

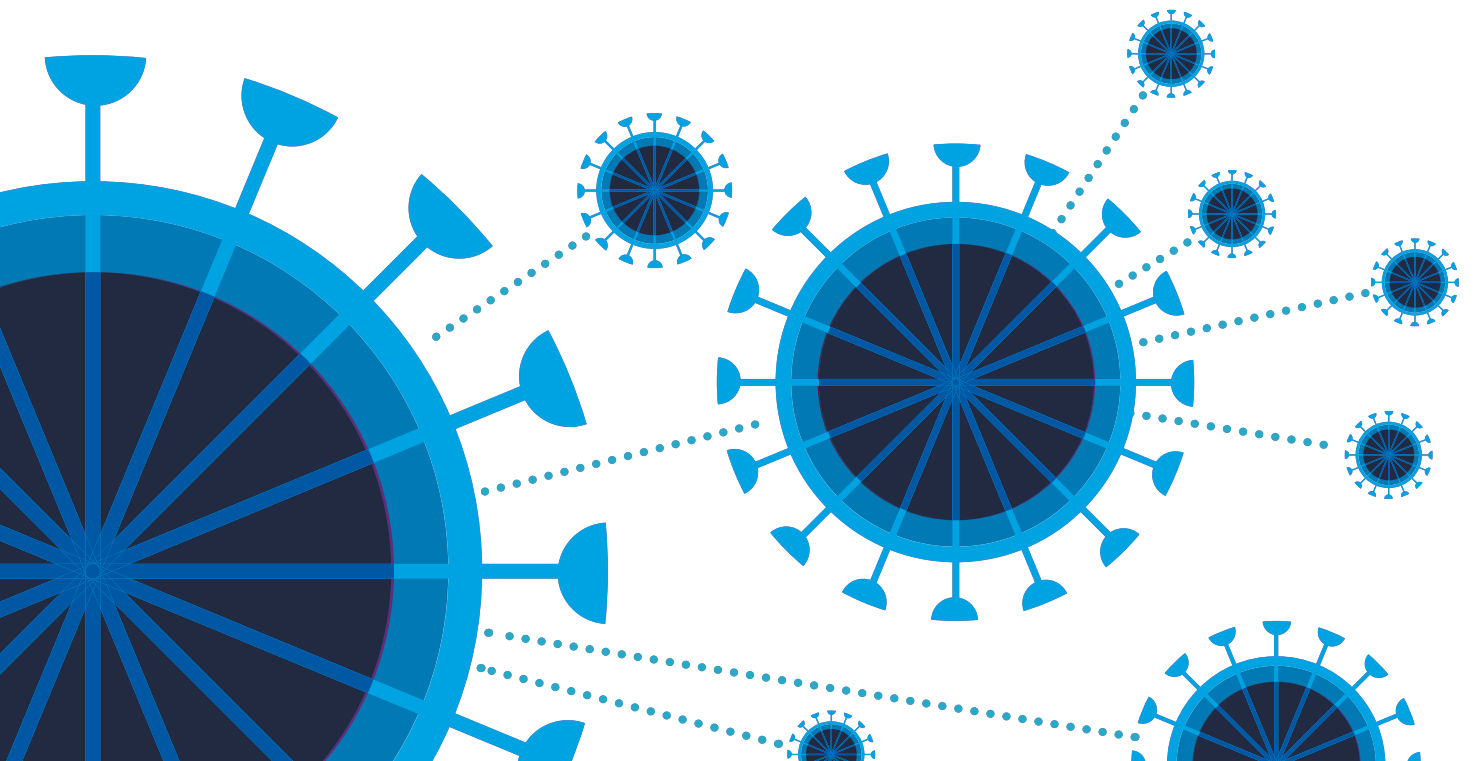
A series of background briefings on the policy issues arising from the Covid-19 pandemic

Generation COVID: Emerging work and education inequalities

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A CEP Covid-19 analysis

Paper No.011



Generation COVID: Emerging Work and Education Inequalities

CEP COVID-19 ANALYSIS

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Summary

- Initial findings are reported from the first LSE-CEP Social Mobility Survey that was undertaken in September and October of 2020, with a particular focus placed on work and education inequalities of the (age 16-25) COVID generation. We report new, up to date findings on the labour market, on adults in full-time education and on school age pupils.
- Generation COVID has experienced worse labour market outcomes in terms of job loss, not working and earnings losses during and after lockdown. Those aged 16-25 were over twice as likely as older employees to have suffered job loss, with over one in ten losing their job, and just under six in ten seeing their earnings fall. Labour market losses are more pronounced for women, the self-employed and those who grew up in a poor family.
- University students from the lowest income backgrounds lost 52 percent of their normal teaching hours as a result of lockdown, but those from the highest income groups suffered a smaller loss of 40 percent, revealing a strong inequality occurring in higher education. Female students were far more likely than males to report that the pandemic had adversely affected their wellbeing.
- During lockdown, nearly three quarters (74 percent) of private school pupils were benefitting from full school days - nearly twice the proportion of state school pupils (38 percent). A quarter of pupils had no schooling or tutoring during lockdown. Overall just under four in ten pupils benefitted from full schooling during full school closures due to lockdown; by early October 2020 six in ten pupils were benefitting from full schooling.

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Introduction

The purpose of this brief paper is to present initial findings from the recently collected LSE-CEP Social Mobility survey, which was undertaken as part of our UKRI project ‘Generation COVID and Social Mobility: Evidence and Policy’. These are the first results from a project that is producing a detailed assessment of COVID-19’s impact on education and economic inequalities and offering an assessment for the longer term consequences for social mobility in the UK.

The emerging findings come from a representative random sample of 10,010 individuals aged 16 to 65 who were surveyed between 14 September and 12 October 2020. They were asked a range of questions on their work and education under COVID-19 as compared to a pre-lockdown baseline, together with questions on aspects of social mobility and work and education inequalities. Specific modules about work and full-time education were included for those in the labour force or in education pre-lockdown, and individuals with dependent children were surveyed about their children’s schooling experiences.

Alongside the survey findings, we have also analysed economic and education outcomes of individuals in April 2020 in the Understanding Society (USoc) national household panel data. Understanding Society is a Household Longitudinal Study tracking outcomes of 40,000 households across the UK involving approximately 100,000 individuals.

Before the pandemic, younger generations were already facing declining absolute social mobility and real wage decline (Elliot Major and Machin, 2018, 2020a). Education inequalities were also widening. Here we present new findings on inequalities in the workplace and the classroom that have emerged following the pandemic.

Findings

1). Employment and Earnings Losses

Existing COVID-19 research by us and others (e.g. Adams-Prassl et al, 2020; Bell et al, 2020) has reported on significant employment and earnings losses occurring in lockdown and continuing subsequently, with already existent inequalities being exacerbated as labour market losses have proven to be more marked for disadvantaged individuals at a pre-lockdown baseline earlier in 2020. The LSE-CEP Social Mobility Survey very much confirms this and shows that the gaps in labour market losses across groups have persisted up until September/October 2020.

We have examined employment and earnings trajectories under lockdown and beyond for a pre-lockdown baseline sample of those who were in work (employed or self-employed) in February 2020 (just over 6000 individuals). In terms of employment, we looked at three measures: whether people lost their jobs by late September/early October 2020; whether people report working zero hours a week in the survey (but do not report being laid off); and putting the two together as not working (those who lost their job or reported zero hours).

Table 1 reports summary statistics on these three measures, for all individuals who were in work pre-lockdown and broken down by the COVID generation of 16-25 year olds compared with those aged 26 and above. Figure 1 shows the same in a bar chart for five age bands (16-25, 26-35, 36-45, 46-55, 56-65). Overall, 5.4 percent lost their job, but this masks a higher pattern of worklessness since a further 7.3 percent reported still being in work, but working zero hours. Overall the rate of not working is the sum, namely 12.7 percent.

There are very striking age related differences, with employment losses disproportionately higher for young people. Table 1 shows that young people are over twice as likely as older employees to have suffered job loss, with just over one in ten of those aged 16-25 losing their job, compared with less than one in 20 among those aged 26-65. The spread of working zero hours in the week preceding the survey is much flatter across the age range mainly as the rate furloughing is more age neutral and, if anything, a little higher for the oldest 56-65 group (see Figure 1). Putting the two together shows a considerable higher rate of worklessness for the COVID generation of 18.3 percent compared to 11.9 percent for the 26-65's. Figure 1 confirms that this declines systematically across the age bands until rising because of the higher zero hours working of the 56-65 age group.

The final row of Table 1 examines the survey evidence on earnings losses under COVID-19. Overall, 45 percent of those in work in February experienced earnings falls by the time of the survey. The extent of earnings loss, as with the worklessness patterns already described, is significantly higher for the COVID generation at 58 percent compared to an average of 43 percent for the older individuals.¹

Table 1: Employment and Earnings Losses

	All	Age 16-25	Age 26-65	Gap (Standard Error)
	(1)	(2)	(3)	(4) = (2)-(3)
Job loss	5.4	11.1	4.6	6.6 (1.2)
Employed, Zero hours	7.3	7.1	7.3	-0.2 (1.0)
Not working	12.7	18.3	11.9	6.4 (1.5)
Earnings loss	45.0	58.3	43.1	15.1 (1.9)
Sample Size	6003	745	5258	6003

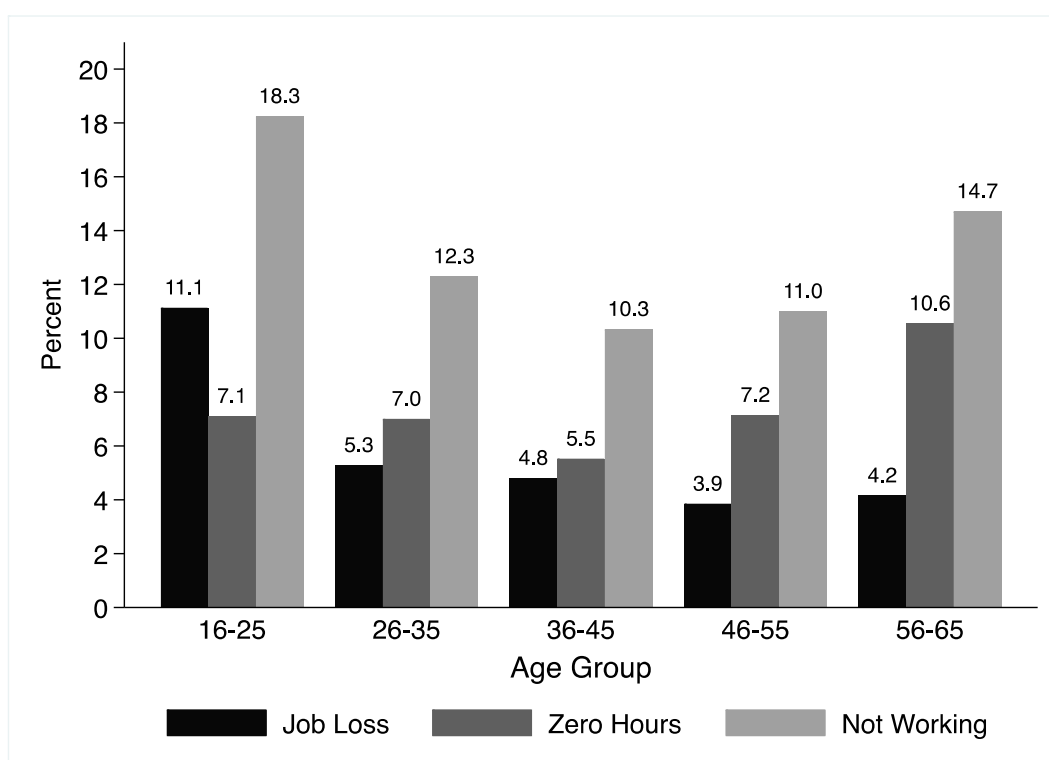
Notes: September/October Survey data. Estimates based on those working at baseline (January/February)
 Not working refers to the sum of those made redundant and those whose hours have been reduced to zero.
 Earnings loss is a binary variable for those whose earnings have been reduced as a result of the pandemic.
 Row 4 therefore refers to the percentage of participants who have lost earnings across the age groups.

The labour market hit varies systematically across worker characteristics. Statistical regressions reported in Appendix Table A1 consider multiple factors, again looking at age variations but simultaneously considering gender, whether individuals grew up in a poor family (the bottom 20 percent of the family income distribution), whether they are a key worker and employment status pre-lockdown (employee, self-employed or both). There are some nuances in terms of whether the substantive variation is in terms of employment or earnings less or both, but overall the losses are more marked for women (higher zero hours and earnings loss), for individuals from poor family backgrounds (higher job loss and earnings loss) and for the self-employed (more likely to still be in work but facing much higher probabilities of earnings losses). Key workers, unsurprisingly, were insulated from these labour market losses.

¹ This too shows a strong age gradient across the five age bands, falling from 58 percent for the 16 to 25's to 47 percent (age band 26-34), 44 percent (35-44), 40 percent (45-54) and 41 percent (56-65) respectively.

These very sizable labour market inequalities are of clear importance looking ahead, and in terms of what we know from existing literatures on scarring effects and long-term unemployment. On the former, it is well known that young workers entering the labour market in recessions suffer a range of consequences, impacting on earnings and jobs for 10 to 15 years, and affecting other outcomes including general health and the likelihood of entering a life of crime; and that periods of extended worklessness have scarring effects that persist (e.g. Von Wachter, forthcoming). There is also a real concern that people who have lost their jobs are moving on to trajectories heading to long term unemployment, the costs of which are substantial (Machin and Manning, 1999). We have previously proposed the introduction of job guarantees for under 25s who are, or in danger of becoming, long term unemployed, alongside incentives for boosting re-training in the workplace (Elliot Major and Machin, 2020a, 2020b).

Figure 1: Employment Losses by Age Group



Notes: September/October Survey data. See Table 1 for descriptions of outcomes.

2). Education Losses – Adult Learners

The survey contained an array of questions on education losses that have occurred during the crisis. Information was collected for those adults (aged 16 and above) in full-time education, and also on school aged dependent children of the survey participants.

Figure 2 shows learning losses for adults in full time education (FTE) when split by family income growing up.² Participants in University, sixth form, secondary school, and other forms of full-time education are asked what percentage of their normal teaching hours they received during lockdown. Somewhat unsurprisingly lockdown lead to a large fall in teaching time. Adult learners reported around

² Participants are asked to denote their family’s position in the income distribution when growing up. Figure 2 excludes those who state that they do not know this.

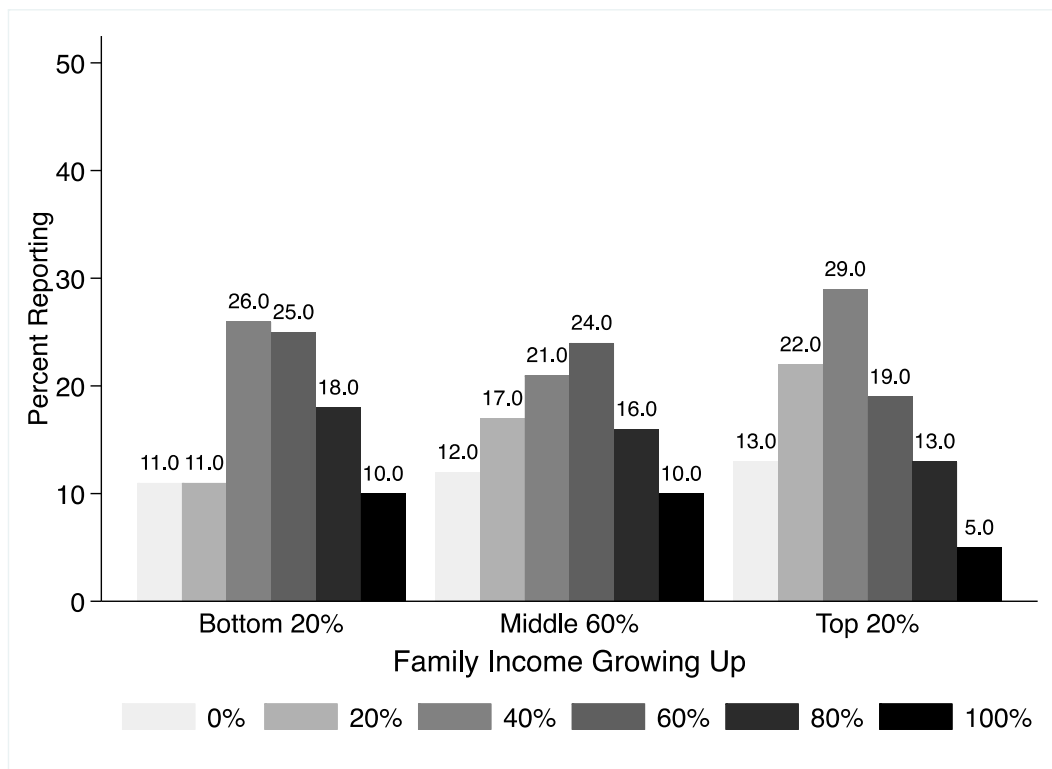
half (52 percent) of their normal teaching hours as a result of lockdown. University students in particular lost 48 percent of their normal teaching hours as a result of lockdown, but those from the highest income groups lost 40 percent.

Looking at Figure 2 reveals that these falls were not equally spread amongst those from different family backgrounds. Converting teaching time estimates into percentage falls in learning, we see that those who identify as growing up in more prosperous families are much more likely to report smaller falls in teaching time during lockdown. Over a third, 35 percent, of those from the top fifth of the family income distribution report 0-20 percent falls in teaching time as compared with 29 percent from middle income backgrounds and only 22 percent from the bottom fifth of the income distribution.

Mirroring this, only 18 percent of those from the most advantaged backgrounds report learning losses of 80 percent or upwards as compared with 26 percent and 28 percent of those in the middle and from the least advantaged backgrounds respectively. Looking across learning losses as a whole this leads to a sizeable divide between those from different backgrounds; in particular, between those from the richest background and those from the middle and lower end of the family earnings distribution. Those identifying as growing up in the top 20 percent of families pull away from their peers losing 42 percent of their normal teaching time as compared to 49 percent (those in the middle), and 52 percent (those at the bottom).

In parallel with our analysis of the labour market, Appendix Table A2 presents results from a regression model to predict learning losses for adult learners. Rather than pooling together results for those in university and other forms of education, this splits out those at university. These results can be interpreted as giving differences in outcomes across socioeconomic groups once age, education stage, and gender are held fixed. Two main results stand out. There are modest differences in learning losses between males and females that are driven by females in non-university education reporting greater learning losses. As suggested by the raw data in Figure 2, a substantial gap remains between those from high income backgrounds and the rest, but this gap is driven entirely by university students in the top 20 percent of family earnings reporting less lost education than their peers at university.

Figure 2: Learning Losses by Family Income Growing Up



Notes: September/October Survey data. Data refer to self-reported learning losses, during lockdown, for those in full time education. Participants are asked what percentage of normal teaching time they received during the lockdown. These numbers are then converted into learning losses. Differences are plotted against self-reported parental income quintiles when growing up.

3). Wellbeing and Future Plans – University Students

Losses in learning hours may prove to be a transitory phenomenon as education institutions become more adept at delivering learning remotely or as face to face teaching is phased back in. To complement the findings above, we also asked university students the extent to which their wellbeing, long terms plans, and prospective academic achievements have been affected by the changes induced by lockdown. Appendix Table A3 looks at how these variables differ across gender, age, and family background.

Two findings stand out from the Table. When looking at wellbeing, there appears to be little difference across family background, but there is a large coefficient for females. This implies that holding fixed age and family background, females attending university are 12 percentage points more likely to state that their wellbeing has been affected by lockdown. Moving to family background differences, there is little difference across backgrounds in the propensity to report that long term plans and wellbeing have been affected, but there is a striking difference in the likelihood of believing that prospective academic achievement will be affected by lockdown. University attendees who come from the bottom quintile of household incomes are 9 percentage points more likely than their peers to believe that their future grades will be changed as a result of the pandemic.

Although Appendix Table A3 focuses on differences between individuals, perhaps the most striking result from this set of questions comes from looking at the total number of students agreeing with the statements. Of the university students in our sample, 63 percent state that their wellbeing has been

affected, 62 percent state their long-term plans have been affected, and 68 percent believe that their future educational achievement will be affected by the pandemic.

4). Education Losses – School Age Pupils

Alongside losses for adult learners, there is considerable interest in the effect that COVID has had on school education. A number of analyses on learning losses have been done using Understanding Society data. Understanding Society (USoc) is a national longitudinal study that, since April 2020, has supplemented its usual annual releases with monthly updates allowing researchers to study outcomes of participants during the pandemic. In keeping with the April release that contained a module on home schooling (answered by parents of those aged 4-18), we asked parents in our survey a number of questions regarding their children and teenager's experiences during lockdown. Figure 3 highlights the main findings.

The figure looks at three outcomes from the April release of USoc, the proportion of those receiving no schooling during lockdown, the proportion receiving a full day, and the average percentage of a full day received.³ We then construct comparable measures for mid-September to October using our survey.⁴

What is clear is that many pupils have experienced a significant and sustained reduction in their education. Just under four in ten (38 percent) pupils benefitted from full schooling during full school closures due to lockdown. In late September/early October 2020 just under six in ten (59 percent) of pupils were benefitting from full schooling.

A significant proportion of pupils missed out on education altogether. A quarter of pupils had no schooling or tutoring during lockdown – which equates to around 2.5 million children across the UK. On average pupils were receiving 42 percent of normal schooling during lockdown and 85 percent of normal schooling in the autumn.

Learning losses during lockdown appear to be particularly stark. Appendix Table A4 presents results from a regression model to better understand how these losses differed across individuals. We consider multiple factors predicting learning losses for pupils during April; in particular, we look at differences across different stages of schooling, gender, whether individuals grew up in a poor family (the bottom 20 percent of the family income distribution), pre-lockdown employment status of parents, and changes in the labour market status of parents during lockdown.

By far the largest differences that emerge are between private school pupils and their state school counterparts. In the raw data alone, nearly three quarters (74 percent) of private school pupils were benefitting from full school days - nearly twice the proportion of state school pupils (39 percent). Descriptive data confirms that many elite schools effectively insulated themselves from learning losses during lockdown. Private school pupils were five times (30 percent) as likely as state school pupils (6 percent) to have 4 plus online lessons during lockdown, and four times more likely to have spent more

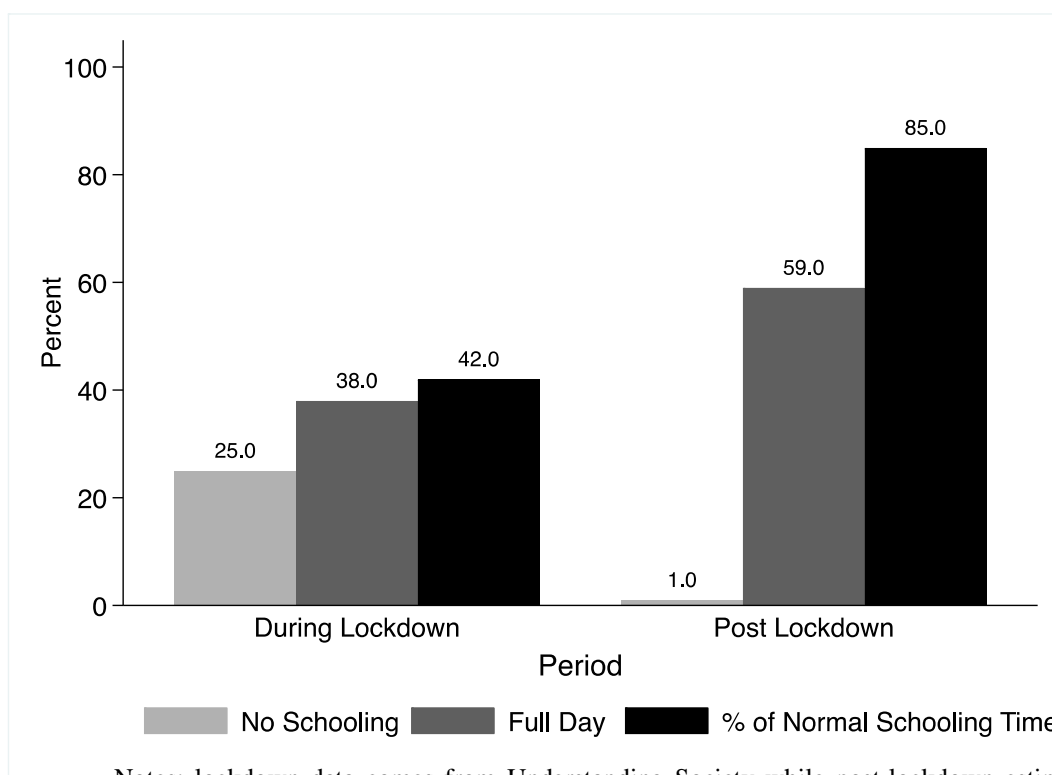
³ These variables are derived from questions asked in USoc. Participants are asked if their children attended school during lockdown and, if not, how many online/offline classes they received, and the average amount of time spent daily on schoolwork. We treat those attending school as having a full school day alongside those spending 5+ hours on work or those receiving at least 4 daily lessons. Those reporting spending no time on schoolwork or no daily lessons are classified as having zero hours of schooling. Similarly, we use the time spent on schoolwork to get estimates of the % of a full school day received. We convert hours estimates into % of a full school day as follows: <1 hour (0%), 1-2 hours (20%), 2-3 hours (40%), 3-4 hours (60%), 4-5 hours (80%), and 5+ hours (100%).

⁴ In parallel with USoc, we treat the children of key worker (who attended school during lockdown) as having a full school day post lockdown). The remaining two variables are constructed by asking parents what percentage of a full school day their children are currently receiving.

than 5 hours on schoolwork, and twice as likely to have 4 plus lessons. It should be noted that as the regression results effectively hold fixed parental income, private school differences persist, albeit to a smaller extent, even once parental income is controlled for.

Another finding that emerges from the regression analysis is that, even once education stage, baseline parental employment status, and family income is held fixed, difference in learning losses emerge between those whose parents had their hours reduced to zero and those that remained employed and working during lockdown.⁵ Compared with similar students, those whose parents hours are reduced to zero during lockdown are 6 percentage points less likely to report having receiving a full school day and 5 percentage points more likely to report having done no school work.

Figure 3: Children and Teenager Learning Losses During and Post Lockdown



Notes: lockdown data comes from Understanding Society while post-lockdown estimates are obtained from the survey. See footnotes 3 and 4 for detailed descriptions of the variables plotted.

4). Private Tutoring – School Age Pupils

While the above discusses differences in schooling provided, parents also mitigate their children’s loss in learning by purchasing private tutoring. Table 2 looks at the incidence of private tutoring during lockdown for those in our main regression sample.⁶ Stark differences emerge in Table 2. Parents in the highest quintile of incomes were over four times as likely to pay for private tutoring during lockdown than those in the lowest quartile of incomes (15.7 percent compared with 3.8 percent). On average, 9.2 percent of parents reporting paying for private tutoring during lockdown.

⁵ We find little effect when looking at parental job loss. However, few parents lose their jobs as compared with those having hours reduced to zero leading to estimates of job loss being imprecise.

⁶ The regression results focus on those who have full responses for the outcome variables of interest and are absent from school during lockdown. We also focus only on those for whom parental income and private school status is available in Wave 9 of USoc. Table 2 is very similar if we do not impose these restrictions.

Table 2: Private Tuition

	Parental Earnings Quintile			
	All (1)	Bottom 20% (2)	Middle 60% (3)	Top 20% (4)
Private Tutoring	9.2	3.8	9.2	15.7
Sample Size	3259	583	2152	524

Notes: Based on sample which focusses on those who have full responses for the outcome variables of interest and are absent from school during lockdown. We also focus only on those for whom parental income and private school status is available in Wave 9 of USoc. Table 2 is very similar if we do not impose these restrictions, and simply limit the comparison to those who have parental income information and report non missing values for private tutoring.

Our research findings of substantial and continuing education loss add to growing evidence that disadvantaged students have fallen behind their more privileged peers due to differences in school provision, and the stark home learning divide in study space, computers and internet connectivity and access to paid tutoring.⁷

The biggest fear is that pupils suffer permanent ‘educational scarring’. This can occur at key transition points, when students fail to pass a particular threshold that has life consequences. Failing to get standard passes in GCSEs at age 16 for example incurs a big earnings penalty – even by a single mark below the pass threshold (Machin et al, 2020). If disadvantaged students fall further behind, they will miss out on a sixth form place to study A-levels or a university place to go onto higher education. Finally, disadvantaged students may fall further behind during university.

Conclusion

In summary, findings from the first LSE-CEP Social Mobility Survey, studied here alongside a complementary analysis of USoc national longitudinal data, reveals stark and sustained inequalities in labour market and education outcomes for the under 25’s. This is likely to be bad news for future life prospects as higher income and education inequalities are the key drivers of low social mobility. To avoid a decline in social mobility these inequalities in both the education system and the workplace need to be combatted (Elliot Major and Machin, 2020a, 2020b).

Future research is planned to further assess the longer-term economic and education scarring effects for the under-25s from COVID-19. It will also study responses to the experimental and non-experimental questions in the Social Mobility Survey to both assess and appraise implications for future social mobility. It will study attitudes to, and consider the desirability of, policies that could combat the observed increased inequalities and therefore have scope to improve social mobility.

⁷ See for example Eyles, Gibbons, and Montebruno (2020) for a review of literature, and Maldonado and DeWitte (2020) for inequalities in test score trends during COVID-19. The evidence suggests that pupils could experience a range of learning losses of perhaps between three to six months during the academic year, with disadvantaged pupils most likely to be falling behind.

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Appendix

Table A1: Employment and Earnings Loss Regressions

	Job Loss	Employed, Zero Hours	Not Working	Earnings Loss
	(1)	(2)	(3)	(4)
Age 16-25	0.069 (0.013)	-0.037 (0.014)	0.032 (0.018)	0.184 (0.024)
Age 26-34	0.010 (0.009)	-0.033 (0.012)	-0.023 (0.014)	0.077 (0.020)
Age 35-44	0.005 (0.009)	-0.045 (0.011)	-0.039 (0.014)	0.057 (0.020)
Age 45-54	-0.002 (0.008)	-0.027 (0.012)	-0.029 (0.014)	0.013 (0.020)
Female	0.003 (0.006)	0.046 (0.007)	0.048 (0.009)	0.058 (0.013)
Bottom quintile	0.017 (0.007)	0.013 (0.008)	0.030 (0.010)	0.041 (0.014)
Key worker	-0.034 (0.006)	-0.061 (0.006)	-0.095 (0.008)	-0.129 (0.013)
Self employed	-0.038 (0.007)	0.045 (0.014)	0.006 (0.015)	0.255 (0.020)
Self employed and employed	0.045 (0.030)	-0.007 (0.025)	0.038 (0.037)	0.206 (0.047)
Sample size	6003	6003	6003	6003

Notes: Survey data. Robust standard errors reported in parentheses. The respective dependent variables are 0-1 dummy variables, see Table 1 for descriptions. Bottom quintile refers to whether the worker reports having grown up in a family in the bottom 20% of the earnings distribution. Self-employment variables refer to status at baseline which, as the sample is those employed at baseline, are relative to the employed.

Table A2: Adult Learning Loss Regressions

	Learning Losses		
	Pooled (1)	University (2)	Secondary/College/Other (3)
Age 16-25	-0.009 (0.016)	0.019 (0.021)	-0.003 (0.026)
Bottom Quintile	0.030 (0.019)	0.031 (0.024)	0.029 (0.030)
Top Quintile	-0.060 (0.019)	-0.080 (0.024)	-0.027 (0.032)
Female	0.036 (0.016)	0.026 (0.020)	0.047 (0.026)
Sample Size	1521	936	585

Notes: Survey data. Robust standard errors reported in parentheses. This looks at those aged 16 and above who report being in full time education. The dependent variable takes values 0, 0.2, 0.4, 0.6, 0.8, and 1 and refers to the fraction of a full day of education lost during lockdown. Those with value 1 report having received 0% of their normal teaching hours during lockdown, while those with 0 report having received 100%. Quintiles refer to self-reported family income when growing up. Those reporting being in the middle 60% of the earnings distribution are the omitted category.

Table A3: University Students, Subjective Outcome Regressions

	Wellbeing affected?	Long term plans affected?	Do You feel academic achievements will be harmed?
	(1)	(2)	(3)
Age 16-25	-0.028 (0.033)	-0.021 (0.033)	0.041 (0.033)
Bottom Quintile	0.048 (0.038)	0.054 (0.039)	0.093 (0.036)
Top Quintile	-0.003 (0.041)	0.001 (0.041)	-0.002 (0.040)
Female	0.120 (0.032)	0.010 (0.033)	0.039 (0.033)
Sample Size	1014	1014	1014

Notes: Survey data. Robust standard errors reported in parentheses. The respective dependent variables are 0-1 dummy variables for whether university students believe their wellbeing, long term plans, and future academic achievement have been affected by lockdown.

Table A4: Pupil Learning Loss Regressions

	No Work	Full Day	% of Normal Teaching Time Received
	(1)	(2)	(3)
Secondary	0.019 (0.015)	0.109 (0.018)	0.061 (0.011)
KS5	0.265 (0.028)	-0.129 (0.026)	-0.060 (0.019)
Female	-0.034 (0.014)	0.030 (0.017)	0.064 (0.011)
Privately Educated	-0.136 (0.025)	0.348 (0.038)	0.190 (0.028)
Bottom quintile (Parents)	0.051 (0.021)	-0.024 (0.023)	-0.030 (0.015)
Key worker (Parents)	-0.005 (0.016)	-0.006 (0.020)	-0.003 (0.012)
Self-employed (Parents)	0.025 (0.026)	-0.032 (0.029)	-0.010 (0.018)
Self-employed and employed (Parents)	0.013 (0.042)	-0.099 (0.050)	0.011 (0.033)
Unemployed (Parents)	0.039 (0.024)	-0.045 (0.028)	-0.051 (0.018)
Job Loss (Parents)	0.083 (0.059)	-0.069 (0.061)	-0.067 (0.041)
Employed (Zero Hours)	0.046 (0.018)	-0.059 (0.021)	-0.076 (0.013)
Sample size	3261	3261	3261

Notes: Understanding Society data. Robust standard errors reported in parentheses. This looks at learning losses during lockdown reported by parents of children/teenagers aged 4-18. See footnote 4 for a detailed description of the construction of outcome variables. Private education refers to whether the student was reported as being in private education as of the latest wave of USoc (wave 9). Most of the variables are measured at baseline (pre-lockdown for employment variables and wave 9 for income quintiles). Income is net family income and percentiles refer to the national distribution of the same variable. The only two variables that are not measures at baseline are job loss and zero hours which take values 1 for children whose parents were employed at baseline but were made redundant or had their hours reduced to zero during lockdown.

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