

# The Big Lockdown Learning Parent Survey Research Study Plan

Research institution: Education Intelligence

Principal investigator: Prof Becky Allen



PROJECT TITLE	The Big Lockdown-Learning Parent Survey: an exploratory study
EVALUATOR (INSTITUTION)	Education Intelligence
PRINCIPAL INVESTIGATOR(S)	Prof Becky Allen
STUDY PLAN AUTHOR(S)	Becky Allen, Karen Wespieser, Jack Ashworth, Rob Coe, Ben Weidmann
STUDY DESIGN	Survey
PUPIL AGE RANGE AND KEY STAGE	4-11 KS1 and KS2
NUMBER OF SCHOOLS	Aim to recruit at least 100 primary schools
NUMBER OF PUPILS	Not relevant
PRIMARY OUTCOME MEASURE AND SOURCE	n/a
SECONDARY OUTCOME MEASURE AND SOURCE	n/a

## Study Plan version history

VERSION	DATE	REASON FOR REVISION
1.0	16/02/2021	

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## Background and study rationale

In January 2021 schools in England were required to close to all but vulnerable pupils and the children of key workers, supporting the learning and wellbeing of other children remotely. Anecdotally, it seems different schools adopted quite different approaches to managing this challenge and the perceptions of different parents seemed to vary widely. Although there is emerging research about the impact of remote learning, we do not currently have good evidence connecting the different choices, practices or strategies adopted by schools to the experiences of their children and parents and, crucially, to the quality of children's learning.

We are not able to assess that learning directly while children are not in school. However, we hope that by collecting the perceptions of parents about the kinds and amounts of activity their children are undertaking, the types of support being offered by the school, their children's levels of motivation and engagement, and their direct perceptions of what is being learnt, we may gain valuable insight into where learning is most likely to be happening.

The aim of this study is to collect these proxies for learning from a nationally representative group of parents at a number of primary schools, and try to understand the school- and parent-level factors that are associated with them. We also aim to feed back this information at school-level to the participating schools in real-time, giving them unique insights into their parents' perceptions and how they compare with other schools. The study was developed rapidly in response to a second lockdown being announced with limited time for preparation. It is also primarily exploratory and hence this study plan does not contain as much specific detail of pre-planned analyses as might be typical.

## Quantitative analysis

### *Research questions*

The project aims to address three research areas:

1. **Describe parents' views of home schooling** during the current national lockdown (Feb 2021)
  - RQ1a) What are the experiences and perceptions of parents about their children's experiences, activities, learning outcomes and attitudes during remote learning in the current national lockdown?
  - RQ1b) How do these experiences and perceptions change over time?
  - RQ1c) What demographic factors are associated with these experiences and perceptions?
  
2. **Describe the practices of primary schools and teachers** during the current national lockdown (Feb 2021)
  - RQ2a) What are the practices, decisions and approaches primary schools and teachers are adopting in delivering remote learning during the current national lockdown?
  - RQ2b) What school characteristics are associated with different practices, decisions and approaches?

### 3. Explore associations between parent perceptions and school practices

- RQ3a) How are school practices and parent perceptions related?

#### *Participants*

- The intended sample is a cluster sample of (>100) state primary schools in England and their associated parents (as many as possible, with a target of 60 per school) and teachers (as many as possible from each school). Some analyses may be limited to schools and questions that have a minimum number of responses (e.g. 20 per school) or parents who have a minimum number (or combination) of questions answered.
- Schools are recruited to an opportunity sample, following advertising on Teacher Tapp, an email campaign and via social media. Incentives for participation are offered to schools and parents. Each school is responsible for recruiting at least 60 parents of its children and encouraging them to complete daily questions about home schooling via the Parent Ping app. Recruitment of parents is ongoing through the study, as the survey is conducted daily.
- 'Parent' is defined as anyone with significant caring responsibility for a child, self-identified.
- Secondary schools, independent schools, special schools, and schools outside England are excluded from the study.
- The planned analysis is mainly exploratory, so the sample size is based on a trade-off between what is manageable in a rapidly executed study and adequate power to detect (clustered) relationships, rather than a formal power calculation.

#### *Outcome measures and other data*

Data is being collected at four levels.

1. Child
2. Parent/family
3. Teacher
4. School

Data is being collected from parents through the Parent Ping app. Parents are asked to download the free app and answer a few questions during each day of the study period (referred to as Parent Ping survey below). Parents are asked to report on their own experiences and the experiences of their children. Data is being collected from teachers through an online teacher survey.

The study will collect the following background characteristics.

#### **Child-level variables (from Parent Ping survey)**

- Age / year group
- Key stage
- Gender
- SEND status
- Specific child-level questions about home schooling (see below)
- Parent ID

#### **Parent/Family variables (from Parent Ping survey)**

- Current employment status
- Education qualification
- Family income
- Number of children in household
- Single parent
- Parent is a teacher
- Parent age
- SEND in family
- FSM eligibility
- Specific family/parent level questions about home schooling (see below)
- School ID

#### **Teacher variables (from teacher survey)**

- Year group taught
- Specific questions about the approaches used for remote learning (see below)
- School ID

#### **School variables (from national data)**

- governance
- region
- FSM quartile

In addition to the background variables listed above, the study will investigate the relationships between the school's remote teaching approaches and the experiences and perceptions of parents about their children's learning. **School approaches** and **parent experiences** will be captured through surveying parents and teachers. The questions we will ask here are guided by a conceptual model of the factors that influence learning.

A starting point for this is Carroll's (1963) model of learning, that presents the amount of learning that happens as a function of

- The time actually spent on learning, which itself is a function of
  - The time made available (opportunity to learn), and
  - The learner's perseverance, or willingness to spend time engaged in the learning tasks, and
- The time required for that learning, which depends on
  - The aptitude of the learner (ie the time that individual would need under ideal conditions to learn the material), and
  - The quality of instruction offered, and
  - The learner's capacity to understand and respond to that instruction (ie the individual learner's sensitivity to the quality of instruction offered)

Our questions about home learning (for both parents and teachers) are therefore focused on the following constructs:

- Time available for learning (including time allocated/supported by parent, types of task offered, technological barriers)
- Child's motivation/perseverance for learning (including free choice to study, ability to persist)
- Wellbeing and agency of both child and parent
- Child's robustness/sensitivity to instructional quality (background knowledge, self-efficacy, meta-cognitive skills)
- Parent perceptions of learning and progress (including in different subject areas)
- Home support for learning (including; parent's confidence and ability to explain/help)
- School support for learning (including whether teaching is live; types of activity, feedback given and responsiveness)

Note also that the analysis is limited by the types of questions that can be asked using Parent Ping (must be short with easy response in multiple choice format) and the number of questions (up to three a day, over the duration of the study, allowing for low recruitment in early weeks, half-term, etc).

### *Analysis overview*

All our analysis will be conducted in R.

#### **Sample statistics and representativeness**

Before explicitly addressing our research questions, we will provide descriptive information about the sample data and, where possible, compare sample statistics to the national population.

For the sample of parents and children, we will report descriptive statistics (and, where possible, make comparisons to national figures) for:

- FSM percent
- SEN percent
- single parent percent
- mean number of children in household
- percent of parents who are teachers
- employment status
- family income

For schools, we will present sample descriptive statistics (and, where possible, make comparisons to national figures) for:

- geographic region
- FSM quartile
- school governance type.

#### **Addressing research aim 1 (“Describe parents’ views of home schooling during the current national lockdown”)**

*RQ1a) What are the experiences and perceptions of parents about their children's experiences, activities, learning outcomes and attitudes during remote learning in the current national lockdown?*

We will begin by presenting raw responses and descriptive statistics (e.g. histograms, counts, means and standard deviations) for all the survey questions asked on Parent Ping.

To get an initial sense of how responses covary, we will calculate inter-item correlations for questions from the Parent Ping survey that have (or can meaningfully be presented as having) numerical responses. This will include data at the child and the parent level. In some cases, we will estimate a correlation between a child-level item and a parent-level item (e.g. “How many hours did you spend supervising or supporting your children’s remote education yesterday in total?” and “How would you rate the home-learning experience provided by {{child}}’s school this week?”). In these cases, we will calculate correlations at the parent level and take a simple average of responses from multiple children within the same household.

To analyse the survey responses we will:

- Undertake an exploratory factor analysis (EFA)
- Where appropriate, perform dimensionality reduction to specify a small number of interpretable constructs, using simple calculations based on raw survey responses. We will search for constructs that:

- Align with (existing or modified) theoretical models and are interpretable in ways that are likely to be useful.
- Provide relatively consistent responses at the level of the school (based on estimates of the ICC of responses in a multilevel analysis).
- Reflect the different levels in our data structure (child – parent – school)
- Provide internally consistent (reliable) measures of the intended construct
- Are consistent with the factors identified in the EFA

*RQ1b) How do these experiences and perceptions change over time?*

Several questions will be asked on a weekly basis, for example “How are you feeling about home-schooling this week?” (with responses from 1= “I cannot do it at all”; 2; 3; 4; 5; 6; 7; 8; 9; 10 = “Certain I can do it”). We will let the outcome of repeated question  $k$ , for parent  $p$ , at time  $t$  be represented by  $Y_{pt}^k$  and fit the following model:

$$Y_{pt}^k = \alpha_p + e_{pt}$$

$$\alpha_p \sim N(\mu_k, \sigma_\alpha^2)$$

$$e_{pt} \sim N(0, \sigma_e^2)$$

We will report the proportion of variation within and between parents, i.e.  $(\hat{\sigma}_\alpha^2)/(\hat{\sigma}_\alpha^2 + \hat{\sigma}_e^2)$  and  $\hat{\sigma}_\alpha^2/(\hat{\sigma}_\alpha^2 + \hat{\sigma}_e^2)$ .

*RQ1c) What demographic factors are associated with these experiences and perceptions?*

First, we will focus on the association between educational disadvantage – defined by FSM, current employment status, parental educational, family income, SEN – and parents’ perceptions and experiences of lockdown (including proxies of learning; common challenges experienced by parents, and so on).

Second, we will examine the associations between key stage / child age and parents’ perceptions/experiences.

Third, we will examine the associations between child gender and parents’ perceptions/experiences.

In all cases, we will focus on simple correlations.

**Addressing research aim 2 (“Describe the response of primary schools and teachers during the current national lockdown”)**

*RQ2a) What are the practices, decisions and approaches primary schools and teachers are adopting in delivering remote learning during the current national lockdown?*

Data for this question will largely come from the teacher survey, to be administered at the end of February 2021.

The survey will primarily focus on: (i) background questions about a teacher’s job role and class and (ii) details of remote learning provision during January and February 2021. As of the time of writing, the survey has not been finalised – but items will focus on: using a technology

platform; timetabling; work submission regularity; speaking to students on the phone; live lessons and video.

To analyse the survey responses we will:

- Undertake an exploratory factor analysis (EFA)
- Where appropriate, we will perform dimensionality reduction to specify a small number of interpretable constructs, using simple calculations based on raw survey responses.

We will search for constructs that:

- o Align with (existing or modified) theoretical models and are interpretable in ways that are likely to be useful.
- o Provide relatively consistent responses at the level of the school (based on estimates of the ICC of responses in a multilevel analysis).
- o Reflect the different levels in our data structure (teacher – school)
- o Provide internally consistent (reliable) measures of the intended construct
- o Are consistent with the factors identified in the EFA

For each school, we take a simple average of teacher responses to provide a school-level measure. In checking the robustness of results we will report the level of missingness in each variable and estimate the scale of the threat non-random missingness could pose to any claims made. For the remainder of the analysis plan we will label the  $n$  school-level constructs as  $Z_1, \dots, Z_n$  and collectively call these variables  $Z$ .

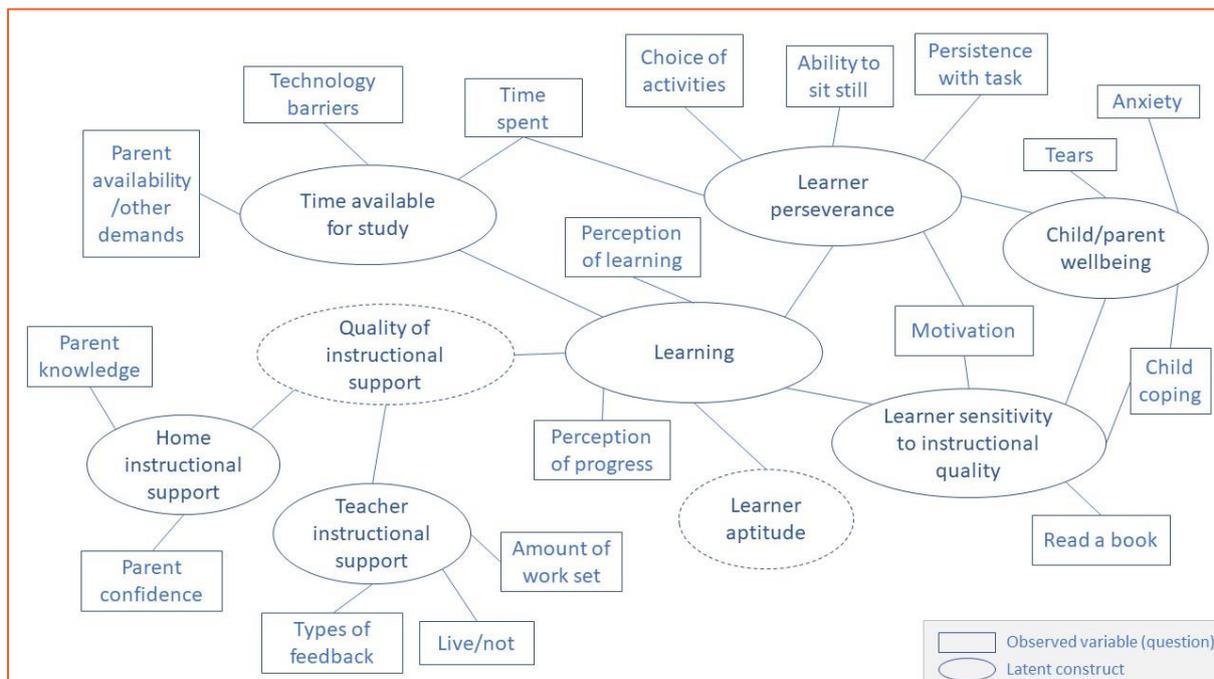
In our report, we will describe the analyses leading to the creation of the  $n$  constructs in  $Z$ . This will include descriptions of the survey instrument, the EFA and ICC analyses. We will also report on the covariance of  $Z$  along with its marginal distributions.

*RQ2b) What school characteristics are associated with different practices, decisions, and approaches?*

RQ2b will be addressed by examining the association between  $Z$  and school-level characteristics (school governance, school region, FSM quartile).

### **Addressing research aim 3 (“Explore associations between parent perceptions and teacher responses”)**

Using the constructs identified above (RQ1a, RQ2a) and the demographic variables, we will investigate the relationships among them. Given all the uncertainties in the previous data collection and analysis, we do not think it is possible to specify a model or approach exactly at this stage, but the following may provide a starting point:



(NB dotted outlines represent latent constructs that are implied by Carroll's model but that we may not be able to model with our data)

## Ethics

The Education Intelligence Research Ethical Procedure and Checklist was followed. The underlying principles for this protocol are the same as for the British Educational Research Association (BERA) Ethical Guidelines, which were adopted by the Academy of Social Sciences. The five principles are:

1. Social science is fundamental to a democratic society, and should be inclusive of difference interests, values, funders, methods and perspectives.
2. All social science should respect the privacy, autonomy, diversity, values and dignity of individuals, groups and communities.
3. All social science should be conducted with integrity throughout, employing the most appropriate methods for the research purpose.
4. All social scientists should act with regard to their social responsibilities in conducting and disseminating their research.
5. All social science should aim to maximise benefit and minimise harm.

The procedure of this protocol draws from the BERA Ethical Guidelines and has adopted ideas and processes from the ethics procedure at the Faculty of Education, University of Cambridge as well as the standard Internal Review Board (IRB) procedure at U.S. colleges and universities. This procedure does not abrogate relevant law; privacy law in particular may place further restrictions than covered by this protocol.

This protocol has the potential for three stages, ethical approval was obtained at Stage I of the protocol (an internal discussion following a set of questions that are meant to highlight potential ethical concerns).

Consent from pupils is not required.

## Data protection

### Data privacy notice for schools

#### *Data controller*

The data controller for The Project is Education Intelligence

#### *Data processing*

As part of this project, EEF (data processor) will be assisting Education Intelligence (data controller) to recruit schools, communicate with schools who have expressed interest and communicate with parents taking part in the study. A data processing agreement has been put in place setting out how both parties will fulfil their obligations under GDPR. EEF staff will process data necessary to support the recruitment and retention of schools and parents taking part in the Big Lockdown Learning Parent Survey, as well as to support ongoing liaison with schools and parents for the duration of the study (for example, sharing updates and responding to queries). Data that is collected, stored and used as part of the data processing agreement is as described in the Privacy Notice: <https://parentping.co.uk/wp-content/uploads/2021/02/Big-Survey-School-Privacy-Notice.pdf>.

#### *Retention*

Education Intelligence keep personal data for as long as is needed for the purpose for which it was originally collected.

### Data privacy policy for parents:

#### *Data controller*

The data controller for The Project is Education Intelligence

#### *Data processing*

Education Intelligence decide the purposes and means of processing of personal data that is collected about parents when they register and use the Parent Ping App. Full details are in Clause 1 of the Conditions (see below). We are committed to protecting and respecting parents' privacy in relation to the App. We routinely work with third party organisations who commission Questions on the App for the purposes of market research, academic studies or to scope a research project about education.

Generally, when commissioned, we set the questions on the App based on requirements of the third-party organisation and analyse the responses for that organisation. This may include setting questions based on characteristics (e.g. we may give people different questions if they are a secondary or primary teacher) or we may assign them to different groups for the purpose of studying comparisons. We will only collect, process, use, store and share personal data where the Act allows us to do so. Most commonly we will use personal data in the following circumstances:

- Where we need to perform an obligation under a contract with parents, such as the Conditions, or take steps at parents request before agreeing a contract with them
- Where it is necessary for our legitimate interests (or those of a third party) and parents interests and fundamental rights that require the protection of personal data do not override those interests

- Where we need to comply with a legal or regulatory obligation
- Where parents have consented before the processing

All information parents provide is stored on our secure servers, located in the United Kingdom. Personal data will be stored for as long as a parent uses the App and for such time afterwards as required by law or six years from when a parent stops using the App (which is the legal limitation period). If a parent withdraws consent to our processing 'sensitive personal data', we will delete sensitive personal data we hold about the parent, unless we can demonstrate that another legal basis applies. Sensitive personal data is data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, data concerning health or data concerning a natural person's sex life or sexual orientation. Full details of Education Intelligence's privacy policy is available:

<https://parentping.co.uk/education-intelligence-privacy-policy/>

Full terms and conditions for parents using the app are available:

<https://parentping.co.uk/education-intelligence-apps-terms-and-conditions/>

The data collected for this study will be anonymised and analysed by a team of researchers from Education Intelligence and EEF. We will ensure that schools, teachers, parents and children are not named or identified in any publications or write ups regarding the research.

## Personnel

Personnel	Project role	Institution
Becky Allen	Principal Researcher	Education Intelligence
Karen Wespieser	Project Manager	Education Intelligence
Alex Weatherall	App Manager	Education Intelligence
Jack Ashworth	Data Manager	Education Intelligence
Rob Coe	Researcher	Education Endowment Foundation
Ben Weidmann	Researcher	Education Endowment Foundation

## Risks

Risk Description	Likelihood	Impact	Severity	Owner	Mitigating Actions	Contingent Action
<b>Start-up Risk:</b> We may not get enough parents signing up per school to make the research viable.	Medium	High	High	Karen Wespieser	1. Incentives 2. We need to encourage schools to spread the word. One thing we know is this won't grow passively. Parents need to be encouraged to try Parent Ping by their schools.	Phone calls to schools with low sign-up rates to find out what additional support they need to get parents to sign up
<b>Data collection Risk:</b> We may not get enough parents using the app per school to make the research viable.	Medium	High	High	Karen Wespieser	1. Incentives 2. We need to encourage schools to spread the word. One thing we know is this won't grow passively. Parents need to be encouraged to use Parent Ping by their schools.	Phone calls to schools with low sign-up rates to find out what additional support they need to get parents to use the app regularly
<b>Start-up Risk:</b> We may not get enough schools signing up to make the research viable.	Low	High	Medium	Karen Wespieser	1. Incentives 2. We will use Education Intelligence & EEF extensive contacts and strong reputation with schools to ensure high visibility of the project	We will consider additional incentives for schools if the minimum number are not recruited in a timely manner
<b>Operational Risk:</b> Due to significant increases in demand, there is a risk we can't respond to user support queries effectively.	Low	Low	Low	Karen Wespieser	EEF will provide additional admin support during the start-up phase of the project. Additional admin support is included in the budget following this period	We will consider how our team is deployed so we can dedicate support to the users of the trial should this become a problem.
<b>Personnel Risk:</b> There is the possibility that members of our small team become unavailable.	Medium	High	High	Laura McInerney	The CEO will identify where redundancy is not present and make sure that the roles in Teacher Tapp are able to be covered.	Should anyone become unavailable for a period of time we will identify what recruitment is needed to continue the trial.
<b>Technical Risk:</b> There may be an issue rapidly increasing the number of users on the Parent Ping platform.	Low	High	Medium	Alex Weatherall	We regularly host over 8,000 teachers on Parent Ping's sister app, Teacher Tapp so we are confident the system can handle high user numbers. We will increase server space as necessary	If there is a problem work with Apple and Google development support to resolve.
<b>Analysis Risk:</b> There is a risk that parents do not provide accurate information to allow us to match them with the school their children attend	Medium	Medium	Medium	Jack Ashworth	Daily checks to ensure fuzzy matching is working accurately. Manual checking of cases where matching is not taking place automatically	Increase manual checks further Change sign up process
<b>Reporting Risk:</b> Data is insufficient to answer research questions	Low	High	Medium	Becky Allen	Weekly reporting to schools ensures data is regularly cleaned and reviewed. Daily survey approach means questions can be added or removed at short notice to ensure appropriate data is being collected.	Increase number of questions asked
<b>Data Collection Risk:</b> Government may announce schools should open to more pupils before March 8th	Low	Medium	Low	Becky Allen	If all children return - some questions can still be asked inviting parents to reflect on home-learning period + ongoing data collection about current situation If some children return - questions could be phrased to make them applicable to both children in school and children at home	Targeted questions to parents with children still at home

## Timeline

Date	Activity	Staff responsible/ leading
W/c 25 <sup>th</sup> Jan 2021	Set up meeting and deliverable plan	EI
W/c 25 <sup>th</sup> Jan 2021	Recruitment of schools Recruitment of parents (ongoing throughout study period)	EI
W/c 25 <sup>th</sup> Jan 2021	Agree demographic questions and overarching constructs	EI + EEF researchers
W/c 15 <sup>th</sup> Feb 2021	Study plan development	EI + EEF researchers
1 <sup>st</sup> Feb – 12 <sup>th</sup> March 2021	Agree weekly questions (before the start of each week) Daily data collection through Parent Ping Weekly reports to schools	EI
Feb 2021	Prepare teacher survey	EI + EEF researchers

25 <sup>th</sup> Feb – 12 <sup>th</sup> Mar 2021	Teacher survey data collection	EI
W/c 1 <sup>st</sup> Mar 2021	Briefing note	EI
Mar / Apr 2021	Data analysis and reporting writing	EI + EEF researchers
Apr 2021	Submission of draft report	EI + EEF researchers
Apr / May 2021	Submission of final report	EI + EEF researchers

## References

Carroll, J. B. (1963). A model of school learning. *Teachers College Record*, 64, 723 – 733.