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# Overview: The pandemic, pupil attendance and achievement

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# OVERVIEW: THE PANDEMIC, PUPIL ATTENDANCE AND ACHIEVEMENT

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## Key findings

- School absences increased massively during the Covid-19 pandemic and remain high internationally.
- We investigate whether policy variation in restrictions influenced pupil absence during the pandemic and how this affected post-pandemic attendance and academic achievement.
- Variation in restrictions during autumn 2020 that restricted social contact (but that were not aimed at schools) caused higher rates of school absence at the time and in subsequent years.
- The school attendance of pupils from lower socio-economic groups was much more strongly impacted by variation in restrictions.
- A 10% increase in absences induced by the local 2020 pandemic policies persisted as a 6.5% increase in absence the following year. Extrapolating this to future years implies that the impact of the 2020 policy shock would take about 7 years to erode in secondary schools.
- The enduring impact of absences comes from ‘unforced absences’ and not from absences induced by the need to self-isolate because of Covid-19. It is likely that the increased absences reflect a shift in family attitudes to attendance induced by local pupil health policies, school and work restrictions of the time, that has persisted post pandemic.
- Local restrictions had a negative impact on Key Stage 2 test scores in 2021/22. This may be a direct effect of lower school attendance or the indirect effect of these policies on children’s mental health or family financial resources.
- Our paper illustrates the unintended spillover effects from government restrictions during the pandemic and is in addition to any direct effect of the pandemic (and pandemic response) and school closures in the national lockdowns.

## INTRODUCTION

Globally, children experienced long periods of absence from school during the Covid-19 pandemic. Much work documents effects on learning loss, including recent projects funded by the Nuffield Foundation (eg [Klein and Sosu](#); [Elliot Major et al](#)). Absence rates remain very high in many countries, with huge increases in ‘chronic’ absenteeism where pupils are regularly missing from school on a weekly basis. These high levels of absenteeism are of obvious concern, given the potential impact on educational outcomes and inequalities. Many emerging studies worldwide have documented these higher rates of absence, alongside a drop in educational achievement and progress post pandemic. Although it appears that school closures during the pandemic are relevant, this is only part of the story – and perhaps not the main part – with changing attitudes and an increased incidence of mental health issues such as anxiety playing a role.<sup>1</sup> There has also been speculation that the tolerance of absence or enforcement of home-schooling during the pandemic gave rise to a new culture of persistent absenteeism in its aftermath. But these inferences are generally based on before-after comparisons of absence and achievement or qualitative surveys. Previous research has not yet investigated whether a pupil’s absence during the pandemic had any causal impact on their subsequent attendance and academic progress.

In this project, we investigate both how policy variation in restrictions influenced pupil absence during the pandemic and how this affected post-pandemic attendance and academic achievement. We find that absence induced by health and social policies that encouraged home working, closed businesses and restricted social contact during autumn 2020 caused higher rates of school absence and lower rates of achievement in subsequent years (2021/22). The effects on future absences are large and persistent for secondary schools (less so for primary schools). We find effects on primary school attainment that are large, where attendance at school is likely to be one of a number of possible mechanisms. We will explore other possible mechanisms in ongoing work. We do not find effects on secondary school achievement, although changes to GCSE exams over this period make it likely that the measures do not properly capture the effect of absences on knowledge and skills.

Our focus on autumn 2020 is motivated by the fact that, at this time, a regime of local regulations was in place (the tier regulations, explained further below) that generated differences in the social and economic environment in which different schools were operating. This led to variation in absence rates across schools and, we argue, caused changes in parents and pupils attendance behaviour even when schools were ostensibly open. We use this variation as a ‘natural experiment’ to identify the causal effect of absences

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<sup>1</sup> <https://www.nytimes.com/2024/06/05/opinion/covid-school-attendance-pandemic-closings.html>

on future outcomes. Thus, the effects we identify do not come from national lockdowns when pupils did not go to school at all and they do not come from ‘forced’ absence where pupils had to self-isolate. They come from variation in ‘voluntary’ absence from school – an unintended side-effect of tier regulations which were not directed at schools.

## WHAT HAPPENED TO ABSENCES?

The crucial underlying feature of our study is the change in pupil absenteeism over the pandemic period. These levels of absenteeism for the two periods in our data – pre-pandemic (2017/18-2018/19) and pandemic (2020/21-2021/22) are shown in the table below.

Absence, percentage in Autumn term, pre and post pandemic

	2018/19		2021/22	
	Mean	s.d.	Mean	s.d.
Absence (percentage)	3.526	5.325	9.268	11.377
‘Unforced’ absence	3.526	5.325	7.691	10.753
Forced (Code X) absence	0	0	1.763	3.627
Observations	3,772,718		3,754,898	

Note: Derived from National Pupil Data Base. ‘Code X’ absences is ‘forced’ because of the need to self-isolate after contact with people testing positive for Covid-19. ‘Voluntary absence’ is for any other reason except for getting Covid-19 itself (which was a very small number of cases). Note, unforced absence is as a percentage of the sessions available after deducting those lost to ‘forced’ absence, so the unforced and forced percentages do not add up to the overall absence rate.

The figures show the percentage of ‘sessions’ missed in the autumn term of each year, a session being a half-day. Given there are around 100 possible sessions in a typical term, the numbers can also be interpreted as the number of sessions missed per term. Overall absence was 3.5-3.7% in the autumn terms prior to the pandemic. The autumn term of 2020 was the first full term when schools were fully open after the first wave of the pandemic in the UK, but occurred as the country entered the second wave and heralded a new period of government restrictions on activity. There was a two-week lockdown in the middle of the term, and by mid-January 2021 the UK was back in a full lockdown when schools were shut for most pupils. In the autumn 2020 term, overall absence rose to 13.5%, 8.7% due to the requirement to self-isolate. Pupils were absent for 5.6% of the sessions available, after deducting those lost to compulsory absence and lockdowns during the term. This ‘unforced’ absence rate was much higher than the 3.5-3.7% of the pre-pandemic period. In the autumn term of 2021, overall absence had fallen to 9.3%, on account of a fall in the number of pupils

who had to 'self-isolate' (because of a Covid-19 infection among their classmates). Average 'unforced absence' increased to 7.7%, more than double what it was pre-pandemic. This latter change is big and is not related to the Covid-19 infection (either getting it or needing to self-isolate because someone else did).

## THE INFLUENCE OF COVID RESTRICTIONS ON PUPIL ABSENCES

There are two periods during the pandemic in England when schools were ostensibly allowed to open for pupils, but policies were in place that led to geographical differences in the attitudes to, and constraints on, school attendance. The first period we study is a period of phased reopening, after the first national lockdown that started on 23 March 2020 when schools were closed to pupils (apart from vulnerable children and children of key workers). Central government guidance was for primary schools to reopen for some year groups from 1 June 2020 and for other year groups to follow. Secondary schools began to open for some year groups from 15 June. But, this guidance was controversial because of worries about safety among staff and parents, and because it was only a matter of weeks until the end of the school year. Local Authorities (LAs) differed in their level of support for this reopening policy and provided their own guidance on whether schools should reopen. Over the first period, only about 25% of LAs advised their schools explicitly to follow government advice on reopening during the summer term of 2020.

Our second policy period is the period of local tier restrictions, whereby local areas were placed in different categories according to local levels and growth rates of infections in autumn 2020. These tier categories ranged from 1-4, with higher tiers subject to greater restrictions on the business and social activities that were legally permitted.

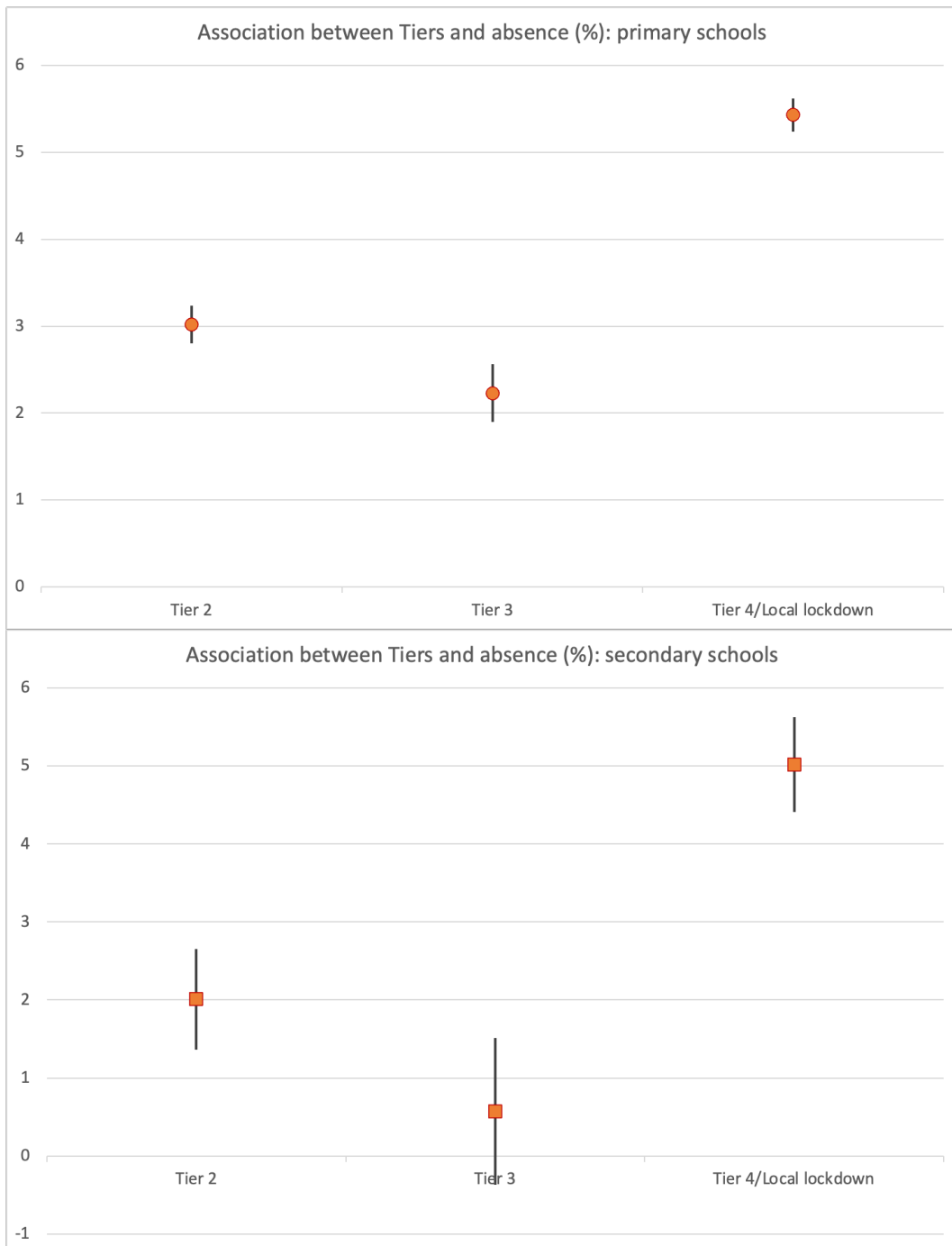
In autumn 2020, schools spent an average of 7.4 days under local lockdown (driven by a small number of schools in a few LAs under lockdown for extended periods). During the first half of the term, the first period of the tier regulations, schools spent an average of 10.6 days in Tier 1 ('Moderate Risk', least restricted), 9 days in Tier 2 ('High Risk') and 2.4 days in Tier 3 ('Very High Risk', most restrictions). This was followed by two weeks of national lockdown, which we do not use in our analysis as it applied equally to all schools. During the second half of the term, schools spent on average, 0.2 of a day in Tier 1, 8.6 days in Tier 2 and 8.2 days in Tier 3, after which schools closed for the Christmas holidays. In all tier levels, people were advised to work from home and social gatherings were limited to six people. Higher level tiers had increasing restrictions on entertainment businesses and social activity, Tier 2 and 3 banning indoor private gatherings, and Tier 3 banning outdoor gatherings in private spaces, like gardens. A Tier 4 was introduced in the middle of December 2020, after schools had closed for Christmas, but extending into the term of early January 2021.

The first question we ask is to what extent local policy variation had an impact on school absence at the time of these restrictions (even though schools were allowed to open for pupils; schooling was not part of these tier regulations). We use data from a survey of schools on absence, linked to information on policy location and timing to address this question. There was a strong influence of national and local government guidance on

absences at the time. We find that absence rates were significantly higher in summer 2020 for schools that were not explicitly advised to follow government policy on reopening, though this had no lasting, detectable effect on subsequent absence or achievement. The tier regulations in autumn 2020 also had a big effect on contemporaneous absence rates. We find they also had long-lasting effects on absence and achievement, so these tier regulations are a principal focus of our pupil-level analysis described below. The contemporaneous effect of the tier regulations on absence in our school survey data is illustrated in the figure below. This shows that relative to the baseline (ie lowest restrictions in Tier 1), pupils in areas that were part of Tiers 2, 3 or 4 were more likely to be absent by 3%, 2% and 5% respectively in primary schools and by 2%, 0.6% and 5% in secondary schools.

But more striking than the relationship between local policy variation and pupil absence is that fact that pupils from lower socio-economic groups were much more strongly impacted. There are large effects from the interaction of days spent in Tiers 2 or 3 and the deprivation score (based on the Income Deprivation Affecting Children Index (IDACI) of a pupil's home). In other words, effects of the Tier 2 or 3 restrictions (relative to the least restrictive tier) on school attendance were greater for pupils who live in disadvantaged areas. This is true even after conditioning on a range of pupil, school and local area characteristics. For example, our estimates suggest that eight days in Tier 2 or Tier 3 induced half a day of absence over the term for a pupil in the least deprived area and 2.25 days of absence for a pupil in the most deprived area. A pupil in an area with the average deprivation score, spending the average of 16 days in either Tier 2 or Tier 3, would have had 2.9 percentage points (one and a half days) more absence than those in unrestricted areas. These are big effects given the baseline mean absence rate of 3.5% in the pre-pandemic period of our data.

## The association between tiers and pupil absence (autumn/winter 2020/21)

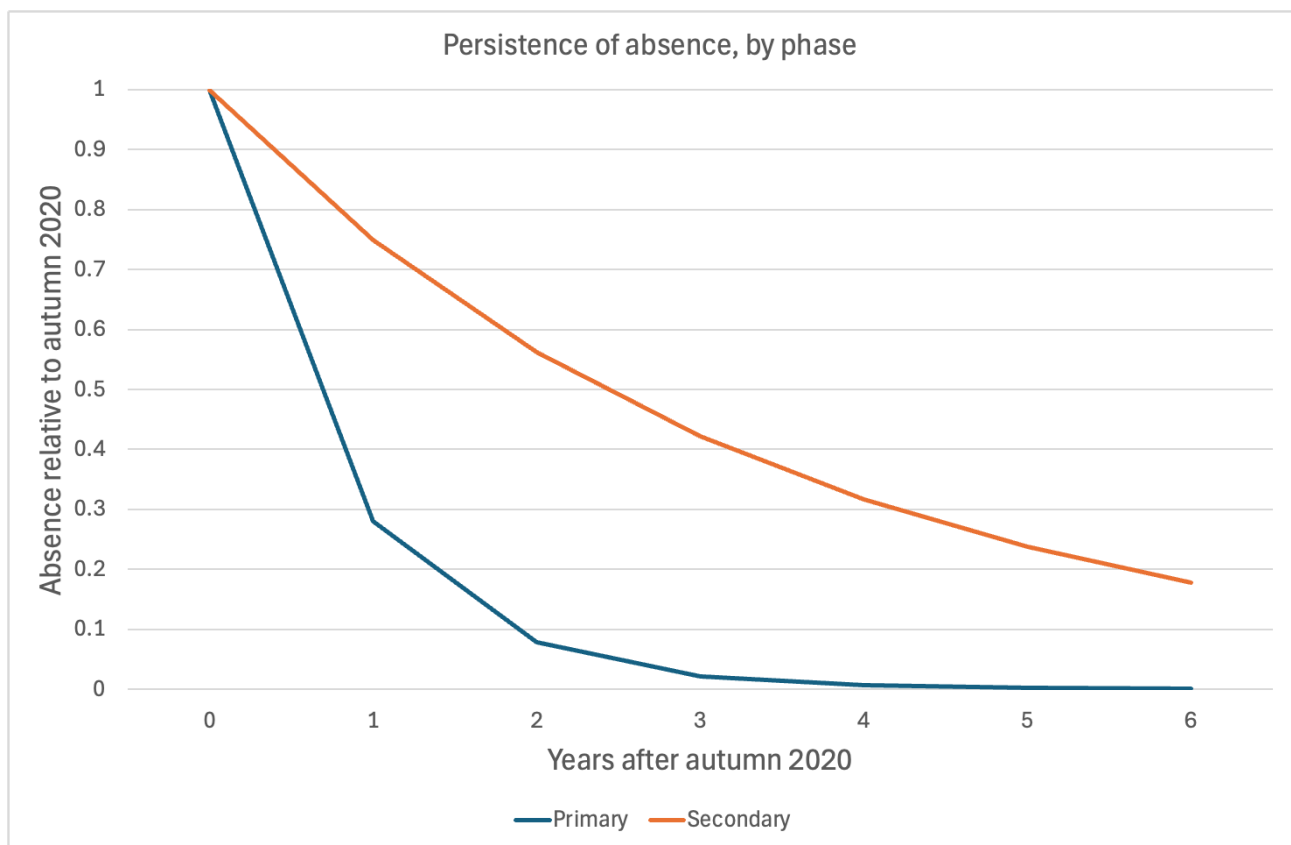


Note: The figures plot the coefficient in a regression of pupil absences on tier. They should be interpreted relative to the least restrictive tier (or Tier 1). For example, a pupil within a Local Authority under Tier 3 restrictions was more likely to be absent from school by 3 percentage points relative to a pupil in a Local Authority under the least restrictions.



## DID POLICY-INDUCED VARIATION IN ABSENCES HAVE AN ENDURING EFFECT?

We use administrative pupil-level data, to model the change in pupil absences before and after the pandemic (ie up to 2021/22) as a function of local policies during the pandemic, controlling for pupil, school and local area characteristics. Our estimates suggest that a 10% increase in absences induced by the local 2020 pandemic policies persisted as a 6.5% increase in absence the following year. Extrapolating this to future years outside those of our dataset implies that the impact of the 2020 policy shock would take 7 years to erode to 5% of its initial value. This calculation assumes that the level of persistence between 2020 and 2021 continues into future years. For example, in 2021, an average pupil's absence rate was 0.65 times the initial change in 2020. By 2027 it would be  $0.65^7 = 0.049$  times this initial shock. The persistence of absence over time differs between primary and secondary school, with fade-out taking much longer in the latter case, as illustrated in the below figure. There are also differences between pupils from low-income families and high-income families. Absences are twice as persistent for pupils from low-income families.



## WHAT ABOUT CHRONIC ABSENTEEISM?

Much of the focus of academic and policy discussion of post-pandemic absence has been the rise in chronic absenteeism, meaning very high levels of absence for some pupils. We estimate the effect of local policy variation in restrictions on the probability that a pupil's rate

of absence exceeds a certain threshold in 2021/22 – namely 10%, 20% or 40% of sessions over the term. These absence rates changed dramatically over the short period we are considering. The proportion absent for more than 10% of sessions over the term (ie one day every two weeks, or a week every term) more than quadrupled. The proportion missing 20% of sessions is seven times higher than before the pandemic. The proportion missing 40% (two days a week, or 4 weeks per term) is 10 times higher. We show that the knock-on effects of absence in autumn 2020 explain most of the increase in over-20% and over-40% absence rates, and a substantial proportion of the increase in over-10% absence rates. Missing 10 sessions (five days) in Autumn 2020 increases the probability of missing more than 40 sessions (20 days) in 2021 by 7 percentage points (note that this is from a low base: the pre-pandemic mean was 0.2%).

## FORCED VERSUS UNFORCED ABSENCE

A crucial issue to remember is that schools were open during the autumn 2020 period (apart from two weeks in the second national lockdown), and much of the absence observed this term was not enforced by schools or by government. As noted above, the absence rates categorised as compulsory – because pupils were self-isolating – were 8.7%; absence rates for other reasons (not directly Covid-19-related) were 5.6%. A salient question then is to what extent the effects of autumn 2020 absence were due to compulsory absence or due to more ‘voluntary’ types of absence. When we separate ‘forced’ and ‘unforced’ absences in our regression analysis, almost all of the enduring effect comes from ‘unforced’ absences. The take-away from this part of the analysis is that it was likely a shift in family attitudes to attendance during the autumn term of 2020, induced by the local public health policies, social and work restrictions of the time, that has persisted post pandemic. Being prohibited from attending school seems to have had little lasting impact.

## IMPACT ON ACHIEVEMENT

We analyse whether the absences induced by local policy restrictions have an impact on Key Stage 2 test scores in 2021/22 and GCSE scores in 2021/22. Our methodology implies that we are comparing a pupil in an area with a given IDACI (deprivation) score, in a given school in the pandemic cohort, with another pupil with the same IDACI score, in the same school but in the pre-pandemic cohort. Our analysis suggests that tier regulations came at an average cost of around 1.6 percentiles of achievement in maths and GPS (grammar, punctuation and spelling), and 0.5 percentiles in reading at the end of primary school. We cannot know for sure whether these results reflect the direct effect of pandemic policies on absences (which in turn influenced test scores) or whether they reflect the indirect effect of these policies on children’s mental health or family financial resources which could influence future achievement without affecting attendance at school.

The way in which absences translate into future achievement differs between subgroups of pupils. Even though more disadvantaged pupils have greater sensitivity to pandemic policies, the effects on KS2 maths scores are larger for more advantaged pupils (although

not always by an amount that is statistically significant). It is possible that this reflects a smaller relationship between absences and achievement in the lower part of the distribution. For KS2 reading, there is no effect of past absences on pupils from less deprived neighbourhoods but a large effect on those from the most deprived; and there is an effect for boys but not for girls. These differences are plausibly due to different reading habits outside school. It is well-documented, for instance, that boys read less in their leisure times than girls do.

We show that absence due to self-isolation (or 'forced absences') had a much smaller effect on test results than absence of a more voluntary nature. The latter (induced by pandemic policies) is estimated to have large effects. The estimates imply that an absence rate of 1% reduces reading scores by 1.8 percentiles, maths scores by 5.5 percentiles and GPS scores by 6.2 percentiles. But as noted above – it may be that these policy effects are not entirely driven by the direct effect of policies on pupil attendance.

When we look at GCSE results, although there is a negative correlation between absences and pupil achievement, we do not find any detectable causal effect of absence that is induced by policy variation during the pandemic on achievement. We cannot attach importance to this result, however, because GCSE results are not measured in 2020-22 on a comparable basis with pre-pandemic years. They were adjusted to compensate for the challenges pupils faced during the pandemic period. The measure, thus, does not reflect how pupils' knowledge and skills developed over this period.

## CONCLUSION AND POLICY IMPLICATIONS

Variation in policy restrictions during the pandemic had large unintended consequences for pupil absence at the time and in subsequent years. This happened despite the fact schools were ostensibly open and we show that effects are not driven by pupils needing to self-isolate. This illustrates that the effect of the pandemic on subsequent absences and learning loss is not only attributable to compulsory school closures. Also, it does not appear that the disruptive effects of having to self-isolate (whenever another pupil became ill) had a lasting effect on future absences or achievement. Our analysis is unable to reveal the precise behavioural channels through which the local restrictions affected absence. The influence of time spent in Tier 2 and Tier 3 relative to Tier 1 points to restrictions on social interactions playing a major role, since it was in this respect that the high-risk tiers were more constraining.

We find that local pandemic policies had heterogeneous effects on absences across groups of pupils, being particularly large for disadvantaged pupils. This also feeds through into persistent absence (one year later). This is one mechanism for the widening socio-economic gap in educational achievement during and after the pandemic. It also illustrates that more restrictive policies negatively affected those already facing hardships due to socio-economic deprivation. This shows that those needing most assistance to recover from the effects of Covid-19 are those from under-privileged backgrounds.

Even though absences are more prevalent in secondary school than in primary school, the effect of variation in policy restrictions comes out more strongly in subsequent primary school attainment (at age 11). This may be because of measurement problems in GCSEs or it may be because variation in policy restrictions really did have a more severe impact on younger pupils. While school attendance is very plausible as the mechanism through which policy restrictions impact on future test scores, there are other possible mechanisms (which will we explore in ongoing work). The strong effects observed for pupils in primary school suggests that the educational effects of Covid-19 will persist in the absence of effective policies to counter the effect of pandemic-induced learning loss.

This paper illustrates the unintended spillover effects from government restrictions during the pandemic. This is *in addition to* any direct effects of the pandemic (and pandemic response) and school closures in the national lockdowns in the first half of 2020 and 2021. It is worth noting that the UK is not alone in this situation. School absences have continued to rise in many countries well after the pandemic. For example, [Dee \(2024\)](#) shows this for the United States. He shows that although current 'chronic absence' is correlated with the imposition of remote learning during the pandemic, it is not fully explained by such policies. The focus should now be on trying to reduce school absences and [Dee \(2024\)](#) cites work aiming at preventative school-wide efforts and more intensive and targeted initiatives that identify and support chronically absent pupils. This includes practical school-based supports and efforts to engage and inform families about their child's school attendance. Of course, all of this is much more difficult to achieve in the UK, at time when school budgets continue to be squeezed. On the bright side, our evidence on the persistence of policy-induced increases in unforced absence rates suggests that policy-induced improvements in attitudes to attendance could be reasonably persistent too, at least for secondary school pupils.

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## References

Dee, T. (2024) Higher chronic absenteeism threatens academic recovery from the COVID-19 pandemic. PNAS [Link](#)

Elliot Major, L., Eyles A., Lillywhite, E. and Machin S., (2024) A generation at risk: Rebalancing education in the post-pandemic era. Nuffield Foundation. [Link](#)

Klein, M. and Sosu, E. (2024) Understanding school attendance, education and labour market outcomes. Nuffield Foundation. [Link](#)