What Works *for* Children's Social Care

Michael Sanders
Patrick Sholl
Alix Leroy
Chris Mitchell
Louise Reid
Daniel Gibbons

WHAT WORKS IN EDUCATION FOR CHILDREN WHO HAVE HAD SOCIAL WORKERS?

TECHNICAL REPORT

Exploratory subgroup analysis of data from the
Education Endowment Foundation's randomised controlled trials

What Works *for* Children's Social Care

Acknowledgements

Jake Anders, **UCL**
Victoria Cavolina, **DfE**
Vicky Clayton, **WWCSC**
Triin Edovald, **EEF**
Stephen Fraser, **EEF**
Peter Henderson, **EEF**
Heidi Holmes, **DfE**
Diotima Rapp, **EEF**
Guillermo Rodrigues Guzman, **EEF**
Eva Schoenwald, **WWCSC**

The Secure Research Service team at the **Office for National Statistics**

The National Pupil Database,
Data Sharing, Children in Need Statistics, and
Children Looked After Statistics teams at the
Department for Education

The team at **FFT** responsible for EEF's data archive

About What Works for Children's Social Care

What Works for Children's Social Care seeks better outcomes for children, young people and families by bringing the best available evidence to practitioners and other decision makers across the children's social care sector. We generate, collate and make accessible the best evidence for practitioners, policy makers and practice leaders to improve children's social care and the outcomes it generates for children and families.

To find out more visit the Centre at: **whatworks-csc.org.uk**,
or CASCADE at: **sites.cardiff.ac.uk/cascade**

If you'd like this publication in an alternative format such as Braille, large print or audio, please contact us at: **wwccsc@nesta.org.uk**

CONTENTS

INTRODUCTION 4

DESCRIPTIVE STATISTICS 6

ANALYTICAL APPROACH 14

DATA CLEANING 15

- Inclusion of variables 15
  - Subgroup of interest 15
  - Outcome measures 19
  - Baseline attainment variables 19
  - Covariates 19
  - Merging & data sources 26
- Studies included in analysis 27
- Missing data within projects 29
  - Missing identifiers 29
  - Missing level and cluster information 30
  - Duplicate Pupil Identifiers within projects 30

ANALYTICAL STRATEGY 31

- Analysis and reporting 31
- Model specification 32
- Discrepancies with original results 34
- Per project decisions and exceptions to general strategy 34

BALANCE CHECKS 37

- Whole sample 37
- On the subgroup 49

MODEL COMPARISONS 54

SUBGROUP ANALYSES 62

MONTHS' PROGRESS CONVERSIONS TABLE 75

ROBUSTNESS CHECKS 76

- Breusch Pagan Test 76

IDENTIFYING 'SIGNS OF POTENTIAL' 82

ANNEX 1: FOREST PLOTS BY THEMES 84

- Behaviour 85
- Character and essential skills 86
- Developing effective learning 87
- Enrichment 88
- Early Years 89
- Feedback and monitoring pupil progress 90
- Language and Literacy 91
- Mathematics 92
- Organising your school 93
- Parental engagement 94
- Science 95
- Special educational needs 96
- Staff deployment and development 97

ANNEX 2: COVARIATES USED 98

INTRODUCTION

Understanding the effectiveness of interventions that aim to increase attainment in education is a crucial and widely recognised part of having a successful school system. The last decade in particular has seen a rise in the use of rigorous quantitative analysis, and in particular randomised controlled trials, in education to try to understand how "what works" in improving outcomes for young people.

In the UK, the Education Endowment Foundation (EEF) has commissioned more than 200 such trials, making it the single largest funder of education research in Europe. At the time of writing, 99 such trials, evaluated by independent agencies commissioned by the EEF, have reported their findings, making the largest single funder of RCTs in education in the world.

Despite this, too little is still known about outcomes for particularly vulnerable groups of young people, and the effects of interventions on those groups. In the context of children's social care, it is not clear, ex ante, whether an intervention that is beneficial for children on average, will be as effective, more effective, or less effective for young people with experience of children's social care.

In order to investigate this as best as possible given current constraints; to provoke discussion about the education of young people with social care experience; and to help to target and inform future research, we have analysed the data from 63 randomised controlled trials funded by the Education Endowment Foundation, looking in particular at effects on the subgroup of young people with social care experience, and how these differ from those on young people without that experience. To identify these young people in the EEF data, we made use of the Office for National Statistics' (ONS)[1] Secure Research Service and the National Pupil Database (NPD). This technical report describes the data used in this study, the analytical decisions taken, and the various stages of the results.

The next section contains descriptive statistics for the data used, broken down for each trial, intervention, and outcome measure. This is followed by a detailed description of our analytical approach, and in particular how this differs from that in our published research protocol, both overall, and where particular decisions were taken for individual trials.

This is followed by analysis of statistical balance between treatment and control groups, and then by stage one results, in which we attempt to replicate the treatment effects estimated by the original independent evaluators appointed by the EEF and reported in their evaluation reports, or approximate them as closely as possible within our analytical framework, and use these results to select our preferred model for each trial.

In our second analysis stage, we estimate and report results from regressions conducted using the approaches decided in stage one, with the inclusion of indicators for children's social care experience, and an interaction between the indicator of this experience and the treatment variable. This forms our main analysis, which is also reported in the summary paper.

Defining the Subgroup of Interest

A formal definition of the subgroup of interest is presented in our analytical decisions section. It is useful, however, to describe this cohort less formally here. We are interested in young people

1 This work was produced using statistical data from ONS. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data.

who, at the start of the trial, are involved in children's social care intervention, either as a Child in Need (Section 17 of the Children Act), under a Child Protection Plan (Section 47), or Looked After (typically under Section 31 or Section 20). We are also interested in young people who have experience of children's social care intervention in the past, specifically within the six years (where they are old enough) prior to the beginning of the trial. This six year definition was chosen to be consistent with the definition of Free School Meals eligibility status commonly used in education research.

DESCRIPTIVE STATISTICS

In this section, we report descriptive statistics for each trial/intervention/outcome set. The table below, reports, for each such set, the number of participants in the relevant control group, the number in the control group that are in the group identified as having children's social care experience (the subgroup of interest), and so on. Table 1, below, acts as a key for the content of each column of Table 2.

Table 1: Column Definitions for Descriptive Statistics	
1	Number in control group
2	Number of subgroup of interest in control group
3	Number in treatment group
4	Number of subgroup of interest in treatment group
5	Outcome mean in control group
6	Outcome standard deviation in control group
7	Outcome mean in treatment group
8	Outcome standard deviation in treatment group
9	Proportion of males in model
10	Proportion of FSM-eligible pupils in model
11	EEF-reported effect size of treatment

Table 2: Descriptive statistics per trial outcome and treatment												
Name of the trial	Outcome Description	1	2	3	4	5	6	7	8	9	10	11
1stClass@ Number	Quantitative Reasoning total score at Post-test	227	28	239	25	9.03	4.43	9.73	4.62	0.55	0.22	0.18
Abracadabra (Offline)	PIRA reading score	1334	113	277	22	97.72	13.25	100.08	13.15	0.5	0.22	0.23
Abracadabra (Online)	PIRA reading score	1334	113	290	20	97.72	13.25	98.96	12.64	0.5	0.22	0.14
Accelerated Reader	New Group Reading Test (NGRT) score	164	36	175	40	315.27	46.61	327.06	51.38	0.51	0.31	0.24
Act, Sing, Play	PIPS literacy score	279	22	546	48	49.73	8.47	49.75	8.34	0.52	0.19	0.03
Act, Sing, Play	PIPS Maths score	279	22	546	48	50.37	10.72	49.78	10.15	0.52	0.19	0
Affordable Online Maths Tuition	KS2 Maths score	289	50	289	60	25.43	3.35	25.37	3.26	0.49	0.32	-0.02
Best Practice in Setting	PTM13 English raw score	529	64	410	44	31.69	13.84	30.18	12.95	0.54	0.13	-0.08
Best Practice in Setting	PTM13 Maths raw score	1442	174	941	98	31.1	14.92	30.83	14.79	0.52	0.15	-0.01
Butterfly Phonics	NGRT 3b Standardised Age Score	150	25	161	27	84.26	11.18	87.58	10.14	0.59	0.53	0.43
Catch-up Literacy	NGRT reading Standardised Age Score	263	38	275	30	89.15	11.11	89.75	10.22	0.59	0.21	0.12
Catch-up Literacy (re-grant)	HGRT II reading raw score	505	129	501	111	27.22	9.68	27.86	10.13	0.58	0.3	0.01
Changing Mindsets - Pupil Workshops	PiE English standardised score	89	14	89	17	13.63	6.98	15.4	6.41	0.55	0.36	0.18
Changing Mindsets - Pupil Workshops	MSiM Maths score	87	14	89	17	20.01	14.54	19.78	11.66	0.55	0.35	0.1

Changing Mindsets - Teacher Training	PiE English standardised score	528	52	362	65	17.21	6.35	15.94	6.29	0.49	0.22	-0.11
Changing Mindsets - Teacher Training	MSiM Maths score	546	52	360	64	24.19	13.85	20.41	11.91	0.49	0.22	0.01
Chess in Primary Schools	KS2 Maths total score	1898	362	1961	361	69.22	20.24	70.03	19.27	0.5	0.37	0.01
Children's University	KS2 reading gain score	569	100	639	84	-0.17	0.8	-0.05	0.76	0.49	0.16	0.12
Children's University	KS2 maths gain score	572	103	643	86	-0.13	0.74	-0.02	0.72	0.49	0.17	0.15
Dialogic Teaching	Progress Test in English	677	111	600	72	13.16	6.06	13.76	6.18	0.48	0.31	0.09
Dialogic Teaching	Progress Test in Maths	704	98	618	67	20.98	10.35	21.25	10.84	0.51	0.32	0.15
Dialogic Teaching	Progress Test in Science	699	97	614	74	26.29	8.24	26.67	8.23	0.51	0.31	0.12
Embedding Formative Assessment	Attainment 8 score (standardised)	13035	1796	12358	1712	-0.02	0.99	0.06	0.99	0.48	0.16	0.1
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper	2485	289	1734	207	63.92	20.33	63.74	20.24	0.5	0.26	0.01
Family Skills	CEM Base Literacy Raw Score	1043	12	940	22	133.35	26.27	137.52	24.85	0.5	missing	0.01
Flipped Learning	KS2 maths point score	587	89	542	62	28.71	5.11	29.17	5.46	0.54	0.22	0.09
Fresh Start	NGRT reading gain score	204	28	215	36	16.75	42.12	27.46	47.73	0.62	0.26	0.24
Future Foundations	KS2 Maths - Standard age score	149	27	179	30	87.04	12.67	87.03	11.72	0.54	0.49	0
Future Foundations	KS2 English - Standard age score	155	28	188	31	89.37	12.77	91.82	13.66	0.55	0.49	0.17
Good Behaviour Game	HGRT reading raw score	1255	157	1264	197	33.05	10.41	32.49	10.31	0.52	0.24	0.03

Graduate Coaching Programme	PiE English raw score	142	25	149	33	18.56	8.13	21.5	8.08	0.58	0.25	0.36
Grammar for Writing	Writing score exercise- PiE 11LF	1119	126	1100	136	20.9	6.71	21.57	6.5	0.51	0.31	0.1
GraphoGame Rime	NGRT Level 1B reading raw score	176	24	184	30	13.94	7.75	13.33	7.77	0.62	0.21	-0.06
Hampshire Hundreds	Combined maths and reading InCAS	1469	169	1504	156	0.02	1.02	-0.02	0.98	0.51	0.22	0
IPEELL	PiE 11 - Writing score	162	15	187	29	19.73	5.63	21.59	5.48	0.54	0.29	0.74
IPEELL (one year)	Writing at the expected standard or higher	1222	203	1243	211	0.73	0.44	0.7	0.46	0.51	0.22	-0.09
IPEELL (two years)	NFER Writing test total score	1032	176	1150	175	20.92	7.25	21.61	6.91	0.52	0.2	0.11
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	853	62	577	48	24.21	7.91	23.71	8.26	0.51	0.17	-0.05
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	849	62	517	29	17.77	5.12	19.45	5.15	0.52	0.15	0.2
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	5464	676	2371	279	37.06	11.48	37.39	11.63	0.48	0.4	0.08
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	5444	665	2345	269	38.42	9.34	37.69	9.36	0.48	0.4	0.04
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	5553	706	2407	290	25.92	20.09	25.25	20.01	0.48	0.4	-0.06
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	5464	676	2627	339	37.06	11.48	37.85	11.71	0.48	0.4	0.04
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	5444	665	2594	329	38.42	9.34	37.89	9.57	0.48	0.4	0.02

Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	5553	706	2689	359	25.92	20.09	25.91	20.7	0.48	0.4	-0.06
LIT Programme	ART reading test - standardised adjusted score	1524	194	2889	304	-0.01	0.98	0.07	0.95	0.53	0.32	0.09
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	1686	395	1441	399	101.63	8	101.15	7.94	0.51	0.39	-0.08
Learner Response System (1yr of intervention)	Mark achieved in KS2 reading test	1627	376	1386	373	100.49	8.11	100.58	7.87	0.5	0.39	-0.04
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	1501	323	1336	363	67.28	19.71	68.75	19.32	0.51	0.38	0
Learner Response System (2yrs of intervention)	Mark achieved in KS2 reading test	1495	320	1334	360	28.67	8.77	29.62	8.66	0.51	0.38	0
Let's Think Secondary Science	Science test score	2862	362	3020	364	46.54	14.77	47.08	14.72	0.52	0.16	-0.01
Maths Counts	CEM InCAS maths - Standardised score	144	27	147	31	83.6	15.12	87.79	17.24	0.51	0.33	0.12
Nuffield Early Language Intervention (30 week)	Combined raw language skill score	76	13	80	<10	72.2	13.35	SUPP	14.07	0.49	0.01	0.16
Nuffield Early Language Intervention (20 week)	Combined raw language skill score	76	13	83	<10	72.2	13.35	SUPP	14.37	0.49	0.01	0.27
Parent Academy (incentivised)	InCAS English Outcome	793	158	497	103	102.6	14.44	102.06	16.2	0.49	0.39	0
Parent Academy (incentivised)	InCAS Maths Outcome	803	156	509	108	99.28	17.2	99.11	19.28	0.49	0.39	0.01

Parent Academy (non-incentivised)	InCAS English Outcome	793	158	605	127	102.6	14.44	103.07	14.77	0.49	0.39	0.02
Parent Academy (non-incentivised)	InCAS Maths Outcome	803	156	611	127	99.28	17.2	99.61	17.75	0.49	0.39	-0.04
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	682	100	627	92	341.24	53.51	337.52	55.01	0.49	0.2	-0.02
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	656	76	620	86	365.31	59.86	357.92	61.84	0.52	0.21	-0.06
Philosophy for Children	KS2 Reading Score	712	106	661	118	28.85	4.57	28.92	4.52	0.5	0.39	0.12
Philosophy for Children	KS2 Maths Score	712	106	661	118	29.03	5.11	28.75	5.28	0.5	0.39	0.1
Quest	NGRT reading - Standard Age Score	1158	182	959	120	98.87	15.21	97.77	16.89	0.5	0.26	-0.04
REACH	NGRT reading - Raw Score	58	13	66	19	250.14	54.74	260	52.03	0.57	0.33	0.33
REACH plus language comprehension	NGRT reading - Raw Score	58	13	60	11	250.14	54.74	271.78	41.28	0.57	0.33	0.51
Rapid Phonics	New GP reading score 3B SS	93	25	85	28	81.37	8.89	80.75	9.09	0.55	0.47	-0.05
Research Learning Communities	Standardised KS2 reading score	2502	358	2401	297	0.02	0.97	0.06	0.99	0.51	0.2	0.02
Response to Intervention	Overall reading scale NGRT	204	33	181	31	276.49	66.98	287.85	53.02	0.55	0.3	0.19
Rhythm for Reading	NGRT overall reading score	183	29	183	26	22.34	9.27	23.05	8.84	0.67	0.39	0.03
SPOKES	Reading - letter identification test	334	30	294	29	107.13	8.06	108.09	8.28	0.57	0.23	0.08
SPOKES	Reading - word identification test	334	30	294	29	120.29	12.72	121.38	13.64	0.57	0.23	0.05
SPOKES	Reading - phonetic awareness test	334	30	294	29	118.32	8.8	119.1	8.78	0.57	0.23	0.03

ScratchMaths	KS2 maths raw test score	3015	440	2803	414	76.63	23.37	76.32	23.73	0.5	0.18	0
Shared Maths (Year 3)	InCAS maths raw score	1361	188	1426	197	8.98	1.24	9.03	1.23	0.51	0.23	0.01
Shared Maths (Year 5)	InCAS maths raw score	1303	163	1380	182	10.62	1.51	10.66	1.48	0.49	0.22	0.02
Success for All - end-point	WRMT III reading - at the end of Year 1 (end-point)	646	60	626	63	78.29	33.77	82.89	33.68	0.49	missing	0.07
Success for All - mid-point	WRMT III reading - at the end of Reception Year (mid-point)	791	68	746	73	54.83	26.8	57.66	27.25	0.5	missing	0.04
Summer Active Reading Programme	NGRT reading - standard age score	89	15	93	16	82.76	9.96	83.99	10.01	0.51	0.34	0.13
Switch-on Reading	NGRTB reading - Standard age score	153	33	155	32	78.73	9.29	80.93	9.28	0.58	0.36	0.24
Switch-on Reading (re-grant)	NGRT reading score	296	50	606	101	15.81	7.16	15.99	5.66	0.58	0.26	0
Talk for Literacy	NGRT reading - Overall Raw Score	110	13	109	15	23.57	6.89	25.96	7.24	0.51	0.31	0.2
Talk of the Town	NGRT reading - Standardised assessment score	1455	255	1227	240	99.77	13.77	99.38	15.1	0.51	0.39	-0.03
Teacher Effectiveness Enhancement Programme	GCSE English point score	5058	776	5326	986	37.2	11.42	35.95	12.17	0.51	0.28	-0.04
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	5058	776	5326	986	37.2	11.42	35.95	12.17	0.51	0.28	-0.02
Teacher Observation	English and maths combined score	5999	749	6827	989	77.8	19.56	78.01	20.1	0.51	0.2	-0.01
TextNow Transition Programme	Standard Age Score (NGRT)	192	38	199	39	88.85	10.88	88.77	11.55	0.53	0.3	-0.06

Texting Parents	Post test English for KS3 and KS4 combined as a z-score	6038	699	5377	513	0.06	0.96	0.09	0.94	0.55	0.13	0.03
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	6043	691	5587	519	0.02	0.97	0.1	0.95	0.55	0.13	0.07
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	5642	670	4705	458	0.06	0.95	0.03	1.01	0.53	0.14	-0.01
Thinking, Doing, Talking Science	Bespoke post-test Score	609	43	655	53	21.05	6.92	22.25	6.71	0.52	0.14	0.22
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	4049	430	3959	497	19.62	6.31	19.49	6.28	0.51	0.16	0.01
Tutor Trust - Affordable Tutoring (re-grant)	Key Stage 2 mathematics score	634	106	567	85	100.73	5.97	101.98	5.76	0.48	0.24	0.19
Tutoring with Alphie	NGRT reading Standard Age Score	35	13	37	12	79	8.12	80.59	8.93	0.57	0.46	0.11
Units of Sound	Overall Reading Scale	199	36	224	44	261.07	56.44	256.29	54.91	0.6	0.55	-0.08
Vocabulary Enrichment Intervention Programme	NGRT reading Overall Reading Scale	303	54	293	58	22.61	7.34	22.92	7.11	0.59	0.28	0.06
Youth United	KS3 English point score	1487	257	1621	296	38.36	6.9	37.93	6.85	0.45	0.24	-0.09
Youth United	KS3 Maths point score	1487	257	1621	296	38.43	7.62	37.76	8.53	0.45	0.24	-0.09
Zippy's Friends	HGRT reading raw score	1573	120	1735	145	30.25	7.85	29.59	8.16	0.52	0.15	-0.02

ANALYTICAL APPROACH

This section sets out What Works for Children's Social Care's strategy for cleaning and analysing the data for the re-analysis of data from Education Endowment Foundation (EEF) randomised controlled trials seeking to determine the value of interventions for social care experienced children and young people (referred to in this document as our 'subgroup of interest').

In this section, we outline the analytical decisions we have made, and document instances where these have deviated from the **research protocol**, how they have been altered, and the reasons for these adaptations.

DATA CLEANING

Inclusion of variables

Subgroup of interest

Research protocol

In our research protocol (RP), we define our subgroup of interest as 'young people who had received a statutory social care intervention either during the period of the trial or in the prior six years. Statutory social care interventions are here classed as: Child in Need (S.17), Child Protection (S.47), child being taken into care either through a court order (S.36), or with parental consent (S.20)'. In our analysis, we refer to this group of social care experienced children and young people as our 'subgroup of interest'.

Six years was selected in part due to data availability, and seeking to emulate the fact that the same time period is used in variables that look at whether children were eligible for free school years 6 years prior to measurement.

Strategy

In the analysis, we have defined this in variables available through the National Pupil Database (NPD), which were originally collected as part of the Child in Need (CIN) and Looked After Children (LAC) censuses.

We did this by first defining the following.

1. **Trial period:** identifying a time period in which a trial took place.
2. **Pre-trial period:** six year period prior to the intervention start date during which a child could have received social care interventions
3. **LAC status periods:** for each child, identifying the time periods, if any, in which children were looked after. As detailed in Table 1 below, this could not be exactly determined, as we were only able to access binary year-level data on LAC status.
4. **CPP status periods:** for each child, identifying the time periods, if any, in which children were on Child Protection Plans (CPPs).
5. **CIN status periods:** for each child, identifying the time periods, if any, in which children were on CIN plans.

We then created our subgroup variable, in which we coded pupils as 1 if any of their LAC periods, CPP periods, or CIN periods, overlapped with the subgroup window. Otherwise, we coded the variable 0. Thus if the child was either LAC, on a CPP, or on a CIN plan during any point from six years before the start of the trial (determined by the start of the intervention delivery), to the end of the trial (end of delivery), they would be identified as in our subgroup of interest.

Below we outline in more detail how we defined these different periods, and some of the challenges and limitations with how we did this.

Intervention period

This was manually created through reading each of the trial reports and extracting the dates for when the intervention began and ended. This was done using two manually created variables:

- date_start - which indicated which month the intervention began.
- date_end - which indicated which month the intervention finished.

Subgroup window

To determine this, we used the date_end variable as defined above in the trial period. We then also created a new variable (date_start_6) which

subtracted six years (by subtracting 365.25*6 days) from the variable which defined the trial start (date_start).

Subgroup periods (LAC periods, CPP periods and CIN periods)

To determine these periods (as defined above) we used the variables outlined in Table 3 below.

Table 3: Variables used to identify subgroup of interest

NPD Variable	NPD description	NPD Coding	WWCSC additional variable details and rationale for using
CIN_CINAt31March	Was the child CIN as at 31 March?	1 = Yes 0 = No	One row for each processing year.
CIN_ ReasonForClosure	The reason why the episode was closed	RC1 = Adopted RC2 = Died RC3 = Residence Order RC4 = Special Guardianship Order RC5 = Transferred to services of another LA RC6 = Transferred to adult social services RC7 = Services ceased for any other reason, including child no longer in need RC8 = Case closed after assessment, no further action	One row for each referral. The Department for Education's CIN team noted in an email exchange that 'all codes apart from RC8 indicate that the child was classed as in need before the case was closed.' We also found a small minority of instances where the coding did not meet the NPDs description (e.g. 'NFA,' 'NONE.' 'Unkn,'L') - we coded these instances as 'Unknown' as per those for whom data were missing. Thus RC1-7 indicated to us that they were CIN at some point.
CIN_ReferralDate	The date when the referral was made	Date	While this variable gives an earlier date than the child is on a CIN plan, we anticipate this not to be a substantial over-estimation, as it relates to a referral than led to them becoming CIN. We had 249 rows relating to CIN referrals where the CIN_ ReferralDate was missing or an extreme impossible value, we recoded this to be the first of January of the earliest possible value in the dataset (so 1997-01-01). This likely will marginally overestimate our subgroup of interest.

CIN_ CINClosureDate	This is the date that the care episode finished or closed	Date	We had 23 rows relating to CIN referrals where the CIN_CINClosureDate was missing. We recoded these to the latest possible value (2018-03-31). This could marginally overestimate our subgroup of interest.
CIN_CPPstartDate	The date on which the child's protection plan starts Data were only available for the years 2008/2009 and from 2012/2013 until 2018.	Date	One row per child protection plan.
CIN_CPPendDate	The date on which the child's protection plan ends. Data were only available for the years 2008/2009 and from 2012/2013 until 2018.	Date	One row per child protection plan.
cla_CLA_31_ MARCH	Is child looked after at 31 March in the current processing year?	1 = True 0 = False	One row per processing year.
cla.CLA_PP_1_DAY	Child is looked after for at least 1 day during the year and aged 4-15 as at 31 August. Excludes children looked after under an agreed series of short placements and also those who were on remand/committed for trial or sentence and accommodated by the local authority.	1 = True 0 = False	One row per processing year. From this we count a child as having been LAC for the entire year when determining our subgroup of interest. This will overestimate our subgroup of interest.

We determined whether or not a child was in our subgroup of interest, by first determining whether the child had been LAC, CPP or CIN during the subgroup windows in the following manner:

- LAC. If either of these conditions were met:
  - The subgroup window overlapped with the 31st March for a year that a child was identified as LAC (using the cla_CLA_31_MARCH variable).
  - The subgroup window overlapped with any date in a processing year (from 1st April to 31st March the following year), in which a child had been identified as looked after at least one day that year (as per the cla.CLA_PP_1_DAY variable). This will overestimate our subgroup of interest.
- CPP. If the child had a CPP (identified through the CIN_CPPstartDate and CIN_CPPendDate variables) that overlapped with the subgroup window.
- CIN. If either of these conditions were met:
  - The subgroup window overlapped with the 31st March for a year that a child was identified as on a CIN plan (using the CIN_CINAt31March variable).
  - That the child had a referral for which the reason for closure indicate the child had at some point been on a CIN plan, and that the child or young person's referral duration (as defined by CIN_ReferralDate and CIN_CINClosureDate) overlapped with the subgroup window.

Subgroup variable

Then to determine whether or not a child was in our subgroup of interest, we determined whether they met at least one of the conditions for them being LAC, on a CPP, or on a CIN plan (as outlined above). If so, they were in our subgroup of interest. If not, they were either classified as not being in our subgroup of interest, or it being unknown (as defined in the reason for closure variable above).

For a number of participants of our data, the Pupil Matching Reference (PMR) – the unique ID for merging NPD data with the EEF data – was missing in the data. In these instances, we were unable to determine which individuals were in our subgroup of interest. We code these as being unknown, rather than not being in our subgroup of interest, but keep them in our analytical sample. This 'unknown' group is likely to be a mix of young people both in and outside of our subgroup of interest, but the ratio of these groups cannot be known.

A small number of pupils, for whom the following conditions all hold, were also coded as unknown:

- they had not otherwise been identified as in our subgroup of interest;
- they had a referral during the subgroup window;
- We were unable to determine whether that referral had involved a CIN plan, due to undefined coding in the CIN_ReasonForClosure variable.

Limitations

There were a number of limitations with this method. Namely:

- We overestimated the period in which children were LAC by counting them as LAC for an entire processing year if they were identified as being LAC for at least one day that year. Precise dates for LAC periods were not available, and this felt preferable to underestimating the subgroup of interest. Also, the number of children who have been looked after is a relatively small proportion (10.83%) of our subgroup sample.
- We overestimated the period in which children were CIN, by looking at the referral date rather than CIN plan date, as the latter was not accessible. Thus, technically we identify as in our cohort of interest those young people whose referral started during the subgroup window, and who went on to become CIN as a consequence of an assessment following that referral (but only for those whose cases have been closed by the date we received the data), which is slightly different to our intended subgroup of interest.

In both of these cases, the effects on our subgroup of interest's size is modest, and should bias our findings in the direction of attenuating any differential effect on the subgroup compared to participants outside of the subgroup. We have attempted to choose the more accurate definition of our subgroup that can be defined analytically with the limitations of the data available.

It should be noted that, by employing this wide definition of subgroup of interest, our coefficient estimates will be conservative when the treatment effect for the subgroup is larger than for those not in the subgroup, while the inverse will be true when the coefficient is smaller than for those not in the subgroup. However, we do not anticipate this will substantially affect our results.

Outcome measures

Research Protocol

In the RP, we state that 'Primary outcome measures differ according to the specifics of the trial in question...We will include all primary outcomes measured in the included studies in our re-analysis.'

Challenge

The data includes up to six outcomes per-project which it defines as 'post-test' outcomes, contained in variables called 'PostTest_Outcome_1' etc.. It is not always clear from the data which are the primary outcomes and which are secondary.

Strategy

In order to determine which were the primary outcomes to use in our analysis, we compared post-test outcome descriptions in the EEF data to those found in the EEF evaluation reports to identify the correct variables to include in our analysis. As outcome descriptions in EEF data do not always clearly match those in the evaluation reports, we identified trials in which the selection of the appropriate variables is not straightforward and attempted to identify the correct outcome by running regression models.

Baseline attainment variables

Research protocol

In the RP we say we will replicate the analytical strategies conducted in the original research, this would include which baseline attainment variable to include.

Challenge

Baseline attainment measures and their descriptions are included in the EEF trial data, though, as with outcome measures, in some cases these descriptions are not available or are unclear. Similarly, EEF evaluations do not always specify which of several baseline attainment measures found in the data were included in the models for primary analysis.

Strategy

We selected standardised attainment measures relating to the outcome of interest where these were clearly identifiable. So, for example, where the primary outcome in the original analysis was mathematics attainment, we examined the available pretest measures in the EEF data archive, and if there is a mathematics attainment variable, we would use this.

In cases where there was more than one relevant and appropriate variable, we standardised to a z-score and then average relevant baseline variables. If there were no relevant and appropriate baseline scores, we did not include any baseline variables.

Covariates

Research protocol

As noted above, in the RP, we wrote that we would attempt to replicate the analytical strategies conducted in the original research, but with a focus on the children in contact with the social care system. This is taken to include the selection of covariates to include in the model.

Challenges

- It was not always clear from the evaluation reports which covariates were included in the model.
- When we could determine the appropriate covariates, they were often unavailable in both EEF data and NPD data.
- There were high levels of missingness with covariates in the EEF data.
- When compared to NPD data, EEF covariates were, at times, inaccurate (as determined by follow-up checks in the evaluation reports).

Strategy

To resolve the challenge of not knowing which covariates to include, and the fact some were unavailable in both EEF and NPD data, we decided to use the same covariates as those specified in the RP to be included in the meta-analysis, where available, for all trials. This will help increase our power compared to not using covariates, but is a departure from EEF's evaluation guidance which is to use a smaller number of covariates. This will increase the chance of discrepancies arising between our results and the EEFs original results, depending on the level of balance on these covariates. The decision to make this trade-off is based on the judgement that controlling for imbalanced covariates and modestly increasing statistical power was of higher priority when considering effects for a small subgroup than in a more standard trial context.

Adopting a consistent approach had the benefit of reducing the complexity of specifying models with different covariates across all trials and including the statistical controls we felt would produce the highest precision in our models.

To handle issues of missingness and inaccuracies in EEF data, we adopted a strategy of prioritising the NPD data, as we had greater confidence in its accuracy and coverage. This was because we know there are more quality controls on NPD data, it was often more clearly defined, and had a lower level of missingness than EEF data. In cases in which the variable definition was sufficiently similar, where data was missing in the NPD, we imputed using EEF data.

Covariate construction and definition

Table 4 below outlines, in detail, what the RP stated in terms of covariate definition, what data sources, and what definitions we used in the analysis, along with some wider context.

Table 4: Covariates definition and source

Covariate in RP	Variables used	Description and coding	Source	Original source	Decision and rationale
Individual covariates					
Gender	gender_SPR	M=male, F=female	NPD	Spring Census	We chose to use NPD data due to lower levels of missingness, and assumed higher levels of accuracy than EEF Data Archive. Where this was missing from the NPD, we used the pupil_gender variable in the EEF Data Archive. .
(included as a binary indicator: male=0, female=1)	pupil_gender	1= male 2=female	EEF Data Archive	EEF	

Eligibility for free school meals (binary variable: no FSM = 0, FSM=1)	FSMeligible_SPR pupil_fsm	Pupil recorded as eligible for Free School Meals on Census day. From 2012/13, set to 'true' if a pupil has an FSM period with a start date and end date blank or end date on or after census date which means they are FSM eligible on Census day. Censusdate_SPR is given in each census dataset. Is merged on the starting year of the trial	NPD EEF Data Archive	Spring Census EEF	We aimed to identify those students who were FSM-eligible before the trial. We decided to use the NPD FSMeligible_SPR variable. In cases where the data was missing in this variable, we used the pupil_fsm variable in the EEF data instead.
Ever eligible for Free School Meals (binary variable: no FSM = 0, FSM=1)	everFSM_6_SPR or everFSM_6_P_SPR pupil_everFSM6	Flag to indicate if pupil has been recorded as eligible for free school meals in any termly School Census, AP Census or PRU Census in the last 6 years	NPD EEF Data Archive	Spring Census EEF	We aimed to identify students who had been FSM-eligible at any time in the past 6 years. We decided to use the NPD everFSM_6_SPR variable (or everFSM_6_P_SPR where not available). Where this was missing from the NPD, we used the pupil_everFSM6 variable in the EEF Data Archive.
Year Group (categorical variable)	NCyearActual_SPR	The year group in which the pupil is taught for the majority of their time, regardless of their chronological age).	NPD	Spring Census	We decided to use NPD data. After checking NPD data against EEF, we found that NPD is consistently more reliable, and the EEF data is often wrong by 2, 3 or 4 years. In addition there is some indication that the value 6 has been systematically allocated to a lot of trials in the EEF data. As such we decided not to use EEF data even when NPD data was missing.

Age (integer)	AgeAtStart OfAcademic Year_SPR	Age of pupil at the start of the academic year (in full years).	NPD	Spring Census	In analysing the data, we found that the Year of birth variable was missing in many EEF projects. We therefore decided to use NPD data. Due to concerns regarding data accuracy, we decided not to use age data for the EEF Data Archive where this variable is missing. While the RP implies using age at the start of the trial, rather than year of birth or age at the start of the academic year, being used for this variable, this would require us to precisely compute this using other variables, and it was decided that this addition complexity involves considerable risk of errors for relatively little benefit. Therefore we use the NPD 'AgeAtStart OfAcademicYear_SP' variable for this covariate.
English as an additional language (binary variable)	Language GroupMajor_ SPR pupil_eal	Pupil's major language group based on language code. 1_ENG = English (includes not known but believed to be English) 2_OTH = Other than English (includes not known but believed to be other than English) 3_UNCL = Unclassified	NPD EEF Data Archive	Spring Census EEF	We decided to use the NPD factor variable and, using the binary 'pupil_eal' variable from the EEF data, impute '2_Other' when this is coded as 1, and impute '1_ENG' if this is coded 0. EAL from NPD is better defined than the dummy from EEF in addition the EEF 'pupil_EAL' variable is 88% missing.

Special educational needs (binary variable: no SEN = 0, SEN=1)	SENprovision Mayor_ SPRpupil_SEN	Pupil's major SEN provision group 1_NON = No identified SEN 2_SNS = SEN without a Statement 3_SS = SEN with a Statement 4_UNCL = Unclassified (includes information refused or not obtained). A binary variable is built picking up a dummy named SENbinary if 2_SNS is true and hasSENplan if 3_SS is true.	NPD EEF Data Archive	Spring Census EEF	The RP does not clearly specify what is meant by SEN. We decided to use the NPD factor variable, but when missing to impute as '2_SNS' when the binary EEF variable 'pupil_SEN' is coded as 1, as analysis suggested this meant the individual was SEN without a statement. We believe that this imputation will provide higher quality data than leaving these values as missing.
Has been included in at least one previous EEF trial (binary variable)	PMR, trial start date, trial end date.	In each row (which indicates a pupil per trial), if they have been in any trials that began before the beginning of the current trial, it will be coded 1, otherwise 0.	EEF Data Archive	EEF	This will only include trials for which we have data, and not other EEF trials.
School level covariates					
School Type (included as a categorical variable: most probably collapsed to the broad categories: omprehensive =1, non comprehensive =2, other=3)	lea_admissions policy	3 types: 'Comprehen sive,' 'selective,' 'other'	NPD	Performance Tables (Spine)	The RP stated: comprehensive =1, independent school non-comprehensive =2, academy other =3. We chose the closest available variable in the NPD.

Ofsted rating (included as a categorical variable on a 4-point scale: 'outstanding'=1, 'good' = 2, 'requires improvement' = 3, 'inadequate' = 4)	Overall Effectiveness	'Outstanding' =1, 'good' = 2, 'requires improvement' = 3, 'inadequate' = 4	Ofsted data	Ofsted data	The RP says that Ofsted rating will be 'included as a categorical variable on a 4-point scale: 'outstanding'=1, 'good' = 2, 'requires improvement' = 3, 'inadequate' = 4)'. We decided to assign schools their Ofsted rating which was closest in time to the middle of the trial.
Location (binary variable: urban = 0, rural=1)	Lea_urban_ rural_desc = (2013,14,15), lea_urban_rural (2016,17,18)	Urban Rural	NPD	School level census	We decided to use the 'lea_urban_rural_desc' (for the year 2013 2014 and 2015) & 'lea_urban_rural' (for the year 2016, 2017 and 2018) variable from the school census to assign schools as either urban (coded 0) or rural (coded 1), as specified in the RP. Using the descriptions in this variable, we assign any identified as 'hamlet & isolated dwellings', 'village' or 'town and fringe' as 'rural'. And any described as 'city and town' 'minor conurbation' or 'major conurbation' as 'urban'.[2]
Proportion of pupils FSM-eligible (continuous variable)	lea_pct_pupil_ fsm_eligible	Proportion of pupils FSM-eligible	NPD	School level census	This was the best available variable which provides information on the proportion of children eligible for free school meals.

2 This is consistent with definitions contained in government reports.

Proportion of pupils achieving expected Key Stage level in English and Maths or closest available metric (continuous variable)	ks2_perc_ achievement/ ks4_perc_ achievement	Coded as a continuous variable indicating the proportion of pupils achieving the expected attainment standard.	DfE School Performance Tables	DfE School Performance Tables	Depending on the year-group of the children in the trial, we would either use the school level key stage 2 percent achieving the expected level variable or the key stage 4 one. More specifically, if they were in years 1-6 we would use KS2, years 7-11 we would use KS4. The definition of 'Pupils achieving expected standard' for KS2 results has changed over time; while it used to be defined as level 4, from 2016 it became 4b. tables from 2016 onwards, therefore, are not comparable to previous years as this led to big changes between years within schools. As effects are compared within cohorts, and changes to the national curriculum assessments would be the same for entire cohorts, this should not lead to any issues in analysis.
Proportion of pupils white British (continuous variable)	percwhite british	Percentage of pupils classified as white British ethnic origin	NPD	School level census	We decided to use the continuous 'percwhitebritish' variable from the NPD school census, which is the only available variable which records this information and is consistent with the approach specified in the Research protocol.

One additional individual-level covariate of relevance was included in the EEF data archive, named 'Included_final_analysis'. This is a binary variable indicating whether the individual was included in the final model used in the EEF's reporting. The original evaluators might, for example, have decided to exclude participants who were missing baseline data. We decided to include only those participants who were included in the original evaluator's analysis - and who therefore were coded '1' for this variable. Where all outcome data was included in the final model this variable was coded 'NA' for all participants, and nobody was excluded from our model.

Merging & data sources

Research protocol

In the RP we stated that the EEF trial data will be merged with the NPD, but since we had not accessed the data at this time, additional detail was not given. We delineate this strategy in more detail here.

Strategy

Data sources

We use a number of sources to create our dataset. These are detailed below, in Table 5.

Table 5: Data sources

Source	Datasets	Data owner	Data holder	Level of data	Variables contained
National Pupil Database	Spring Census	Department for Education	Office for National Statistics	Individual per year	Individual level covariates
	School Census			School per year	School level covariates
	CIN Census			Individual per referral	subgroup of interest
	LAC Census			Individual per processing year	subgroup of interest
EEF Data Archive	Data Archive	EEF	Fisher Family Trust and Office for National Statistics	Individual per EEF project	Outcomes, treatment, baselines, and some other covariates
Publically available data	EEF project level data	EEF	Education Endowment Foundation	EEF project	Project themes and timings
	School Performance Tables (KS2, KS4 and Spine)	Department for Education	**https://www.compare-school-performance.service.gov.uk/**	School per year	School-level covariates
	School Ofsted rating	Ofsted	**https://www.gov.uk/government/collections/maintained-schools-and-academies-inspections-and-outcomes-official-statistics**	School per Ofsted rating	School-level covariates

Merging

Creating our analytical dataset involved merging data from multiple sources (those outlined in Table 5 above). Below we set out how we conducted this.

1. We begin with the EEF Data Archive individual level data that includes our outcome and treatment variables (and some individual level covariates we may use).
2. We merge this with our EEF Project-level data using the project name and number, in order to determine the trial duration and themes.
3. Next, using the CIN and LAC censuses, we then merge the EEF data with derived date-ranges for when children have been LAC, CIN or CPP, using the PMR variable. We then derive dummy variables that indicate whether or not these children were LAC, CIN or CPP during, or up to six years before, the trial. This gives us our 'EEF & CSC' dataset.

For our school level and individual covariates we use multiple sources. School level data, which can be merged using each school's Unique Reference Number (URN), cannot be joined to the above data directly, since the EEF data does not contain pupils' schools URN. However, the Spring Census, which contains pupil level data collected in January each year, does contain the URN, and also can be matched with the EEF Data Archive using the PMR variable. Therefore, we first combine school level data from a number of sources to the Spring Census, using the URN, before matching this dataset with our EEF & CSC dataset using PMR. More specifically we do the following.

4. We merge the school level data from the School Census and School Performance Tables with data from the Spring Census using the URN. We match the school-level data from the end of the academic year that the Spring Census took place in. So if, for example, the Spring Census collected in January 2017, we would merge it with the School Census and School Performance Table data from the end of the academic year 2016/17. This gives us our Covariate dataset.
5. We then merge our Covariate dataset and our EEF & CSC dataset, using the PMR variable. In doing this we link the EEF & CSC dataset with the Covariate dataset that contains the Spring Census that most recently took place before the start of the trial that the pupil was in.[3]

It is worth noting that in the event that the start of the trial takes place between February and the end of the academic year, we have used school-level data from a period that takes place after the start of the trial. However, this describes fairly few trials, and to the extent that school-level characteristics change slowly and fairly little within an academic year, the impact of our simplifying assumption is limited.

6. Finally, we merge with Ofsted data. Ofsted ratings are established by inspections occurring at various time periods (depending on the school's previous rating among other factors). We aim to determine the Ofsted rating which is most representative of the school at the time, as such, merging on URN, we determine which Ofsted rating took place closest to the middle of the trial. Here, we are trading off closest impression of the state of the school, which we argue is best captured by the nearest inspection date, and capturing the 'operating environment' of the school, which is perhaps better captured by the results of the *previous* inspection, as this in some ways shapes schools' current decisions. We have opted for the former in this case to try and identify some measure of current school effectiveness (as judged by Ofsted).

Studies included in analysis

Research protocol

In our RP, we state that we will re-analyse data from 83 EEF randomised controlled trials.

3 The Spring Census takes place between the 15th and 21st of January of each year for relevant years. In terms of determining when a trial starts, we only know the month, not the year of the data. As such, if a trial started in January, we will use the Spring Census data from the year before, otherwise, if the trial start date is February onwards, we will use the Spring Census from that same year.

Challenges

Data for 14 projects that we expected to receive, and which were included in the list of trials in the RP, were not included in the data transfer by the Fisher Family Trust (FFT). More specifically:

- Data for six trials were not sent as the EEF's original independent evaluators for these projects felt the legal basis for processing personal data for the original trial were insufficient to support the further sharing of identifiable data, for example for the purposes of this research. We were therefore unable to link individual-level trial data to the NPD database, and identify our subgroup of interest.
- For the eight other trials there was a delay in receiving / processing the data and it was therefore not ready to be uploaded onto the ONS' Secure Research Service (where our analysis was conducted) in time for inclusion in this report.

In addition, two trials contained so few individuals in our subgroup of interest (sometimes partially due to missing PMRs for a high-number of pupils) that it would not be meaningful to produce our results. Please note, for reasons of statistical disclosure risks, we do not provide the precise number here.

One trial was excluded due to identification by the EEF of errors in the analysis of data by the original evaluator. In two trials we were unable to closely reproduce the results from EEF's original analysis - these trials were therefore excluded. One further trial included in the list for re-analysis in the RP was dropped as EEF subsequently found and reported that the design was 'quasi-experimental' and not a randomised trial.

We also excluded from analysis one of three outcomes in the Philosophy for Children trial (writing attainment), as we were unable to closely reproduce the results in the original reporting for the project.

This leaves 63 trials for which data were received and analysed. The table below lists the trials where data are excluded from analysis, and the reason for that exclusion.

Table 6: Projects excluded from the analysis

Trial	Reason for exclusion from analysis
Catch Up Numeracy	Consent Conditions
Catch Up Numeracy (re-grant)	Delay in receiving data
Chatterbooks	Unable to replicate original findings
Discover Summer School	Low evidence quality, small number of sample in subgroup of interest
Foreign Language Learning in Primary School	Delay in receiving data
FRIENDS	Delay in receiving data
Grammar for Writing (re-grant)	Delay in receiving data
Lesson Study	Delay in receiving data
Magic Breakfast	Error in original analysis of data
Mathematical Reasoning (re-grant)	Delay in receiving data
Mathematics Mastery (primary)	Consent conditions
Mathematics Mastery (secondary)	Consent conditions
Maths Champions	Too few participants in our subgroup of interest
Mind the Gap	Consent conditions
Project Based Learning	Consent conditions

Promoting Alternative Thinking Strategies	Delay in receiving data
Reflected Metacognition	Unable to replicate original findings
SHINE on Manchester	Consent conditions
Tutor-Trust - Affordable Individual and Small Group Tuition (Primary)	'Quasi-experimental' design
Writing About Values	Delay in receiving data

Missing data within projects

Research protocol

We state in the RP that we will consider possible reasons for the missingness of data and undertake statistical analyses to determine whether there are any patterns relating to other recorded covariates or to the intervention variable. We also state we will follow EEF guidance on missing data, and follow the original trial specification where possible.

Challenges

It became apparent during the data cleaning process that following the original trial specification would not be practical. Sufficient detail on treatment of missing data for replication was not always included in reports, and to undertake several methods across the different trials would also have been highly time intensive.

This led us to consider applying **EEF's statistical guidance**, which is to use multiple imputation and sensitivity analysis (where deemed appropriate), however, the assumptions underlying multiple imputation require impractical amounts of verification, given the time constraints of the project.

Strategy

Given limited resources, along with the fact that alternative methods are appropriate for randomised controlled trials,[4] we decided to conduct null-imputation (also known as 'the missing indicator method'). This involves creating separate dummy for missingness for each covariate, and if the original variable is numeric, adding an identical arbitrary 0 value into the original variable. While null imputation is less efficient, it is simpler to implement and rests on fewer assumptions.

In the case of highly missing covariates, we decided that these should be excluded from the analysis. The threshold we chose (largely arbitrarily) was 30% of missingness, so if it was greater than this for any given trial, the covariate would be excluded, 30% or less and it would be null-imputed. The one exception to this is missingness as it relates to our subgroup of interest, which was not dropped under any circumstances.

Missing identifiers

Challenge

Some pupils in EEF data had missing unique identifiers (PMR), making it impossible for us to match them with data to determine whether or not they were in our subgroup of interest, or their individual or school level covariates.

Strategy

We kept these individuals in our analytical sample, but coded all their covariates and the subgroup of interest as missing, as we believe it will be likely to increase the accuracy of our treatment effect for all children and young people in the trial. In terms of our analysis, we will create a binary variable indicating whether or not we know if they are part of our subgroup of interest or not. We will include this in the interaction term. Thus our effect size for our subgroup of interest will be determined by

4 "Despite often being inappropriate for use in many settings, the missing indicator method has been validated for addressing missing covariate data in RCTs, where X and T are independent and missingness in X is conditionally independent of Y."; Sullivan, T. R., White, I. R., Salter, A. B., Ryan, P., & Lee, K. J. (2018). Should multiple imputation be the method of choice for handling missing data in randomized trials?. *Statistical methods in medical research*, *27*(9), 2610-2626.

a comparison within the model to those who we know not to be in our subgroup of interest.

When it comes to comparing between our subgroup of interest and all children, those for whom membership of our subgroup of interest is missing will be counted in the category of all children and young people. This will mean that the difference between our subgroup of interest and all children and young people may be smaller than it would have been otherwise.

Missing level and cluster information

Challenge

Data was missing on which cluster pupils were in, and/or which class and school they were in. This could be either for whole projects or for some pupils within a project. This prevents us from calculating clustered standard errors as appropriate in our OLS analysis, and from including appropriate random intercepts in our multilevel model analysis.

Strategy

When the cluster data was partially missing (as in it is missing for some pupils within a project), we omitted these pupils from the analysis.

Duplicate Pupil Identifiers within projects

Challenge

When reviewing the merged data, we noticed that some unique pupil identifiers (PMR) appear more than once within a project, in around 20 projects. This means that these individuals' results would otherwise be counted twice in the analysis. Duplicates of two types occurred:

1. Rows that were identical in every substantive aspect including our unique pupil identifier (PMR)
2. Rows that shared a PMR but had one or more differences in their other values.

Strategy

For the first type of duplicate, we will remove duplicates, keeping one unique row. In the second instance, we examined discrepancies. If the difference in values is in covariates, we exclude observations that appear to be the consequence of data entry errors (impossible values, outliers, or substantial missingness), or code covariates as missing, before removing the duplicates (keeping one unique observation). If the differences are in treatment condition or outcome, we drop all observations with a duplicate (not keeping a unique observation).

ANALYTICAL STRATEGY

Analysis and reporting

Research protocol

In the RP we detail what analysis we will conduct and report. This is largely unchanged, and we will report everything in the technical report that we state we will in the RP (details in the strategy section below).

The main research questions our analysis seeks to answer, as specified in the RP, are as follows:

- **RQ1:** Do the interventions trialled by the EEF have an effect on the educational attainment of children with experience of children's social care?
- **RQ2:** Are the effects different to those without that experience in children's social care?

A third research question is also to be answered through a meta-analysis to be conducted separately.

Strategy

Results

We will calculate and report the following about each trial in this technical report, consistent with the RP.

- The effect size (in Glass's delta[5]) for the subgroup of interest (which is the sum of the overall effect and the interaction effect on the subgroup of interest). This is to answer RQ1 defined above.
- The difference between the effect size on the subgroup of interest and those in the trial who we know are not in the subgroup (in Glass's delta). This is to answer RQ2 defined above.
- The 95% confidence intervals for the estimated effect on the subgroup of interest calculated from the regressions including an indication for whether they are narrower than 10% of the standard deviation of the control group and contain zero (which we will take as a qualitative, tentative evidence of a zero effect).
- The Glass's delta effect sizes, measured in proportions of a control group standard deviation, in a forest plot by theme for ease of interpretation.
- F-tests of whether the sum of the interaction term and the overall treatment term is different from zero. Since our model now includes a new level for unknowns, there will be multiple interaction terms in many models. The interaction term of interest here is the one generated by comparing the treatment effect of those in our subgroup of interest to that of those not in our subgroup of interest (effectively ignoring those for whom we do not know). The overall treatment term we will use will be for all those in the study. Due to the overall term including some that we do not know whether they are in our subgroup of interest, we would expect to underestimate the difference between these two effects.
- Whether or not the interaction term (as defined above) is statistically significantly different from 0.

5 Glass's delta is defined as the difference between the control and treatment means just for the cohort of interest/divided by the standard deviation of the overall control group. The control-group mean will be the basic mean calculated from the data. The treatment mean will be the control-group mean plus the treatment effect.

- Power calculations for each trial, reporting what the minimum detectable effect size was for the subgroup analyses we are conducting, at 80% power. In the RP we stated that we would report whether the trial was powered for the subgroup analysis, however we will not be making that judgment explicitly in the report.

In our RP we said that 'In writing up these results, we will follow the majority of EEF trials in adopting a level of statistical significance of 10%' which does not accurately represent the EEFs reporting guidance. However, we will report significance (at 10%, 5% and 1%) in our reporting, but we will not take a specific view of an intervention working based on any specific significance level. We shall consider an effect size of greater than or equal to 0.1 as tentative evidence of impact of the intervention on the children in the social care system subgroup. Such an effect size is considered by **the EEF to be equivalent to 2 months' estimated progress.**

In the summary report, we will report the following about each trial (which was not specified in the RP):

We will report the number of months' progress for both our subgroup of interest, and those known not to be in our subgroup of interest). We will do this according to the conversion table given in **EEF's guidance**, using the Glass's delta effect size outlined above. It is worth noting EEF may not have used Glass's delta in calculating their original months' progress figures for projects (typically preferring Hedges' g), however this is unlikely to cause substantial differences. We will not report the months' progress for those whom we don't know whether or not they are in the subgroup of interest (due to missing data or undefined coding of CIN data variables).

We will also report the numbers in both the full sample and in the subgroup of interest.

We will report if the estimated effect on the subgroup of interest is statistically significant.

We will determine a binary indicator of the intervention showing 'Signs of Potential', which is described later in this document.

Other reporting

In addition to the above, in the technical report we will report the following:

- **Descriptive statistics.** On a per-outcome per-project basis broken down by treatment condition and again by subgroup of interest (in the subgroup, not in the subgroup and unknown). This will include mean, standard deviation, and number in each group.
- **Balance checks.** This will be done on a per-outcome per-project basis for key covariates (Table 7), and repeated for our subgroup of interest (Table 8).. To ensure a consistent strategy for all covariates, we will run OLS models with the covariate of interest as the independent variable and the treatment assignment as the dependent variable.
- **Missingness.** We will report the percentage missing on a per-outcome per-project basis, for each variable used in the analysis.

Model specification

Research protocol

In the RP we stated that we would conduct a replication of the analytical strategies conducted in the original research, but with a focus on the children in contact with the social care system. This is taken to include selecting the same regression model as used in the original analysis.

Challenge

Challenges were found identifying the precise analytical strategies that were used in the original trials. This includes the regression models, and the levels included within them. Precise replication of the analytical strategy for each would therefore likely be challenging and time-intensive.

Strategy

We instead decided to try to replicate the EEF's original findings, rather than the analysis, by first running four models: two OLS models (with standard errors clustered at the level of randomisation where trials were cluster RCTs),

and two linear mixed models (LMM) with random intercepts. These are specified below with models 1.1 and 1.2 (OLS); and models 2.1 and 2.2 (LMM). We will then report the model that produces the treatment coefficient most similar to the original findings, with the subgroup interaction and subgroup. So, if 1.2 best replicates original findings, we will report model 1.4; if 2.1 does, then we will report 2.3. Where models produce treatment coefficients that are equally comparable to the one reported by the EEF, we will report the (simpler) OLS models.

Our model specifications are as follows:

Model 1.1 - Basic OLS (no subgroup interaction or covariates)

$$Y_{ij} = \alpha + \beta_T T_i + \epsilon_{ij}$$

Model 1.2 - OLS with covariates (no subgroup interaction)

$$Y_{ijs} = \alpha + \beta_T T_i + \beta_G G_i + \beta_P P_i + \beta_S S_s + \epsilon_{ijs}$$

Model 1.3 - OLS with subgroup interaction & subgroup (no other covariates)

$$Y_{ij} = \alpha + \beta_T T_i + \beta_G G_i + \beta_{GT} G_i * T_i + \epsilon_{ij}$$

Model 1.4 - OLS with subgroup interaction, subgroup & covariates

$$Y_{ijs} = \alpha + \beta_T T_i + \beta_G G_i + \beta_{GT} G_i * T_i + \beta_P P_i + \beta_S S_s + \epsilon_{ijs}$$

Where:

- α and β are regression coefficients.
- Y_{ijs} is primary outcome Y for pupil i in school s, in cluster j (which may be the same as the school.
- T_i is a treatment factor variable indicating which condition pupil i is in.
- G_i is our subgroup of interest factor variable defined above.
- P_i is a vector of pupil-level covariates.
- S_s is a vector of school-level covariates for individual i in school s.
- ϵ_{ijs} are Huber-White robust standard errors. Where trials are clustered, our standard errors will take into account the nature of this clustering (where clusters are the level of randomisation).[6] Where the number of clusters is 30 or above, we will calculate cluster robust standard errors, by applying a degrees of freedom-based correction, (n−1)/(n−k) - where n is the number of observations and k is the number of explanatory or predictor variables in the model. In the event that there is a low number of clusters, which we deem to below 30, this can lead to underestimating standard errors. As such, we will instead compute the standard error using a Rademacher wild cluster bootstrap procedure, which has been shown to **perform well with few clusters**.

Model 2.1 - Linear mixed model - (no subgroup interaction or covariates)

$$Y_{ics} = \alpha_{0cs} + \beta_T T_i + \epsilon_{ics}$$

Model 2.2 - Linear mixed model with random intercepts with covariates and subgroup (no subgroup interaction)

$$Y_{ics} = \alpha_{0cs} + \beta_T T_i + \beta_G G_i + \beta_P P_i + \beta_S S_s + \epsilon_{ics}$$

Model 2.3 - Linear mixed model with random intercepts with subgroup and subgroup interaction (no covariates)

$$Y_{ics} = \alpha_{0cs} + \beta_T T_i + \beta_G G_i + \beta_{GT} G_i * T_i + \epsilon_{ics}$$

Model 2.4 - Linear mixed model with random intercepts with subgroup, subgroup interaction and covariates

$$Y_{ics} = \alpha_{0cs} + \beta_T T_i + \beta_G G_i + \beta_{GT} G_i * T_i + \beta_P P_i + \beta_S S_s + \epsilon_{ics}$$

6 EEF trials have been randomised at the pupil, school or class level. Not taking into account the clustered nature of the data can lead to increase the likelihood of type II error. In order to correct the standard error and obtain an heteroskedastic cluster robust standard error, a correction must be applied to the standard error. The adjustment to this clustered standard error depends on the number of clusters.

- Where Y_{ics} denotes the outcome for individual i, in class c, in school s.
- Where β, G, P, and S are defined consistent with in models 1.1-1.4.
- α_{0cs} is the intercept for class c in school s.
- ϵ_{ics} is a vector of error terms at individual and, where available, class and school levels for individual i in class c, and in school s.

The EEF data is structured with between one and five levels; pupil, class, teacher, year and school. We decided that, regardless of the level of randomisation, where available we use class level random effects and school level random effects.

In some instances the number of covariates we have included reduce the degrees of freedom to such an extent the linear mixed models cannot be run. In such instances, we will reduce the number of covariates to the following: baseline, gender, age, and whether they were ever eligible for free school meals. If the issue persists, we use only class level information (or the closest level above close where this information is not available in the data). If the model still fails to converge, we will default to using the clustered OLS model.

Below we provide full regression tables as per the below for the set of models selected (Table 9).

Discrepancies with original results

Challenge

We anticipate that there will be some discrepancies in the treatment coefficients between the models that we run which contain imputed covariates (models 1.2 and 2.2) without our subgroup interaction[7], and the original effect size reported by the EEF. In these instances we will further investigate possible causes. This will include looking closely at the number of pupils and outcome means in treatment and control group, and balance in covariates. We will also look into any individuals excluded due to duplicate identifiers, in case these individuals were also included in the original analysis.

Strategy

Where substantial discrepancies (difference in Glass's delta is .1 or greater (equivalent to approximately one months' progress difference) remain that cannot be rectified, we exclude these outcomes/trials from our analysis.

Per project decisions and exceptions to general strategy

Research protocol

As noted above, in the RP we wrote that we would attempt to replicate the analytical strategies conducted in the original research, but with a focus on the children in contact with the social care system. This is taken to include the inclusion of baseline variables, analytical approach and participants to include in the final model.

Challenges and Strategies

The original evaluators of the EEF's trials made various choices in the course of their analysis for which it was either unsuitable to replicate for the purposes of answering our research questions, or not possible due to missingness or other limitations in the data received. In other cases, we depart from their strategy in order to increase the robustness of our subgroup analyses. These cases and our decisions relating to them are outlined below. We also include cases in which the decisions made are technically consistent with our strategy of replicating original analyses, or with the strategies outlined above, but which we feel are nonetheless notable as analytical choices.

- **Inclusion of pretest measures**; in one trial (Future Foundations Summer School), the outcome measure is a rate of change, and the original evaluators did not control for baseline attainment. Although the outcome for this trial is a first difference measure, including baseline attainment measures still provides explanatory power to the model. Therefore, we included the baseline measure in our analysis.

7 Either OLS (standard errors clustered at level of randomisation if cluster RCT), or linear mixed model with random intercepts).

- **No overall treatment effect in original reporting**; in the Hampshire Hundreds trial, the original reporting for this trial included subgroup analyses of 'disadvantaged children' and 'other pupils'. We therefore could not readily apply our strategy for selecting the model which replicated EEF's results. To address this, we calculated the effect size for the overall sample as a weighted average using the number and reported effect sizes for the two subgroups ('disadvantaged' and 'other pupils'). This allowed us to follow our model selection strategy outlined above, by comparing the coefficients of our models with this weighted average.
- **Discrepancies in sample size between trial data and reported models**; the trial data for Testing Parents and IPEELL provided by FFT contained substantially more observations than were included in the EEF's reported models. For Texting Parents, we decided to follow the original evaluators' strategy of excluding participants who were missing baseline data, which resulted in our including roughly the same numbers of pupils in our models as in the original analysis. Similarly, for IPEELL we included only those individuals who were level 3 or 4 in literacy attainment at the start of the trial, consistent with the analytical strategy outlined in the EEF report. In 6 other trials[8] , the difference was greater than 10% and we were unable to identify the source of the discrepancy. However, our models for these trials produced Glass's delta within .1 of the EEF's reported effect sizes, and were therefore retained.
- **Mislabelling of trial data**; in the course of our analysis of the Nuffield Early Learning Intervention trial, we noticed that the number of participants we expected to find in the two treatment arms of the trial (20 weeks or 30 weeks of the intervention), according to the EEF's reporting, were reversed. We followed up with FFT to verify that the treatment arms had been mislabelled in the data, and re-coded them to ensure that the correct effect sizes were produced in the analysis.
- **Categorical pretest outcome measures**; in both Grammar for Writing and IPEELL, the trials used KS2 pretest measures with levels (4a, 4b etc) rather than continuous numeric variables. For the latter, we re-coded these levels as numerical values using the median values of the range of point scores[9] corresponding so that they could be included as covariates in the model. We were unable to find guidance to translate each pre-test level in Grammar for Writing into point scores - we instead dropped the pre-test variable for this trial. In Thinking, Doing Talking Science (re-grant), pretest measures included levels of KS1 instead of continuous variables, using the conversion tables, we included a numerical equivalent[10] .
- **Missing level of randomisation**; in three trials (Peer Tutoring in Secondary School, Grammar for Writing and Texting Parents) the level of randomisation was missing in the data provided. For the first of these trials, we decided to cluster standard errors at the closest level above class that was found in the data, which was school-level. For the two other trials, however, we were able to produce our own class-level information using other variables in the data. The Texting Parents trial, for example, randomised between two year groups in a school, meaning we were able to derive and create 'year group IDs' with the treatment allocation and school ID information.
- **Random effects model failing to converge**; our random effects models for the Fresh Start trial failed to converge, likely due to collinearity between the covariates and the outcome measure. As described in the Model

8 Hampshire Hundreds, Increasing Pupil Motivation, REACH, Grammar for Writing, Philosophy for Children, Parent Academy

9 https://www.dstc.kent.sch.uk/wp-content/uploads/Key-Stage-3-Presentation-Years-8-9-002.pdf

10 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/560969/Primary_school_accountability_summary.pdf.pdf

Specification section above, we defaulted to using the clustered OLS model for this trial.

- Missing post-test outcome measures; two trials (Future Foundations Summer School and Nuffield Early Learning Intervention) were missing the primary outcome data. However, both trials' data included the variables needed to construct the outcome (for example, the Nuffield Early Learning trial outcome was a composite results from four other outcomes). We checked with FFT that our proposed methods of constructing these outcomes was correct, and then created these new outcome variables to be used for the analysis.

BALANCE CHECKS

The tables below reports the results of our balance checks on key covariates we considered most likely to be correlated with our outcome measures. To do this, we ran OLS models with the covariates as the independent variable and the treatment assignment as the dependent variable. Due to the large number of regressions associated with these checks, we do not report all of our findings, but instead report only those for which the imbalance on covariates is statistically significant at the ten percent level.

This process is repeated for our subgroup of interest using the same covariates (Table 8).

We use a linear probability model to determine balance on the following key covariates:

- Free School Meals eligibility (currently);
- Free School Meals eligibility (last six years);
- Two variables identifying missingness on the above variables;
- Gender; and
- Pre-test outcomes.

Whole sample

Table 7 reports both the coefficient on each of the covariates, and the p-value associated with these coefficients. We find 203 significant relationships at the 10% level. However, when dropping the regressions in which. Given the number of regressions conducted (11 covariates for 98 regressions gives 1078 regressions for the imbalance checks), the threshold used, and the level of correlation between covariates, some imbalances are to be expected. However, this level (19%) is fairly high.

38 trials have at least one covariate with imbalance, and 19 have imbalance on our subgroup of interest. The largest source of imbalance are the FSM indicator variables, which account for 62 of the 203. However, these imbalances are only found across 23 trials, due to the high correlation between the different variables measuring FSM. If these duplicates are excluded, we are left with 92 imbalances.

We do not exclude trials at this stage on the basis of imbalance, but imbalance will be considered later in interpreting our findings and classifying the 'Signs of Potential' projects.

Table 7: Imbalance across the sample population						
Project Name	Outcome Description	Covariate	Coefficient estimate	p-value	N	Percentage Missingness
1stClass@Number	Quantitative Reasoning total score at Post-test	FSM eligible	-0.124	0.028	466	0.000
1stClass@Number	Quantitative Reasoning total score at Post-test	not FSM eligible	0.124	0.028	466	0.000
1stClass@Number	Quantitative Reasoning total score at Post-test	male	0.114	0.014	466	0.000
1stClass@Number	Quantitative Reasoning total score at Post-test	not male	-0.114	0.014	466	0.000
Best Practice in Setting	PTM13 Maths Raw Score	FSM eligible	-0.080	0.004	2383	0.000
Best Practice in Setting	PTE13 English Raw Score	FSM eligible	0.087	0.068	939	0.000
Best Practice in Setting	PTM13 Maths Raw Score	not FSM eligible	0.080	0.004	2383	0.000
Best Practice in Setting	PTE13 English Raw Score	not FSM eligible	-0.087	0.068	939	0.000
Best Practice in Setting	PTM13 Maths Raw Score	male	-0.044	0.027	2383	0.000
Best Practice in Setting	PTM13 Maths Raw Score	not male	0.044	0.027	2383	0.000
Best Practice in Setting	PTM13 Maths Raw Score	pretest outcome	-0.005	0.021	2383	0.000
Changing Mindsets - Teacher Training	PiE English standardised score	FSM eligible	0.165	0.000	890	0.000
Changing Mindsets - Teacher Training	MSiM Maths score	FSM eligible	0.160	0.000	906	0.000
Changing Mindsets - Teacher Training	MSiM Maths score	not FSM eligible	-0.160	0.000	906	0.000
Changing Mindsets - Teacher Training	PiE English standardised score	not FSM eligible	-0.165	0.000	890	0.000
Changing Mindsets - Teacher Training	MSiM Maths score	non subgroup of interest	-0.177	0.000	906	0.000

Changing Mindsets - Teacher Training	PiE English standardised score	non subgroup of interest	-0.171	0.000	890	0.000
Changing Mindsets - Teacher Training	PiE English standardised score	subgroup of interest	0.171	0.000	890	0.000
Changing Mindsets - Teacher Training	MSiM Maths score	subgroup of interest	0.177	0.000	906	0.000
Changing Mindsets - Teacher Training	PiE English standardised score	pretest outcome	-0.004	0.096	890	0.006
Changing Mindsets - Teacher Training	MSiM Maths score	pretest outcome	-0.009	0.000	906	0.011
Chess in Primary Schools	KS2 math total score	FSM eligible	-0.036	0.030	3859	0.000
Chess in Primary Schools	KS2 math total score	not FSM eligible	0.036	0.030	3859	0.000
Chess in Primary Schools	KS2 math total score	unknown if part of subgroup	-0.509	0.023	3859	0.000
Chess in Primary Schools	KS2 math total score	pretest outcome	0.004	0.051	3859	0.043
Children's University	KS2 maths gain score	FSM eligible	-0.187	0.000	1215	0.000
Children's University	KS2 reading gain score	FSM eligible	-0.184	0.000	1208	0.000
Children's University	KS2 reading gain score	not FSM eligible	0.184	0.000	1208	0.000
Children's University	KS2 maths gain score	not FSM eligible	0.187	0.000	1215	0.000
Children's University	KS2 maths gain score	non subgroup of interest	0.088	0.026	1215	0.000
Children's University	KS2 reading gain score	non subgroup of interest	0.085	0.032	1208	0.000
Children's University	KS2 maths gain score	subgroup of interest	-0.088	0.026	1215	0.000
Children's University	KS2 reading gain score	subgroup of interest	-0.085	0.032	1208	0.000
Children's University	KS2 maths gain score	pretest outcome	0.008	0.069	1215	0.000
Children's University	KS2 reading gain score	pretest outcome	0.010	0.005	1208	0.000
Dialogic Teaching	Progress Test in English	non subgroup of interest	0.089	0.025	1277	0.000
Dialogic Teaching	Progress Test in Maths	non subgroup of interest	0.070	0.091	1322	0.000

Dialogic Teaching	Progress Test in English	subgroup of interest	-0.089	0.025	1277	0.000
Dialogic Teaching	Progress Test in Maths	subgroup of interest	-0.070	0.091	1322	0.000
Dialogic Teaching	Progress Test in English	pretest outcome	-0.005	0.074	1277	0.047
Dialogic Teaching	Progress Test in Maths	pretest outcome	-0.008	0.006	1322	0.048
Dialogic Teaching	Progress Test in Maths	pretest outcome missing	0.176	0.006	1322	0.048
Embedding Formative Assessment	Attainment 8 score (standardised)	FSM eligible	-0.015	0.074	25393	0.017
Embedding Formative Assessment	Attainment 8 score (standardised)	not FSM eligible	0.015	0.072	25393	0.017
Embedding Formative Assessment	Attainment 8 score (standardised)	male	-0.012	0.059	25393	0.000
Embedding Formative Assessment	Attainment 8 score (standardised)	not male	0.012	0.059	25393	0.000
Embedding Formative Assessment	Attainment 8 score (standardised)	pretest outcome	0.009	0.001	25393	0.000
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper	pretest outcome	0.003	0.006	4219	0.000
Family Skills	CEM Base Literacy Raw Score	subgroup of interest	0.176	0.042	1983	0.371
Family Skills	CEM Base Literacy Raw Score	male	0.043	0.058	1983	0.000
Family Skills	CEM Base Literacy Raw Score	not male	-0.043	0.058	1983	0.000
Family Skills	CEM Base Literacy Raw Score	pretest outcome	0.002	0.001	1983	0.000
Flipped Learning	KS2 maths point score	non subgroup of interest	0.080	0.066	1129	0.000
Flipped Learning	KS2 maths point score	subgroup of interest	-0.080	0.066	1129	0.000
Fresh Start	NGRT reading gainscore	pretest outcome	-0.093	0.000	419	0.000
Good Behaviour Game	HGRT reading raw score	FSM eligible	0.068	0.003	2519	0.003

Good Behaviour Game	HGRT reading raw score	not FSM eligible	-0.063	0.007	2519	0.003
Good Behaviour Game	HGRT reading raw score	non subgroup of interest	-0.059	0.038	2519	0.003
Good Behaviour Game	HGRT reading raw score	subgroup of interest	0.064	0.026	2519	0.003
Good Behaviour Game	HGRT reading raw score	male	-0.047	0.019	2519	0.008
Good Behaviour Game	HGRT reading raw score	not male	0.046	0.021	2519	0.008
Good Behaviour Game	HGRT reading raw score	pretest outcome	-0.008	0.002	2519	0.006
IPEELL	PiE 11 - Writing score	non subgroup of interest	-0.141	0.080	349	0.000
IPEELL	PiE 11 - Writing score	subgroup of interest	0.141	0.080	349	0.000
IPEELL (one year)	Working at the expected standard or higher	male	0.037	0.068	2465	0.000
IPEELL (two years)	Working at the expected standard or higher	not male	-0.037	0.068	2465	0.000
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	FSM eligible	-0.178	0.000	1366	0.062
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	FSM missing	-0.291	0.000	1366	0.062
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	FSM missing	-0.364	0.000	1430	0.058
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	not FSM eligible	0.160	0.000	1430	0.058
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	not FSM eligible	0.238	0.000	1366	0.062
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	non subgroup of interest	0.197	0.000	1366	0.062
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	non subgroup of interest	0.149	0.000	1430	0.058

Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	unknown if part of subgroup	-0.313	0.000	1366	0.062
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	unknown if part of subgroup	-0.364	0.000	1430	0.058
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	pretest outcome	0.010	0.000	1366	0.001
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	unknown if part of subgroup	0.198	0.068	7835	0.000
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	male	0.055	0.000	7789	0.000
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	male	0.058	0.000	7835	0.000
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	male	0.057	0.000	7960	0.000
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	not male	-0.057	0.000	7960	0.000
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	not male	-0.055	0.000	7789	0.000
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	not male	-0.058	0.000	7835	0.000
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	pretest outcome	-0.009	0.012	7835	0.113
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	pretest outcome missing	0.041	0.014	7835	0.113
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	pretest outcome missing	0.036	0.033	7789	0.110
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	pretest outcome missing	0.034	0.038	7960	0.115
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	FSM eligible	0.022	0.038	8038	0.000

Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	FSM eligible	0.024	0.022	8242	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	FSM eligible	0.019	0.067	8091	0.000
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	not FSM eligible	-0.024	0.022	8242	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	not FSM eligible	-0.022	0.038	8038	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	not FSM eligible	-0.019	0.067	8091	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	male	0.081	0.000	8091	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	male	0.081	0.000	8038	0.000
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	male	0.080	0.000	8242	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	not male	-0.081	0.000	8038	0.000
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	not male	-0.080	0.000	8242	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	not male	-0.081	0.000	8091	0.000
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	pretest outcome missing	0.043	0.008	8242	0.115
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	pretest outcome missing	0.031	0.064	8091	0.113
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	pretest outcome missing	0.030	0.079	8038	0.110

LIT Programme	ART reading test - standardised adjusted score	FSM eligible	-0.042	0.006	4413	0.000
LIT Programme	ART reading test - standardised adjusted score	not FSM eligible	0.042	0.006	4413	0.000
LIT Programme	ART reading test - standardised adjusted score	non subgroup of interest	0.051	0.024	4413	0.000
LIT Programme	ART reading test - standardised adjusted score	subgroup of interest	-0.050	0.028	4413	0.000
LIT Programme	ART reading test - standardised adjusted score	male	-0.029	0.044	4413	0.000
LIT Programme	ART reading test - standardised adjusted score	not male	0.029	0.044	4413	0.000
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	non subgroup of interest	-0.052	0.011	3127	0.000
Learner Response System (1yr of intervention)	Mark achieved in KS2 reading test	non subgroup of interest	-0.046	0.027	3013	0.000
Learner Response System (1yr of intervention)	Mark achieved in KS2 reading test	subgroup of interest	0.051	0.016	3013	0.000
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	subgroup of interest	0.056	0.006	3127	0.000
Learner Response System (1yr of intervention)	Mark achieved in KS2 reading test	unknown if part of subgroup	-0.461	0.039	3013	0.000
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	unknown if part of subgroup	-0.462	0.039	3127	0.000
Learner Response System (2yrs of intervention)	Mark achieved in KS2 reading test	non subgroup of interest	-0.073	0.001	2829	0.000
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	non subgroup of interest	-0.074	0.001	2837	0.000
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	subgroup of interest	0.077	0.000	2837	0.000

Learner Response System (2yrs of intervention)	Mark achieved in KS2 reading test	subgroup of interest	0.076	0.001	2829	0.000
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	pretest outcome	-0.001	0.052	2837	0.000
Let's Think Secondary Science	Science test score	FSM eligible	-0.054	0.003	5882	0.000
Let's Think Secondary Science	Science test score	not FSM eligible	0.054	0.003	5882	0.000
Nuffield Early Language Intervention	Combined raw language skill score	FSM eligible	0.487	0.095	159	0.000
Nuffield Early Language Intervention	Combined raw language skill score	not FSM eligible	-0.487	0.095	159	0.000
Nuffield Early Language Intervention	Combined raw language skill score	non subgroup of interest	0.224	0.067	156	0.000
Nuffield Early Language Intervention	Combined raw language skill score	non subgroup of interest	0.275	0.028	159	0.000
Nuffield Early Language Intervention	Combined raw language skill score	subgroup of interest	-0.224	0.067	156	0.000
Nuffield Early Language Intervention	Combined raw language skill score	subgroup of interest	-0.275	0.028	159	0.000
Parent Academy (non-incentivised)	InCAS Maths Outcome	FSM missing	-0.434	0.032	1414	0.005
Parent Academy (non-incentivised)	InCAS English Outcome	FSM missing	-0.435	0.032	1398	0.005
Philosophy for Children	KS2 Maths Score	pretest outcome	-0.006	0.035	1373	0.034
Quest	NGRT reading - Standard Age Score	FSM eligible	-0.082	0.001	2117	0.012
Quest	NGRT reading - Standard Age Score	FSM missing	0.437	0.000	2117	0.012
Quest	NGRT reading - Standard Age Score	not FSM eligible	0.052	0.033	2117	0.012
Quest	NGRT reading - Standard Age Score	non subgroup of interest	0.064	0.037	2117	0.012
Quest	NGRT reading - Standard Age Score	subgroup of interest	-0.065	0.036	2117	0.012
Quest	NGRT reading - Standard Age Score	male	0.103	0.000	2117	0.012

Quest	NGRT reading - Standard Age Score	male missing	0.437	0.000	2117	0.012
Quest	NGRT reading - Standard Age Score	not male	-0.124	0.000	2117	0.012
Quest	NGRT reading - Standard Age Score	pretest outcome	-0.004	0.026	2117	0.013
Quest	NGRT reading - Standard Age Score	pretest outcome missing	0.329	0.001	2117	0.013
Research Learning Communities	Standardised KS2 reading score	FSM missing	0.211	0.059	4903	0.004
Research Learning Communities	Standardised KS2 reading score	non subgroup of interest	0.044	0.035	4903	0.004
Research Learning Communities	Standardised KS2 reading score	subgroup of interest	-0.042	0.046	4903	0.004
Research Learning Communities	Standardised KS2 reading score	male missing	0.211	0.059	4903	0.004
SPOKES	Reading - letter identification test	male	-0.144	0.000	628	0.000
SPOKES	Reading - word identification test	male	-0.144	0.000	628	0.000
SPOKES	Reading - phonetic awareness test	male	-0.144	0.000	628	0.000
SPOKES	Reading - phonetic awareness test	not male	0.144	0.000	628	0.000
SPOKES	Reading - word identification test	not male	0.144	0.000	628	0.000
SPOKES	Reading - letter identification test	not male	0.144	0.000	628	0.000
Shared Maths (Year 5)	InCAS maths raw score	FSM missing	0.220	0.089	2683	0.006
Shared Maths (Year 5)	InCAS maths raw score	pretest outcome	-0.010	0.032	2683	0.032
Shared Maths (Year 5)	InCAS maths raw score	pretest outcome missing	0.137	0.013	2683	0.032
Success for All - mid-point	WRMT III reading - at the end of Reception Class (mid-point)	male missing	-0.225	0.051	1537	0.012
Success for All - mid-point	WRMT III reading - at the end of Reception Class (mid-point)	not male	0.046	0.072	1537	0.012
Switch-on Reading	NGRTB reading - Standard age score	FSM eligible	-0.118	0.047	308	0.000
Switch-on Reading	NGRTB reading - Standard age score	not FSM eligible	0.118	0.047	308	0.000

Switch-on Reading (re-grant)	NGRT reading score	FSM eligible	-0.080	0.024	902	0.000
Switch-on Reading (re-grant)	NGRT reading score	not FSM eligible	0.080	0.024	902	0.000
Talk of the Town	NGRT reading - Standardised assessment score	FSM eligible	0.036	0.071	2682	0.000
Talk of the Town	NGRT reading - Standardised assessment score	not FSM eligible	-0.036	0.071	2682	0.000
Talk of the Town	NGRT reading - Standardised assessment score	pretest outcome	-0.001	0.091	2682	0.001
Teacher Effectiveness Enhancement Programme	GCSE English point score	non subgroup of interest	-0.055	0.000	10384	0.000
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	non subgroup of interest	-0.055	0.000	10384	0.000
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	subgroup of interest	0.056	0.000	10384	0.000
Teacher Effectiveness Enhancement Programme	GCSE English point score	subgroup of interest	0.056	0.000	10384	0.000
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	pretest outcome	-0.013	0.023	10384	0.006
Teacher Effectiveness Enhancement Programme	GCSE English point score	pretest outcome	-0.022	0.001	10384	0.000
Teacher Observation	English and maths combined score	FSM eligible	0.042	0.000	12826	0.003
Teacher Observation	English and maths combined score	not FSM eligible	-0.039	0.000	12826	0.003
Teacher Observation	English and maths combined score	non subgroup of interest	-0.040	0.002	12826	0.003
Teacher Observation	English and maths combined score	subgroup of interest	0.043	0.001	12826	0.003
Teacher Observation	English and maths combined score	male	0.026	0.003	12826	0.000
Teacher Observation	English and maths combined score	not male	-0.026	0.003	12826	0.000
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	FSM eligible	-0.050	0.000	10347	0.000

Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	FSM eligible	-0.071	0.000	11630	0.000
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	FSM eligible	-0.065	0.000	11415	0.000
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	not FSM eligible	0.071	0.000	11630	0.000
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	not FSM eligible	0.065	0.000	11415	0.000
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	not FSM eligible	0.050	0.001	10347	0.000
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	non subgroup of interest	0.059	0.000	11630	0.000
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	non subgroup of interest	0.053	0.000	11415	0.000
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	non subgroup of interest	0.055	0.000	10347	0.000
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	subgroup of interest	-0.057	0.000	11630	0.000
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	subgroup of interest	-0.055	0.001	10347	0.000
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	subgroup of interest	-0.053	0.000	11415	0.000
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	pretest outcome	0.001	0.001	11630	0.011
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	pretest outcome missing	-0.329	0.000	11630	0.011
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	non subgroup of interest	-0.045	0.006	8008	0.020
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	subgroup of interest	0.047	0.007	8008	0.020
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	pretest outcome	-0.013	0.031	8008	0.028
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	pretest outcome missing	0.064	0.055	8008	0.028

Tutor Trust - Affordable Tutoring (re-grant)	Key Stage 2 mathematics score (ks2_matscore)	FSM eligible	-0.065	0.054	1201	0.000
Tutor Trust - Affordable Tutoring (re-grant)	Key Stage 2 mathematics score (ks2_matscore)	not FSM eligible	0.065	0.054	1201	0.000
Units of Sound	Overall Reading Scale	male	0.118	0.017	423	0.019
Units of Sound	Overall Reading Scale	not male	-0.118	0.018	423	0.019
Youth United	KS3 English point score	male	-0.032	0.071	3108	0.001
Youth United	KS3 Maths point score	male	-0.032	0.071	3108	0.001
Youth United	KS3 Maths point score	not male	0.031	0.083	3108	0.001
Youth United	KS3 English point score	not male	0.031	0.083	3108	0.001
Zippy's Friends	HGRT reading raw score	FSM eligible	0.081	0.001	3308	0.017
Zippy's Friends	HGRT reading raw score	not FSM eligible	-0.075	0.001	3308	0.017
Zippy's Friends	HGRT reading raw score	pretest outcome	-0.001	0.007	3308	0.000

On the subgroup

Table 8 repeats the process above, but looking only at the those in the subgroup of interest in that trial.

Table 8 : Imbalance in the subgroup

Name of the project	Outcome description	Regressor	Estimate	P value	Number in the Subgroup	Percentage of missingness
Abracadabra (Offline)	PIRA reading score	FSM eligible	0.122	0.061	135	0.000
Abracadabra (Offline)	PIRA reading score	not FSM eligible	-0.122	0.061	135	0.000
Abracadabra (Online)	PIRA reading score	pretest outcome	-0.004	0.090	133	0.000
Accelerated Reader	New Group Reading Test (NGRT) score	FSM eligible	-0.272	0.018	76	0.000
Accelerated Reader	NGRT reading score	not FSM eligible	0.272	0.018	76	0.000
Act, Sing, Play	PIPS maths score	male	-0.286	0.010	70	0.000
Act, Sing, Play	PIPS literacy score	male	-0.286	0.010	70	0.000

Act, Sing, Play	PIPS maths score	not male	0.286	0.010	70	0.000
Act, Sing, Play	PIPS literacy score	not male	0.286	0.010	70	0.000
Affordable Online Maths Tuition	KS2 math score	male	0.165	0.083	110	0.000
Affordable Online Maths Tuition	KS2 math score	not male	-0.165	0.083	110	0.000
Butterfly Phonics	NGRT 3b Standardised Age Score	FSM eligible	0.282	0.081	52	0.010
Butterfly Phonics	NGRT 3b Standardised Age Score	not FSM eligible	-0.282	0.081	52	0.010
Changing Mindsets - Teacher Training	PiE English standardised score	FSM eligible	0.172	0.063	117	0.000
Changing Mindsets - Teacher Training	MSiM Maths score	FSM eligible	0.166	0.074	116	0.000
Changing Mindsets - Teacher Training	MSiM Maths score	not FSM eligible	-0.166	0.074	116	0.000
Changing Mindsets - Teacher Training	PiE English standardised score	not FSM eligible	-0.172	0.063	117	0.000
Chess in Primary Schools	KS2 math total score	pretest outcome	0.009	0.067	723	0.043
Children's University	KS2 maths gain score	FSM eligible	-0.130	0.074	189	0.000
Children's University	KS2 maths gain score	not FSM eligible	0.130	0.074	189	0.000
Dialogic Teaching	Progress Test in Science	FSM eligible	0.181	0.018	171	0.000
Dialogic Teaching	Progress Test in Science	not FSM eligible	-0.181	0.018	171	0.000
Dialogic Teaching	Progress Test in English	male	0.127	0.082	183	0.000
Dialogic Teaching	Progress Test in English	not male	-0.127	0.082	183	0.000
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper	pretest outcome	0.006	0.054	496	0.000
Flipped Learning	KS2 maths point score	FSM eligible	0.163	0.044	151	0.000
Flipped Learning	KS2 maths point score	not FSM eligible	-0.163	0.044	151	0.000
Future Foundations	KS2 Maths - Standard age score	FSM eligible	0.352	0.019	57	0.003
Future Foundations	KS2 English - Standard age score	FSM eligible	0.347	0.020	59	0.003

Future Foundations	KS2 English - Standard age score	not FSM eligible	-0.347	0.020	59	0.003
Future Foundations	KS2 Maths - Standard age score	not FSM eligible	-0.352	0.019	57	0.003
Good Behaviour Game	HGRT reading raw score	male	-0.095	0.073	354	0.008
Good Behaviour Game	HGRT reading raw score	not male	0.095	0.073	354	0.008
GraphoGame Rime	NGRT Level 1B post-test raw score	male	0.247	0.080	54	0.000
GraphoGame Rime	NGRT Level 1B post-test raw score	not male	-0.247	0.080	54	0.000
Hampshire Hundreds	Combined maths and reading InCAS	male	-0.103	0.064	325	0.000
Hampshire Hundreds	Combined maths and reading InCAS	not male	0.103	0.064	325	0.000
IPEELL (one year)	Working at the expected standard or higher	male	0.096	0.052	414	0.000
IPEELL (two years)	Working at the expected standard or higher	not male	-0.096	0.052	414	0.000
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	FSM eligible	-0.219	0.026	91	0.062
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	not FSM eligible	0.219	0.026	91	0.062
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	FSM eligible	0.072	0.017	994	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	FSM eligible	0.070	0.020	1015	0.000
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	FSM eligible	0.067	0.022	1065	0.000
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	not FSM eligible	-0.067	0.022	1065	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	not FSM eligible	-0.072	0.017	994	0.000
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	not FSM eligible	-0.070	0.020	1015	0.000

LIT Programme	ART reading test - standardised adjusted score	male	-0.104	0.018	498	0.000
LIT Programme	ART reading test - standardised adjusted score	not male	0.104	0.018	498	0.000
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	pretest outcome	-0.002	0.067	794	0.000
Let's Think Secondary Science	Science test score	FSM eligible	-0.142	0.000	726	0.000
Let's Think Secondary Science	Science test score	not FSM eligible	0.142	0.000	726	0.000
Parent Academy (incentivised)	InCAS Maths Outcome	FSM eligible	-0.106	0.095	264	0.005
Parent Academy (incentivised)	InCAS English Outcome	FSM eligible	-0.110	0.085	261	0.005
Parent Academy (incentivised)	InCAS Maths Outcome	not FSM eligible	0.106	0.095	264	0.005
Parent Academy (incentivised)	InCAS English Outcome	not FSM eligible	0.110	0.085	261	0.005
Parent Academy (incentivised)	InCAS English Outcome	pretest outcome	-0.014	0.096	261	0.000
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	male	-0.199	0.006	192	0.000
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	not male	0.199	0.006	192	0.000
Quest	NGRT reading - Standard Age Score	FSM eligible	-0.148	0.009	302	0.012
Quest	NGRT reading - Standard Age Score	FSM missing	0.607	0.081	302	0.012
Quest	NGRT reading - Standard Age Score	not FSM eligible	0.132	0.021	302	0.012
Quest	NGRT reading - Standard Age Score	male	0.141	0.012	302	0.012
Quest	NGRT reading - Standard Age Score	male missing	0.607	0.081	302	0.012
Quest	NGRT reading - Standard Age Score	not male	-0.157	0.005	302	0.012
Response to Intervention	Overall reading scale NGRT	FSM eligible	0.222	0.079	64	0.000

Response to Intervention	Overall reading scale NGRT	not FSM eligible	-0.222	0.079	64	0.000
Shared Maths (Year 5)	InCAS maths raw score	pretest outcome missing	0.300	0.050	345	0.032
Teacher Observation	English and maths combined score	FSM eligible	0.046	0.055	1738	0.003
Teacher Observation	English and maths combined score	not FSM eligible	-0.046	0.055	1738	0.003
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	FSM eligible	-0.067	0.021	1210	0.000
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	FSM eligible	-0.058	0.048	1128	0.000
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	not FSM eligible	0.067	0.021	1210	0.000
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	pretest outcome	-0.003	0.077	1212	0.000
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	male	0.086	0.009	927	0.004
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	not male	-0.086	0.009	927	0.004
Zippy's Friends	HGRT reading raw score	pretest outcome	-0.002	0.024	265	0.000

MODEL COMPARISONS

After data cleaning, our first stage of analysis is to select the models to be used in our main analysis. In order to do this, we analyse results of each trial four times, using Ordinary Least Squares (OLS) without covariates, using OLS with covariates imputed using the strategy outlined above, using a random effects model with no covariates, and a random effects model with imputed covariates.

For each trial in our analysis, we report the results of this process below. In each row, the table reports the intervention described, as well as the outcome measure. Where are there are multiple 'treatment' groups within a trial (i.e. if it is a three or more armed trial), and where there are multiple outcomes within a trial, each treatment group/ outcome measure pair forms a row. Each row then presents the reported effect size for the EEF's original evaluation report, and the results from each of our four models, in terms of the overall average effect of the treatment. In line with our analytical approach outlined above, we select the model which estimates the most similar effect size to the original EEF trial. We note that exactly matching the original effect size is unlikely due to differences in analytical approaches taken.

Overall, we select 29 OLS models without covariates, 34 OLS models with covariates imputed, 15 random effects models without covariates and 20 random effects with covariates models to use in our final analysis. On average, these models produce an absolute difference in effect size of 0.0262 standard deviations, compared with the original trial results.

Table 9: Model Comparison

Project Name	Outcome Description	EEF Reported effect size[11]	OLS no covariates[12]	OLS covariates[13]	LMM no covariates[14]	LMM covariates[15]	Model selected[16]
1stClass@ Number	Quantitative Reasoning total score at Post-test	0.18	0.159	0.014	0.173	0.027	LMM no covariates
Abracadabra (Offline)	PIRA reading score	0.23	0.178	0.185	0.132	0.113	OIS no covariates
Abracadabra (Online)	PIRA reading score	0.14	0.094	0.077	0.048	0.028	OLS no covariates

11 Reported effect from EEF's original analysis
12 Glass's delta (coefficient standardised by the mean outcome of the control group) of the treatment arm on the outcome of interest, using an OLS model without covariates
13 Glass's delta of the treatment arm on the outcome of interest, using an OLS model with covariates imputed
14 Glass's delta of the treatment arm on the outcome of interest, using a random effects model without covariates
15 Glass's delta of the treatment arm on the outcome of interest, using a random effects model with covariates imputed
16 Model for which the glass effect size of the treatment was the closest to the reported effect size

Accelerated Reader	New Group Reading Test (NGRT)	0.24	0.253	0.266	0.262	0.264	OLS no covariates
Act, Sing, Play	PIPS literacy score	0.03	0.002	0.029	-0.014	0.029	OLS covariates
Act, Sing, Play	PIPS maths score	0	-0.055	0.01	-0.061	0.01	OLS covariates
Affordable Online Maths Tuition	KS2 math score	-0.02	-0.02	0.031	-0.025	0.011	OLS no covariates
Best Practice in Setting	PTE13 English Raw Score	-0.08	-0.109	-0.107	-0.078	-0.107	LMM no covariates
Best Practice in Setting	PTM13 Maths Raw Score	-0.01	-0.018	0.021	-0.046	0	OLS no covariates
Butterfly Phonics	NGRT 3b Standardised Age Score	0.43	0.297	0.344	0.302	0.338	OLS covariates
Catch-up Literacy	NGRT reading Standardised Age Score	0.12	0.054	0.039	0.048	0.031	OLS no covariates
Catch-up Literacy (re-grant)	HGRT II reading raw score	0.01	0.066	0.047	-0.005	0.043	LMM no covariates
Changing Mindsets - Pupil Workshops	PiE English standardised score	0.18	0.254	0.143	0.245	0.142	OLS covariates
Changing Mindsets - Pupil Workshops	MSiM Maths score	0.1	-0.016	0.037	-0.023	0.044	LMM covariates
Changing Mindsets - Teacher Training	PiE English standardised score	-0.11	-0.2	-0.115	-0.191	-0.116	OLS covariates
Changing Mindsets - Teacher Training	MSiM Maths score	0.01	-0.273	-0.081	-0.27	-0.067	LMM covariates
Chess in Primary Schools	KS2 math total score	0.01	0.04	0.028	0.009	-0.014	LMM no covariates
Children's University	KS2 reading gain score	0.12	0.147	0.108	0.188	0.18	OLS covariates
Children's University	KS2 maths gain score	0.15	0.152	0.124	0.201	0.192	OLS no covariates

Dialogic Teaching	Progress Test in English	0.09	0.098	0.194	0.072	0.182	OLS no covariates
Dialogic Teaching	Progress Test in Maths	0.15	0.026	0.073	0.025	0.07	OLS covariates
Dialogic Teaching	Progress Test in Science	0.12	0.046	0.082	0.047	0.092	LMM covariates
Embedding Formative Assessment	Attainment 8 score (standardised)	0.1	0.078	0.036	0.095	0.044	LMM no covariates
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper	0.01	-0.009	-0.062	0.026	-0.002	LMM covariates
Family Skills	CEM Base Literacy Raw Score	0.01	0.158	0.057	0.139	0.051	LMM covariates
Flipped Learning	KS2 maths point score	0.09	0.091	0.168	0.122	0.158	OLS no covariates
Fresh Start	NGRT reading gainscore	0.24	0.254	0.132	0.254	0.097	OLS no covariates
Future Foundations	KS2 Maths - Standard age score	0	-0.001	-0.091	-0.003	-0.106	OLS no covariates
Future Foundations	KS2 English - Standard age score	0.17	0.192	0.12	0.172	0.107	LMM no covariates
Good Behaviour Game	HGRT reading raw score	0.03	-0.054	0.067	-0.044	0.071	OLS covariates
Graduate Coaching Programme	PiE english raw score	0.36	0.362	0.367	0.361	0.369	LMM no covariates
Grammar for Writing	Writing score exercise- PiE 11LF	0.1	0.101	0.079	0.096	0.069	OLS no covariates
GraphoGame Rime	NGRT Level 1B post-test raw score	-0.06	-0.08	-0.011	-0.091	-0.026	OLS no covariates
Hampshire Hundreds	Combined maths and reading InCAS	0	-0.036	0.028	-0.001	0.024	LMM no covariates
IPEELL	PiE 11 - Writing score	0.74	0.331	0.379	0.316	0.352	OLS covariates

IPEELL (one year)	Working at the expected standard or higher	-0.09	-0.064	-0.041	-0.086	-0.062	LMM no covariates
IPEELL (two years)	NFER Writing test total score	0.11	0.094	0.121	0.095	0.08	OLS covariates
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	-0.05	-0.063	-0.1	0.007	-0.083	OLS no covariates
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	0.2	0.327	0.151	0.345	0.128	OLS covariates
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	0.08	0.029	0.062	0.036	0.049	OLS covariates
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	0.04	-0.078	-0.052	-0.065	-0.052	LMM no covariates
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	-0.06	-0.033	-0.025	0.032	0.001	OLS covariates
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	0.04	0.069	0.073	0.196	0.099	OLS covariates
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	0.02	-0.057	-0.045	0.032	-0.052	LMM no covariates
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	-0.06	0	-0.016	0.109	0.026	OLS covariates
LIT Programme	ART reading test - standardised adjusted score	0.09	0.079	0.056	0.129	0.075	OLS no covariates

Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	-0.08	-0.059	-0.069	-0.089	-0.125	LMM no covariates
Learner Response System (1yr of intervention)	Mark achieved in KS2 reading test	-0.04	0.012	-0.024	0.03	-0.03	LMM covariates
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	0	0.075	0.034	0.132	0.066	OLS covariates
Learner Response System (2yrs of intervention)	Mark achieved in KS2 reading test	0	0.109	0.01	0.149	0.043	OLS covariates
Let's Think Secondary Science	Science test score	-0.01	0.037	0	0.041	-0.021	OLS covariates
Maths Counts	CEM InCAS maths - Standardised score	0.12	0.277	0.202	0.285	0.204	OLS covariates
Nuffield Early Language Intervention (30 week)	Combined raw language skill score	0.16	0.202	0.175	0.199	0.173	OLS covariates
Nuffield Early Language Intervention (20 week)	Combined raw language skill score	0.27	0.215	0.201	0.21	0.198	OLS covariates
Parent Academy (incentivised)	InCAS English Outcome	0	-0.037	0.01	0	0.009	LMM covariates
Parent Academy (incentivised)	InCAS Maths Outcome	0.01	-0.01	0.017	0.006	0.012	LMM covariates
Parent Academy (non-incentivised)	InCAS English Outcome	0.02	0.032	0.023	0.057	0.023	LMM covariates
Parent Academy (non-incentivised)	InCAS Maths Outcome	-0.04	0.019	-0.023	0.028	-0.028	LMM covariates

Peer Tutoring in Secondary School (Year 7)	NGRT reading test	-0.02	-0.07	-0.025	-0.052	-0.015	LMM covariates
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	-0.06	-0.124	-0.066	-0.138	-0.065	LMM covariates
Philosophy for Children	KS2 Reading Score	0.12	0.014	0.097	-0.005	0.08	OLS covariates
Philosophy for Children	KS2 Maths Score	0.1	-0.054	0.067	-0.092	0.031	OLS covariates
Quest	NGRT reading - Standard Age Score	-0.04	-0.072	-0.059	-0.216	-0.055	LMM covariates
REACH	NGRT reading - Raw Score	0.33	0.18	0.292	0.2	0.31	OLS covariates
REACH plus language comprehension	NGRT reading - Raw Score	0.51	0.395	0.342	0.379	0.318	OLS covariates
Rapid Phonics	New GP reading score 3B SS	-0.05	-0.069	-0.056	-0.061	-0.046	LMM covariates
Research Learning Communities	Standardised KS2 reading score	0.02	0.041	0.051	0.088	0.05	OLS no covariates
Response to Intervention	Overall reading scale NGRT	0.19	0.17	0.102	0.151	0.063	OLS no covariates
Rhythm for Reading	NGRT overall reading score	0.03	0.077	-0.004	0.08	0.016	LMM covariates
SPOKES	Reading - letter identification test	0.08	0.118	0.079	0.113	0.077	OLS covariates
SPOKES	Reading - word identification test	0.05	0.086	0.069	0.079	0.067	LMM covariates
SPOKES	Reading - phonetic awareness test	0.03	0.088	0.092	0.083	0.091	LMM no covariates
ScratchMaths	KS2 maths raw test score	0	-0.013	0.015	0.03	0.037	OLS no covariates
Shared Maths (Year 3)	InCAS maths raw score	0.01	0.042	0.021	0.047	0.037	OLS covariates
Shared Maths (Year 5)	InCAS maths raw score	0.02	0.024	0.033	0.007	0.034	OLS no covariates

Success for All - end-point	WRMT III reading - at the end of Year 1 (end-point)	0.07	0.136	0.095	0.152	0.121	OLS covariates
Success for All - mid-point	WRMT III reading - at the end of Reception Class (mid-point)	0.04	0.105	0.095	0.112	0.096	OLS covariates
Summer Active Reading Programme	NGRT reading - standard age score	0.13	0.123	0.077	0.118	0.078	OLS no covariates
Switch-on Reading	NGRTB reading - Standard age score	0.24	0.236	0.198	0.232	0.196	OLS no covariates
Switch-on Reading (re-grant)	NGRT reading score	0	0.024	0.067	0.003	0.05	LMM no covariates
Talk for Literacy	NGRT reading - Overall Raw Score	0.2	0.347	0.12	0.351	0.126	LMM covariates
Talk of the Town	NGRT reading - Standardised assessment score	-0.03	-0.028	0.033	-0.037	0.026	OLS no covariates
Teacher Effectiveness Enhancement Programme	GCSE English point score	-0.04	-0.11	-0.039	-0.088	-0.005	OLS covariates
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	-0.02	-0.11	-0.054	-0.088	-0.024	LMM covariates
Teacher Observation	English and maths combined score	-0.01	0.011	0.002	0.003	0.001	OLS covariates
TextNow Transition Programme	Standard Age Score (NGRT)	-0.06	-0.007	-0.043	-0.014	-0.051	LMM covariates
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	0.03	0.034	-0.027	0.011	-0.027	OLS no covariates

Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	0.07	0.08	0.03	0.076	0.018	LMM no covariates
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	-0.01	-0.027	-0.065	-0.07	-0.098	OLS no covariates
Thinking, Doing, Talking Science	Bespoke post-test Score	0.22	0.172	0.184	0.204	0.223	LMM covariates
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	0.01	-0.021	0.028	-0.013	0.03	OLS covariates
Tutor Trust - Affordable Tutoring (re-grant)	Key Stage 2 mathematics score	0.19	0.209	0.151	0.217	0.16	OLS no covariates
Tutoring with Alphie	NGRT reading - Standard Age Score	0.11	0.196	-0.02	0.239	-0.02	OLS no covariates
Units of Sound	Overall Reading Scale	-0.08	-0.085	-0.005	-0.104	-0.017	OLS no covariates
Vocabulary Enrichment Intervention Programme	NGRT reading - Overall Reading Scale	0.06	0.042	0.055	0.034	0.053	OLS covariates
Youth United	KS3 English point score	-0.09	-0.063	-0.047	-0.146	-0.12	OLS no covariates
Youth United	KS3 Maths point score	-0.09	-0.089	-0.093	-0.145	-0.165	OLS no covariates
Zippy's Friends	HGRT reading raw score	-0.02	-0.084	-0.012	-0.098	-0.035	OLS covariates

SUBGROUP ANALYSES

Having identified in stage 1, above, the models chosen for our analysis by finding which most closely approximates the findings of the original trial, we now proceed to our main focus in this report, the analysis for our subgroup of interest.

The table below reports the Glass's delta (coefficient standardised by the standard deviation of the outcome measure in the control group) for each trial/treatment/outcome pair, reporting for each: the model selected above, the R squared, the mean of the control group, the constant, and the effect size for both our subgroup of interest and for participants without experience of children's social care, as well as the interaction terms between treatment and membership of the subgroup of interest. These are converted into months' progress, per the EEF's reporting conventions, which we outline below (table 10).

Table 10: Subgroup Analyses												
Project Name	Outcome description	Model used[17]	R^2[18]	Constant coefficient[19]	Mean of the control group[20]	Glass's delta for non subgroup[21]	Months' Progress for non subgroup[22]	Glass's delta for subgroup[23]	Confidence interval for subgroup coefficient[24]	Months' Progress for subgroup[25]	Glass's delta for interaction treatment x subgroup[26]	Months' Progress for interaction treatment x subgroup[27]
1stClass@Number	Quantitative Reasoning total score at Post-test	LMM no covariates	0.204	2.27	9.03	0.24	3	-0.34	(-0.9 , 0.21)	-4	-0.58	-7
Abracadabra (Offline)	PIRA reading score	OLS no covariates	0.024	6.91	97.72	0.17	2	0.21	(-0.33 , 0.75)	3	0.04	0
Abracadabra (Online)	PIRA reading score	OLS no covariates	0.024	6.91	97.72	0.09	1	0.03	(-0.34 , 0.4)	0	-0.06	-1

17 Model for which the Glass; effect size of the treatment was the closest to the reported effect size
18 R squared coefficient computed for the OLS model and for the random effect models using Schielzeth and Nakagawa's R2 for generalized linear mixed effects models using the r.squaredGLMM function in the MuMIn package in R.
19 Glass's delta (coefficient standardised by the standard deviation of the outcome measure for the control group).
20 Mean of the control group for the outcome of interest
21 Glass's delta of the treatment using the model selected. Treatment effect on children not in our subgroup of interest.
22 Treatment effect in months of progress using the model selected for children not in our subgroup of interest.
23 Sum of the glass coefficient of the treatment and the interaction term using the model selected. Treatment effect for children in subgroup of interest.
24 Confidence intervals have been computed using confint package in R, for both the lmm and ols output models.
25 Sum of the treatment and the interaction terms in months of progress using the model selected. Treatment effect in months' progress for subgroup of interest.
26 Glass's delta of the interaction term (children in our subgroup of interest and the treatment) using the model selected. Difference in treatment effect between those in our subgroup of interest and the rest of the sample.
27 Interaction effect in months of progress using the model selected. Difference in months' progress between those in our subgroup of interest and the rest of the sample

Accelerated Reader	New Group Reading Test (NGRT) score	OLS no covariates	0.029	6.55	315.27	0.27	4	0.22	(-0.27 , 0.7)	3	-0.05	-1
Act, Sing, Play	PIPS literacy score	OLS covariates	0.597	0.87	49.73	0.03	0	0.06	(-0.28 , 0.41)	1	0.04	0
Act, Sing, Play	PIPS maths score	OLS covariates	0.573	-0.33	50.37	0.01	0	0.06	(-0.3 , 0.42)	1	0.05	1
Affordable Online Maths Tuition	KS2 math score	OLS no covariates	0.014	7.27	25.43	-0.06	-1	0.21	(-0.26 , 0.69)	3	0.28	4
Best Practice in Setting	PTE13 English Raw Score	LMM no covariates	0.061	2	31.69	-0.07	-1	-0.17	(-0.56 , 0.22)	-2	-0.1	-2
Best Practice in Setting	PTM13 Maths Raw Score	OLS no covariates	0.02	1.7	31.1	-0.03	0	-0.03	(-0.3 , 0.25)	0	0	0
Butterfly Phonics	NGRT 3b Standardised Age Score	OLS covariates	0.592	2.39	84.26	0.32	4	0.4	(0.05 , 0.75)	5	0.08	1
Catch-up Literacy	NGRT reading Standardised Age Score	OLS no covariates	0.035	7.47	89.15	-0.01	0	0.33	(-0.18 , 0.83)	4	0.33	4
Catch-up Literacy (re-grant)	HGRT II reading raw score	LMM no covariates	0.425	2.66	27.22	-0.03	0	0.06	(-0.22 , 0.34)	1	0.09	1
Changing Mindsets - Pupil Workshops	PiE English standardised score	OLS covariates	0.612	0.29	13.63	0.1	2	0.38	(-0.05 , 0.81)	5	0.28	4

Changing Mindsets - Pupil Workshops	MSiM Maths score	LMM covariates	0.719	1.38	20.01	0.06	1	-0.03	(-0.4 , 0.29)	0	-0.08	-1
Changing Mindsets - Teacher Training	PiE English standardised score	OLS covariates	0.652	1.26	17.21	-0.11	-2	-0.14	(-0.38 , 0.09)	-2	-0.04	0
Changing Mindsets - Teacher Training	MSiM Maths score	LMM covariates	0.633	1.48	24.19	-0.06	-1	-0.1	(-0.35 , 0.15)	-2	-0.04	0
Chess in Primary Schools	KS2 math total score	LMM no covariates	0.12	3.14	69.22	-0.01	0	0.09	(-0.09 , 0.27)	1	0.1	2
Children's University	KS2 reading gain score	OLS covariates	0.151	1.56	-0.17	0.13	2	0.01	(-0.32 , 0.34)	0	-0.12	-2
Children's University	KS2 maths gain score	OLS no covariates	0.008	-0.11	-0.13	0.19	3	-0.07	(-0.45 , 0.31)	-1	-0.26	-3
Dialogic Teaching	Progress Test in English	OLS no covariates	0.016	1.94	13.16	0.1	2	-0.03	(-0.36 , 0.29)	0	-0.13	-2
Dialogic Teaching	Progress Test in Maths	OLS covariates	0.425	-1.1	20.98	0.08	1	0.04	(-0.18 , 0.26)	0	-0.04	0
Dialogic Teaching	Progress Test in Science	LMM covariates	0.36	1.55	26.29	0.08	1	0.2	(-0.07 , 0.45)	3	0.12	2
Embedding Formative Assessment	Attainment 8 score (standardised)	LMM no covariates	0.259	-0.73	-0.02	0.08	1	0.16	(0.01 , 0.3)	2	0.07	1

Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper	LMM covariates	0.506	1.24	63.92	-0.02	0	0.13	(-0.05 , 0.31)	2	0.15	2
Family Skills	CEM Base Literacy Raw Score	LMM covariates	0.622	1.35	133.35	0.06	1	0.3	(-0.15 , 0.76)	4	0.24	3
Flipped Learning	KS2 maths point score	OLS no covariates	0.036	5.23	28.71	0.1	2	-0.12	(-0.59 , 0.35)	-2	-0.22	-3
Fresh Start	NGRT reading gainscore	OLS no covariates	0.031	0.44	16.75	0.23	3	0.43	(-0.18 , 1.03)	5	0.19	3
Future Foundations	KS2 Maths - Standard age score	OLS no covariates	0.019	6.59	87.04	-0.02	0	0.1	(-0.35 , 0.55)	2	0.12	2
Future Foundations	KS2 English - Standard age score	LMM no covariates	0.23	7.03	89.37	0.22	3	0.01	(-0.48 , 0.49)	0	-0.21	-3
Good Behaviour Game	HGRT reading raw score	OLS covariates	0.589	1.93	33.05	0.06	1	0.09	(-0.06 , 0.24)	1	0.03	0
Graduate Coaching Programme	PiE english raw score	LMM no covariates	0.061	2.17	18.56	0.44	5	0.11	(-0.4 , 0.64)	2	-0.33	-4
Grammar for Writing	Writing score exercise- PiE 11LF	OLS no covariates	0.018	2.77	20.9	0.1	2	0.13	(-0.2 , 0.46)	2	0.03	0

GraphoGame Rime	NGRT Level 1B post-test raw score	OLS no covariates	0.013	1.49	13.94	-0.09	-1	0.03	(-0.53 , 0.59)	0	0.12	2
Hampshire Hundreds	Combined maths and reading InCAS	LMM no covariates	0.072	-0.49	0.02	-0.03	0	0.13	(-0.1 , 0.36)	2	0.16	2
IPEELL	PiE 11 - Writing score	OLS covariates	0.283	3.1	19.73	0.38	5	0.43	(-0.13 , 0.99)	5	0.06	1
IPEELL (one year)	Working at the expected standard or higher	LMM no covariates	0.083	1.26	0.73	-0.1	-2	0	(-0.22 , 0.22)	0	0.11	2
IPEELL (two years)	NFER Writing test total score	OLS covariates	0.451	0.47	20.92	0.11	2	0.2	(0 , 0.4)	3	0.09	1
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	OLS no covariates	0.03	2.65	24.21	-0.02	0	-0.43	(-0.85 , 0)	-5	-0.4	-5
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	OLS covariates	0.588	0.94	17.77	0.17	2	0.1	(-0.15 , 0.36)	2	-0.07	-1
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	OLS covariates	0.372	-1.24	37.06	0.07	1	0.02	(-0.17 , 0.21)	0	-0.05	-1
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	LMM no covariates	0.295	3.48	38.42	-0.08	-1	0.01	(-0.31 , 0.34)	0	0.09	1

Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	OLS covariates	0.342	-3.35	25.92	-0.02	0	-0.08	(-0.31 , 0.16)	-1	-0.06	-1
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	OLS covariates	0.372	-1.24	37.06	0.09	1	-0.04	(-0.18 , 0.1)	0	-0.13	-2
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	LMM no covariates	0.295	3.48	38.42	0.02	0	-0.03	(-0.35 , 0.29)	0	-0.05	-1
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	OLS covariates	0.342	-3.35	25.92	0	0	-0.09	(-0.41 , 0.22)	-1	-0.09	-1
LIT Programme	ART reading test - standardised adjusted score	OLS no covariates	0.023	-0.48	-0.01	0.05	1	0.21	(0.01 , 0.42)	3	0.16	2
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	LMM no covariates	0.235	12.36	101.63	-0.06	-1	-0.13	(-0.35 , 0.09)	-2	-0.08	-1

Learner Response System (1yr of intervention)	Mark achieved in KS2 reading test	LMM covariates	0.282	11.53	100.49	0	0	-0.12	(-0.29 , 0.05)	-2	-0.12	-2
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	OLS covariates	0.267	2.28	67.28	0.04	0	0.03	(-0.13 , 0.19)	0	-0.01	0
Learner Response System (2yrs of intervention)	Mark achieved in KS2 reading test	OLS covariates	0.232	1.68	28.67	0.02	0	0	(-0.15 , 0.15)	0	-0.02	0
Let's Think Secondary Science	Science test score	OLS covariates	0.57	2.03	46.54	0	0	-0.03	(-0.16 , 0.09)	0	-0.04	0
Maths Count	CEM InCAS maths - Standardised score	OLS covariates	0.4	5.96	83.6	0.29	4	-0.17	(-0.65 , 0.31)	-2	-0.46	-6
Nuffield Early Language Intervention (30 week)	Combined raw language skill score	OLS covariates	0.412	-1.75	72.2	0.18	2	-0.23	(-1.07 , 0.62)	-3	-0.4	-5
Nuffield Early Language Intervention (20 week)	Combined raw language skill score	OLS covariates	0.412	-1.75	72.2	0.14	2	0.55	(-0.6 , 1.69)	7	0.41	5

Parent Academy (incentivised)	InCAS English Outcome	LMM covariates	0.518	5.69	102.6	0.06	1	-0.21	(-0.39 , -0.02)	-3	-0.27	-4
Parent Academy (incentivised)	InCAS Maths Outcome	LMM covariates	0.531	2.52	99.28	0.07	1	-0.19	(-0.37 , -0.01)	-3	-0.26	-3
Parent Academy (non-incentivised)	InCAS English Outcome	LMM covariates	0.518	5.69	102.6	0.07	1	-0.17	(-0.34 , 0.01)	-2	-0.24	-3
Parent Academy (non-incentivised)	InCAS Maths Outcome	LMM covariates	0.531	2.52	99.28	-0.01	0	-0.1	(-0.27 , 0.07)	-2	-0.09	-1
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	LMM covariates	0.665	1.43	341.24	-0.01	0	-0.04	(-0.22 , 0.14)	0	-0.03	0
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	LMM covariates	0.642	-0.64	365.31	-0.06	-1	-0.1	(-0.29 , 0.09)	-2	-0.04	0
Philosophy for Children	KS2 Reading Score	OLS covariates	0.335	4.18	28.85	0.12	2	-0.01	(-0.25 , 0.22)	0	-0.13	-2
Philosophy for Children	KS2 Maths Score	OLS covariates	0.484	2.42	29.03	0.06	1	0.09	(-0.17 , 0.35)	1	0.03	0
Quest	NGRT reading - Standard Age Score	LMM covariates	0.577	3.79	98.87	-0.05	-1	-0.05	(-0.28 , 0.2)	-1	0.01	0
REACH	NGRT reading - Raw Score	OLS covariates	0.574	3.57	250.14	0.28	4	0.33	(-0.22 , 0.88)	4	0.06	1

REACH plus language comprehension	NGRT reading - Raw Score	OLS covariates	0.574	3.57	250.14	0.3	4	0.51	(-0.14 , 1.16)	6	0.21	3
Rapid Phonics	New GP reading score 3B SS	LMM covariates	0.382	4.03	81.37	-0.01	0	-0.14	(-0.62 , 0.27)	-2	-0.13	-2
Research Learning Communities	Standardised KS2 reading score	OLS no covariates	0.029	-0.46	0.02	0.01	0	0.14	(-0.07 , 0.34)	2	0.12	2
Response to Intervention	Overall reading scale NGRT	OLS no covariates	0.046	3.76	276.49	0.18	2	0.13	(-0.43 , 0.7)	2	-0.05	-1
Rhythm for Reading	NGRT overall reading score	LMM covariates	0.621	-0.28	22.34	0.02	0	0	(-0.38 , 0.39)	0	-0.02	0
SPOKES	Reading - letter identification test	OLS covariates	0.199	10.08	107.13	0.09	1	-0.03	(-0.47 , 0.41)	0	-0.12	-2
SPOKES	Reading - word identification test	LMM covariates	0.237	6.71	120.29	0.06	1	0.17	(-0.31 , 0.65)	2	0.11	2
SPOKES	Reading - phonetic awareness test	LMM no covariates	0.062	13.17	118.32	0.06	1	0.28	(-0.23 , 0.79)	4	0.22	3
ScratchMaths	KS2 maths raw test score	OLS no covariates	0.027	2.85	76.63	-0.02	0	0.04	(-0.14 , 0.23)	0	0.07	1
Shared Maths (Year 3)	InCAS maths raw score	OLS covariates	0.598	1.54	8.98	0.02	0	0.03	(-0.11 , 0.16)	0	0.01	0

Shared Maths (Year 5)	InCAS maths raw score	OLS no covariates	0.038	6.5	10.62	0.02	0	0.08	(-0.17 , 0.32)	1	0.06	1
Success for All - end-point	WRMT III reading - at the end of Year 1 (end-point)	OLS covariates	0.19	-0.09	78.29	0.08	1	0.27	(-0.06 , 0.59)	4	0.19	3
Success for All - mid-point	WRMT III reading - at the end of Reception Class (mid-point)	OLS covariates	0.04	2.08	54.83	0.1	2	0.01	(-0.35 , 0.36)	0	-0.1	-2
Summer Active Reading Programme	NGRT reading - standard age score	OLS no covariates	0.025	7.92	82.76	0.09	1	0.27	(-0.38 , 0.92)	4	0.18	2
Switch-on Reading	NGRTB reading - Standard age score	OLS no covariates	0.026	8.33	78.73	0.26	3	0.12	(-0.34 , 0.58)	2	-0.15	-2
Switch-on Reading (re-grant)	NGRT reading score	LMM no covariates	0.169	2.01	15.81	-0.03	0	0.15	(-0.16 , 0.45)	2	0.18	2
Talk for Literacy	NGRT reading - Overall Raw Score	LMM covariates	0.402	0.29	23.57	0.08	1	0.4	(-0.2 , 0.98)	5	0.31	4
Talk of the Town	NGRT reading - Standardised assessment score	OLS no covariates	0.024	6.97	99.77	0.01	0	-0.15	(-0.44 , 0.14)	-2	-0.16	-2

Teacher Effectiveness Enhancement Programme	GCSE English point score	OLS covariates	0.358	-1.4	37.2	-0.06	-1	0.07	(-0.09 , 0.24)	1	0.13	2
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	LMM covariates	0.37	-0.45	37.2	-0.04	0	0.07	(-0.06 , 0.2)	1	0.11	2
Teacher Observation	English and maths combined score	OLS covariates	0.506	0.92	77.8	0	0	0.03	(-0.09 , 0.16)	0	0.03	0
TextNow Transition Programme	Standard Age Score (NGRT)	LMM covariates	0.502	9.99	88.85	-0.04	0	-0.13	(-0.48 , 0.21)	-2	-0.09	-1
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	OLS no covariates	0.021	-0.26	0.06	0.05	1	-0.15	(-0.3 , 0)	-2	-0.2	-3
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	LMM no covariates	0.081	-0.45	0.02	0.07	1	0.09	(-0.07 , 0.25)	1	0.02	0
Texting Parents	Post test science for KS3 and KS4 combined as a z-score	OLS no covariates	0.021	-0.31	0.06	-0.03	0	-0.13	(-0.35 , 0.08)	-2	-0.11	-2
Thinking, Doing, Talking Science	Bespoke post-test Score	LMM covariates	0.591	-6.9	21.05	0.21	3	0.35	(0.06 , 0.64)	4	0.14	2

Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	OLS covariates	0.421	3.55	19.62	0.03	0	0.03	(-0.1 , 0.17)	0	0	0
Tutor Trust - Affordable Tutoring (re-grant)	Key Stage 2 mathematics score	OLS no covariates	0.016	16.7	100.73	0.19	3	0.26	(-0.11 , 0.64)	3	0.07	1
Tutoring with Alphie	NGRT reading - Standard Age Score	OLS no covariates	0.02	9.53	79	0.09	1	0.36	(-0.55 , 1.28)	5	0.27	4
Units of Sound	Overall Reading Scale	OLS no covariates	0.016	4.29	261.07	-0.13	-2	0.13	(-0.26 , 0.52)	2	0.26	3
Vocabulary Enrichment Intervention Programme	NGRT reading - Overall Reading Scale	OLS covariates	0.462	1.63	22.61	0.02	0	0.19	(-0.11 , 0.49)	3	0.16	2
Youth United	KS3 English point score	OLS no covariates	0.05	5.15	38.36	-0.03	0	-0.17	(-0.52 , 0.17)	-2	-0.14	-2
Youth United	KS3 Maths point score	OLS no covariates	0.043	4.69	38.43	-0.04	0	-0.28	(-0.64 , 0.09)	-4	-0.24	-3
Zippy's Friends	HGRT reading raw score	OLS covariates	0.575	2	30.25	-0.01	0	0	(-0.19 , 0.2)	0	0.01	0

MONTHS' PROGRESS CONVERSIONS TABLE

For our presentation of findings in the summary report, we adopt the convention used by the EEF of reporting effects in terms of 'months' progress' in learning[28] . The table used to convert effect sizes to months' progress is below.

Table 11: Effect size to Months' Progress

Effect size from	To	Months' additional progress
-0.04	0.04	0
0.05	0.09	1
0.10	0.18	2
0.19	0.26	3
0.27	0.35	4
0.36	0.44	5
0.45	0.52	6
0.53	0.61	7
0.62	0.69	8
0.70	0.78	9
0.79	0.87	10
0.88	0.952	11

28 EEF's months of additional progress measure: https://educationendowmentfoundation.org.uk/help/projects/the-eefs-months-progress-measure/

ROBUSTNESS CHECKS

Breusch Pagan Test

Another way to detect heteroskedasticity is to use the Breusch-Pagan test. It involves using a variance function and using a chi squared test to evaluate the null hypothesis that errors are homoscedastic against the alternative hypothesis that they are heteroskedasticity.

Table 12 : Breusch Pagan Test

Name in Report	Outcome Description	Model type	p value	significance[29]	Sample size
1stClass@Number	Quantitative Reasoning total score at Post-test	LMM no covariates	0.397		466
Abracadabra (Offline)	PIRA reading score	OLS no covariates	0.606		1901
Abracadabra (Online)	PIRA reading score	OLS no covariates	0.606		1901
Accelerated Reader	New Group Reading Test (NGRT) score	OLS no covariates	0.319		339
Act, Sing, Play	PIPS maths score	OLS covariates	0.001	***	825
Act, Sing, Play	PIPS literacy score	OLS covariates	0.089		825
Affordable Online Maths Tuition	KS2 math score	OLS no covariates	0.669		578
Best Practice in Grouping Students: Best Practice in Setting	PTM13 math raw score	LMM no covariates	0.07		939
Best Practice in Grouping Students: Best Practice in Setting	PTM13 Total RawScore - Post test	OLS no covariates	0.697		2383
Butterfly Phonics	NGRT 3b Standardised Age Score	OLS covariates	0.686		311
Catch-up Literacy	NGRT reading Standardised Age Score	OLS no covariates	0.17		538
Catch-up Literacy Effectiveness	HGRT II reading raw score	LMM no covariates	0.213		1006

29 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Changing Mindsets - Pupil Workshops	PiE English standardised score	OLS covariates	0.01	*	178
Changing Mindsets - Pupil Workshops	MSiM Maths score	LMM covariates	0.085		176
Changing Mindsets - Teacher Training	MSiM Maths score	LMM covariates	0.001	***	906
Changing Mindsets - Teacher Training	PiE English standardised score	OLS covariates	0.479		890
Chess in Primary Schools	KS2 math total score	LMM no covariates	0.046	*	3859
Childrens University	KS2 reading gain score	OLS covariates	0	***	1208
Childrens University	KS2 maths gain score	OLS no covariates	0.486		1215
Dialogic Teaching	Progress Test in English	OLS no covariates	0.506		1277
Dialogic Teaching	Progress Test in Science	LMM covariates	0.129		1313
Dialogic Teaching	Progress Test in Maths	OLS covariates	0	***	1322
Embedding Formative Assessment	Attainment 8 score (standardised)	LMM no covariates	0.801		25393
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper: 45*(PostTest_ Outcome_2/20 + PostTest_ Outcome_3/25)	LMM covariates	0	***	4219
Family Skills	CEM Base Literacy Raw Score	LMM covariates	0.003	**	1983
Flipped Learning	KS2 maths point score	OLS no covariates	0.256		1129
Fresh Start	NGRT reading gainscore	OLS no covariates	0.361		419
Future Foundations	KS2 Maths - Standard age score	OLS no covariates	0.353		328
Future Foundations	KS2 English - Standard age score	LMM no covariates	0.307		343
Good Behaviour Game	HGRT reading raw score	OLS covariates	0	***	2519
Graduate Coaching Programme	PiE english raw score	LMM no covariates	0.936		291
Grammar for Writing	Writing score exercise- PiE 11LF	OLS no covariates	0.413		2219
GraphoGame Rime	NGRT Level 1B post-test raw score	OLS no covariates	0.977		360
Hampshire Hundreds	Combined maths and reading InCAS	LMM no covariates	0.06		2973

IPEELL	PiE 11 - Writing score	OLS covariates	0.596		349
IPEELL one year	Working at the expected standard or higher	LMM no covariates	0.117		2465
IPEELL two year	NFER Writing test total score	OLS covariates	0.064		2182
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	OLS no covariates	0.213		1430
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	OLS covariates	0.763		1366
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	OLS covariates	0	***	10649
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	OLS covariates	0	***	10462
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	LMM no covariates	0.606		10383
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	OLS covariates	0	***	10462
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	OLS covariates	0	***	10649
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	LMM no covariates	0.606		10383
LIT Programme	ART reading test - standardised adjusted score	OLS no covariates	0.167		4413
Learner Response System (1yr of intervention)	Mark achieved in KS2 readnig test	LMM covariates	0.001	***	3013
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	LMM no covariates	0.835		3127
Learner Response System (2yrs of intervention)	Mark achieved in KS2 readnig test	OLS covariates	0	***	2829
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	OLS covariates	0	***	2837
Lets Think Secondary Science	Science test score	OLS covariates	0	***	5882

Maths Count	CEM InCAS maths - Standardised score	OLS covariates	0.047	*	291
Nuffield Early Language Intervention	Combined raw language skill score	OLS covariates	0.329		239
Parent Academy (incentivsed)	InCAS Maths Outcome	LMM covariates	0	***	1923
Parent Academy (incentivsed)	InCAS English Outcome	LMM covariates	0.001	***	1895
Parent Academy (non-incentivsed)	InCAS English Outcome	LMM covariates	0.001	***	1895
Parent Academy (non-incentivsed)	InCAS Maths Outcome	LMM covariates	0	***	1923
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	LMM covariates	0	***	1309
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	LMM covariates	0.008	**	1276
Philosophy for Children	KS2 Maths Score	OLS covariates	0.763		1373
Philosophy for Children	KS2 Reading Score	OLS covariates	0	***	1373
Quest	NGRT reading - Standard Age Score	LMM covariates	0	***	2117
REACH	NGRT reading - Raw Score	OLS covariates	0.712		184
REACH plus language comprehension	NGRT reading - Raw Score	OLS covariates	0.712		184
Rapid Phonics	New GP reading score 3B SS	LMM covariates	0.785		178
Research Learning Communities	Standardised KS2 reading score	OLS no covariates	0.167		4903
Response to Intervention	Overall reading scale NGRT	OLS no covariates	0.04	*	385
Rhythm for Reading	NGRT overall reading score	LMM covariates	0.01	**	366
SPOKES	Reading - word identification test	LMM covariates	0.015	*	628
SPOKES	Reading - letter identification test	OLS covariates	0.436		628
SPOKES	Reading - phonetic awarness test	LMM no covariates	0.983		628
ScratchMaths	KS2 maths raw test score	OLS no covariates	0.434		5818
Shared Maths (Year 3)	InCAS maths raw score	OLS covariates	0	***	2787

Shared Maths (Year 5)	InCAS maths raw score	OLS no covariates	0.362		2683
Success for All - end-point	WRMT III reading - at the end of Year 1 (end-point)	OLS covariates	0	***	1272
Success for All - mid-point	WRMT III reading - at the end of Reception Class (mid-point)	OLS covariates	0.449		1537
Summer Active Reading Programme	NGRT reading - standard age score	OLS no covariates	0.965		182
Switch-on Reading	NGRTB reading - Standard age score	OLS no covariates	0.985		308
Switch-on Reading (re-grant)	NGRT reading score	LMM no covariates	0	***	902
Talk for Literacy	NGRT rading - Overall Raw Score	LMM covariates	0.502		219
Talk of the Town	NGRT reading - Standardised assessment score	OLS no covariates	0.039	*	2682
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	LMM covariates	0	***	10384
Teacher Effectiveness Enhancement Programme	GCSE English point score	OLS covariates	0	***	10384
Teacher Observation	English and maths combined score	OLS covariates	0	***	12826
TextNow Transition Programme	Standard Age Score (NGRT)	LMM covariates	0.014	*	391
Texting Parents	Post test maths for KS3 and KS4 combined as a zscore	LMM no covariates	0.161		11630
Texting Parents	Post test science for KS3 and KS4 combined as a zscore	OLS no covariates	0	***	10347
Texting Parents	Post test English for KS3 and KS4 combined as a zscore	OLS no covariates	0.263		11415
Thinking, Doing, Talking Science	Bespoke post-test Score	LMM covariates	0	***	1264
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	OLS covariates	0	***	8008
Tutor Trust - Affordable Tutoring (re-grant)	Key Stage 2 mathematics score	OLS no covariates	0.425		1201
Tutoring with Alphie	NGRT rading - Standard Age Score	OLS no covariates	0.474		72

Units of Sound	Overall Reading Scale	OLS no covariates	0.767		423
Vocabulary Enrichment Intervention Programme	NGRT rading - Overall Reading Scale	OLS covariates	0	***	596
Youth Social Action Trials: Youth United	KS3 Maths point score	OLS no covariates	0	***	3108
Youth Social Action Trials: Youth United	KS3 English point score	OLS no covariates	0.803		3108
Zippys Friends	HGRT reading raw score	OLS covariates	0	***	3308

IDENTIFYING 'SIGNS OF POTENTIAL'

After concluding our analysis, we attempt to identify studies which show 'Signs of Potential, and hence which warrant further investigation. Although it is not possible to draw firm conclusions from any of these trials, our goal from this research is to identify those interventions where we would, on the basis of existing evidence, be most likely to identify positive impacts from a future set of randomised controlled trials, so that that research could be prioritised over more speculative studies in future.

To arrive at our definition of a project that has 'Signs of Potential', we reviewed all of the findings, and selected interventions which met a series of criteria[30] :

- The effect size for young people with social care experience was larger (on most or all outcome measures) than the effect size for young people without social care experience.
- The sample of young people with social work experience was greater than 30.
- The months' of progress estimated for the subgroup of interest is within one month across the four analytical approaches described above.
- The evidence security rating for the original trial was at least moderate.
- There is no imbalance on subgroup membership or pre-test scores for the subgroup in this trial that is statistically significant at the 10% level.

Table 13: Signs of Potential

Trial	Outcome	Glass's Delta for the subgroup	Months' progress for the subgroup	N (subgroup)	Glass's Delta for non-subgroup	Months' progress for non-subgroup	N (non-subgroup)
Affordable Online Maths Tuition	Maths	0.21	3	110	-0.06	-1	468
Catch-up Literacy	Literacy	0.33	4	68	-0.01	0	465
Catch-up Literacy (re-grant)[31]	Literacy	0.06	1	240	-0.03	0	766
Embedding Formative Assessment	General attainment	0.16	2	3508	0.08	1	21878

30 One trial (Summer Active Reading Programme) met the specified criteria, but as the sample size was close to our threshold (n=31), and the confidence intervals were wide (-0.38 , 0.92), the project team decided not to include it as a 'Signs of Potential' project.

31 The Catch Up Literacy (re-grant) trial is included based on the cumulative strength of evidence based on this and its original trial, which is also included.

Families and Schools Together (FAST)	Reading	0.13	2	496	-0.02	0	3723
Family Skills	Literacy	0.3	4	34	0.06	1	1899
Hampshire Hundreds	Combined Maths and English	0.13	2	325	-0.03	0	2648
Research Learning Communities	Reading	0.14	2	655	0.01	0	4243
SPOKES[32]	Reading - letter recognition	-0.03	0	59	0.09	1	569
	Reading - word recognition	0.17	2	59	0.06	1	569
	Reading - phonemic awareness	0.28	4	59	0.06	1	569
Switch-on Reading (re-grant)	Reading	0.15	2	151	-0.03	0	751
Vocabulary Enrichment Intervention Programme	Reading	0.19	3	112	0.02	0	484

32 The average effect size for the subgroup of interest across the three outcomes for this trial is 0.14 (2 months' progress).

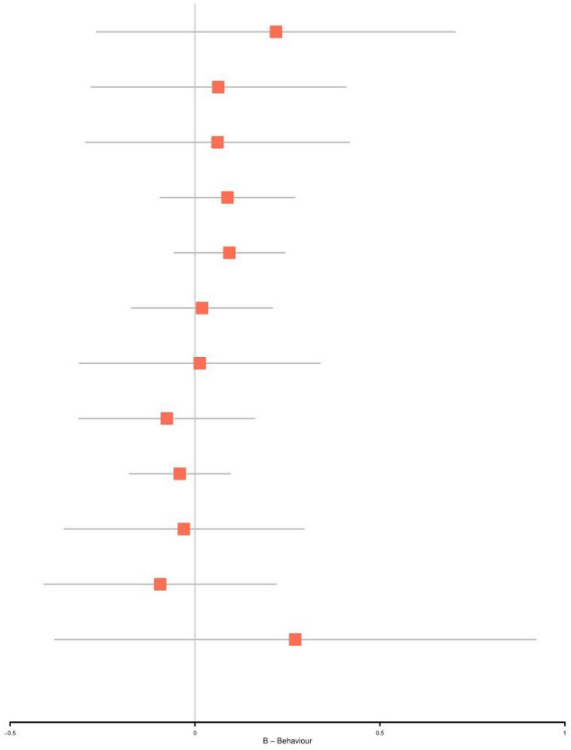
ANNEX 1: FOREST PLOTS BY THEMES

The figures below report the Glass's delta (coefficient standardised by the standard deviation of the outcome measure in the control group) for each trial/treatment/outcome pair as well as the lower and upper bound of the 95% confidence interval sorted by the theme provided by the EEF. Below each forest plot, the mean coefficient of all the trials in the theme is also given.

We used the following themes identified by the EEF: Behaviour; Character and Essential Skills; Developing Effective Learning, Enrichment, Early Years, Feedback and Monitoring Pupil Progress; Language and Literacy; Mathematics, Organising your School; Parental Engagement; Science, Special Educational Needs; Staff Deployment and Development. Please note that one trial can be included in several different themes.

Forest Plot: B – Behaviour

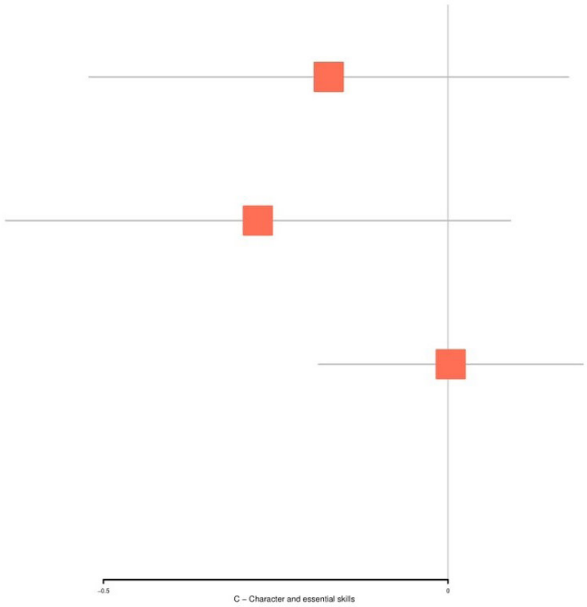
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
Accelerated Reader	NGRT reading score	−0.266	0.219	0.703
Act, Sing, Play	PIPS literacy score	−0.281	0.063	0.408
Act, Sing, Play	PIPS maths score	−0.295	0.061	0.417
Chess in Primary Schools	KS2 math total score	−0.094	0.088	0.27
Good Behaviour Game	HGRT reading raw score	−0.056	0.093	0.243
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	−0.172	0.019	0.209
Increasing Pupil Motivation (Event Incentive)	GCSE English Points	−0.313	0.013	0.339
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/equivalents	−0.314	−0.076	0.162
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	−0.178	−0.041	0.096
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	−0.354	−0.03	0.295
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/equivalents	−0.408	−0.094	0.22
Summer Active Reading Programme	NGRT reading – standard age score	−0.38	0.271	0.922
Mean in this theme			**0.049**	



1. Behaviour

Forest Plot: C – Character and essential skills

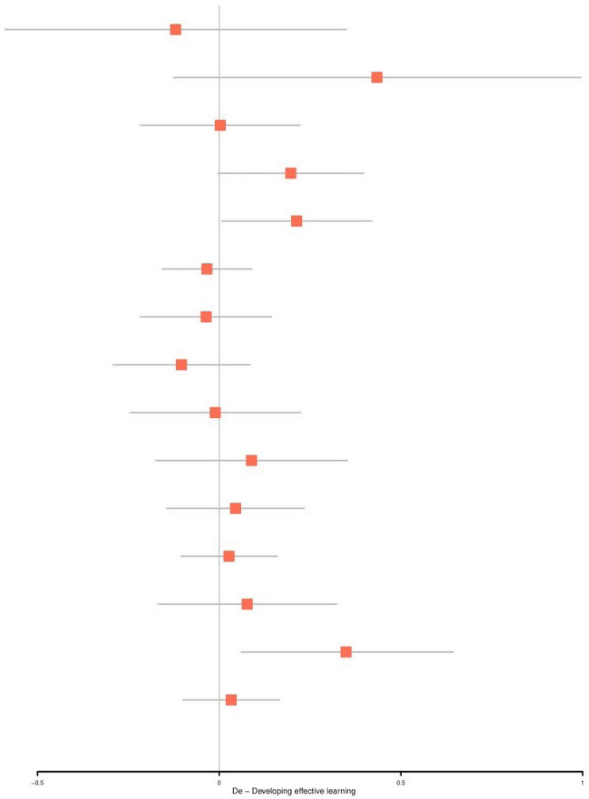
Project Name	Outcome description	LB – CI	Mean estimate	UB – CI
		[Glass coef]	[Glass coef]	[Glass coef]
Youth Social Action Trials: Youth United	KS3 English point score	−0.521	−0.173	0.175
Youth Social Action Trials: Youth United	KS3 Maths point score	−0.642	−0.276	0.091
Zippys Friends	HGRT reading raw score	−0.188	0.004	0.196
Mean in this theme			**−0.148**	



2. Character and essential skills

Forest Plot: De – Developing effective learning

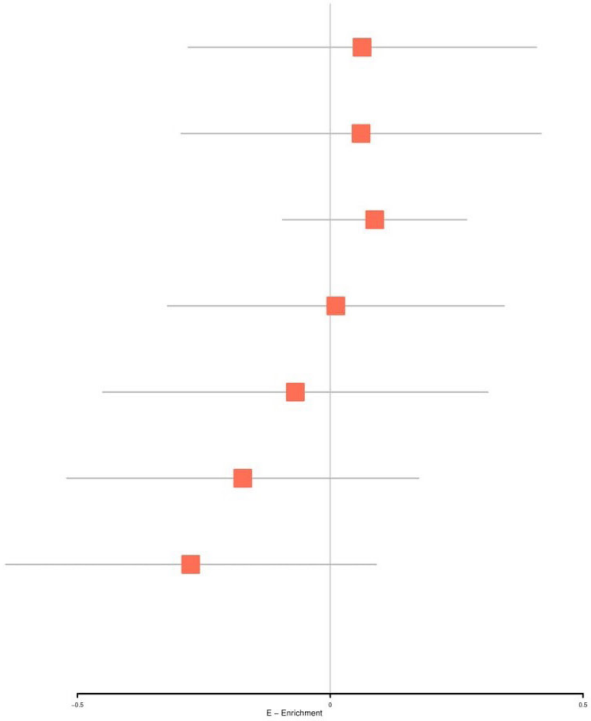
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
Flipped Learning	KS2 maths point score	−0.589	−0.12	0.35
IPEELL	PiE 11 – Writing score	−0.126	0.434	0.995
IPEELL one year	Working at the expected standard or higher	−0.217	0.003	0.223
IPEELL two year	NFER Writing test total score	−0.004	0.197	0.398
LIT Programme	ART reading test – standardised adjusted score	0.006	0.213	0.421
Lets Think Secondary Science	Science test score	−0.157	−0.034	0.09
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	−0.218	−0.036	0.144
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	−0.293	−0.104	0.085
Philosophy for Children	KS2 Reading Score	−0.245	−0.011	0.224
Philosophy for Children	KS2 Maths Score	−0.175	0.089	0.353
ScratchMaths	KS2 maths raw test score	−0.145	0.045	0.234
Shared Maths (Year 3)	InCAS maths raw score	−0.105	0.027	0.16
Shared Maths (Year 5)	InCAS maths raw score	−0.169	0.077	0.324
Thinking, Doing, Talking Science	Bespoke post–test Score	0.06	0.349	0.644
Thinking, Doing, Talking Science (re–grant)	Science Assessment Total score	−0.1	0.033	0.166
Mean in this theme			**0.077**	



3. Developing effective learning

Forest Plot: E – Enrichment

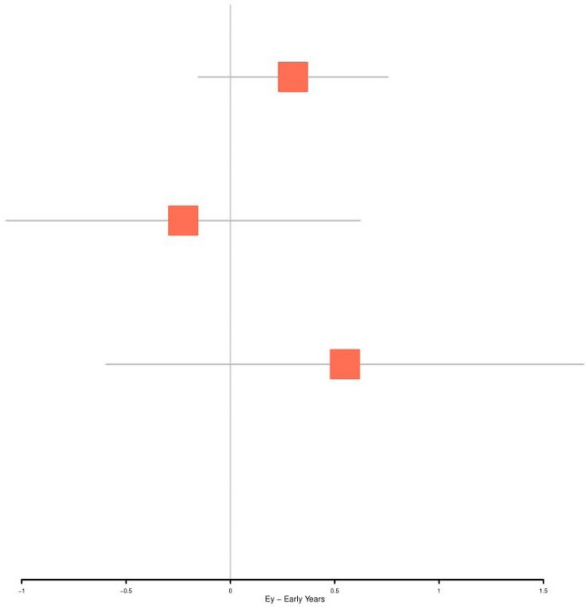
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
Act, Sing, Play	PIPS literacy score	−0.281	0.063	0.408
Act, Sing, Play	PIPS maths score	−0.295	0.061	0.417
Chess in Primary Schools	KS2 math total score	−0.094	0.088	0.27
Childrens University	KS2 reading gain score	−0.322	0.011	0.344
Childrens University	KS2 maths gain score	−0.45	−0.069	0.312
Youth Social Action Trials: Youth United	KS3 English point score	−0.521	−0.173	0.175
Youth Social Action Trials: Youth United	KS3 Maths point score	−0.642	−0.276	0.091
Mean in this theme			**−0.042**	



4. Enrichment

Forest Plot: Ey – Early Years

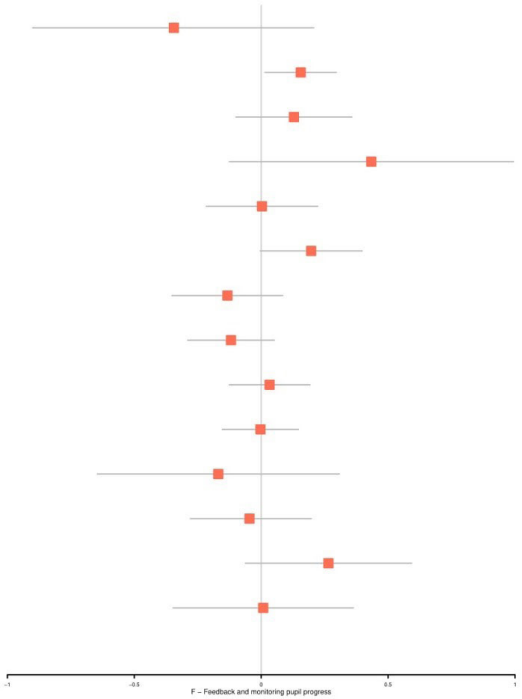
Project Name	Outcome description	LB – CI	Mean estimate	UB – CI
		[Glass coef]	[Glass coef]	[Glass coef]
Family Skills	CEM Base Literacy Raw Score	−0.154	0.3	0.755
Nuffield Early Language Intervention	Combined raw language skill score	−1.074	−0.226	0.622
Nuffield Early Language Intervention	Combined raw language skill score	−0.596	0.549	1.693
Mean in this theme			**0.208**	



5. Early Years

Forest Plot: F – Feedback and monitoring pupil progress

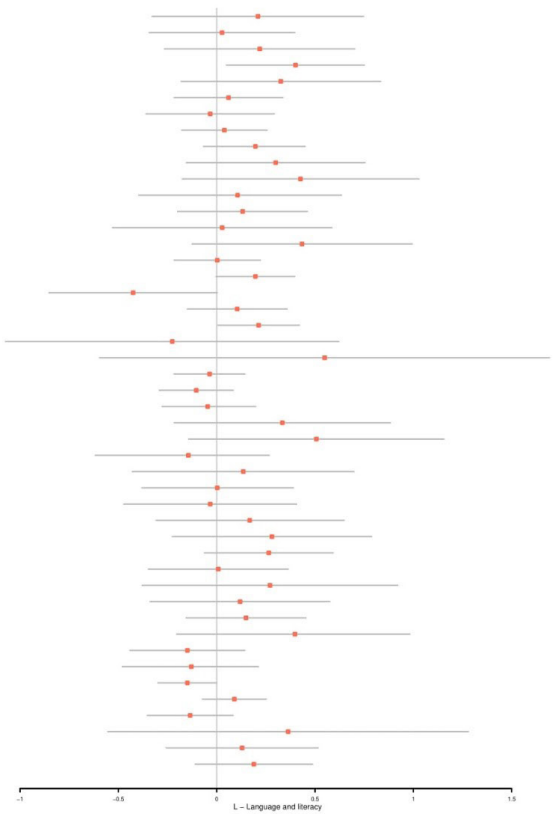
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
1stClass@Number	Quantitative Reasoning total score at Post–test	−0.901	−0.344	0.207
Embedding Formative Assessment	Attainment 8 score (standardised)	0.014	0.156	0.297
Hampshire Hundreds	Combined maths and reading InCAS	−0.1	0.129	0.358
IPEELL	PIE 11 – Writing score	−0.126	0.434	0.995
IPEELL one year	Working at the expected standard or higher	−0.217	0.003	0.223
IPEELL two year	NFER Writing test total score	−0.004	0.197	0.398
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	−0.352	−0.133	0.085
Learner Response System (1yr of intervention)	Mark achieved in KS2 readnig test	−0.29	−0.119	0.052
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	−0.126	0.033	0.193
Learner Response System (2yrs of intervention)	Mark achieved in KS2 readnig test	−0.154	−0.003	0.147
Maths Count	CEM InCAS maths – Standardised score	−0.646	−0.169	0.308
Quest	NGRT reading – Standard Age Score	−0.279	−0.046	0.198
Success for All – end–point	WRMT III reading – at the end of Year 1 (end–point)	−0.063	0.265	0.593
Success for All – mid–point	WRMT III reading – at the end of Reception Class (mid–point)	−0.348	0.008	0.364
Mean in this theme			**0.029**	



6. Feedback and monitoring pupil progress

Forest Plot: L – Language and literacy

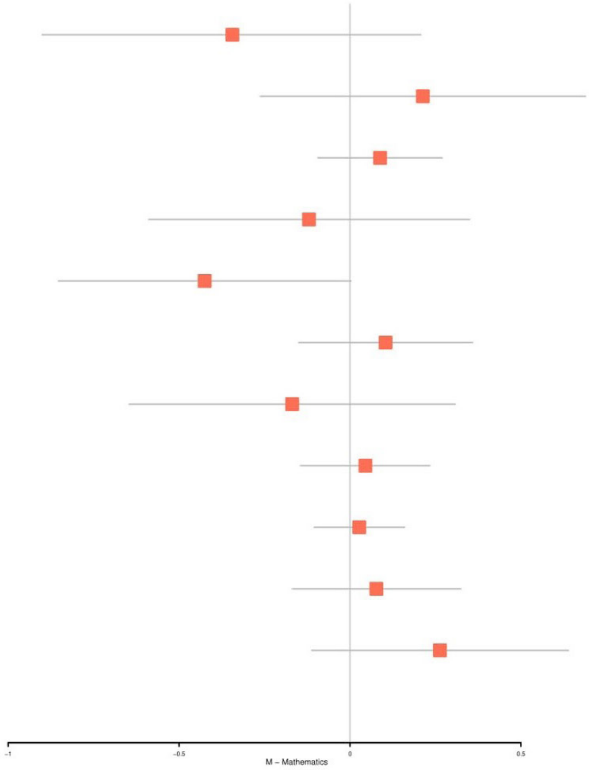
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
Abracadabra (Offline)	PIRA reading score	−0.329	0.21	0.748
Abracadabra (Online)	PIRA reading score	−0.343	0.027	0.398
Accelerated Reader	NGRT reading score	−0.266	0.219	0.703
Butterfly Phonics	New Group Reading Test 3b Standardised Age Score	0.049	0.401	0.752
Catch−up Literacy	NGRT reading Standardised Age Score	−0.181	0.326	0.834
Catch−up Literacy Effectiveness	HGRT II reading raw score	−0.217	0.06	0.337
Dialogic Teaching	Progress Test in English	−0.359	−0.033	0.294
Dialogic Teaching	Progress Test in Maths	−0.178	0.039	0.257
Dialogic Teaching	Progress Test in Science	−0.068	0.197	0.45
Family Skills	CEM Base Literacy Raw Score	−0.154	0.3	0.755
Fresh Start	NGRT reading gainscore	−0.176	0.426	1.029
Graduate Coaching Programme	PiE english raw score	−0.397	0.106	0.635
Grammar for Writing	Writing score exercise– PiE 11LF	−0.199	0.132	0.462
GraphoGame Rime	NGRT Level 1B post−test raw score	−0.53	0.028	0.586
IPEELL	PiE 11 – Writing score	−0.126	0.434	0.995
IPEELL one year	Working at the expected standard or higher	−0.217	0.003	0.223
IPEELL two year	NFER Writing test total score	−0.004	0.197	0.398
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	−0.853	−0.425	0.003
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	−0.15	0.104	0.359
LIT Programme	ART reading test – standardised adjusted score	0.006	0.213	0.421
Nuffield Early Language Intervention	Combined raw language skill score	−1.074	−0.226	0.622
Nuffield Early Language Intervention	Combined raw language skill score	−0.596	0.549	1.693
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	−0.218	−0.036	0.144
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	−0.293	−0.104	0.085
Quest	NGRT reading – Standard Age Score	−0.279	−0.046	0.198
REACH	NGRT reading – Raw Score	−0.217	0.334	0.884
REACH plus language comprehension	NGRT reading – Raw Score	−0.143	0.507	1.156
Rapid Phonics	New GP reading score 3B SS	−0.618	−0.144	0.268
Response to Intervention	Overall reading scale NGRT	−0.43	0.135	0.699
Rhythm for Reading	NGRT overall reading score	−0.381	0.003	0.39
SPOKES	Reading – letter identification test	−0.473	−0.033	0.406
SPOKES	Reading – word identification test	−0.308	0.168	0.649
SPOKES	Reading – phonetic awarness test	−0.226	0.281	0.788
Success for All – end−point	WRMT III reading – at the end of Year 1 (end−point)	−0.063	0.265	0.593
Success for All – mid−point	WRMT III reading – at the end of Reception Class (mid−point)	−0.348	0.008	0.364
Summer Active Reading Programme	NGRT reading – standard age score	−0.38	0.271	0.922
Switch−on Reading	NGRTB reading – Standard age score	−0.338	0.119	0.576
Switch−on Reading (re−grant)	NGRT reading score	−0.156	0.149	0.454
Talk for Literacy	NGRT rading – Overall Raw Score	−0.204	0.398	0.983
Talk of the Town	NGRT reading – Standardised assessment score	−0.442	−0.149	0.144
TextNow Transition Programme	Standard Age Score (NGRT)	−0.481	−0.129	0.213
Texting Parents	Post test English for KS3 and KS4 combined as a zscore	−0.299	−0.149	0
Texting Parents	Post test maths for KS3 and KS4 combined as a zscore	−0.073	0.09	0.253
Texting Parents	Post test science for KS3 and KS4 combined as a zscore	−0.353	−0.135	0.084
Tutoring with Alphie	NGRT rading – Standard Age Score	−0.554	0.363	1.28
Units of Sound	Overall Reading Scale	−0.258	0.129	0.517
Vocabulary Enrichment Intervention Programme	NGRT rading – Overall Reading Scale	−0.11	0.189	0.488
Mean in this theme			**0.123**	



7. Language and Literacy

Forest Plot: M – Mathematics

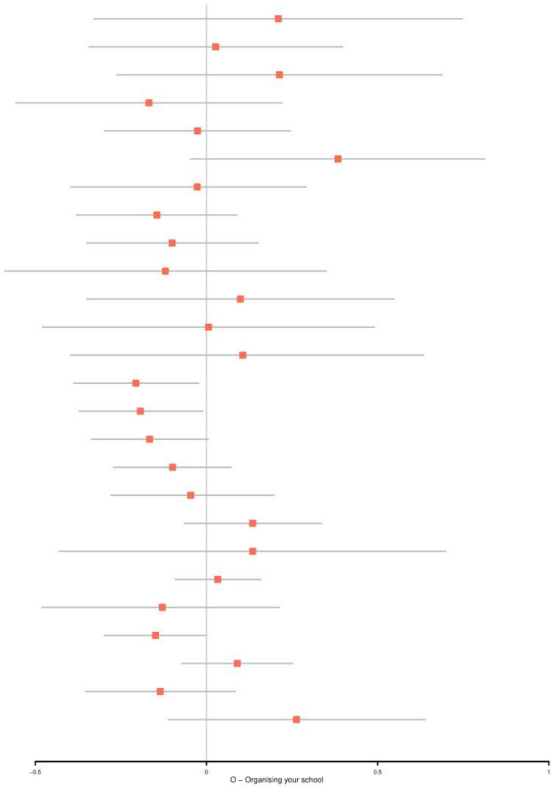
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
1stClass@Number	Quantitative Reasoning total score at Post–test	−0.901	−0.344	0.207
Affordable Online Maths Tuition	KS2 math score	−0.263	0.213	0.689
Chess in Primary Schools	KS2 math total score	−0.094	0.088	0.27
Flipped Learning	KS2 maths point score	−0.589	−0.12	0.35
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	−0.853	−0.425	0.003
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	−0.15	0.104	0.359
Maths Count	CEM InCAS maths – Standardised score	−0.646	−0.169	0.308
ScratchMaths	KS2 maths raw test score	−0.145	0.045	0.234
Shared Maths (Year 3)	InCAS maths raw score	−0.105	0.027	0.16
Shared Maths (Year 5)	InCAS maths raw score	−0.169	0.077	0.324
Tutor Trust – Affordable Tutoring (re–grant)	Key Stage 2 mathematics score (ks2_matscore)	−0.112	0.263	0.639
Mean in this theme			**−0.022**	



8. Mathematics

Forest Plot: O – Organising your school

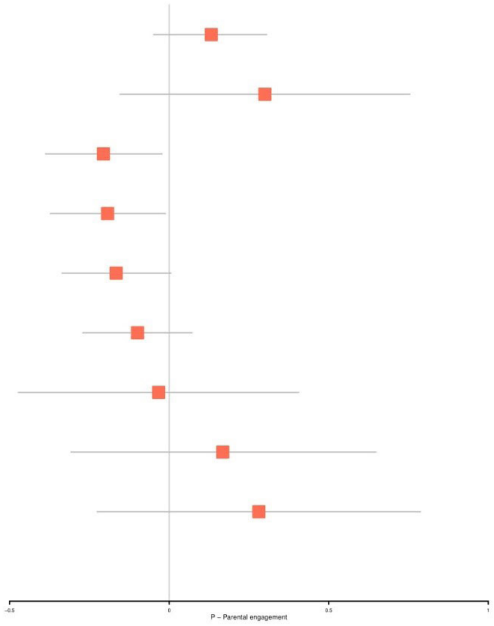
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
Abracadabra (Offline)	PIRA reading score	−0.329	0.21	0.748
Abracadabra (Online)	PIRA reading score	−0.343	0.027	0.398
Affordable Online Maths Tuition	KS2 math score	−0.263	0.213	0.689
Best Practice in Grouping Students: Best Practice in Setting	PTM13 math raw score	−0.557	−0.168	0.221
Best Practice in Grouping Students: Best Practice in Setting	PTM13 Total RawScore – Post test	−0.299	−0.026	0.246
Changing Mindsets – Pupil Workshops	PiE English standardised score	−0.047	0.384	0.814
Changing Mindsets – Pupil Workshops	MSiM Maths score	−0.397	−0.027	0.292
Changing Mindsets – Teacher Training	PiE English standardised score	−0.38	−0.145	0.09
Changing Mindsets – Teacher Training	MSiM Maths score	−0.35	−0.1	0.151
Flipped Learning	KS2 maths point score	−0.589	−0.12	0.35
Future Foundations	KS2 Maths – Standard age score	−0.35	0.099	0.548
Future Foundations	KS2 English – Standard age score	−0.479	0.006	0.491
Graduate Coaching Programme	PiE english raw score	−0.397	0.106	0.635
Parent Academy (incentivsed)	InCAS English Outcome	−0.388	−0.206	−0.022
Parent Academy (incentivsed)	InCAS Maths Outcome	−0.373	−0.193	−0.011
Parent Academy (non–incentivsed)	InCAS English Outcome	−0.336	−0.166	0.006
Parent Academy (non–incentivsed)	InCAS Maths Outcome	−0.271	−0.099	0.072
Quest	NGRT reading – Standard Age Score	−0.279	−0.046	0.198
Research Learning Communities	Standardised KS2 reading score	−0.065	0.135	0.336
Response to Intervention	Overall reading scale NGRT	−0.43	0.135	0.699
Teacher Observation	English and maths combined score	−0.092	0.033	0.159
TextNow Transition Programme	Standard Age Score (NGRT)	−0.481	−0.129	0.213
Texting Parents	Post test English for KS3 and KS4 combined as a zscore	−0.299	−0.149	0
Texting Parents	Post test maths for KS3 and KS4 combined as a zscore	−0.073	0.09	0.253
Texting Parents	Post test science for KS3 and KS4 combined as a zscore	−0.353	−0.135	0.084
Tutor Trust – Affordable Tutoring (re–grant)	Key Stage 2 mathematics score (ks2_matscore)	−0.112	0.263	0.639
Mean in this theme			**0**	



9. Organising your school

Forest Plot: P – Parental engagement

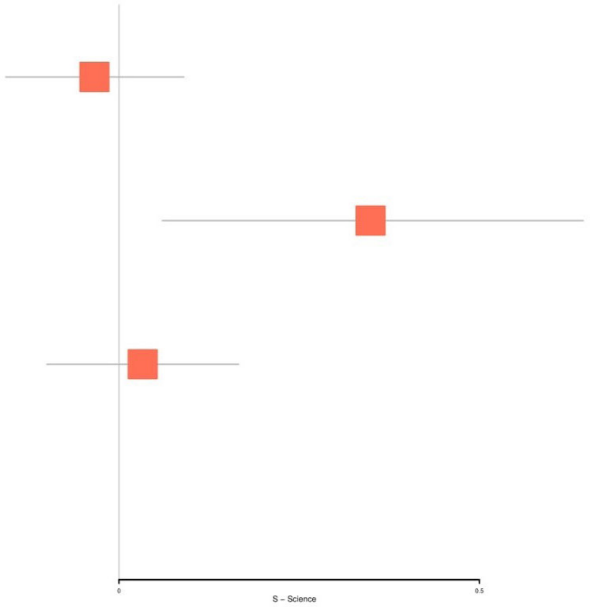
Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper: 45*(PostTest_Outcome_2/20 + PostTest_Outcome_3/25)	−0.049	0.132	0.306
Family Skills	CEM Base Literacy Raw Score	−0.154	0.3	0.755
Parent Academy (incentivsed)	InCAS English Outcome	−0.388	−0.206	−0.022
Parent Academy (incentivsed)	InCAS Maths Outcome	−0.373	−0.193	−0.011
Parent Academy (non–incentivsed)	InCAS English Outcome	−0.336	−0.166	0.006
Parent Academy (non–incentivsed)	InCAS Maths Outcome	−0.271	−0.099	0.072
SPOKES	Reading – letter identification test	−0.473	−0.033	0.406
SPOKES	Reading – word identification test	−0.308	0.168	0.649
SPOKES	Reading – phonetic awarness test	−0.226	0.281	0.788
Mean in this theme			**0.02**	



10. Parental engagement

Forest Plot: S – Science

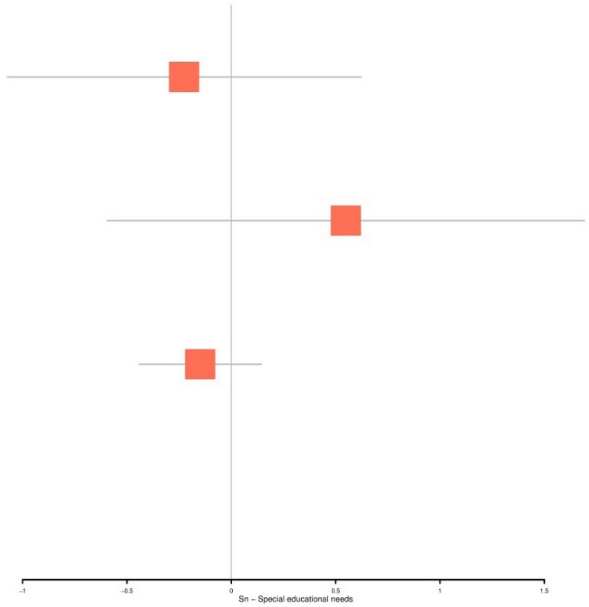
Project Name	Outcome description	LB – CI	Mean estimate	UB – CI
		[Glass coef]	[Glass coef]	[Glass coef]
Lets Think Secondary Science	Science test score	−0.157	−0.034	0.09
Thinking, Doing, Talking Science	Bespoke post−test Score	0.06	0.349	0.644
Thinking, Doing, Talking Science (re−grant)	Science Assessment Total score	−0.1	0.033	0.166
Mean in this theme			**0.116**	



11. Science

Forest Plot: Sn – Special educational needs

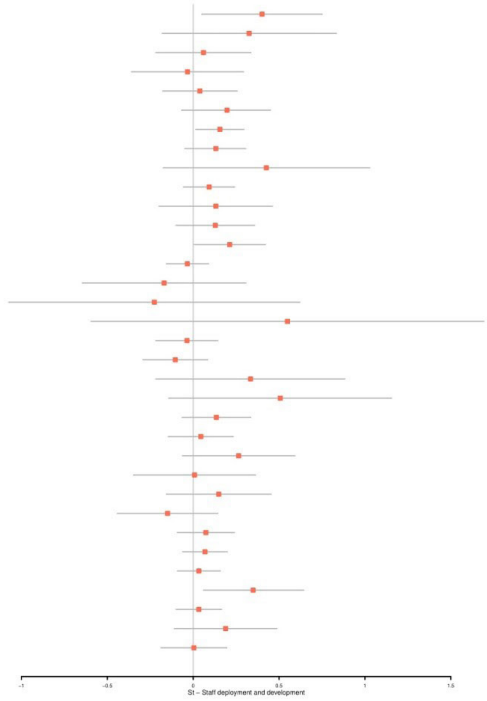
Project Name	Outcome description	LB – CI	Mean estimate	UB – CI
		[Glass coef]	[Glass coef]	[Glass coef]
Nuffield Early Language Intervention	Combined raw language skill score	−1.074	−0.226	0.622
Nuffield Early Language Intervention	Combined raw language skill score	−0.596	0.549	1.693
Talk of the Town	NGRT reading – Standardised assessment score	−0.442	−0.149	0.144
Mean in this theme			**0.058**	



12. Special educational needs

Forest Plot: St – Staff deployment and development

Project Name	Outcome description	LB – CI [Glass coef]	Mean estimate [Glass coef]	UB – CI [Glass coef]
Butterfly Phonics	New Group Reading Test 3b Standardised Age Score	0.049	0.401	0.752
Catch–up Literacy	NGRT reading Standardised Age Score	–0.181	0.326	0.834
Catch–up Literacy Effectiveness	HGRT II reading raw score	–0.217	0.06	0.337
Dialogic Teaching	Progress Test in English	–0.359	–0.033	0.294
Dialogic Teaching	Progress Test in Maths	–0.178	0.039	0.257
Dialogic Teaching	Progress Test in Science	–0.068	0.197	0.45
Embedding Formative Assessment	Attainment 8 score (standardised)	0.014	0.156	0.297
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper: 45*(PostTest_Outcome_2/20 + PostTest_Outcome_3/25)	–0.049	0.132	0.306
Fresh Start	NGRT reading gainscore	–0.176	0.426	1.029
Good Behaviour Game	HGRT reading raw score	–0.056	0.093	0.243
Grammar for Writing	Writing score exercise– PiE 11LF	–0.199	0.132	0.462
Hampshire Hundreds	Combined maths and reading InCAS	–0.1	0.129	0.358
LIT Programme	ART reading test – standardised adjusted score	0.006	0.213	0.421
Lets Think Secondary Science	Science test score	–0.157	–0.034	0.09
Maths Count	CEM InCAS maths – Standardised score	–0.646	–0.169	0.308
Nuffield Early Language Intervention	Combined raw language skill score	–1.074	–0.226	0.622
Nuffield Early Language Intervention	Combined raw language skill score	–0.596	0.549	1.693
Peer Tutoring in Secondary School (Year 7)	NGRT reading test	–0.218	–0.036	0.144
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	–0.293	–0.104	0.085
REACH	NGRT reading – Raw Score	–0.217	0.334	0.884
REACH plus language comprehension	NGRT reading – Raw Score	–0.143	0.507	1.156
Research Learning Communities	Standardised KS2 reading score	–0.065	0.135	0.336
ScratchMaths	KS2 maths raw test score	–0.145	0.045	0.234
Success for All – end–point	WRMT III reading – at the end of Year 1 (end–point)	–0.063	0.265	0.593
Success for All – mid–point	WRMT III reading – at the end of Reception Class (mid–point)	–0.348	0.008	0.364
Switch–on Reading (re–grant)	NGRT reading score	–0.156	0.149	0.454
Talk of the Town	NGRT reading – Standardised assessment score	–0.442	–0.149	0.144
Teacher Effectiveness Enhancement Programme	GCSE English point score	–0.093	0.074	0.241
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	–0.062	0.069	0.199
Teacher Observation	English and maths combined score	–0.092	0.033	0.159
Thinking, Doing, Talking Science	Bespoke post–test Score	0.06	0.349	0.644
Thinking, Doing, Talking Science (re–grant)	Science Assessment Total score	–0.1	0.033	0.166
Vocabulary Enrichment Intervention Programme	NGRT rading – Overall Reading Scale	–0.11	0.189	0.488
Zippys Friends	HGRT reading raw score	–0.188	0.004	0.196
Mean in this theme			**0.126**	



13. Staff deployment and development

ANNEX 2: COVARIATES USED

Below are the variables used as covariates in each regression. When collinearity was too high between different covariates in a model, the models couldn't reach an esti mator (both OLS and LMM) and thus some covariates have been dropped in each model to reach a consistent estimator, for more details, read the **covariates section** above.

- PretestImp,_missing : Pretest outcome and dummy for missingness
- MaleImp_male,not.male,missing : Dummies for male, female and missingness of the variable
- FSMever6Imp_ever.FSM.6, not.ever.FSM.6,missing : Dummies for ever FSM in the period up to 6 years prior, not ever fsm in the period up to 6 year and missing dummy.
- YearsofschoolImp_X,missing. Dummies for the year of school X and dummy for the variable.
- AgeImp,missing. Age value and dummy for missing.
- EALImp_Believed.to.be.English,Other.than.English,Unclassified,missing
- SEN_No.SEN.identified,without.a.statement.or.level.of.SEN.Unknown,with.statement,missing : Special educational needs
- InprevioustrialIm_Im.previous.trial, Not.in.previous.trial,missing : If the pupil had been involved in an other EEF trials prior to the trial
- SchooltypeImp_Comprehensive, selective, other, missing : School type
- ofsted ratingImp_2..Good, Requires.Improvement, outstanding, missing: Ofsted rating
- urbanrurlaImp_urban, rural, missing : School located in urban, rural or missing
- FSMschoolImp,missing: Percentage of FSM pupils in a school
- schoolperformanceImp,missing: School average level or dummy for missing value.
- percwbschoolImp : Percentage of white british children in a school

Table 14 : Covariates used			
Name of the report	**Outcome Description**	**Model used**	**Covariates used**
1stClass@ Number	Quantitative Reasoning total score at Post-test	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Abracadabra (Offline)	PIRA reading score	OlS no covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest
Abracadabra (Online)	PIRA reading score	OLS no covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest
Accelerated Reader	New Group Reading Test (NGRT) score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Act, Sing, Play	PIPS literacy score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_1 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement.. or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_ missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_ missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Act, Sing, Play	PIPS maths score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_1 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement.. or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_ missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_ missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Affordable Online Maths Tuition	KS2 math score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Best Practice in Setting	PTM13 Total RawScore - Post test	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Best Practice in Setting	PTM13 math raw score	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Butterfly Phonics	NGRT 3b Standardised Age Score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM. eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_6 ,EALImp_Believed.to.be.English ,SENImp_ No.SEN.identified ,SENImp_SEN.without.a.statement..or.level. of.SEN.unknown. ,schooltypeImp_missing ,ofstedratingImp_2... Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_ missing ,ofstedratingImp_1...Outstanding ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest

Catch-up Literacy	NGRT reading Standardised Age Score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Catch-up Literacy (re-grant)	HGRT II reading raw score	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Changing Mindsets - Pupil Workshops	MSiM Maths score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,FSMSchoolImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Changing Mindsets - Pupil Workshops	PiE English standardised score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,FSMSchoolImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Changing Mindsets - Teacher Training	MSiM Maths score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest
Changing Mindsets - Teacher Training	PiE English standardised score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest
Chess in Primary Schools	KS2 math total score	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest
Children's University	KS2 maths gain score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Children's University	KS2 reading gain score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_1 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Dialogic Teaching	Progress Test in English	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest

Dialogic Teaching	Progress Test in Maths	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,yearofschoolImp_4 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_ SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_ Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2... Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_ missing ,ofstedratingImp_1...Outstanding ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Dialogic Teaching	Progress Test in Science	LMM covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,yearofschoolImp_4 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_ SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_ Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2... Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_ missing ,ofstedratingImp_1...Outstanding ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Embedding Formative Assessment	Attainment 8 score (standardised)	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Families and Schools Together (FAST)	Weighted average of KS1 Reading Paper 1 and KS1 Arithmetics Paper: 45*(PostTest_ Outcome_2/20 + PostTest_ Outcome_3/25)	LMM covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,maleImp_ male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_R ,yearofschoolImp_1 ,EALImp_Believed.to.be.English ,EALImp_ Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN. without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_ In.previous.trial ,schooltypeImp_Comprehensive ,schooltypeImp_ missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires. Improvement ,ofstedratingImp_missing ,ofstedratingImp_1... Outstanding ,urbanruralImp_urban ,urbanruralImp_rural ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_ missing ,percwbSchoolImp ,percwbSchool_missing ,treatment 1:Non-Subgroup of interest
Family Skills	CEM Base Literacy Raw Score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Flipped Learning	KS2 maths point score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Fresh Start	NGRT reading gainscore	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest
Future Foundations	KS2 English - Standard age score	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Future Foundations	KS2 Maths - Standard age score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest

Good Behaviour Game	HGRT reading raw score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_male ,maleImp_not.male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_Comprehensive ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Graduate Coaching Programme	PiE english raw score	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Grammar for Writing	Writing score exercise- PiE 11LF	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest
GraphoGame Rime	NGRT Level 1B post-test raw score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Hampshire Hundreds	Combined maths and reading InCAS	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
IPEELL	PiE 11 - Writing score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest
IPEELL one year	Working at the expected standard or higher	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest
IPEELL two year	NFER Writing test total score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_4 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Improving Numeracy and Literacy in Key Stage 1	PiE7 english raw score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Improving Numeracy and Literacy in Key Stage 1	PiM7 maths raw score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_1 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup

Increasing Pupil Motivation (Event Incentive)	GCSE English Points	LMM no covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup ,treatment 2:Unknown if part of subgroup
Increasing Pupil Motivation (Event Incentive)	GCSE Maths Points	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_ male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_9 ,yearofschoolImp_10 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires. Improvement ,ofstedratingImp_missing ,ofstedratingImp_1... Outstanding ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup ,treatment 2:Unknown if part of subgroup
Increasing Pupil Motivation (Event Incentive)	Highest Science points score across GCSE/ equivalents	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_ male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_9 ,yearofschoolImp_10 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires. Improvement ,ofstedratingImp_missing ,ofstedratingImp_1... Outstanding ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup ,treatment 2:Unknown if part of subgroup
Increasing Pupil Motivation (Financial Incentive)	GCSE English Points	LMM no covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup ,treatment 2:Unknown if part of subgroup
Increasing Pupil Motivation (Financial Incentive)	GCSE Maths Points	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_ male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_9 ,yearofschoolImp_10 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires. Improvement ,ofstedratingImp_missing ,ofstedratingImp_1... Outstanding ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup ,treatment 2:Unknown if part of subgroup
Increasing Pupil Motivation (Financial Incentive)	Highest Science points score across GCSE/ equivalents	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_ male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever. FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_9 ,yearofschoolImp_10 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires. Improvement ,ofstedratingImp_missing ,ofstedratingImp_1... Outstanding ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup ,treatment 2:Unknown if part of subgroup

LIT Programme	ART reading test - standardised adjusted score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Learner Response System (1yr of intervention)	Mark achieved in KS2 reading test	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_3 ,yearofschoolImp_4 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Learner Response System (1yr of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest
Learner Response System (2yrs of intervention)	Mark achieved in KS2 reading test	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_5 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Learner Response System (2yrs of intervention)	Total marks achieved in KS2 Math tests (sum of Paper A, Paper B and mental arithmetic test	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_5 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Let's Think Secondary Science	Science test score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_5 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,urbanruralImp_rural ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Maths Counts	CEM InCAS maths - Standardised score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_2 ,yearofschoolImp_3 ,yearofschoolImp_4 ,yearofschoolImp_5 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest

Nuffield Early Language Intervention	Combined raw language skill score	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,yearofschoolImp_N2 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than. English ,SENImp_No.SEN.identified ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires. Improvement ,ofstedratingImp_missing ,FSMSchoolImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest
Nuffield Early Language Intervention	Combined raw language skill score	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,yearofschoolImp_N2 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than. English ,SENImp_No.SEN.identified ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires. Improvement ,ofstedratingImp_missing ,FSMSchoolImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest
Parent Academy (incentivised)	InCAS English Outcome	LMM covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not. FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_2 ,yearofschoolImp_3 ,yearofschoolImp_4 ,ageImp ,EALImp_ Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN. without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_ In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3... Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest
Parent Academy (incentivised)	InCAS Maths Outcome	LMM covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not. FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_2 ,yearofschoolImp_3 ,yearofschoolImp_4 ,ageImp ,EALImp_ Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN. without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_ In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3... Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest
Parent Academy (non-incentivised)	InCAS English Outcome	LMM covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not. FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_2 ,yearofschoolImp_3 ,yearofschoolImp_4 ,ageImp ,EALImp_ Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN. without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_ In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3... Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest
Parent Academy (non-incentivised)	InCAS Maths Outcome	LMM covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not. FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_2 ,yearofschoolImp_3 ,yearofschoolImp_4 ,ageImp ,EALImp_ Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN. without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_ In.previous.trial ,ofstedratingImp_2...Good ,ofstedratingImp_3... Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest

Peer Tutoring in Secondary School (Year 7)	NGRT reading test	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Peer Tutoring in Secondary School (Year 9)	NGRT reading test	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Philosophy for Children	KS2 Maths Score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Philosophy for Children	KS2 Reading Score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Quest	NGRT reading - Standard Age Score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_male ,maleImp_not.male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_6 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup

REACH	NGRT reading - Raw Score	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_6 ,ageImp ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
REACH plus language comprehension	NGRT reading - Raw Score	OLS covariates	treatment 1 ,treatment 2 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_6 ,ageImp ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 2:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Rapid Phonics	New GP reading score 3B SS	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,SENImp_SEN.with.statement ,schooltypeImp_Comprehensive ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Research Learning Communities	Standardised KS2 reading score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Response to Intervention	Overall reading scale NGRT	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest
Rhythm for Reading	NGRT overall reading score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,FSMSchoolImp ,schoolperformanceImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
SPOKES	Reading - letter identification test	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_R ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest

SPOKES	Reading - phonetic awareness test	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
SPOKES	Reading - word identification test	LMM covariates	treatment 1 ,Non-Subgroup of interest ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_R ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
ScratchMaths	KS2 maths raw test score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Shared Maths (Year 3)	InCAS maths raw score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_male ,maleImp_not.male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_1 ,yearofschoolImp_2 ,yearofschoolImp_3 ,ageImp ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Shared Maths (Year 5)	InCAS maths raw score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Success for All - end-point	WRMT III reading - at the end of Year 1 (end-point)	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,maleImp_not.male ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Success for All - mid-point	WRMT III reading - at the end of Reception Class (mid-point)	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,maleImp_male ,maleImp_not.male ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Summer Active Reading Programme	NGRT reading - standard age score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Switch-on Reading	NGRTB reading - Standard age score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Switch-on Reading (re-grant)	NGRT reading score	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Talk for Literacy	NGRT reading - Overall Raw Score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_1...Outstanding ,FSMSchoolImp ,schoolperformanceImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest

Talk of the Town	NGRT reading - Standardised assessment score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Teacher Effectiveness Enhancement Programme	GCSE English point score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_7 ,yearofschoolImp_8 ,yearofschoolImp_9 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Teacher Effectiveness Enhancement Programme	GCSE Maths point score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,yearofschoolImp_7 ,yearofschoolImp_8 ,yearofschoolImp_9 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,schoolperformanceImp ,schoolperformance_missing ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Teacher Observation	English and maths combined score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_8 ,yearofschoolImp_9 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,schooltypeImp_Other ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
TextNow Transition Programme	Standard Age Score (NGRT)	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Texting Parents	Post test English for KS3 and KS4 combined as a z-score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Texting Parents	Post test maths for KS3 and KS4 combined as a z-score	LMM no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup

Texting Parents	Post test science for KS3 and KS4 combined as a z-score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Thinking, Doing, Talking Science	Bespoke post-test Score	LMM covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,ageImp ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Thinking, Doing, Talking Science (re-grant)	Science Assessment Total score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,pretest_missing ,maleImp_male ,maleImp_not.male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_R ,yearofschoolImp_3 ,yearofschoolImp_4 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,urbanruralImp_rural ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Tutor Trust - Affordable Tutoring (re-grant)	Key Stage 2 mathematics score (ks2_matscore)	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Tutoring with Alphie	NGRT reading - Standard Age Score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Units of Sound	Overall Reading Scale	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,treatment 1:Non-Subgroup of interest
Vocabulary Enrichment Intervention Programme	NGRT reading - Overall Reading Scale	OLS covariates	treatment 1 ,Non-Subgroup of interest ,pretestImp ,pretest_missing ,maleImp_male ,FSMpupilImp_FSM.eligible ,FSMever6Imp_ever.FSM.6 ,FSMever6Imp_not.ever.FSM.6 ,ageImp ,EALImp_Believed.to.be.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest
Youth United	KS3 English point score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup
Youth United	KS3 Maths point score	OLS no covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup

Zippy's Friends	HGRT reading raw score	OLS covariates	treatment 1 ,Non-Subgroup of interest ,Unknown if part of subgroup ,pretestImp ,maleImp_male ,maleImp_not.male ,FSMpupilImp_FSM.eligible ,FSMpupilImp_not.FSM.eligible ,FSMever6Imp_ever.FSM.6 ,yearofschoolImp_1 ,ageImp ,EALImp_Believed.to.be.English ,EALImp_Other.than.English ,SENImp_No.SEN.identified ,SENImp_SEN.without.a.statement..or.level.of.SEN.unknown. ,inprevioustrialImp_In.previous.trial ,schooltypeImp_Comprehensive ,schooltypeImp_missing ,ofstedratingImp_2...Good ,ofstedratingImp_3...Requires.Improvement ,ofstedratingImp_missing ,ofstedratingImp_1...Outstanding ,urbanruralImp_urban ,urbanruralImp_rural ,FSMSchoolImp ,schoolperformanceImp ,schoolperformance_missing ,percwbSchoolImp ,treatment 1:Non-Subgroup of interest ,treatment 1:Unknown if part of subgroup

What Works *for* Children's Social Care

CONTACT

@whatworksCSC
whatworks-csc.org.uk

Alliance for Useful Evidence

CC BY NC SA

Education Endowment Foundation