, Spring Term 2022 (A), Spring Term 2023 (B), and Spring Term 2024 (C)



(B)


PSMAT – Spring Term 2023
The child's leadership skills with peers.
The child's skill at asserting him/herself appropriately to express opinions or convince peers.
The child's skills in coping with peers who frustrate or interfere with the group's goals and activities.
The overall maturity of the child's social skills.
The maturity of the child's everyday modes of playing sociably with peers.
The child's skill and willingness to make social overtures, join groups, or welcome others into own activities.
The child's ability to understand the needs of peers who differ from the norm.
44%
33%
23%
41%
33%
26%
40%
40%
20%
37%
39%
25%
32%
46%
22%
32%
42%
26%
31%
44%
25%
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
less mature than the average child this age
about average for children this age
more mature than the average child of this age

(C)

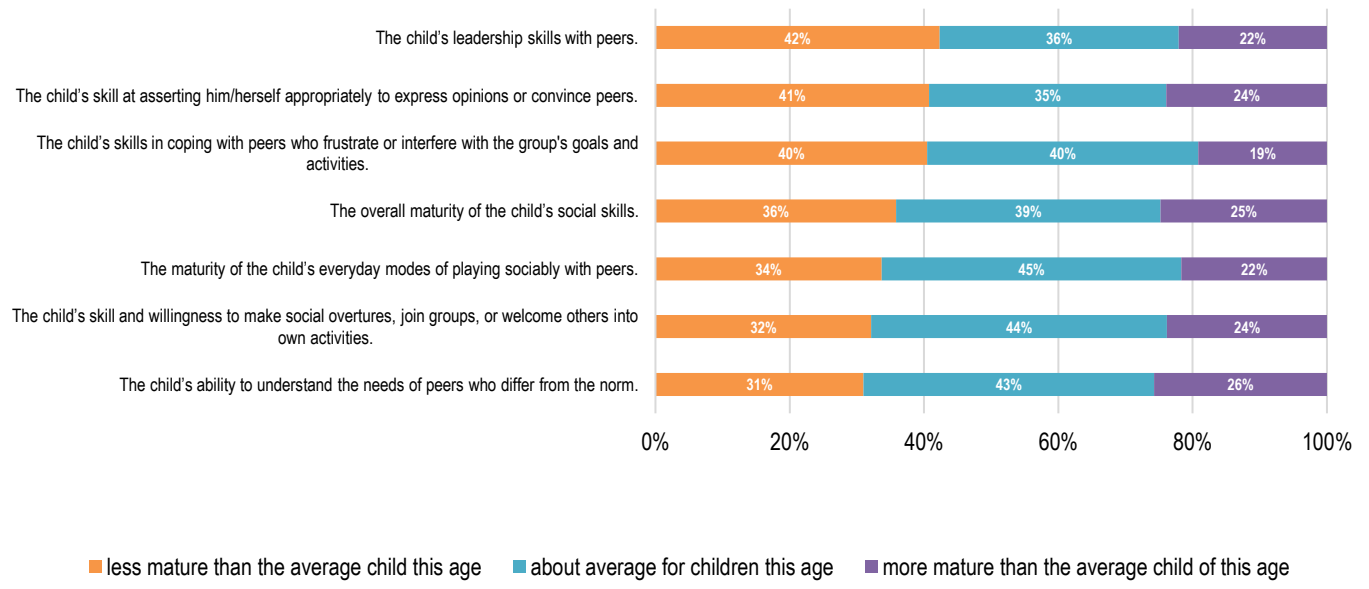
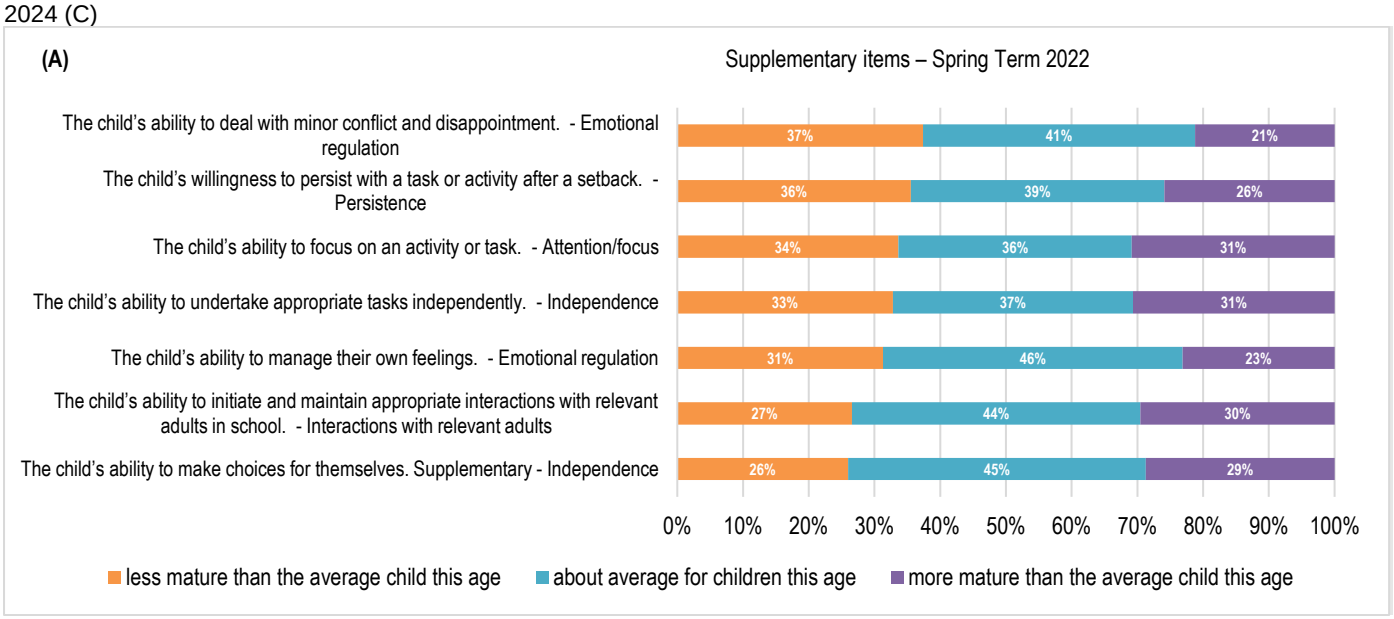
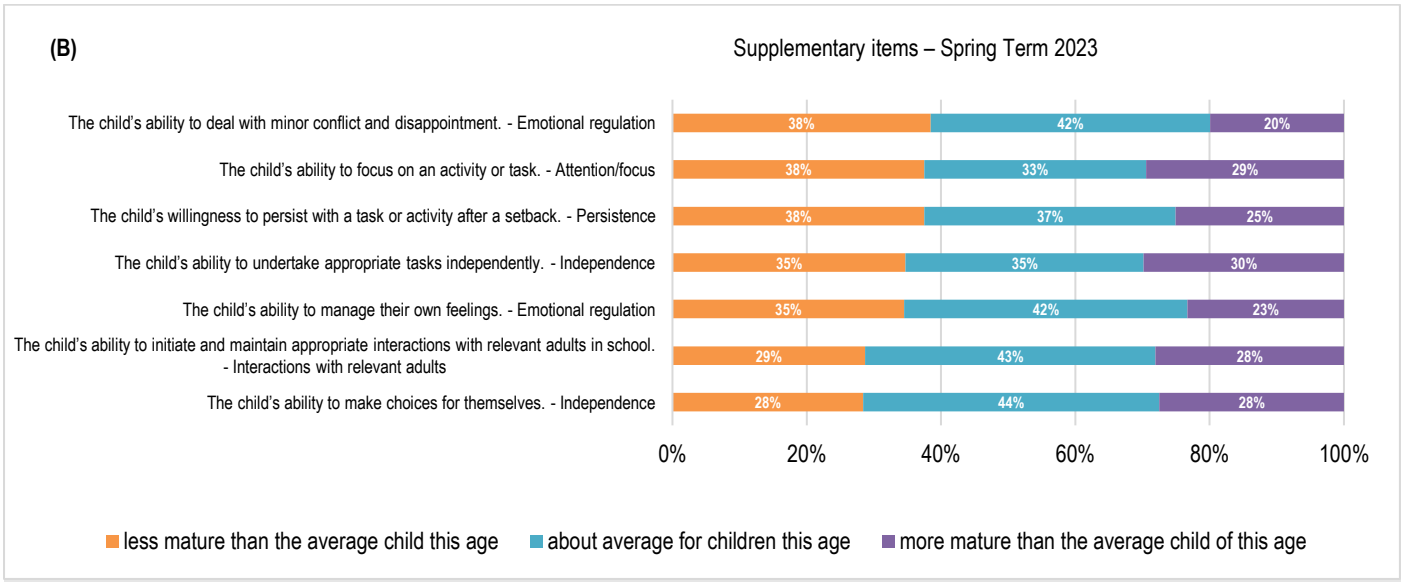
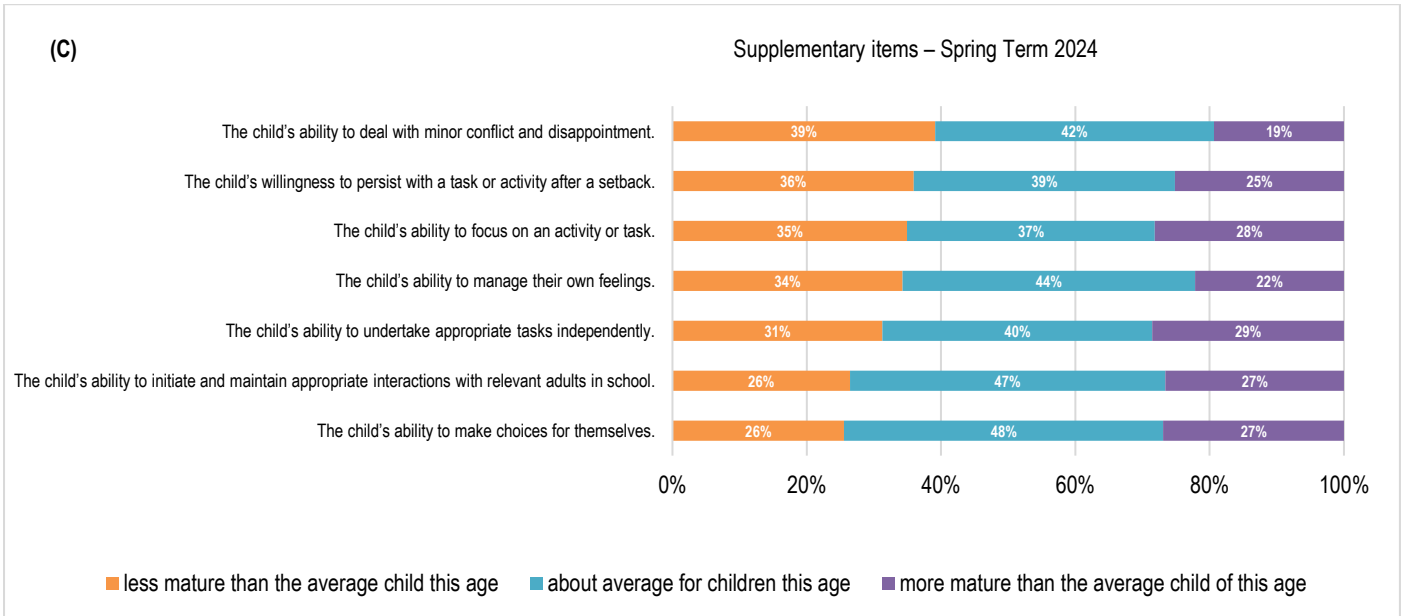

PSMAT– Spring Term 2024
The child's leadership skills with peers.
The child's skill at asserting him/herself appropriately to express opinions or convince peers.
The child's skills in coping with peers who frustrate or interfere with the group's goals and activities.
The overall maturity of the child's social skills.
The maturity of the child's everyday modes of playing sociably with peers.
The child's skill and willingness to make social overtures, join groups, or welcome others into own activities.
The child's ability to understand the needs of peers who differ from the norm.
42%
36%
22%
41%
35%
24%
40%
40%
19%
36%
39%
25%
34%
45%
22%
32%
44%
24%
31%
43%
26%
0% 20% 40% 60% 80% 100%
less mature than the average child this age
about average for children this age
more mature than the average child of this age

Figure 38: Social skills ratings of pupils on the supplementary items, Spring Term 2022 (A), Spring Term 2023 (B), and Spring Term 2024 (C)







Teachers' assessments of their pupils did not indicate areas for concern in the social skills of pupils in Year 4 and Year 5. It should be noted that we do not have a baseline for English pupils established before the Covid-19 pandemic with which to compare these findings with the PSMAT.

Differences in social skills by eligibility for FSM

As found in Spring Term 2023 and Spring Term 2022, pupils eligible for FSM were found by teachers to have lower social skills than pupils not eligible for FSM in both the PSMAT and the bespoke supplementary items in Spring Term 2024. These differences, between FSM and non-FSM pupils, were significant. This finding was also found in the baseline study, using a different measure (the CSBQ) when pupils where in Year 1 and Year 2 in the 2020/2021 academic year.

Table 50: Total mean scores for the PSMAT scale and supplementary items, by eligibility for FSM

Measure	FSM eligibility	Spring Term 2024		Spring Term 2023		Spring Term 2022	
		Mean (95% CI)	SD	Mean (95% CI)	SD	Mean (95% CI)	SD
PSMAT	Eligible for FSM	24.09** (23.02–25.15)	7.80	23.71** (22.77–24.65)	8.43	24.69** (23.52–25.86)	8.90
	Not eligible FSM	26.93 (26.38–27.48)	8.08	27.23 (26.76–27.70)	8.09	27.80 (27.34–28.26)	7.85
Supplementary items	Eligible for FSM	24.32** (23.26–25.38)	7.79	23.93** (22.96–24.90)	8.66	24.82** (23.68–25.96)	8.67
	Not eligible for FSM	27.87 (27.30–28.43)	8.24	27.8 (27.31–28.29)	8.37	28.36 (27.89–28.83)	8.02

*** Significantly different at 1% level (comparing pupils eligible for FSM with those who were not).*

Differences in social skills by gender

As found in Spring Term 2023 and Spring Term 2022, boys in Spring Term 2024 were rated as having lower social skills than girls in the PSMAT and the supplementary items, and these differences were significant.

Table 51: Total mean scores for the PSMAT scale and supplementary items, by gender

Measure	Gender	Spring Term 2024		Spring Term 2023		Spring Term 2022	
		Mean (95% CI)	SD	Mean (95% CI)	SD	Mean (95% CI)	SD
PSMAT	Female	27.68** (26.96–28.39)	8.13	28.37** (27.78–28.96)	8.05	28.73** (28.13–29.33)	8.04
	Male	25.01 (24.33–25.68)	7.81	24.95 (24.36–25.54)	8.32	25.67 (25.08–26.26)	8.06
Supplementary items	Female	28.72** (27.99–29.45)	8.30	28.92** (28.31–29.52)	8.25	29.29** (28.69–29.89)	8.10
	Male	25.54 (24.85–26.23)	7.96	25.33 (24.72–25.94)	8.59	26.08 (25.28–26.68)	8.20

*** Significantly different at 1% level.*

Limitations

The results of this study should be interpreted with some important limitations in mind.

The number of responding schools in the 2023/2024 cross-sectional analysis (59 schools) is sufficient to detect differences in the disadvantage gap. Care should be taken with interpreting the Covid-19 gap as this number of schools could result in a Type II error if the effect size is below 0.2. Furthermore, the small effect sizes for the Covid-19 gaps we have observed in 2023/2024 for Year 4, whilst susceptible to a Type II error, may also be of an order that can indeed be considered as 'closed' or in other words no longer educationally relevant, namely, the size of any effect should always be considered against its educational relevance.

For the cross-sectional analyses, any sample representation checks and weighting that resulted were based on school-level data weighted to pupil numbers. This is not as good as true pupil-level representativeness comparisons.

Additionally, when checking the assumptions for running our linear mixed effects multilevel models, we observed instances of violation of the normality of residuals assumption. However, given our large sample size, such a violation is not a cause of concern. In fact, studies have shown robustness of linear mixed effects models to violations of distributional assumptions. Estimates from such models are at worst imprecise in their CIs, but not biased (e.g. see, Schielzeth *et al.*, 2020).

A further limitation is the relatively large number of pupils that were deemed 'unable to access the curriculum' and subsequently did not undertake the relevant test. Overall, 5.7% of Year 5 and 3.6% of Year 4 pupils were indicated as such, which is far higher than the national percentage (around 1%) indicated on DfE Key Stage 2 attainment reports (DfE, 2023; GOV.UK, 2024). Reviewing these pupils has revealed that these high proportions are driven by two schools in particular who have indicated a very high proportion of their Year 5 pupils as being unable to access the curriculum in reading and/or mathematics. Many of these pupils were deemed 'underachievers' in the 2022/2023 assessments (scored less than 70), so it is feasible that the schools in question decided to not ask these low-attaining pupils to undertake the tests in 2023/2024. However, we have no way of establishing whether this was the case. This may be masking a tail of low attainment, not observed this year, but potentially still an issue or it is possible that these pupils may have scored more highly had they been allowed to sit the assessments.

Clearly there are several different reasons why the sample mean and/or distribution shape for different assessments in our study are different from previous standardisation samples, aside from school closures. For example, each assessment in the NFER assessment suite is standardised as a standalone assessment. For both Year 4 and Year 5 the standardisation sample was standardised relatively soon after a new curriculum was introduced, some of the changes observed may, in part, be attributed to the sawtooth effect (i.e. the decrease in performance when a new curriculum is introduced and then improvements in subsequent years). This means that we may be underestimating the Covid-19 gap. Teachers who remain with the same year group each year may also have increased familiarity with the assessments. We also acknowledge the limitation that this is not conceptually a pure indication of the Covid-19 gap, as schools have implemented a range of additional support strategies and activities prior to the pupils sitting these assessments. The school-level survey was used, as appropriate, to help us interpret the results.

For the analyses that compare assessment scores by FSM eligibility, there is some variation in how that eligibility is defined. For the comparison of standardised overall means at each of the four timepoints (Spring Term 2021, Spring Term 2022, Spring Term 2023, and Spring Term 2024), a pupil's FSM eligibility is defined as it was reported by the school in each of these timepoints. Where FSM eligibility is missing, we refer back to an earlier timepoint and assume it has not changed. We know from Julius and Ghosh (2022) that pupils FSM status may be more likely to change in recent years than previously (relating to changes to Universal Credit and amplified by changes in family circumstances relating to the pandemic), and hence it is sensible that our analysis at each timepoint takes into account FSM status at the time of the assessment.

For the repeated measures analysis however, we use FSM eligibility from January 2020 (i.e. before school closures), to ensure we are tracking the same sample of pupils over time. We believe treating our FSM sample in this way is reasonable for this study, and as such places few limitations on the validity of these results.

In the baseline study, researchers at NFER marked the assessments, using coding, in order to provide detailed diagnostic information to schools. However, in 2021/2022, in response to a number of schools wishing to mark their own assessments, teachers were asked to mark and upload their own assessment data. In 2022/2023, again in response to

schools' feedback, we reverted to the assessments being marked by NFER researchers. The assessments in 2023/2024 were also marked by NFER researchers. It was decided that the change to teacher marking in 2021/2022 was not a big risk to the reliability; the mark schemes are specifically designed to be used by teachers and a webinar and helpdesk were provided to help with queries.

The PSMAT has limitations as a measure of social skills and wellbeing. It is validated for a small sample of Australian children and does not have norms. It was validated longitudinally, but again with a small potentially unrepresentative sample of pupils and, therefore, there is a limit to the conclusions that can be drawn on whether pupils were at 'expected' standards. However, the PSMAT and bespoke supplementary items performed well as a scale. It also identified differences in the social skills of pupils eligible and not eligible for FSM, and differences between girls and boys. The change in measure from the CSBQ in the baseline study to the PSMAT with additional bespoke items means that comparisons cannot be made to the baseline. However, this study compares its findings with those from the 2021/2022 and from 2022/2023 studies, which does enable valid comparisons to be made.

Discussion and implications

The disruption faced by schools between Spring Term 2020 and Summer Term 2021 was unprecedented, with partial school closures and a move to online learning. Our study shows that in 2024, whilst disruption overall appears to have reduced from levels seen in 2021/2022 and in 2022/2023, schools continue to face challenges. Indeed, they highlight new or more nuanced concerns, particularly relating to pupil absences (not directly Covid-related), difficulties obtaining external support for their pupils, and increased staff workload relating to pupil behaviour and wellbeing.

Previous evidence on recovery in the 2020/2021 academic year, immediately after the pandemic, highlighted the different challenges faced by pupils at different stages of education (such as reviewed by: Twist, Jones, and Treleaven, 2022; EEF, 2022b). All age groups had lower mean attainment, but within primary school, for Key Stage 1 pupils, reading was the subject most affected. For Key Stage 2 pupils, mathematics attainment and writing were most affected; this persisted into the 2021 academic year as demonstrated by the 2022 Key Stage 2 data (DfE, 2022b). In the second year of the study, we found that whilst pupils had on average caught up in mathematics in Year 2 and Year 3, and in reading in Year 3, the negative impact of school closures on learning was still evident in Year 2 pupils' reading (Wheater *et al.*, 2022). In the third year of our study, whilst pupils (then in Years 3 and 4) had on average caught up, and indeed were slightly ahead in mathematics (Year 3 pupils) and in reading (Year 4 pupils) compared to the pre-pandemic standardisation samples, the number of very low-attaining pupils we observed was a concern, particularly in Year 3 reading.

Now four years on from the first school closures, the evidence on recovery, whilst promising, remains mixed. Our study shows positive results for the 2023/2024 academic year for both Year 4 and Year 5 pupils in both subjects, indicating that the strategies, which schools have put in place, appear to have reduced the impact of the disruption to learning on pupils in our study. In Year 4, there was no significant difference in pupils' reading (pupils were two months ahead but not statistically significantly) and mathematics performances compared with the pre-pandemic 2017 standardisation samples. In Year 5, there was no significant difference in pupils' reading performance compared with the pre-pandemic standardisation sample, and in mathematics they performed significantly higher than before the pandemic (three months ahead). These results suggest that the strategies implemented by teaching staff, such as small group learning and staff redeployment, and one to one support (frequently used in earlier years of our study, slightly less so this year) have been well targeted.

However, other recent studies using different samples of schools and including different year groups find other trends in the data. A study by Andrews (2023) and updated in 2024 (Andrews, 2024; The Sutton Trust, 2024), has found a slightly different trend in children's assessment scores (using Renaissance Learning, Education Policy Institute, 2021), with readers (from Year 3 to Year 9) having caught up on average to pre-pandemic levels, whilst pupils' mathematics learning (Year 3 to Year 6) had on average not yet caught up. The latest Key Stage 2 results in 2024 show that the proportion of children who met expected standards in mathematics was up from 2022 and unchanged from 2023, but is below pre-pandemic levels, and those meeting expected standards in reading is similar to pre-pandemic levels (DfE, 2024).

Our study does still raise concerns as behind the success of the average attainment of the overall cohort are some worrying findings. Whilst the proportion of low attainers in our assessment samples in Year 4 reading and mathematics, and Year 5 mathematics, is now comparable to pre-pandemic figures, in Year 5 reading this year there was double the proportion of low attainers compared to the pre-pandemic sample. Moreover, there was a relatively high proportion of pupils deemed unable to access the curriculum in our study this year (much higher than the national average on Key Stage 2 assessments, for example) although this was mostly caused by two of the sampled schools. This represents a substantial challenge for teachers and support staff in each class, where they might be supporting a very wide range of abilities, and particularly in schools in disadvantaged areas who are more likely to have higher proportions of lower performing pupils (Julius and Ghosh, 2022).

Research into the impact of the pandemic on attainment has found that the disadvantage gap widened further (Blainey and Hannay, 2021; Rose *et al.*, 2021). Our study shows that a substantial disadvantage gap remains despite both disadvantaged and non-disadvantaged pupils increasing their scores when compared to the 2021 cohort and despite an observed slight reduction in the disadvantage gap in Year 4 reading and Year 4 mathematics since we first measured it in spring 2021 (we did not see this reduction with the Year 5 cohort). Schools in our study were focusing additional support on disadvantaged pupils, although less so this year compared with last year. Continued targeted approaches

are needed in order to address closing this gap. Other studies also highlight the continued disparity between disadvantaged pupils and their peers (Andrews, 2023; Kennedy and Strietholt, 2023).

The impact of the wide disadvantage gap, the increased number of low-attaining pupils in Year 5 reading, and the proportion of pupils unable to access the curriculum, will continue to be demanding of both teacher and support staff time. There is clearly some overlap in these groups: In our study, around 23% of the 2023/2024 sample of pupils are disadvantaged but they are over-represented within the very lowest attainers with around half of these being disadvantaged. The vast majority of schools indicated they had provided additional support for low attainers, and also, although to a lesser extent for disadvantaged pupils. This study highlights the importance of policymakers ensuring that schools have the appropriate resources to identify these pupils and provide targeted support as they progress through primary school. This is particularly important as schools' budgets are squeezed, and they are having to make difficult decisions about how to allocate funding.

As was the case in the 2022/2023 study, we found that headteachers continue to be concerned for the wellbeing of pupils. Moreover, in this year's school survey, we found that headteachers are now also concerned with new or more nuanced challenges, especially those relating to pupil attendance, accessing appropriate external support, and teachers' workload relating to supporting pupils' behaviour and wellbeing. Tackling these challenges to pupils' learning, engagement and wellbeing may require a new approach, away from 'learning recovery' directly to a more holistic approach within and beyond the school community.

This study has followed children from the point in Key Stage 1 in 2020 when they were in Year 1 and Year 2 and first returned to school following the first set of partial school closures. It shows that the signs of recovery for the year groups in our study do seem to be being sustained. However, there are groups of pupils where the disruption to their learning continues to impact on their attainment, and moreover, there are now wider concerns around attendance and wellbeing. Furthermore, our study only looks at two year groups—children now in Years 4 and 5. We know from other studies that younger children may have been even more disproportionately affected by the pandemic, especially those pre-school children and babies in 2020, who are now starting in Key Stage 1 and/or starting school. It will be important to continue to evaluate the effects of the pandemic on children's learning and wider development and, importantly, to determine the interventions and resources that will help schools to continue to support their pupils especially those who are most vulnerable.

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Appendix A: Ethics, data protection, and team

Ethics

Ethical approval

This research project received ethical approval through NFER's standard project start-up procedures and Code of Practice Committee.

Ethical agreement from schools to take part

NFER was responsible for recruiting schools for this research. Schools that had taken part in the last year of the study were contacted via email in early November 2023. This communication was addressed to the study contact from the 2022/2023 academic year and they were asked to complete an online Memorandum of Understanding (MOU) should they wish to take part again. Schools who taken part in previous years of the study, but who hadn't participated in 2022/2023 academic year, were sent a different invitation email addressed to the Headteacher at the school email address. They were also asked to complete an online MOU if they wished to participate.

The letter provided information on the aims of the research, what the school would be required to do before and after completing assessments and surveys, and the benefits of the research. All schools were sent a link to the published report from the previous academic year to encourage their participation by demonstrating the importance of the study. Schools had access to a dedicated project page on the NFER website, which was updated from 2022/23 to reflect the study was entering its fourth year and now focused on pupils in Year 4 and 5.

Once schools who had participated in the last year of the study had completed the online MOU to indicate their participation, they were asked to check and update details of their Year 4 and Year 5 pupils that had been collected in previous year of the study (name, date of birth, unique pupil number (UPN), gender, free school meals (FSM) status, year group, and class), to indicate any pupils that had left the school and to add any new pupils.

Once schools who had participated in previous years of the study, but not taken part in the last year, had completed the online MOU they were sent blank templates to complete for their participating pupils in Years 4 and 5 (name, date of birth, unique pupil number (UPN), gender, free school meals (FSM) status, year group, and class).

A parent information sheet and withdrawal letter were uploaded to the school portal for schools to share with their Year 4 and Year 5 parents. This gave parents the option to prevent their child's data from being shared, stored, or used in this research. Thirty-eight pupils were withdrawn by their parents during the pupil data collection process and one further pupil later in the project.

Copies of these documents are included in Appendix B.

Data protection

Data protection statement

All data gathered during the research was and will be held in accordance with the data protection framework created by the Data Protection Act 2018 and the General Data Protection Regulation (GDPR) 2016/679 and was and will be treated in the strictest confidence by the NFER. No individual or school will be identified in any report.

Legal basis for processing personal data

NFER was the data controller during this research. Our legal basis for processing teachers' and pupils' personal data is covered by GDPR Article 6 (1) (f) which states that 'processing is necessary for the purposes of legitimate interests unless there is a good reason to protect the individual's personal data which overrides those legitimate interests'.

We carried out a legitimate interest assessment, which demonstrated that the research fulfilled one of NFER's core business purposes (undertaking research, evaluation, and information activities). The research project has broader societal benefits and contributes to improving the lives of learners by identifying whether any pupil-level factors are associated with the degree of impact of the Covid-19 school closures on pupils' attainment and their recovery over the 2021/22 academic year. We considered and balanced any potential impact on the data subjects' rights and found that

our activities will not do the data subject any unwarranted harm. Therefore, it was in our legitimate interest to process and analyse the personal data described below in order to administer the research.

Personal data processed

The personal data processed for this research was:

- Name, job title and contact details for a nominated named teacher within a participating school to liaise with about this research.
- Pupil name, date of birth, gender, UPN, year group, class name, school name, and FSM status. This data was required for survey weblinks, analysis and to match their personal data to background data from the National Pupil Database (NPD) for archiving.
- Teachers provided information about a sample of pupils' social skills to explore what impact the school closures may have had on the social skills development.
- The nominated teacher was also asked to complete a voluntary survey providing feedback of their experience of the project and working with NFER.

No special category data was processed in this research.

Data security/transfer

All personal data provided electronically was done using the NFER's secure school portal. All researchers involved directly with pupils and their data had up-to-date DBS (Disclosure and Barring Service) checks. NFER survey administrations obtained personal data in accordance with the GDPR and other applicable legislation.

Data sharing

For the purposes of research archiving, school-level data and pupils' test data and survey responses will be linked with information from the NPD and shared with the Department for Education (DfE), the EEF's archive manager and in an anonymised form, with the Office for National Statistics (ONS), and potentially other research teams. Further matching to NPD and other administrative data may take place during subsequent research. No individual or school will be named by NFER in any report for this research and individual views from teacher interview data will not be shared.

Data retention and deletion

Data collected for this research will be stored securely in NFER systems until the final report in this research project is published. This is currently expected to be September 2024. NFER will securely delete all personal data from its systems within one year of publication of this final report. After three months from the completion of the research, all of the de-identified matched pupil data will be added to the EEF archive. At this point, EEF becomes fully responsible for the data (sole data controller) and NFER is no longer the data controller. Other research teams may use the de-identified data as part of subsequent research through the ONS Approved Researcher Scheme[25].

Right to withdraw

Schools and parents were provided with privacy notices explaining how their data will be collected, used, and how they can withdraw from the research project at any time. Schools were asked to make the Parent Privacy Notice and Parent Opt-out/Withdrawal form available to parents using their usual channels. Both Privacy Notices (see Appendix B) were available via links on the project pages of the NFER website and also uploaded to the school portal.

[25] https://www.ons.gov.uk/aboutus/whatwedo/statistics/requestingstatistics/approvedresearcherscheme

Project team

NFER

Susan Rose	Project leader
Pippa Lord	Project director
Ben Styles	Project consultant
Liz Twist	Project consultant
Rob Ager	Researcher
Jose Liht	Statistician
Gemma Schwendel	Statistician
Simon Rutt	Statistician
Jo Stringer	Test and school administration lead
Rob Green	Data manager
The EEF	Lottie Norton

Appendix B: Recruitment documents

Invitation letter to schools that participated in 2022/2023

RPO/LLUN/41727/2

School Name: «School_Name»
NFER No: «NFER_No»

Dear «LLON_Contact_Name»,

Impact of KS1 school closures on later attainment and social skills: a longitudinal study (pupils currently in Years 4 and 5, 2023/2024)

Following our recent communications, we would now like to ask you to confirm your participation in the extension of this longitudinal research project for the next year(s).

This study has been given a three-year extension (until 2025/26) and will continue to monitor the progress of the pupils who were in Years 1 and 2 when the schools closed due to Covid-19 through to their final year in primary school (Year 6).

What will participating in 2023/2024 involve?

- Year 4 and Year 5 pupils complete NFER spring tests during March 2024.
- Headteacher or Senior Leader completes a school-level questionnaire.
- Classroom teacher completes a social skills survey for a sample of 12 pupils per year group.

Benefits of taking part:

- Free NFER mathematics and reading assessments for your Year 4 and Year 5 pupils in spring 2024.
- Free marking service for these assessments and upload of results to the secure school portal.
- A discount of 10% off the purchase of any two year-groups worth of assessments, purchased between April and December 2024.
- Feedback on the project findings in October 2024.

Additional information on this study, and a privacy notice, can also be found here –

https://www.nfer.ac.uk/for-schools/participate-in-research/impact-of-ks1-school-closures-on-later-attainment-and-social-skills-a-longitudinal-study/

Next Steps

To confirm your participation in this project, we ask your headteacher to complete an online Memorandum of Understanding (MoU). On completion of this MoU you will be sent a link to the information that we hold for your Year 4 and 5 pupils who participated in the assessments last year, and you will be asked to check and confirm this data online.

Please follow the instructions below to complete the online form by **Friday, 17 November 2023.**

Instructions to access School Portal

To log into our secure 'school portal' at www.nfer.ac.uk/portal, you will need the details provided below:

NFER number	«NFER_No»
Project number	41727
Password	To follow in a separate email (sent directly after this one)

If you have any queries, please contact my colleague Jo Stringer on 01753 637485 or via email at KS1AttainmentResearch@nfer.ac.uk.

Yours sincerely,

Kathryn Hurd
Evaluation and Survey Operations Lead, Research and Product Operations

National Foundation for Educational Research (NFER)
The Mere, Upton Park, Slough SL1 2DQ, United Kingdom
Reg No 900899 (England and Wales). Reg Address as above.

Switchboard: + 44 (0) 1753 574123
Web: www.nfer.ac.uk
Twitter: @TheNFER

Invitation letter to schools that participated in 2021/2022 or 2021/2022

RPO/LLUN/«Sample_No»/2

School Name: «School_Name»
NFER No: «NFER_No»

Dear Headteacher,

Impact of KS1 school closures on later attainment and social skills: a longitudinal study (pupils currently in Years 4 and 5, 2023/2024)

Previously, your school kindly participated in research on the impact of school closures on the attainment and social skills of the very youngest school-aged children during the Covid-19 pandemic.

The most recent findings from the 2022-2023 academic year show that, on average, many pupils have caught up, however it also highlights the importance of focusing catch-up support on very low attaining pupils and closing the disadvantage gap which remains wide.

https://www.nfer.ac.uk/for-schools/free-resources-advice/impact-of-ks1-school-closures-on-attainment

We, the Education Endowment Foundation (EEF) and the teaching unions are using this research to highlight the importance that schools are both adequately funded and supported to ensure that the required long-term support can be delivered.

This study has been given a three-year extension (until 2025/26) and will continue to monitor the progress of the pupils who were in Years 1 and 2 when the schools closed due to Covid-19 through to their final year in primary school (Year 6).

Last year, your school chose not to participate in year 3 of the study. We would like to invite you to participate in year 4 of the study to ensure that the study continues to be representative of all schools and we have sufficient data to highlight the needs of this group of pupils.

What will participating in 2023/2024 involve?

- Year 4 and Year 5 pupils complete NFER spring tests during March 2024.
- Headteacher or Senior Leader completes a school-level questionnaire.
- Classroom teacher completes a social skills survey for a sample of 12 pupils per year group.

Benefits of taking part:

- Free NFER mathematics and reading assessments for your Year 4 and Year 5 pupils in spring 2024.
- Free marking service for these assessments and upload of results to the secure school portal.
- A discount of 10% off the purchase of any two year-groups worth of assessments, purchased between April and December 2024.
- Feedback on the project findings in October 2024.

Additional information on this study, and a privacy notice, can also be found here –

https://www.nfer.ac.uk/for-schools/participate-in-research/impact-of-ks1-school-closures-on-later-attainment-and-social-skills-a-longitudinal-study/

Next Steps

To confirm your participation in this project, we ask your headteacher to complete an online Memorandum of Understanding (MoU). On completion of this MoU you will be sent a link to provide data for your Year 4 and 5 pupils who will participate in the assessments this year.

Please follow the instructions below to complete the online form by **Friday, 1 December 2023.**

Instructions to access School Portal

To log into our secure 'school portal' at www.nfer.ac.uk/portal, you will need the details provided below:

NFER number	«NFER_No»
Project number	«Sample_No»
Password	To follow in a separate email (sent directly after this one)

If you have any queries, please contact my colleague Jo Stringer on 01753 637485 or via email at KS1AttainmentResearch@nfer.ac.uk.

Yours sincerely,

Kathryn Hurd
Evaluation and Survey Operations Lead, Research and Product Operations

National Foundation for Educational Research (NFER)
The Mere, Upton Park, Slough SL1 2DQ, United Kingdom
Reg No 900899 (England and Wales). Reg Address as above.

Switchboard: + 44 (0) 1753 574123
Web: www.nfer.ac.uk
Twitter: @TheNFER

Online Memorandum of Understanding for schools

Impact of KS1 school closures on later attainment and social skills: a longitudinal study (pupils currently in Years 4 and 5, 2023/24)

Memorandum of Understanding

This research project, now in its fourth year, is the continuation of a National Foundation for Education Research (NFER) project which ran during the last three academic years. This longitudinal study is following the youngest school-age children affected by the school closures due to the pandemic.

This form sets out the responsibilities of The National Foundation for Educational Research (NFER) and schools that participate in this research. Please read the school information sheet and Privacy Notices provided by NFER before signing this Memorandum of Understanding (MoU):

https://www.nfer.ac.uk/for-schools/participate-in-research/impact-of-ks1-school-closures-on-later-attainment-and-social-skills-a-longitudinal-study/

As this form asks for agreement on behalf of your school to share data, we request that the headteacher completes this form.

If you have any questions, please contact us at KS1AttainmentResearch@nfer.ac.uk

Use of data
All data gathered during the research project will be held in accordance with the Data Protection Act 2018, and GDPR, and will be treated in the strictest confidence by NFER. No pupil-level data will be shared with the EEF.
All teacher- and pupil-level data shared by schools with NFER will be done so via a secure school portal. For the purposes of the research project, all pupils will have an individual ID number.
No school, teacher or pupil will be named in any report arising from this work.

Responsibilities

The NFER will:

- Provide a key contact who will be able to support schools with the project.
- Provide a parent opt out letter to schools once the MoU is completed.
- Provide a secure means and templates for schools to provide all requested data including teacher data and updated/new pupil data.
- Analyse all data from the project using secure systems.
- Provide schools with complementary spring NFER assessments in mathematics and reading for those pupils in Y4 and Y5 in Spring 2024.
- Provide marking services for the assessments described above.
- Provide schools with assessment results via the school portal.
- Provide schools with research findings.

Our overall expectations of your school:

The following outlines our expectations from schools and teachers taking part in the project. For your school to be eligible to participate, you must agree to the following for the 2023/24 academic year:

The school will:

- Nominate a school contact who has sufficient capacity to liaise with NFER to provide the information required for the project. We will inform NFER if this contact needs to change, for instance leaves the school.
- Be a point of contact for parents/carers, including providing them with information about the project and informing NFER about any pupil withdrawal requests from parents.
- Provide the following information for all participating pupils, when not known by NFER:
    - pupil name
    - date of birth
    - unique pupil number (UPN)
    - gender
    - Free School Meals status (FSM)
    - class
    - year group
- Administer NFER mathematics and reading assessments for Y4 and Y5 pupils in spring 2024. We will return the assessment papers to NFER by the 2024 Easter holidays.
- Provide research data by way of surveys as requested.

Trial Participation

Title : Participation in Research project

Trial Participation text :

1. I confirm that I have read and understood the information provided about the study and I have passed a link to the school information sheet to my designated named contact. I have had the opportunity to ask questions, and have had these answered satisfactorily.

2. I understand that my school's participation is voluntary and that I am free to withdraw my school at any time. I will let NFER know if I choose to withdraw from the research.

3. I will contact KS1AttainmentResearch@nfer.ac.uk if I have any concerns about the project.

Input text : My school will take part in this research and agrees to the responsibilities stated in the Memorandum of Understanding, and the conditions stated above.

Error message : Please tick this box to confirm participation

Headteacher Information

Title : School Details

Text : Please check that the details we have for you are correct

[Set-up headteacher information]

Contact Person One

Title : School contact for this project

Text : Please nominate a school contact for this project. All correspondence for this project will be sent to your school via this email address.

Entry fields :

Name
Job Title
Email Address
Please confirm email address
Telephone Number

[NB. All fields are mandatory/required]

School information sheet

Impact of KS1 school closures on later attainment and social skills: a longitudinal study
(pupils currently in Years 4 and 5, 2023/24)

School Information Sheet – 2023/24

What is the research project?

This research project, now in its fourth year, is the continuation of a National Foundation for Educational Research (NFER) project, 'Impact of Key Stage 1 school closures on later attainment and social skills (a longitudinal study)', which ran in the last three academic years. The study has been extended for a further three academic years (until 2025/26). It will follow pupils who were in Key Stage 1 in 2020/21 and investigate the impact of school closures, looking at pupil attainment, school practices and teachers' perspectives on pupils' social skills as pupils progress through primary school. This academic year (2023/24) will focus on pupils in Year 4 and Year 5.

By following the same pupils as they move through the school system, this longitudinal study will continue to explore the impact of the Covid-19 related school closures on the attainment gap of those pupils who were in Key Stage 1 (KS1) during the 2020/21 academic year, and the impact of school closures on their ongoing socio-emotional development. This study will also explore how quickly children reach where they might be expected to be had the pandemic not happened.

Who is conducting the study?

NFER has been commissioned to carry out this research by the Education Endowment Foundation (EEF). The study has been commissioned to the end of primary school (2025/26).

Which schools can take part?

All schools who took part in the project at any point in any of the 2020/21, 2021/22, 2022/23 academic years, (with the exception of infant only schools).

What will the project involve for teachers, schools and pupils?

We will ask schools to test pupils in the spring term, using NFER assessments in mathematics and reading. NFER will provide schools with the assessments for their Year 4 and Year 5 pupils. NFER will arrange to collect and mark the assessments and will share pupil outcomes with schools, along with the test papers, once marking is complete.

In addition to these assessments, in the spring term of 2024 the headteacher or KS2 lead will be requested to complete a school-level survey on their approach to on-going support and recovery activities, such as small-group work, tutoring and parental engagement. Teachers will also need to complete one survey in the spring term, on the socio-emotional development for a subsample of 12 pupils per year group.

When will the assessments take place?

Schools will be asked to test their Year 4 and Year 5 pupils during March 2024. You will receive your assessments after the February half term and complete them before the start of the Easter break. Schools will then be asked to send their assessments to NFER before the Easter break.

Data

NFER will share the most recent information we hold about pupils collected during the project with schools via the secure school portal. Schools will be asked to check and confirm this data, identify pupils who have left the school and add data for any pupils new to Years 4 and 5. This will include names of pupils, dates of birth and UPNs. We will ask you to provide FSM details for pupils.

What will my school need to do?

Date	Activity
November 2023	Schools confirm school contact for this year and sign an online Memorandum of Understanding (MoU).
November/December 2023	Schools check and confirm pupil data for their Year 4 and 5 pupils
February 2024	NFER sends Year 4 and Year 5 assessments to schools.
March 2024	School questionnaire and social skills survey links shared with schools. Schools sit Year 4 and Year 5 spring assessments. NFER collect assessments and mark. Schools continue to complete questionnaire and social skills survey.
March – May 2024 *Note - Dates dependent on when we receive the tests for marking*	NFER shares pupil results with schools and returns test papers. This will include item level data for the assessments. These results can be used to inform the school's understanding of where pupils may need support and their strengths and weaknesses across different areas of the curriculum.

A link to the evaluation report for 2023/24 and school feedback document will be sent to schools on publication. The study will continue to report each year on children's learning recovery, with a report also planned for 2024/25 and a final report in 2025/26.

What benefits will my school receive?

All schools will receive complimentary mathematics and reading assessments for the year groups participating in the project and these assessments will also be marked by NFER staff. In addition, schools will receive a 10 per cent discount off the purchase of NFER assessments on any two year-groups worth of assessments. These can be purchased between April and December 2024, once NFER has received assessments from schools as well as all completed surveys.

How will the findings be used?

The findings from the study provide evidence of the impact on the attainment and socio-emotional skills of the youngest school age children affected by the disruption to education during the pandemic. The study will report, each year, on how quickly these children recover their learning and are able to reach where they might be expected to be had the pandemic not happened. This series of reports will be available to primary schools to assist and develop their support of their pupils, particularly those from disadvantaged backgrounds.

Previous reports can be found here: https://www.nfer.ac.uk/for-schools/free-resources-advice/impact-of-ks1-school-closures-on-attainment

What happens if a school, teacher, or pupils want to withdraw from the research project?

A school, teacher or pupil can withdraw from the research project and/or from their data being used in the research project at any time. Schools must notify NFER of any pupils or teachers who wish to withdraw from the project.

Parents can choose to withdraw their child from the data collection of the research project at any time. They can do this by returning the form on the bottom of the parent letter to their school. Schools must not provide data about children whose parents withdraw them from the data collection. If the withdrawal takes place after the study commences, schools must notify NFER of such pupils, and these pupils will be removed from the project's datasets and subsequent analysis immediately.

How will NFER use and protect the data collected?

All data gathered during the research project will be held in accordance with the data protection framework set out in UK GDPR and Data Protection Act 2018. It will be treated in the strictest confidence by NFER. No pupil-level data will be shared with the EEF.

All teacher and pupil-level data shared by schools with NFER will be done so via a secure school portal. For the purposes of the research project, all pupils will have an ID number. **No school, teacher or pupil will be named in any report arising from this work.**

A School Privacy Notice for the research project is available here:
https://www.nfer.ac.uk/media/a0hatv45/llun_school_privacy_notice.pdf.

A Parent Privacy Notice for the research project is available here:
https://www.nfer.ac.uk/media/1ldpu0bi/llun_parent_privacy_notice.pdf and should be shared with parents prior to data collection.

Who can I contact for more information?

For further information, please contact Jo Stringer via email at
KS1AttainmentResearch@nfer.ac.uk

School Privacy Notice

NFER
National Foundation for Educational Research

Impact of KS1 school closures on later attainment and social skills: a longitudinal study
(pupils currently in Years 4 and 5, 2023/24)

Privacy Notice for Teachers and School staff – 2023/24

1 Why are we collecting this data?

The Education Endowment Foundation (EEF) has commissioned the National Foundation for Educational Research (NFER) to continue its research into the impact of Covid-19 related school closures on attainment in primary schools. The research looks at how quickly the youngest pupils affected by partial school closures recover from the learning they have missed. This longitudinal study has been extended for a further three academic years (until 2025/26). It will follow pupils who were in Key Stage 1 in 2020/21 and investigate the impact of school closures, looking at pupil attainment, school practices and teachers' perspectives on pupils' social skills as pupils progress through primary school. This year will focus on pupils in Year 4 and Year 5.

This document outlines how school staff's personal data will be collected and processed as part of the project.

The research also collects and analyses pupil data. For information about how it is processed please see the privacy notice covering pupil data here:

https://www.nfer.ac.uk/media/1ldpu0bi/llun_parent_privacy_notice.pdf

NFER is the data controller for the project.

2 What is the legal basis for processing activities?

The legal basis for processing personal data is covered by GDPR Article 6 (1) (f):

Legitimate interests: the processing is necessary for your (or a third party's) legitimate interests unless there is a good reason to protect the individual's personal data which overrides those legitimate interests.

We have carried out a legitimate interest assessment, which demonstrates that the research fulfils one of our core business purposes (undertaking research, evaluation, and information activities). The research project has broader societal benefits and will contribute to improving the lives of learners by identifying if any pupil level factors are associated with the degree of impact of the Covid-19 school closures on pupils' attainment and their recovery throughout primary school.

The research cannot be done without processing personal data, but processing does not override the data subject's interests. To mitigate the risks to the rights and freedoms of the individual data subjects, as far as possible, NFER has put in place the technical and organisational measures set out in this privacy notice.

NFER
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3 How will personal data be obtained?

Personal data about school staff will be collected directly from participating schools and teachers.

4 What personal data is being collected by this project?

The NFER will collect data (name, job title and contact details) about a nominated named teacher within a participating school so that we can liaise with them about this research. This may be the same contact as in previous years or a newly nominated teacher.

The NFER will ask teachers to complete online surveys on school practices and teachers' perspectives including information on support strategies such as groupwork, tutoring and parental engagement by class, year group and at a school level. Teachers will also be asked to complete a social skills survey for a sample of 12 in each year group.

The NFER will also ask the nominated teacher in each participating school to complete an evaluation survey about their experience of the project and working with NFER.

5 Who will personal data be shared with?

No individual will be named in any report for this project.

The surveys will be managed and run using Questback software. Their privacy policy can be found here: https://www.questback.com/assets/uploads/Survey_Privacy_Policy.pdf

6 Is personal data being transferred outside of the European Economic Areas (EEA)?

No personal data is stored or transferred outside of the EEA.

7 How long will personal data be retained?

Data collected for the project, will be stored securely in the NFER systems until the final report in this research project is published. This is currently expected to be October 2026. NFER will delete all personal data from its systems within one year of publication of this final report.

8 How is the security of my data maintained?

The NFER have put in place appropriate measures to prevent your personal information from being accidentally lost, used, or accessed in an unauthorised way, altered, or disclosed. NFER has been certified to ISO / IEC 27001 2013 (GB17/872763) the international standard for information security and holds Cyber Essentials Plus (details available on request). NFER operates Microsoft Windows Operating Systems and industry standard enterprise software such as databases and email, all

managed to recognised industry standards with a full patching regime. All NFER laptops and mobile storage devices are encrypted and accessed with PIN-codes and strong passwords. Annual penetration tests are carried out by a CHECK-accredited supplier and remediation undertaken. We use a replicated disaster recovery service (RDRS) which allows the business to continue to operate in the event of failure. Any personal data which is shared with us is transferred using our secure portal and is encrypted in transit (HTTPS and TLS 1.2).

9 Can I stop my personal data being used?

School staff can withdraw from the project and/or from their data being used in the project at any time by contacting NFER.

However, the NFER appreciates schools' and participants' support in collecting the data since it is very important for the validity of the results. If your school/you withdraw from the research, unless otherwise instructed, we will use any data we have collected up to that point in our analysis.

Under certain circumstances, you have the right:

- to request access to information that we hold about you (subject access request)
- to have your personal data rectified, if it is inaccurate or incomplete
- to request the deletion or removal of personal data where there is no compelling reason for its continued processing
- to restrict our processing of your personal data (for example, permitting its storage but no further processing)
- to object to our processing
- not to be subject to decisions based purely on automated processing where it produces a legal or similarly significant effect on you.

To exercise these rights, please contact our Compliance Officer, compliance@nfer.ac.uk

10 Who can I contact about this project?

To talk to someone about the day to day management of this research or question about it, please contact Jo Stringer via the following email address: KS1AttainmentResearch@nfer.ac.uk.

If you have a concern about the way this project processes personal data, we request that you raise your concern with us in the first instance (see the details above). If you remain dissatisfied, you can contact the Information Commissioner's Office, the body responsible for enforcing data protection legislation in the UK, at https://ico.org.uk/concerns/.

NFER
National Foundation for Educational Research

11 Updates

We keep this privacy notice under review to make sure it is up to date and accurate. Any changes will be noted. The date when this privacy notice was last updated is shown in the footer at the bottom of this document.

This privacy notice has been updated from those used in previous years of this longitudinal study.

In November 2022, the privacy notice was updated to say that the study was entering its third year and now focussed on pupils in Year 3 and 4. We also updated information about NFER's Cyber Essentials Plus certification.

In June 2023, the project personnel were updated and details of the feedback survey added.

In October 2023, the privacy notice was updated to say that the study will be running for a further three years (until 2025/2026) and the current academic year will focus on pupils in Year 4 and 5. We also updated information about NFER's Cyber Essentials Plus certification and the personnel working on the project.

Parent Privacy Notice

NFER
National Foundation for Educational Research

Impact of KS1 school closures on later attainment and social skills: a longitudinal study
(pupils currently in Years 4 and 5, 2023/24)

Privacy Notice for Parents – 2023/24

1 Why are we collecting this data?

The Education Endowment Foundation (EEF) has commissioned the National Foundation for Educational Research (NFER) to continue its research into the impact of Covid-19 related school closures on attainment in primary schools. The research looks at how quickly the youngest pupils affected by partial school closures recover from the learning they have missed. This is the fourth year of a six-year longitudinal study started in 2020/21. It focuses on pupils now in Year 4 and Year 5 (having been in Year 1 and Year 2 when the study started). It investigates the impact of school closures, looking at pupil attainment, school practices and teachers' perspectives.

This document outlines how your child's personal data will be collected and processed as part of the project.

NFER is the data controller for the project.

2 What is the legal basis for processing activities?

The legal basis for processing personal data is covered by GDPR Article 6 (1) (f):

Legitimate interests: the processing is necessary for your (or a third party's) legitimate interests unless there is a good reason to protect the individual's personal data which overrides those legitimate interests.

We have carried out a legitimate interest assessment, which demonstrates that the research fulfils one of our core business purposes (undertaking research, evaluation and information activities). The research project has broader societal benefits and will contribute to improving the lives of learners by identifying if any pupil level factors are associated with the degree of impact of the Covid-19 school closures on pupils' attainment and their recovery throughout primary school.

The research cannot be done without processing personal data, but processing does not override the data subject's interests. To mitigate the risks to the rights and freedoms of the individual data subjects, as far as possible, NFER has put in place the technical and organisational measures set out in this privacy notice.

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3 How will personal data be obtained?

Pupil data will be collected directly from schools.

For schools who participated in the 2022/23 study, we will use and build on pupil data and assessment data collected and confirmed during the last academic year. Schools will be asked to confirm that all pupil data that we hold for the study is correct. Assessment data and findings from the social skills survey will also be used from previous years (2020/21 and 2021/22).

For schools who are returning to the study after a break last academic year (2022/23), will be asked to provide pupil level data for those pupils in Years 4 and 5. This data will then be matched to any assessment and social skills survey data we hold for pupils participating again this year (2023/24).

NFER will additionally be accessing NFER Test Data held on the Analysis Hub for exploratory analysis around the development of sampling strategies. Access to this data is governed by this privacy notice https://www.nfer.ac.uk/media/j1riyaqx/nopt_privacy_notice.pdf

4 What personal data is being collected by this project?

The NFER will collect personal data about pupils from participating schools. This includes:

- pupil name
- date of birth
- gender
- unique pupil number (UPN)
- class name
- school name
- Free School Meals status (FSM)

The NFER will mark and collect the assessment data from the completed NFER spring term assessments used in your child's school.

Teachers will also provide information about a sample of pupils' socio-emotional skills. The social skills survey will be used with a sample of 12 pupils from Year 4 and 12 pupils from Year 5 in the school to assess levels of self-regulation and social development (including sociability, pro-social behaviour, externalising and internalising problems).

5 Who will personal data be shared with?

No individual will be named in any report for this project.

For the purpose of research archiving, pseudonymised[1] pupil data will be shared with the Department for Education and linked with information about the pupils from the National Pupil Database (NPD); and then

[1] Pseudonymisation is a technique that replaces or removes information (like names or other meaningful identifiers) in a data set that identifies an individual.

added to the EEF archive which is managed by the Fisher Family Trust on behalf of EEF and hosted by the Office of National Statistics.

Other research teams may use the pseudonymised data as part of subsequent research through the ONS Approved Researcher Scheme[2]. The Approved Researcher Scheme is used by the ONS to grant secure access to data that cannot be published openly, for statistical research purposes, as permitted by the Statistics and Registration Service Act 2007 (SRSA).

More information can be found at: https://educationendowmentfoundation.org.uk/projects-and-evaluation/evaluation/evaluation-guidance-and-resources/archiving-evaluation-data

The Social Skills survey will be managed and run using Questback software. Their privacy policy can be found here: https://www.questback.com/assets/uploads/Survey_Privacy_Policy.pdf

6 Is personal data being transferred outside of the European Economic Areas (EEA)?

No personal data is stored or transferred outside of the EEA.

7 How long will personal data be retained?

Data collected for the project will be stored securely in the NFER systems until the final report in this research project is published. This is currently expected to be October 2026. NFER will then delete all pupil personal data within one year of publication of this final report.

After three months from the completion of the study, all of the pseudonymised matched pupil data will be added to the EEF archive. The EEF archive is hosted by the Office for National Statistics (ONS) and managed by the EEF archive manager. This data is archived to allow for further research. At this point, EEF becomes fully responsible for the data (sole data controller) and the NFER are no longer the data controllers. Please see EEF's privacy notice for more information on how EEF processes and uses your data.

Privacy notice for the EEF data archive | EEF (educationendowmentfoundation.org.uk)

8 How is the security of my child/children's data maintained?

The NFER have put in place appropriate technical and organisational measures to prevent your child's personal information from being accidentally lost, used or accessed in an unauthorised way, altered or disclosed. NFER has been certified to ISO / IEC 27001 2013 (GB17/872763) the international standard for information security and holds Cyber Essentials Plus (details available on request). NFER operates Microsoft Windows Operating Systems and industry standard enterprise software such as databases and email, all managed to recognised industry standards with a full patching regime. All NFER laptops and mobile storage devices are encrypted and accessed with PIN-codes and strong passwords. Annual

[2] https://www.ons.gov.uk/aboutus/whatwedo/statistics/requestingstatistics/approvedresearcherscheme

penetration tests are carried out by a CHECK-accredited supplier and remediation undertaken. We use a replicated disaster recovery service (RDRS) which allows the business to continue to operate in the event of failure. Any personal data which is shared with us is transferred using our secure portal and is encrypted in transit (HTTPS and TLS 1.2).

9 Can I stop my child/children's data being used?

Your child can be withdrawn from the project and/or from their data being used in the project at any time. You will be provided with a parent letter about the project explaining how your child's data will be collected and used and how they can be withdrawn from data processing. However, the NFER appreciates schools' and participants' support in collecting the data since it is very important for the validity of the results. If you withdraw your child from the project, unless otherwise instructed, we will use any data we have collected up to that point in our analysis.

The NFER will handle your child/children's personal data in accordance with the rights given to individuals under data protection legislation. If at any time, you wish to withdraw your child/children's data from this research project or correct errors in it, please contact NFER at KS1AttainmentResearch@nfer.ac.uk

Under certain circumstances, you have the right:

- to request access to information that we hold about your child/children (subject access request)
- to have your child/children's personal data rectified, if it is inaccurate or incomplete
- to request the deletion or removal of your child/children's personal data where there is no compelling reason for its continued processing
- to restrict our processing of your child/children's personal data (for example, permitting its storage but no further processing)
- to object to our processing
- not to be subject to decisions based purely on automated processing where it produces a legal or similarly significant effect on you.

To exercise these rights, please contact our Compliance Officer, compliance@nfer.ac.uk

10 Who can I contact about this project?

To talk to someone about the day-to-day management of this research or ask a question about it, please contact Jo Stringer via the following email address: KS1AttainmentResearch@nfer.ac.uk

If you have a concern about the way this project processes personal data, we request that you raise your concern with us in the first instance (see the details above). If you remain dissatisfied, you can contact the Information Commissioner's Office, the body responsible for enforcing data protection legislation in the UK, at https://ico.org.uk/concerns/.

NFER
National Foundation for Educational Research

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In June 2023, the project personnel were updated.

In October 2023, the privacy notice was updated to say that the study will be running for a further three years (until 2025/2026) and the current academic year will focus on pupils in Year 4 and 5. We also updated information about NFER's Cyber Essentials Plus certification and the personnel working on the project.

In November 2023, Section 9 of the privacy notice was updated to clarify that it was the child/children's personal data that was being referred to.

In June 2024, Section 3 was updated to clarify that NFER Test Data on the Analysis Hub is processed for this project, with a link to the Privacy Notice for NFER Test Data.

Appendix C: NFER assessment duration and scores

The Year 4 reading assessment and the Year 5 reading assessment each have one paper. The Year 4 mathematics assessments and the Year 5 mathematics assessment each have three assessment papers. Individuals obtain a raw score on each of these papers based on the number of questions they answer correctly.

For the mathematics papers, assessment takers must sit all three papers, arithmetic, reasoning paper 1 and reasoning paper 2 to get a total raw score.

The table below identifies the time required to complete each assessment paper and the number of raw marks available on each paper.

Assessment		Paper 1	Paper 2	Paper 3
Mathematics Year 4 spring	Duration (mins)	25 (arithmetic)	35 (reasoning 1)	35 (reasoning 2)
	Maximum score	35	30	30
Reading Year 4 spring	Duration (mins)	75	N/A	N/A
	Maximum score	40	N/A	N/A
Mathematics Year 5 spring	Duration (mins)	30 (arithmetic)	40 (reasoning 1)	40 (reasoning 2)
	Maximum score	40	35	35
Reading Year 5 spring	Duration (mins)	60	N/A	N/A
	Maximum score	44	N/A	N/A

Appendix D: PSMAT and supplementary items

Social Skills Questionnaire

Introduction

The Education Endowment Foundation (EEF) has commissioned NFER to track the progress of the pupils who were in Key Stage 1 during the Covid-19 school closures. We are tracking the attainment and socioemotional skills of these pupils as they move through primary school, to determine any ongoing impact of the closures and provide information to support schools and pupils. The pupils we are tracking are now in Years 4 and 5.

The purpose of this survey is to explore the socioemotional skills of pupils in this academic year (2023/24). This data will be used alongside attainment data to provide a broad picture of Covid-19 recovery in Year 4 and Year 5 pupils.

Please complete the questionnaire in relation to each child as they are now, in the spring term. The rating is compared to an average child (**pre-pandemic**) of the same age.

If a child has left your class or the school, please answer the first two questions, after which the survey will close for this pupil. Please **do not** answer the questionnaire for any other child to replace them.

The privacy notices are available at Impact of KS1 school closures on later attainment and social skills: a longitudinal study - NFER

If you have any queries about the completion of this questionnaire or would like further information about the evaluation, please do not hesitate to email KS1AttainmentResearch@nfer.ac.uk.

The questionnaire will take about 5 minutes to complete per child.

Please use the buttons at the bottom of the page to move through the questionnaire, please do not use your browser's forward and back buttons.

Please note that if a questionnaire is left inactive for over 20 minutes you will be timed out. Please use the original link again to return to the questionnaire.

Thank you very much for your help with this questionnaire.

Ask All, Single Code, Must provide an answer to each question					
Confirmation Details					
A					
A.1	Please confirm that you work at [insert school name].	Yes (1)	No (2)		If A.1 = No (2) then the survey should be closed – please see close screen A.1 below.
A.2	This survey is about [Insert pupils name], please confirm that you are their current teacher.	Yes (1)	No, they have recently left the school (2)	No, they are still at the school but no longer in my class (3)	If A.2 = (2) then the survey should be closed – close screen A.2. If A.2 = (3) the survey should be closed – close screen A.3.

CLOSE SCREEN = A.1 = No (2)
We have now closed this survey. Thank you for your time.

CLOSE SCREEN = A.2 = Have left school (2)
Thank you for letting us know that the child has left the school, you will no longer be required to complete the survey for this child.

CLOSE SCREEN = A.3 = Have a different teacher (3)
Thank you for letting us know that the child is now in a different class. We will follow up with the school. You can now close this survey.

SHOW AT TOP OF SCREEN
Please rate the child as compared to an *average child (pre-pandemic)* of the same age. Provide a rating on the scale from 1 to 7.

PSMAT								
		Please select one choice in each row.						
		Very much less mature than the average child this age	Less mature than the average child this age	A little less mature than the average child this age	About average for children this age	A little more mature than the average child this age	More mature than the average child this age	Very much more mature than the average child this age
1	The child's skill and willingness to make social overtures, join groups, or welcome others into own activities.	1	2	3	4	5	6	7
2	The child's skill at asserting him/herself appropriately to express opinions or convince peers.	1	2	3	4	5	6	7
3	The child's leadership skills with peers.	1	2	3	4	5	6	7
4	The maturity of the child's everyday modes of playing sociably with peers.	1	2	3	4	5	6	7
5	The child's skills in coping with peers who frustrate or interfere with the group's goals and activities.	1	2	3	4	5	6	7
6	The child's ability to understand the needs of peers who differ from the norm.	1	2	3	4	5	6	7

7	The overall maturity of the child's social skills.	1	2	3	4	5	6	7
Supplementary questions								
8	The child's ability to focus on an activity or task.	1	2	3	4	5	6	7
9	The child's ability to deal with minor conflict and disappointment.	1	2	3	4	5	6	7
10	The child's ability to initiate and maintain appropriate interactions with relevant adults in school.	1	2	3	4	5	6	7
11	The child's ability to undertake appropriate tasks independently.	1	2	3	4	5	6	7
12	The child's willingness to persist with a task or activity after a setback.	1	2	3	4	5	6	7
13	The child's ability to make choices for themselves.	1	2	3	4	5	6	7
14	The child's ability to manage their own feelings.	1	2	3	4	5	6	7

SUBMIT PAGE

Please click 'Submit' to send your response. Once submitted, you will not be able to go back and change any of your answers.

Appendix E: School survey

Learning recovery – School Questionnaire

The Education Endowment Foundation (EEF) has commissioned NFER to track the progress of the pupils who were in Key Stage 1 during the Covid-19 school closures. We are tracking the attainment and social skills of these pupils now in Years 4 and 5, to determine any ongoing impact of the closures and provide information to support schools and pupils.

The purpose of this survey is to understand recovery approaches, challenges and specific support given to pupils as they progress through primary school, to inform the assessment results. This survey is to be completed by the head teacher or a senior leader who can comment on provision at Key Stage 2 (Years 4 and 5).

Your views are invaluable to us so please take the time to complete this survey. All responses will be treated in confidence and reported only in aggregated or anonymised form. If you exit the survey before the end, your partial answers (i.e. any answers that you have given before exiting the survey) may still be analysed. The information collected will be used for research purposes only and will not be shared with EEF.

The privacy notice is available at Impact of KS1 school closures on later attainment and social skills: a longitudinal study - NFER

This survey will take up to 10 minutes to complete and only needs to be completed once by your school. Unless specified, questions in the survey are asking about the whole cohort of pupils in the year groups mentioned.

If you have any queries, please contact NFER via email at KS1AttainmentResearch@nfer.ac.uk.
Thank you very much for your help with this survey.

About your experience of this academic year

All questions refer to pupils who are in Year 4 and Year 5 in this current academic year (i.e. 2023-2024).

Q1, SR, ASK ALL, NUDGE

1 How would you rate the level of disruption to learning in this academic year to date?

Not disrupted at all (a normal year)	☐ 1
A little disrupted	☐ 2
Somewhat disrupted	☐ 3
Very disrupted	☐ 4

Q2, MR, ASK IF Q1 = 2, 3 or 4, NUDGE, Randomise except 'Other'

2 **What are the main reasons for this disruption?** *Please select all options that apply.*

Pupil absences (Covid related)	☐	1
Challenges with pupil attendance (not Covid related)	☐	9
Staff absences (Covid related)	☐	2
Staff absences (not Covid related)	☐	10
Challenges with pupil behaviour/wellbeing	☐	3
Lack of parental engagement	☐	4
Having to cover material from previous years	☐	5
Insufficient funding to support pupils who have missed learning	☐	6
Supporting pupils/families with cost-of-living-related pressures	☐	11
Infection control measures (e.g. hygiene, following public health advice)	☐	7
Other (please specify)	☐	8

[free text box for 'other' mandatory if 'Other' ticked]

[100 characters]

About new school practices

Q4, MR (except 'None' is mutually exclusive), ASK ALL, NUDGE, Randomise except 'Other' and 'None'

4 **Are there any practices adopted as a result of Covid-19 that your school found to be an improvement to pre-pandemic practices and has therefore retained?** *Please select all options that apply.*

Year or class groupings originally formed as "bubbles"	1	☐
Physical rearrangement of classrooms (e.g. no group tables, increased distance between tables)	2	☐
Increased hand washing	3	☐
Provision for home learning	4	☐
Use of online/EdTech in teaching and learning	5	☐
Increased wellbeing support	6	☐
Other (please specify)	7	☐
None	8	☐

[free text box for 'other' questions Mandatory if ticked 'Other']

[100 characters]

About staff challenges

Q5, MR, ASK ALL, NUDGE, Randomise except 'Other'

5 Have any of the following challenges been faced by Year 4 and/or 5 school staff this academic year? *Please select all options that apply.*

Higher than normal staff absences	1 ☐
Increased workload supporting pupils who have been absent this year	2 ☐
Increased workload due to catch-up/recovery needs	3 ☐
Increased workload due to pupils' behaviour/wellbeing needs	9 ☐
Loss of non-contact time (e.g. due to covering staff absences)	4 ☐
Low morale/wellbeing of staff	5 ☐
Difficulty in getting external support for pupils	6 ☐
Additional CPD needs	7 ☐
Other (please specify)	8 ☐

[free text box for 'other' Mandatory if ticked 'Other']

[100 characters]

About remote learning

Q7, MR, ASK ALL, NUDGE, Randomise except 'Other'

7 How does your school support home learning for pupils who are absent from in-school learning? *Please select all options that apply.*

The school virtual learning environment	☐ 1
Educational websites or apps	☐ 2
Workbooks, sheets or other physical resources	☐ 3
Online resources (e.g. videos of lessons from other providers or links to resources)	☐ 4
Videos of lessons you have produced	☐ 5
Online 'live' lessons (streaming what is being taught in the classroom)	☐ 6
Online conversations (between you and pupils)	☐ 7
Online conversations (between you and parents)	☐ 8
Face-to-face conversations (between you and parents)	☐ 10
Other (please specify)	☐ 9

[free text box for 'other' question. Mandatory if ticked 'Other']

[100 characters]

Q6, SR, ASK ALL, NUDGE

6 How well do you feel your school is currently able to support home learning for pupils who are absent from in-school learning?

Very well	☐ 1
Quite well	☐ 2
Somewhat	☐ 3
Not at all	☐ 4

Q9, SR, ASK ALL, NUDGE

9 In the event of further school closures, how well prepared do you feel your school is to deliver effective home learning for all pupils?

Very well prepared	☐ 1
Quite well prepared	☐ 2
Somewhat prepared	☐ 3
Not prepared	☐ 4

Q8, MR (except 'None' is mutually exclusive), ASK ALL, NUDGE, Randomise except 'Other' and 'None'

8 Thinking more broadly about all aspects of online learning with your Year 4 and Year 5 pupils, what challenges have you encountered with online learning this year? Please think about online learning used in the classroom, for homework or to support remote learning. *Please select all options that apply.*

Managing in-school and online pupils concurrently	☐ 1
Pupils with no suitable device/no home broadband	☐ 2
Pupils unable to access a suitable device (e.g. sharing with siblings)	☐ 3
Increased workload (e.g. preparation of resources)	☐ 4
Low levels of pupil engagement	☐ 5
Low levels of parental engagement	☐ 8
None	☐ 6
Other (please specify)	☐ 7

[free text box for 'other'. Mandatory if 'Other' ticked]

[100 characters]

About catch-up strategies this academic year

Q10, MR each column, ASK ALL, NUDGE,

10 What strategies has your school implemented this academic year to aid Year 4/Year 5 maths and reading learning recovery? *Please select all options that apply.*

	Maths	Reading
One-to-one catch-up support	☐ 1	10 ☐
Small-group work	☐ 2	11 ☐
Tutoring funded through the National Tutoring Programme (NTP)	☐ 3	12 ☐
Other tutoring (not funded through the NTP)	☐ 4	13 ☐
Parental engagement	☐ 5	14 ☐
Revised curriculum	☐ 6	18 ☐
Staff redeployment (e.g. greater use of TAs to support individuals)	☐ 7	15 ☐
Catch-up schemes	☐ 8	16 ☐
Other (please specify)	☐ 9	17 ☐

[free text box for 'other' questions. Mandatory if ticked 'Other']

Maths	[100 characters]
Reading	[100 characters]

Q11, SR, ASK ALL, NUDGE,

11 Has your school provided any particular support for, or focus on, aiding learning recovery for disadvantaged pupils in Year 4/Year 5 this academic year?

Yes	☐ 1
No	☐ 2

Q12, MR, ASK IF Q11 = 1, NUDGE,

12 **Which areas has support for <u>disadvantaged pupils</u> in Year 4/Year 5 focused on?** *Please select all options that apply.*

Maths support	☐ 1
Reading support	☐ 2
One-to-one catch-up support	☐ 3
Small-group work	☐ 4
Tutoring funded through the National Tutoring Programme (NTP)	☐ 5
Other tutoring (not funded through the NTP)	☐ 6
Parental engagement	☐ 7
Revised curriculum	☐ 8
Staff redeployment (e.g. greater use of TAs to support individuals)	☐ 9
Catch-up schemes	☐ 10
Other (please specify)	☐ 11

[free text box for 'other' questions. Mandatory if ticked 'Other']

[100 characters]

Q13, SR, ASK ALL, NUDGE,

13 **This academic year, has your school provided any <u>particular support</u> for, or focus on, aiding learning recovery for <u>very low attaining pupils in Year 4/Year 5</u>?**

Yes	☐ 1
No	☐ 2

Q14, MR, ASK IF Q13 = 1, NUDGE,

14 Which areas has support for very low attaining pupils in Year 4/Year 5 focused on?
Please select all options that apply.

Maths support	☐ 1
Reading support	☐ 2
One-to-one catch-up support	☐ 3
Small-group work	☐ 4
Tutoring funded through the National Tutoring Programme (NTP)	☐ 5
Other tutoring (not funded through the NTP)	☐ 6
Parental engagement	☐ 7
Revised curriculum	☐ 8
Staff redeployment (e.g. greater use of TAs to support individuals)	☐ 9
Catch-up schemes	☐ 10
Other (please specify)	☐ 11

[free text box for 'other' questions. Mandatory if ticked 'Other']
[100 characters]

Q15, MR, ASK IF Q10 EITHER MATHS OR READING = 3 or 12, NUDGE,

15 This academic year, how are you providing tutoring funded through the National Tutoring Programme (NTP)? *Please select all options that apply.*

Using Tuition Partners (TP) (tutoring provided by approved TPs)	1 ☐
Using Academic Mentor(s) (hosting Academic Mentor(s) in your school)	2 ☐
Using school-led tuition (existing staff/external tutors employed by the school)	3 ☐

Q16, MR, ASK IF Q10 EITHER MATHS OR READING = 4 or 13, NUDGE,

16 This academic year, how are you providing tutoring that is NOT funded through the National Tutoring Programme (NTP)? *Please select all options that apply.*

Using external tutors (not funded by the NTP)	1	☐
Using internal tutors or existing staff (not funded by the NTP)	2	☐
Other approach (please specify)	3	☐

[free text box for 'other'. Mandatory if ticked 'Other']

[100 characters]

Q17, MR (except 'None' is mutually exclusive), ASK ALL, NUDGE, Randomise except 'Other' and 'None'

17 What strategies has your school implemented this academic year to provide social skills/wellbeing support for Year 4/Year 5? *Please select all options that apply.*

Small-group wellbeing sessions	1	☐
External support (e.g. counsellor)	2	☐
Methods to increase parental engagement	3	☐
Revised school day (e.g. additional breaks)	4	☐
Staff redeployment (e.g. greater use of TAs to support individuals)	5	☐
Catch-up schemes	6	☐
Additional PSHE sessions	7	☐
None	8	☐
Other (please specify)	9	☐

[free text box for 'other' Mandatory if ticked 'Other']

[100 characters]

About parental engagement

Q18, SR, ASK ALL, NUDGE

18 How would you describe levels of Year 4/Year 5 parental support in the current academic year (i.e. 2023/2024)? *Please select one option.*

	[1] Very high	[2] High	[3] Neither high nor low	[4] Low	[5] Very low
The level of support most parents are providing to their children in terms of their learning is…	☐	☐	☐	☐	☐

Q19, SR for each line, ASK ALL, NUDGE

19 How would you rate this level of parental support, in terms of *capability* (e.g. time, resources to support) and *willingness* compared to last academic year (i.e. 2022/2023)? *Please select one option per row.*

	Lower than last academic year	The same as last academic year	Higher than last academic year
Capability	☐ 1	☐ 2	☐ 3
Willingness	☐ 4	☐ 5	☐ 6

Q20, free text, ASK ALL, NUDGE

20 Is there anything further you would like to tell us about Year 4 / Year 5 learning and recovery in your school this academic year? This could include successes or challenges you are facing relating to pupils' academic learning, attendance, wellbeing, behaviour or other issues.

[300 characters]

SUBMIT PAGE
Please click 'Submit' to send your response. Once submitted, you will not be able to go back and change any of your answers.

This document is available for download at https://educationendowmentfoundation.org.uk

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