
Report

Randomised Controlled Trial Evaluation of Families Connect

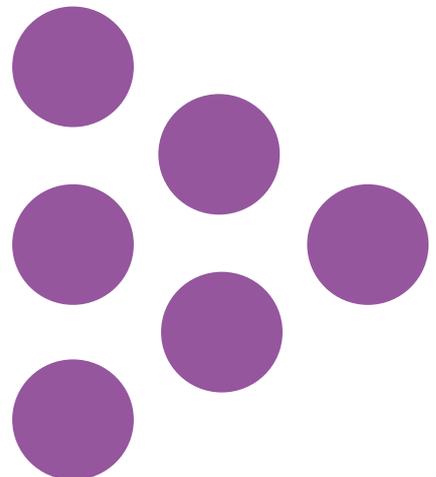
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Randomised Controlled Trial Evaluation of Families Connect

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The process evaluation was conducted by Pippa Lord, Kelly Kettlewell (Research Manager) and Robert Smith (Senior Research Manager) at NFER; and by Aideen Gildea (Research Fellow in the Centre for Evidence and Social Innovation) at Queen’s University Belfast. Sarah Tang (Trials Manager at NFER) contributed to the cost evaluation. Caroline Sharp (Research Director at NFER) provided quality assurance support for the process evaluation. We are also grateful to Julie Thompson for her administrative support throughout the project.

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About the organisations

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Authorship

This report provides independent results and findings from the Randomised Controlled Trial (RCT) Evaluation of Families Connect. It has been written by the evaluation team at NFER; with NFER and QUB also contributing to sections for the implementation and process evaluation. Save the Children (UK) contributed to the executive summary, summary sections, chapter 2 and chapter 8.

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1 Executive Summary

1.1 Overview

An evaluation of Save the Children’s parental engagement programme Families Connect was conducted to establish whether the programme had a positive impact on the children and parents involved, as identified by the theory of change, and to highlight the conditions that supported implementation within the schools involved. The evaluation was designed to generate evidence to support the improvement of the programme, contribute to wider evidence generation on supporting parental engagement and the home learning environment on children’s outcomes, and provide direction for future evaluation work. A randomised efficacy trial exploring a range of parent and child outcomes and an implementation analysis provided the methodological framework for the evaluation.

The evaluation did not demonstrate influence of the programme on the primary outcome of children’s receptive language or on numeracy outcomes immediately or six-months after programme delivery. Additionally, no difference in impact was evident in children’s receptive vocabulary between children based on their socio-economic background or the extent of parental engagement with the programme (assessed through attendance rates¹). However, the findings indicate that the programme supports parents to strengthen the home learning environment (a secondary outcome investigated in the trial), through developing parental skills and confidence to engage in their child’s learning at school and in activities undertaken at home. The evaluation also indicates that the programme supports longer term improvements in children’s social and emotional behaviour – demonstrated by teacher reports of pro- social attitudes and behaviours towards others and towards learning at school six months after the programme delivery.

The key recommendations from the trial, for improvement of the programme, relate to sustaining the immediate impact the programme has on improvements to the home learning environment and parental confidence, to increase the likelihood of impact on children’s learning outcomes. Furthermore, they suggest building on the results related to children’s social and emotional outcomes to develop a better understanding of how these can be sustained to support children in their future learning. The key recommendation from the trial for wider early years programmatic research is to develop a better understanding of how to sustain changes within the home learning environment that will lead to measurable attainment outcomes for children, particular those from disadvantaged backgrounds.

1.2 Research and policy context

This study was funded by the Nuffield Foundation to generate evidence on supporting children’s development in the early years of their learning. Save the Children delivered the Families Connect programme and the National Foundation for Educational Research (NFER) conducted the trial and managed the process evaluation, with colleagues from Queen’s University Belfast (QUB) supporting with school visits and interviews.

¹ Based on a Complier Average Causal Effect (CACE) analysis.

This study's main focus was on pupil learning outcomes (as a key area of the theory of change for Families Connect). A further focus was on evaluating the impact and implementation of the Families Connect programme as a process by which schools can support parental engagement (both in their child's learning and with the school), and on how parents' can develop the home learning environment. The importance of the quality of the home learning environment (HLE) and parental engagement for children's learning and other outcomes has been demonstrated through longitudinal studies. However, to date, there is surprisingly little robust evidence about the effectiveness of approaches designed to improve learning through increased parental engagement.²

Sylva *et al.* found that a high quality HLE where parents are actively engaged in activities with their children, promoted intellectual and social development in all preschool children (2004). Kiernan & Mensah (2011) found engagement of parents in children's learning contributes to readiness to learn and has a positive impact on children's educational outcomes. The impact of the HLE and parental engagement in learning has been demonstrated to moderate the negative impact of socio-economic status on children's outcomes (Desforges and Abouchar, 2003; Sylva *et al.*, 2004).

1.3 About Families Connect

Families Connect is a parental engagement programme designed by Save the Children UK (SCUK) to develop the skills and confidence of families in disadvantaged areas, and provide them with the resources to actively engage their children in learning in the home. The programme is built on evidence about the importance of the home learning environment, which has been shown to have a significant impact on children's early learning, readiness to learn, and future development (Sylva *et al.*, 2004 and 2008; Dearden *et al.*, 2011; Kiernan and Mensah, 2011).

The programme has the following elements:

- **Who:** The programme is for families with children aged four to six, in schools in disadvantaged areas across all four countries in the UK.
- **Aims:** Families Connect works with families in school settings to develop both parent skills and the school culture for engaging with parents. It aims to develop: **parents'** skills and confidence to support their child's learning in the home environment; **children's** social and emotional skills, communication skills, and their interest in and understanding of literacy and numeracy; and **schools'** approaches to parental engagement.
- **How:** The programme involves eight two-hour sessions in school. In each session, the first hour is for parents only; the second hour is for parents and children together. The programme encourages schools to keep the parental engagement strategies going after the eight-week programme.

² <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/parental-engagement/>

- **Focus:** The sessions cover three key areas: social and emotional development; literacy and language development; and numeracy.
- **Delivery:** SCUK provides training for two Community Practitioners in each school, to deliver the programme. These practitioners are usually members of school staff, although other delivery models involving other practitioners from the community are also implemented.

The programme was designed with input from the National Literacy Trust, Edge Hill University and the SEAL programme (Social and Emotional Aspects of Learning), using evidence around parent-child conversations, play, storytelling and number games (Whitehurst and Lonigan, 1998; Nord *et al.*, 1999; Wade and Moore, 2000). It was also informed by evidence from the Families and Schools Together (FAST) programme (Lord *et al.*, 2018). Evaluation of Families Connect has previously been conducted in-house by SCUK, showing promising pre- and post- evidence of an impact on children’s vocabulary (using the British Picture Vocabulary Scale), and perceptions of positive impacts on how parents and children interact at home (Bradley *et al.*, 2016). This independent evaluation sought to build on this previous evidence, through a randomised controlled trial (RCT) to provide evidence of the programme’s impact in order to feed into SCUK’s further development of the programme and wider parental engagement work in the early years.

1.4 Evaluation aims and methods

The evaluation aimed to explore the following research questions:

- Is Families Connect achieving its intended outcomes, in terms of:
 - children’s vocabulary and numeracy development?
 - children’s social and emotional development, and other softer skills?
 - parents’ involvement in their child’s learning?
- What are the key features of the programme? What conditions in schools and other factors support the implementation of Families Connect? And what barriers are there?
- How might the programme be developed, sustained and scaled up?

The evaluation involved:

An efficacy RCT: using in-school randomisation at the family level, with two groups – intervention and a waitlist control. The RCT involved:

- schools from disadvantaged areas in all five geographical regions in which SCUK deliver the programme (the North of England, South of England, Wales, Northern Ireland and Scotland)
- families with children aged four to six in Reception and Y1 in England and Wales, Y1 and Y2 in Northern Ireland, and P1 and P2 in Scotland

- a baseline and two follow-up assessments of children’s receptive vocabulary (using the BPVS3³), numeracy (PUMA⁴) and children’s social/emotional outcomes (SDQ and CSS⁵)
- a baseline and one follow-up of parent reported outcomes on parental role construct (PRS), self-efficacy (PES) and home learning environment (HLE)⁶.

Thirty-one schools and a total of 499 children from 483 families took part.

Qualitative process evaluation: exploring the programme model; implementation and fidelity; conditions and factors affecting the implementation in schools; and parents’ views/home learning environment. This was informed by Humphrey *et al.*’s (2016) guidance for implementation and process evaluation and the EEF guidance ‘Putting Evidence to Work – A School’s Guide to Implementation’ by Sharples *et al.* (2018).

Costs evaluation: to establish the costs of the intervention to schools, and the cost per pupil per year.

The [protocol](#)⁷ and [statistical analysis plan](#)⁸ are available on the [project website](#). Data was processed in accordance with GDPR (2016/679); a [Privacy Notice](#) was available for parents⁹.

1.5 Summary of key findings: impact

- As shown in Table 1, this evaluation found no evidence that Families Connect had an impact on children’s receptive vocabulary¹⁰ (as measured by the BPVS3), either immediately after the programme or six months later (the latter being the primary outcome for the trial).
- Similarly, our evaluation found no evidence that Families Connect had an impact on children’s numeracy skills (as measured by the PUMA), either immediately after the programme or six months later.
- There was also no evidence of an effect for disadvantaged children (according to household income) or for those with SEN in terms of the primary outcome – receptive vocabulary.

³ British Picture Vocabulary Scale version 3 (Dunn *et al.*, 2009)

⁴ Progress in Understanding Maths Assessment (McCarty and Cooke, 2015)

⁵ To explore social and emotional outcomes, we used three measures from the Strengths and Difficulties Questionnaire (Goodman, 1997), namely the prosocial behaviour score, the total difficulties score and the impact score. We also used the Child Softer Skills (CSS) scale (Bradley *et al.*, 2016).

⁶ Parent Role Construction (PRC) and Perceptions of Parent Efficacy (PES) scales (Hoover-Dempsey and Sandler, 2005); and the Home Learning Environment KS1 (HLE) scale (Sylva *et al.* 2008)

⁷ https://www.nfer.ac.uk/media/3430/fcon_protocol_update.pdf

⁸ https://www.nfer.ac.uk/media/3856/fcon_rct_statistical_analysis_plan.pdf

⁹ https://www.nfer.ac.uk/media/3107/fcon_parent_privacy_notice.pdf

¹⁰ Receptive vocabulary refers to all the words that a person understands, including spoken, written, or manually signed words. The BPVS3 is a one-to-one test that assesses a child’s receptive vocabulary. For each question, the test administrator says a word and the pupil responds by selecting a picture from four options that best illustrates the word’s meaning. No reading is required. No spoken response is required.

- We found no evidence of an impact on children’s total difficulties score or their impact score (as measured by the SDQ, which provides an overall assessment of children’s difficulties and the impact of these difficulties on children’s social and emotional health).
- We found evidence of a positive impact on children’s prosocial behaviour scores six months after taking part in Families Connect (as measured by the SDQ) (effect size 0.2, $p = 0.05$).
- We found evidence of a positive impact on children’s softer skills (CSS¹¹) six months after the programme (effect size 0.17, $p=0.06$).
- We found evidence of a positive impact on the home learning environment (HLE) (effect size 0.36, $p < 0.001$). Immediately following the intervention, parents who had taken part in Families Connect reported engaging in more learning related activities with their children at home, than the parents of families who had not yet taken part.
- We found evidence of a positive impact on parents’ self-efficacy (PES) immediately after the programme (effect size 0.21, $p = 0.01$). Parents who had taken part in Families Connect reported feeling more confident and skilled with regards to supporting their children’s learning, than parents who had not yet taken part.
- We found no evidence of an impact on parents’ role construction immediately after the programme (PRC, i.e. what parents feel they should be doing as a parent to support their child’s learning) compared with those who had not taken part in Families Connect.

¹¹ For example, the child deals well with mistakes, the child gets on well with their peers, the child is adaptive to new tasks and challenges

Table 1: Summary of all outcomes

Outcome	N in Model (Control, Intervention)	Follow up time point ¹²	Effect Size (95% Cis)	P Value
Receptive Vocabulary (BPVS3)	823 (418,405)	1	-0.04 (-0.16,0.08)	0.52
		2	0.06 (-0.06,0.19)	0.34
Numeracy (PUMA)	804 (416,388)	1	-0.02 (-0.19,0.14)	0.78
		2	0.08 (-0.08,0.25)	0.33
Total Difficulties Score	828 (432,396)	1	0.01 (-0.15,0.17)	0.92
		2	0 (-0.17,0.16)	0.97
Impact Score (Log odds)	920 (420,400)	Treatment Coefficient	0.01 (-1.87,1.81)	0.99
		Treatment*Time Coefficient	-0.98 (-2.62,0.59)	0.23
Prosocial Score	845 (437,408)	1	0.08 (-0.11,0.26)	0.43
		2	0.2 (0.01,0.39)	0.05
Child Softer Skills	823 (418,405)	1	0.1 (-0.06,0.27)	0.22
		2	0.17 (-0.01,0.34)	0.06
Home Learning Environment	376 (194,182)	1	0.36 (0.22,0.51)	<.0001
Parent Efficacy Scale	368 (189,179)	1	0.21 (0.05,0.38)	0.01
Parent Role Construction	370 (192,178)	1	-0.02 (-0.19,0.15)	0.85

Source: NFER RCT of Families Connect (2018-2020)

1.6 Summary of key findings: implementation

- **Perceptions and experiences** of delivering and taking part in the programme were overwhelmingly positive. Facilitators of the programme particularly praised the quality of the training and delivery manual, and felt that the facilitative and reflective approach to delivery was effective. Parent participants enjoyed all of the sessions – especially those on social and emotional development – and they valued the parent time when they shared experiences with peers and the dedicated child and parent time which afforded quality one-to-one time with their child.
- **Perceived impact of the programme reported by parents** supported the RCT findings on the impact on parental efficacy and home learning environments:

¹² Follow up time point one was immediately after the programme and follow up time point two was six months after the programme.

- parents described how their confidence, motivation and ways in which their parenting could support their child’s development had all improved
- parents reported playing games and using activities from the programme at home with their children, establishing homework schedules and supporting bedtime routines.
- Senior leaders and practitioners within the schools gave **positive ratings** across all areas in the implementation feedback they provided to SCUK (for example, the programme was manageable to deliver, the strategies for recruiting and engaging parents were appropriate, and there was adequate time for planning and preparation).
- **Attendance** at the eight-week programme was generally high; two-thirds (66 percent) of children in the intervention group attended with their parent/carer at least one session from each themed area and at least five sessions in total (the parameters analysed in this trial). Almost two-fifths (38 percent) attended all eight sessions. However, a substantial minority did not attend any sessions at all (16 percent) (these children and their families were spread across schools, and there were no schools where no families attended at all).
- The **key features identified by participants and facilitators** that supported successful delivery of the programme appeared to be the range and balance of topics (social and emotional, language/literacy and numeracy); the structured elements within each session; the facilitative delivery style; the reflective nature of the programme, and the high quality training, delivery manual and ongoing support from SCUK.
- The **key conditions in schools** that supported successful implementation included: school leadership committed to the values of the programme; a school ethos that is welcoming and inclusive of all parents and families; alignment with school policies on parental engagement; a whole-school approach to implementing the programme; the practitioners knowing the families and school community; responding to school context; and school commitment to space, time and resources.
- This efficacy trial set out to explore the impacts of a particular **model of Families Connect** – namely to be run by two school-based Community Practitioners (CPs) so that they knew the school context and families well, and in schools that were either new to Families Connect or had only run it once previously (thus avoiding schools where Families Connect activities and parental engagement strategies might be more widely embedded). It is of note then, that a proportion of schools (seven of the 30 who implemented Families Connect) delivered the programme with an external practitioner alongside one member of school staff (rather than with two members of school staff). Given the positive feedback from all schools, this change in delivery model does not appear to have influenced experiences of the programme.
- Any **delivery challenges** were minor and schools mainly addressed them in the planning and preparation stages of the programme. Common challenges related to the length of the programme and sessions, timing of sessions to suit all parents in the group, the logistics of space and crèche facilities, releasing staff, language barriers and engaging parents who may not be comfortable in a school environment.

- Schools also delivered **other parental engagement support** during the course of the trial as part of their usual practice. Examples included numeracy and literacy sessions (for example explaining phonics to parents), meetings/coffee mornings, and group activities such as cooking and ‘parent gym’. A small number of schools (two of 27 for whom information was collected), provided additional support to control-group families during the trial period, including specific classes on wellbeing, first aid and craft activities.
- The average cost to schools was £155 per school to deliver one cycle of Families Connect; **about £20 per family per cycle**. Schools incurred costs for snacks, craft materials, photocopying and crèche facilities. Staff also spent time training (usually two members of staff for two days), preparing (between 30 minutes and an hour each per session) and delivering the programme (two hours each per week for eight weeks). Schools managed to release staff for this using internal cover.

1.7 Summary of implications and conclusion

Implications for the programme

Both the quantitative and qualitative findings from our study indicate that Families Connect increases parental engagement in children’s learning, improves parental skills, and improves children’s pro-social behaviour – all of which are valued in school settings and may have longer term benefits (Asmussen *et al.*, 2016). However we found no impact on vocabulary or numeracy. Furthermore, there was no link between higher levels of attendance and vocabulary outcomes. The theory of change might be further developed by exploring for example how children’s communication development is embedded throughout the programme (including in the sessions on social and emotional development which parents found particularly engaging), how it might be strengthened further in parent-child interactions, and/or whether a longer programme might be beneficial.

Programme developments

In light of continual developments towards sustainable delivery across SCUK programmes, SCUK were focusing on exploring **sustainable models for developing the programme**, rather than scale up *per se*. Training for trainer models of programme delivery are being developed and local communities of practice are being built to enable schools to support each other around parental engagement, and to work in more targeted areas (based on disadvantage and geography). Across their programme developments, SCUK were keen that robust plans for maintaining and monitoring quality would need to be developed.

A revised version of the programme is also currently in development which is inclusive of nursery age children (3-6 years) due to be delivered from 2021. As a result of the inclusion of younger children and feedback, more focus is placed on adapting the activities on children’s interests and abilities. Facilitators are also encouraged to emphasise how parents can support children’s speech and language development within every session by introducing new vocabulary, listening to their child, singing songs and rhymes, extending conversations and engaging in positive interaction. More effort has also been made within the programme to scaffold and support parental engagement and adaptation of activities within the home during and after the programme.

Implications for parental engagement in the early years

The findings from this study reflect the positive impact of supporting parents' engagement in their child's learning, in terms of improving parents' confidence and skills, the home learning environment, and children's social and emotional development, also highlighted in other research evidence (OECD 2020; Melhuish and Gardiner, 2020; Sylva *et al.*, 2007). The study also has wider implications for supporting parental engagement in the early years, particularly around the importance of 'relationship-based engagement' i.e. knowing the families and local context well, and a whole school, sustained approach to parental involvement. However, programmes in the early years may need a greater focus on and provide more support to parents around children's vocabulary and numeracy development, particularly where this is an intended goal of the programme.

Considerations in light of Covid-19

In light of the current situation around Covid-19, further research into how our trial schools and other Families Connect schools are supporting families and children with learning at home and with returning to school could be very informative to understanding parental engagement, and children's wellbeing more widely. Given the positive engagement and pro-social outcomes achieved and families' overwhelmingly positive experience of the programme, prioritising parental engagement in schools may be particularly important at a time when there is a heightened need to support children and families' wellbeing. Specific programmes (such as Families Connect) might play a part, as might specific or new staff roles in schools (with responsibility for family wellbeing for example). Not doing so may have longer term ramifications for pupils' education outcomes (given the links between wellbeing and education outcomes, NAHT, 2014). It could be valuable to find out from Families Connect schools how they and their school community have approached parental engagement during the pandemic, particularly where parental engagement and strong relationships between schools and families have been developed.

Areas for further research

Given the positive immediate impacts on home learning environment, it might be important to determine if and how these sustain, and whether any impacts in the areas of literacy and numeracy occur later and take time to develop. Further research into the mechanisms of change is needed, to understand more about how parents help their children with literacy and numeracy at home in view of ultimately improving attainment. The critical features of the programme and key conditions in schools identified in this study warrant further exploration, to understand which are core and which might be further adaptable. In addition, exploration of the revised model of Families Connect could be carried out.

2 Overview of the programme

2.1 Summary

An introduction and background evidence

- Families Connect is a parental engagement programme designed by Save the Children UK (SCUK) to develop the skills and confidence of families in disadvantaged areas, and provide them with the resources to actively engage their children in learning in the home.
- The programme was developed based on evidence of the importance of the home learning environment and parental engagement in children's learning. Parental engagement with children's learning is strongly associated with positive outcomes for children's early learning, readiness to learn, and future development.
- Despite strong theoretical grounding there is limited evidence of the impact of interventions designed to support parental engagement and the home learning environment on children's outcomes, particularly amongst disadvantaged families.

What are the aims of the Families Connect programme?

- Families Connect works with families in school settings to develop both parent skills and the school culture for engaging with parents.
- As a multi component intervention it focuses on supporting parents to develop children's social and emotional skills, communication skills, and their interest in and understanding of literacy and numeracy; and schools' approaches to parental engagement.

What does the Families Connect programme involve?

- The programme is delivered through 8 weekly 2-hour sessions covering three key areas: social and emotional development; literacy and language development; and mathematics and numeracy.
- In each session, the first hour is for parents only; the second hour is for parents and children together with the session focused on one of the three key areas.
- Delivery is typically through two school-based community practitioners trained and supported in delivering the programme.
- The programme encourages schools to keep the parental engagement strategies going after the eight-week programme.

What is the programme's theory of change?

- The theory of change for Families Connect focuses on developing the skills and confidence of parents who take part, providing them with the resources needed to actively engage their children in learning in the home. The programme uses play to focus on interaction and communication between parents and children.
- As well as knowledge of activities which may support children's development through social and emotional learning, literacy and language, and numeracy and mathematics;

parents are also supported with developing an understanding of and empathy for the children’s learning process.

- The programme encourages parents to increase their social capital within the school through interaction with school staff and other parents, increasing their confidence and familiarity with their children’s school learning environment.
- Schools are also encouraged to embed the principles of parental engagement to support children’s learning at home.

What were the implementation criteria in this study?

The study was designed to be delivered under the following managed conditions:

- Schools were from disadvantaged areas in all five geographical regions in which SCUK deliver the programme (the North of England, South of England, Wales, Northern Ireland and Scotland)
- Families with children aged four to six in Reception and Y1 in England and Wales, Y1 and Y2 in Northern Ireland, and P1 and P2 in Scotland
- Two Community Practitioners (CPs) per school were trained to deliver the programme as per the Families Connect Delivery Manual (2016) and each school would receive a coaching support visit or call from their SCUK trainer.
- Community practitioners should be class teachers, teacher assistants or family support workers.
- To reduce the risk of contagion (within school trial design) community practitioners could not be class teachers and only schools delivering either their 1st or 2nd cycle of Families Connect could be included.

2.2 An introduction and background evidence

Families Connect is a parental engagement programme designed by Save the Children UK (SCUK) to develop the skills and confidence of families in disadvantaged areas, and provide them with the resources to actively engage their children in learning in the home. Families Connect builds on SCUK’s extensive experience of running parental engagement programmes. It was designed in 2014 to align with SCUK’s strategic mission to support the early years for disadvantaged children¹³ in the UK, to embed sustainable approaches into the fabric of families’ lives, to fill gaps in evidence for disadvantaged children, and to influence policy to support children’s outcomes.

The programme is built on evidence about the importance of the home learning environment, which has been shown to have a significant impact on children’s early learning, readiness to learn, and future development (Sylva *et al.*, 2004 and 2008; Dearden *et al.*, 2011; Kiernan and Mensah, 2011).

¹³ For this study, disadvantage was seen within the context of poverty – in terms of household-income at the family/child level, FSM at the school level, and localised area strategies at the regional level.

Parental engagement in children’s education is reported to be one of the strongest predictors of school ‘success’ in terms of attainment and ‘adjustment’ (Desforges and Abouchaar, 2003).

The programme was designed with input from the National Literacy Trust, Edge Hill University and the SEAL programme (Social and Emotional Aspects of Learning), using evidence and existing ‘good practice’ to guide content and structure. This includes evidence that activities such as parent-child conversations, using play as a vehicle for interactions, storytelling and number games are associated with improved achievement at age five (Whitehurst and Lonigan, 1998; Nord *et al.*, 1999; Wade and Moore, 2000). SCUK’s programme development was also informed by feedback from practitioners and parents who participated in Families and Schools Together (FAST) (a programme delivered by SCUK in the UK between 2010 and 2017), which highlighted a need for more support for children’s learning in three key areas – literacy and language development, numeracy, and social and emotional development. These three areas are specifically included in the Families Connect programme (see section 2.3).

Evaluation of Families Connect has previously been conducted in-house by SCUK. Their evaluations have explored the intended outcomes of language and social and emotional development through mixed methods approaches. They have examined quantitative data collected through GL Assessment’s British Picture Vocabulary Scale (BPVS3) (Dunn *et al.*, 2009), parent- and teacher-completed Strengths and Difficulties Questionnaires (Goodman, 1997), teacher-completed child softer skills scales (developed in-house by SCUK, Bradley *et al.*, 2016), and parent questionnaires with parent efficacy and home learning environment scales (Hoover-Dempsey and Sandler, 2005; Sylva *et al.*, 2008). They have also explored qualitative interview data focusing on participants’ experiences and perceived benefits (Bizas *et al.*, 2017). Using a pre, post and follow up approach SCUK have considered the immediate and longer-term outcomes for parents and children. Results of this in-house evaluation showed improvements in BPVS3 scores from pre to 3 month follow up for children who received the programme, with no statistically significant change in comparison children in the same time period. In addition, SCUK have found that parents consistently report that Families Connect has a positive impact on how they and their child interact at home following the programme ([Save the Children, 2017](#)). NFER conducted further analyses of SCUK’s Families Connect datasets to help ascertain the suitability of outcome measures for the trial. Further details of this analysis are discussed in section 3.4.4 on outcome measure development, and published in Rennie and Styles (2020).

Since the programme started in Autumn 2014, SCUK has delivered 799 cycles of Families Connect in over 425 schools in areas of disadvantage across the UK, directly reaching more than 6,314 children, and with a much further indirect reach of siblings and classmates through working with parents, carers and schools.

2.3 What are the aims of the Families Connect programme?

Families Connect is designed to develop parents’ skills and confidence in supporting their child’s learning, and provide parents living in areas of disadvantage with resources to actively engage their children in learning at home. Families Connect aims to:

- stimulate the home learning environment, including increasing the confidence and skills of parents and carers, and enhancing the activities they do together with their children and the knowledge of how they support learning
- model how to approach, engage and work with families (parental engagement)
- create opportunities for schools and parents to build relationships.

The intended long-term effects of Families Connect are that children will have a greater chance of achieving their potential and doing better at school, as their parents will do more in the home to support their learning. The intended outcomes of Families Connect include improvements in terms of:

- **children's** social and emotional skills, their attitudes and behaviours towards school and learning (softer skills), communication skills, and their interest in and understanding of literacy and numeracy
- **parents'** parent/child communication, understanding and empathy for their child's learning, motivation and confidence to support their child's learning, and parent/school communication
- **schools'** parental engagement practice, relationships between the school and parents, and positive changes within the school environment.

2.4 What does the Families Connect programme involve?

What is the focus of Families Connect?

Families Connect is delivered in schools with a high proportion of disadvantaged children across all four countries of the UK. Disadvantage is measured by levels of Free School Meals (FSM) (or Pupil Equity Fund (PEF) in Scotland). The programme is a universal offer to all families within the school with children age four to six. It uses play as a vehicle to support parent-child interactions. The sessions focus on three key areas of child development – social and emotional learning, literacy and language development, and numeracy and mathematics.

How are practitioners trained and supported?

The programme is delivered by trained Community Practitioners (CPs) – professionals who work with families and children, and who are usually teachers, teaching assistants or family support workers from the school. Community Practitioner training takes place over two days, usually in a regional location (such as SCUK regional offices), and led by two regional SCUK trainers. The SCUK trainers lead the group of trainee practitioners through the delivery manual, explaining the purpose of the programme, modelling sessions and allowing CPs to practice delivering each session. During delivery, the CPs are provided with programme implementation support including coaching calls and site visits from SCUK staff to ensure that they are confident and supported in their delivery.

How is it delivered?

Families Connect is delivered through a series of two-hour sessions in school over eight weeks (known as a 'programme cycle'). Each programme cycle involves about 10 families – usually with

one parent/carer and one child attending per family (siblings aged four to six attend where possible with two parents/carers, twins can attend with one parent/carer). The timings of the sessions are flexible to suit the families involved (for example, during school, after school or straddling the end of the school day). Younger siblings need to be looked after elsewhere during the session such as with other family members or at a crèche.

What do the sessions involve?

The eight sessions, set out in Box 1, were developed by experts to ensure they are grounded in theory and existing good practice around children’s learning.

Box 1: Programme overview		
Social and emotional development	Week 1: Focus on Feelings Week 2: The Importance of Praise Week 3: The Importance of Listening	Julie Casey – educational psychologist who co-developed the SEAL Programme (Social Emotional Aspects of Learning).
Literacy and language development	Week 4: Book Talk Week 5: Beyond the Page	The National Literacy Trust – a national charity dedicated to raising UK literacy levels.
Numeracy and mathematics	Week 6: The Importance of Counting Week 7: Number Talk	Edge Hill University – pioneers of the Every Child Counts programme to help boost attainment in mathematics.
	Week 8: Celebration and Evaluation	

Each session involves a range of activities, techniques and games that parents and carers discuss, try out and practise with their children, in order to consider how they can introduce them into their home environments. Half of each session is for parents only; and half is for parents and children together. As set out in Box 2, each session is made up of six sections which are delivered consistently each week, but with some flexibility in order to allow the programme to be delivered either during school, after school or straddling the end of the school day.

Box 2: Session structure (example within school or straddling the end of school day)			
Part 1	Reflection Time	Ice breaker, pause for a moment, and reflection on information and activities from previous week.	20 mins
Part 2	The Science Bit	Discussion and learning on why this week's topic is important to help children's learning and relating to parents' own experiences.	20 mins
Part 3	Trying it Out	Facilitator models games/activities, parents try out in pairs, and consider how they might adapt to their own children.	25 mins
Children join			
Part 4	Snack Time	Snack to provide energy and focus for children; quality time for parents and children; conversation around a <i>Talk Topic</i> poster prompt.	20 mins
Part 5	Doing it Together	Parent led games/activities with their children, children see parent as the lead figure, facilitator on hand to provide support.	20 mins
Part 6	Reward and Close	Stickers for Reward Charts, inclusive activity to signal close.	15 mins

2.5 What is the programme's theory of change?

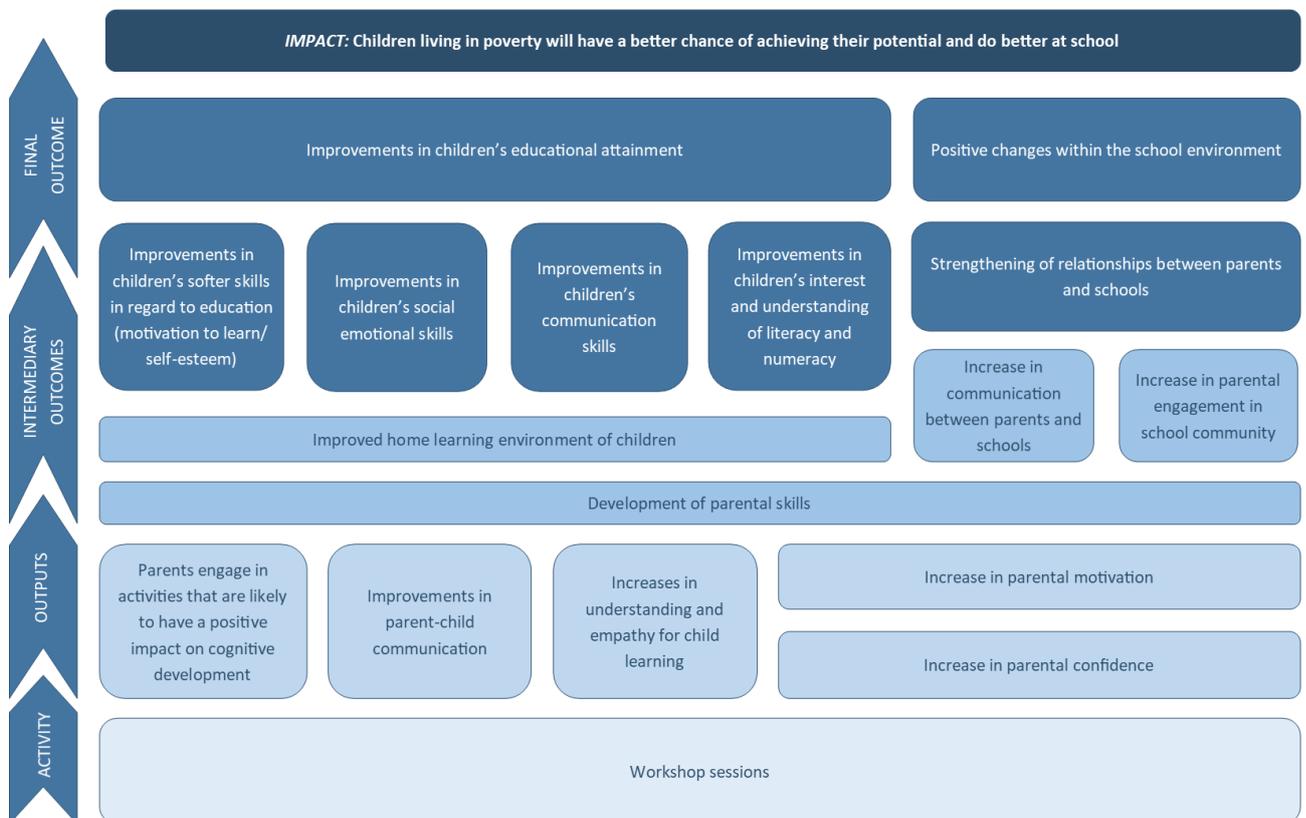
In line with the aims of the programme, the theory of change for Families Connect focuses on developing the skills and confidence of parents and carers to support their child's home learning environment. The programme uses play as the main vehicle for learning and interaction and communication between parents, and parents and children. The sessions are designed to provide parents with the resources needed to actively engage their children in learning. Each session focuses on an enjoyable activity which may enhance child development by helping with specific skills such as reading, counting and talking about feelings. The sessions are focused on three key areas of child development – social and emotional learning, literacy and language development, and numeracy and mathematics. Parents first try the activities with each other, then with their child in the sessions, and they are then encouraged to continue and develop the activities in the home. The sessions also promote the creation of time and space in the home for one-on-one communication and interaction and build parent empathy and understanding of the learning process.

An additional key part of the programme is the social capital within the school community, with other parents, teachers and school staff that parents build through engagement in the sessions. Through the interactions within the sessions parents communicate more and develop confidence and stronger relationships with other parents, teachers and school staff. Families Connect is delivered in schools, by school staff, as such schools' parental engagement practice can also improve through the training received, programme facilitation and guidance and support provided.

Areas of improvement could be seen in school-parent relationships and how the school engages with parents to enhance child learning at home.

A Theory of Change diagram focusing on outputs, intermediary and longer-term outcomes for the programme is shown below. The diagrammatic version of the Theory of Change presented below was developed for the Families Connect programme as implemented in this study (this is a working document that is regularly reviewed by SCUK as the programme develops). NFER and SCUK also held a workshop at the start of the evaluation in August 2018 to consider the theory of change in more detail. Highlighted within the workshop were the role of the 'outcomes' as mediators (i.e. essential mechanisms) in bringing about change. In particular, parents' improved confidence and motivation to support their child's learning was seen as a key mechanism in empowering them to feel more comfortable to engage with school and as a result improving parent-school relationships. At the workshop, the key contextual moderating features mentioned were whole school and especially headteacher support for the programme and its values. These were felt to be crucial to the strength of success of the programme, as was the commitment and skillset of the Community Practitioners which should include those with teaching/learning expertise and those with family liaison expertise.

Figure 1: Theory of Change diagram for Families Connect focusing on outputs, intermediary and longer-term outcomes for the programme



Why parental engagement and the home learning environment and how does this support children's communication and development?

Parent confidence and motivation to engage in home learning are theorised to increase through a better understanding of how to support their children's learning. The programme encourages parental practices such as reading and counting to and with children, using more complex language through stories, responsiveness and warmth in interactions support child developmental outcomes.

Parents' engagement in their child's learning support children's learning in the following ways:

- Learning from the actual activity
- Contact time between parent and child
- Validation that 'learning' is important through the act of prioritising time for it.

The underlying theoretical constructs are based on how social interaction is involved in the development of communication and cognition (Vygotsky, 1978) and how proximal processes between parent and child and the environment (or ecological system) have an effect on child development (Bronfenbrenner, 1992). The participation in enjoyable and stimulating activities should support children's communication skills as well as with the specific skills their parent is scaffolding. Through learning together the parent is also developing the child's ability and motivation concerned with learning generally. An increased parental interest in their learning should support children's interest and motivation.

The strength of evidence supporting the importance of the quality of the home learning environment and parental engagement in children's learning for children's outcomes have been demonstrated most strongly through longitudinal studies of children over time. Sylva *et al* found that a high quality HLE where parents are actively engaged in activities with their children, promoted intellectual and social development in all preschool children (2004). Kiernan & Mensah (2011) found engagement of parents in children's learning contributes to readiness to learn and has a positive impact on children's educational outcomes. The impact of the home learning environment and parental engagement in learning has been demonstrated to moderate the negative impact of socio-economic status on children's outcomes (Desforges and Abouchar, 2003; Sylva *et al*, 2004).

How do the activities support children's social and emotional learning?

The programmes focus on supporting children's social and emotional learning is based on the importance of early years social and emotional competence in predicting long-term life success (Brophy-Herb *et al*, 2015, Jones *et al*, 2015). Five domains of social and emotional skills have been defined to support children's optimum functioning (Goleman, 1998):

- Self-awareness (and valuing self)
- Managing feelings (self-regulation)
- Motivation (self-efficacy, persistence, resilience)
- Empathy (recognising non-verbal cues, understanding the feelings of others)
- Social skills (sharing, waiting your turn, friendship)ⁱ

These skills underpin much of the educational policy and guidance informing early years' practice within educational settings (Early Learning Goals - social and emotional development, the 'Social and Emotional Aspects of Development (SEAD, 2008)' and 'Development Matters in the Early Years Foundation Stage, 2012). Children learn these skills through parents modeling the behaviours within their interactions and supporting the child's understanding and application of the behaviours. The Families Connect social and emotional development sessions focus on supporting understanding and regulation of feelings through recognition and labelling and 'emotional bridging' talk (Brophy-Herb, 2015), and children's confidence and belief systems in their own abilities through parental praise (Dweck, 2006) and active listening.

How do the sessions support children's literacy and language development?

The importance of reading for children's academic success and the sensitivity of children's reading abilities to parental influence forms the basis of the programme's activities (Clark, 2007; Nord *et al*, 1999; Wade and Moore, 2000; and Jordan *et al*, 2000). Children's exposure to printed material and being read to at home is associated with reading achievement, language comprehension and expressed language (Gest *et al*, 2004) as well as children's softer skills – their interest and attitude toward literacy and learning in the classroom. Families Connect's literacy and language development sessions support parents to feel more confident about reading, books and stories in ways that engage children's interest. The purpose is to make reading an enjoyable experience for both the parents and children, promoting interaction and extended play. Parents are encouraged to support their children to engage with books or other reading material that suit their own interests and abilities, increasing their motivation and enjoyment. Within the sessions parents are encouraged to talk about books and stories at home with their children. The sessions also focus on providing parents with techniques such as dialogic reading strategies. Commenting on the text and relating it to the children's own experiences are demonstrated to have positive effects on children's expressive and receptive vocabulary and literacy (Reese *et al*, 2010), and improvements in literacy outcomes within disadvantaged families (Hockenberger *et al*, 1999).

How do the sessions support children's numeracy and mathematics?

Children's attitudes towards numeracy and mathematics are highly influenced by parent skills and perceived attitudes towards the subject. However, numeracy and mathematics can be a source of anxiety as parents often report they lack skills, knowledge and confidence in this area of their children's learning (McNamara, 2000).

Families Connect sessions on numeracy and mathematics are designed to support parent's confidence, promoting more positive attitudes and empathy towards their children's learning. The sessions provide parents with the knowledge and understanding that play-based activities and strategies will support their children's learning (Pearn, 1998 and Marshall & Swan, 2010). The sessions promote numeracy-based games such as counting activities involving toys that parents can adapt with objects of meaning and interest to their children (Education.com, 2016). The sessions also focus on familiarity with number names which parents can help to build into their everyday interactions.

Section 7 provides further discussion of the theory of change, in light of the findings from this evaluation.

2.6 What were the implementation criteria in this study?

The Families Connect programme is under continuous development by SCUK. However, this RCT was an efficacy trial – designed to be delivered under managed conditions. Hence, an implementation protocol was agreed for the trial, using a theory-driven approach (Donaldson, 2007; Coryn *et al.*, 2011), so that a version of the programme was trialled under defined parameters. These included:

- running the programme in areas of disadvantage¹⁴ – this was defined separately for each country based on distributions or poverty and localised area strategies: schools with over 20 percent free school meals (FSM) eligibility in England; over 25 percent FSM eligibility in Wales; over 40 percent FSM eligibility in Northern Ireland; and in Scotland in areas of disadvantage determined in consultation with the local SCUK manager¹⁵
- running the programme for parents and their children aged four to six in Reception/Y1 in schools in England and Wales, in P1/P2 in Scotland, and in Y1/Y2 in Northern Ireland
- training two Community Practitioners (CPs) per school to deliver the programme – one of whom should be a teacher/teaching assistant (TA) from the school, and the other another teacher/TA or family support worker from the school. In order that Families Connect approaches would not be shared with parents in the control group, the it was agreed that CPs should not to be any of the trial children’s regular class teachers or teaching assistants (i.e. avoiding contamination). This was a slight departure from usual Families Connect practice, where CPs can be usual class teachers, supporting parental engagement practices with the families in their class.
- each school would receive a coaching support visit or call from their SCUK trainer in either week 2, 3 or 4 to support a ‘best practice’ approach
- including 1st and 2nd cycle schools only – to avoid contamination through parental engagement practice/resources having been embedded in the school, schools on their 3rd cycle or more of Families Connect would not take part
- delivering as per the Families Connect Delivery Manual (2016) with minor adjustments regarding Week 8 evaluation activity (i.e. replacing the usual SCUK parent questionnaire with the questionnaire required for the trial).

In addition, the schools involved in the trial would provide: crèche facilities (if needed and at their own cost), snacks, and workshop materials (e.g. dice, magnifying glasses, stickers). A small budget

¹⁴ For this study, disadvantage was seen within the context of poverty – in terms of household-income at the family/child level, FSM at the school level, and localised area strategies at the regional level.

¹⁵ In Scotland there is universal eligibility for FSM in P1/P2, and in the absence of this, the Scotland team uses their knowledge of areas of low income such as the Scottish Index of Multiple Deprivation (SIMD), FSM rates in higher years, or knowledge of the school community, to ensure that Families Connect schools are in areas where a substantial proportion of the school community is on low income.

was available from SCUK for schools to help purchase resources. SCUK would provide all the printed materials schools would need. At the end of the eight-week programme, SCUK provided intervention and control families involved in the trial with a thank you gift voucher and a book for their child. Section 6 provides further details on the costs and time involved.

3 Overview of the evaluation approach

3.1 Summary

What were the research aims and questions?

- This evaluation aimed to provide a robust measure of programme impact, and to explore the implementation of the programme.
- The evaluation aimed to explore the following (summary) research questions:
 - Is Families Connect achieving its intended outcomes, in terms of:
 - children’s vocabulary and numeracy development?
 - children’s social and emotional development, and other softer skills?
 - parents’ involvement in their child’s learning?

What are the key features of the programme? What conditions in schools and other factors support the implementation of Families Connect? And what barriers are there?

How might the programme be developed, sustained and scaled up?

What was the overall evaluation design?

The evaluation involved four strands of work.

- Strand 1: Secondary analysis of existing data: to confirm outcome measures, sample sizes and inform the protocol.
- Strand 2: An efficacy RCT: using in-school randomisation at the family level, with two groups – intervention and a waitlist control. Baseline and two follow-up assessments of children’s vocabulary, numeracy and social/emotional outcomes. Baseline and one follow-up for parent reported outcomes on parental role construct, self-efficacy and home learning environment.
- Strand 3: Qualitative process evaluation: exploring the programme model; implementation and fidelity; conditions and factors affecting the implementation in schools; and parents’ views/home learning environment.
- Strand 4: Costs evaluation: to establish the costs of the intervention to schools, and the cost per pupil per year.

Thirty-one schools and a total of 499 children from 483 families took part.

What were the research measures?

- The British Picture Vocabulary Scale 3 (BPVS3) was chosen as the primary outcome for this investigation in order to explore developments in children’s communication skills. The BPVS3 measures child’s receptive vocabulary (i.e. understanding of words and language that children hear or see).

- The Hodder Progress in Understanding Maths Assessment (Hodder PUMA test, McCarty and Cooke, 2015) was chosen as it is a nationwide standardised test which has been aligned to the present national curriculum. It aligns well with the FC programme to improve general attainment in numeracy.
- The Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997) was chosen as it is a reliable measure of pupils' emotional and social wellbeing.
- The Child Softer Skills scale (CSS) is a bespoke 12 item scale designed by SCUK to be an age appropriate measure of children's attitudes and behaviours towards learning and school such as motivation, concentration and progress.
- The Key Stage 1 Home Learning Environment Scale (HLE) was chosen as it is a measure that captures the frequency of a range of general and work specific interactions between parents and pupils at home (Sylva et al., 2008).
- The Parent Role Construction (PRC) scale is a subscale (Role Activity Beliefs) of the original Parental Role Construction for Involvement Scale (Hoover-Dempsey and Sandler, 2005). It is a reliable measure that captures a parent's belief about what they should be doing with regards their child's education, and can be used as an independent scale.
- The Parent Efficacy Scale (PES) is a reliable measure of parents' beliefs about their ability to influence their child's educational outcomes (Hoover-Dempsey and Sandler, 2005).

What were the ethical considerations?

- This research project received ethical approval from all parties involved in the study.
- All NFER, QUB and SCUK staff and test administrators involved in this project have current enhanced DBS checks. The project team were also aware of, and adhered to, SCUK Child Safeguarding Policy.
- As part of usual practice in Families Connect, families participating in the programme sign opt in consent forms prior to taking part in, and providing data for, Families Connect.
- A parent could withdraw their consent for their or their child's data to be used in the trial at any point.

3.2 What were the research aims and questions?

This evaluation aimed to provide a robust measure of programme impact, and to explore the implementation of the programme, in order to inform programme development and future research into Families Connect, and to contribute to the evidence base available to policy makers and practitioners to improve parental engagement in early years' education for disadvantaged children.

The primary research question was:

- Does the programme make a difference to children's language development – six months after programme delivery? (i.e. receptive vocabulary as measured by the British Picture Vocabulary Scale v3 (BPVS3) (Dunn *et al.*, 2009))

The secondary research questions were:

- Does the programme make a difference to children’s language development – immediately after programme delivery? (as measured by the BPVS3)
- Does the programme make a difference to children’s numeracy development – immediately and six months after programme delivery? (as measured by the Hodder Progress in Understanding Maths Assessment (PUMA) (McCarty and Cooke, 2015)).
- Does the programme make a difference to children’s social and emotional development – immediately and six months after programme delivery? (as measured by the SDQ (Goodman, 1997) and the Child Softer Skills (CSS) scale developed by SCUUK (Bradley *et al.*, 2016)).
- Does the programme make a difference to parental engagement with children’s learning – immediately after programme delivery? (as measured by the parental Perceptions of Parent Efficacy (PES) and Parent Role Construction (PRC) scales (Hoover-Dempsey and Sandler, 2005) and the Home Learning Environment KS1 (HLE) scale (Sylva *et al.* 2008).

Additional research questions were:

- Does the programme have a differential effect on receptive vocabulary for disadvantaged families compared to non-disadvantaged families?
- Does the programme have a differential effect on receptive vocabulary for pupils with SEN compared to pupils without SEN?
- Does programme attendance have an effect on the primary outcome?

In addition, **the implementation and process evaluation** set out to answer the following research questions of key interest to SCUUK:

- **Participation**

- IPE RQ1: Did families take part in at least one session from the three areas of the programme¹⁶? How many sessions did families take part in across the eight weeks?

- **Implementation**

- IPE RQ2: What are the key important features of the programme (training, delivery and support)? How do these support delivery?
- IPE RQ3: What conditions and other factors support the implementation of Families Connect in schools?¹⁷ (including pre-conditions in schools, school leadership, school culture, costs/resources)?
- IPE RQ4: What delivery and implementation challenges and barriers were encountered?
- IPE RQ5: How well were the implementation criteria (to be developed by SCUUK as part of the project) delivered? To what extent do these seem to relate to outcomes? Which appear to be

¹⁶ It was felt important for the trial that participants attend at least one session related to each of the topic areas of the programme (social and emotional development, literacy and language development, and numeracy development) (the outcomes measured in the trial cover each of these areas). For the trial, we explored whether participants attended at least one session from each topic and at least five sessions in total (a total felt to be a reasonable expectation for attendance in similar programmes such as FAST). Note, in addition to the trial parameters, SCUUK expect attendance at six sessions and above.

¹⁷ This research question was particularly important to SCUUK, as their previous evaluations had not focused on the school-related factors conditions that support the implementation of Families Connect

core and which appear to be adaptable? Was the training and programme delivered as intended? Were any changes made to the programme?

- **Development, embedding and scale up**
 - IPE RQ6: What further support and development is needed for embedding, scale-up and *optimal* delivery? And what is schools capacity to embed the approach and sustain outcomes?
 - IPE RQ7: What barriers and enablers are likely to be encountered in embedding/scale-up?
 - IPE RQ8: How might the model be adapted for scale-up? What adaptations might work at scale?
- **In addition, the IPE explored:**
 - IPE RQ9: What difference do participants feel the programme has made to children¹⁸, parents¹⁹ and schools²⁰?
 - IPE RQ10: What other parental engagement support do the schools provide? What happened in the control group?

3.3 What was the overall evaluation design?

The whole evaluation involved four overall strands of work:

Strand 1: Secondary analysis of existing data: to confirm outcome measures, sample sizes and inform the protocol – a technical paper on the secondary analysis undertaken and results was published part way through the study (Rennie and Styles, 2020)

Strand 2: Family-level randomised efficacy RCT:

- using in-school randomisation at the family level, with two groups – intervention and a waitlist control
- covering all five geographical regions in which SCUK deliver the programme – i.e. the North of England, South of England, Wales, Northern Ireland and Scotland
- in schools in disadvantaged areas, with school level FSM > 20 percent
- designed to involve at least 25 schools in total – five per region, and at least 400 families in total – 16 per school
- focusing on children aged four to six in Reception and Y1 in England and Wales, Y1 and Y2 in Northern Ireland, and P1 and P2 in Scotland.

Strand 3: Qualitative process evaluation: exploring the programme model; implementation and fidelity; schools' experiences; and parents' views/home learning environment. This was informed by Humphrey *et al.*'s (2016) guidance for implementation and process evaluation and the EEF guidance 'Putting Evidence to Work – A School's Guide to Implementation' by Sharples *et al.* (2018).

¹⁸ For example, to children's communication, behaviour and relationships, and learning

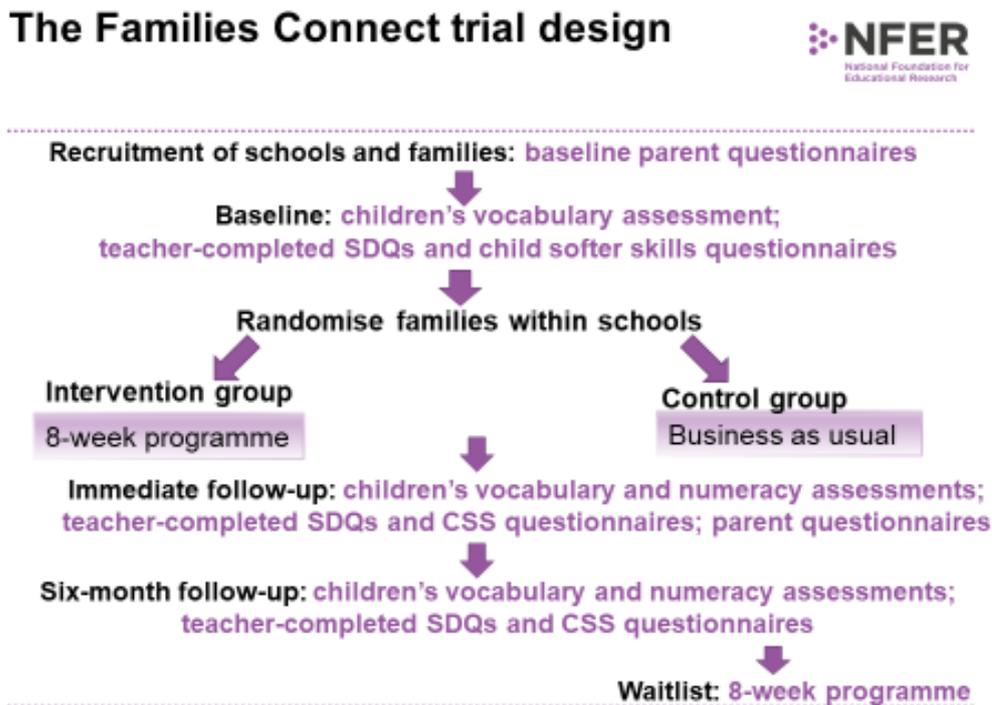
¹⁹ For example, to parents' confidence, communication and support of their child's learning, whether parents continue to use the activities and approaches with their child(ren), and to the home learning environment

²⁰ For example, to schools' capacity to work with families; and to parents'/families' engagement with school.

Strand 4: Costs evaluation: to establish the costs of the intervention to schools, and the cost per pupil per year.

The full [protocol](#) for this RCT evaluation is published²¹ and is [registered](#) with the ISRCTN²². It was an efficacy trial, under managed conditions and pre-set implementation expectations (see sections 2.3 and 2.5) so that SCUK were trialling an agreed version of Families Connect (which is a programme under continuous development). Figure 2 presents the overall trial flow for Strand 2.

Figure 2: Trial flow



²¹ https://www.nfer.ac.uk/media/3430/fcon_protocol_update.pdf

²² <http://www.isrctn.com/ISRCTN88158874>

3.4 What method was used for the trial?

3.4.1 Calculation of sample size

The trial was designed to measure 400 families from 25 schools (16 families per school) in five regions, at analysis. Sample size calculations were informed by the analysis of SCUK data in advance of the trial (Rennie and Styles, 2018). The following assumptions were used:

- a correlation between pre and both post-BPVS3 scores of 0.7 (secondary data analyses revealed correlations between baseline and follow-up of .75 and .76 depending on sample used (see Rennie and Styles, 2019, Technical Paper on Secondary Data Analysis)
- an anticipated effect size of 0.2 (secondary analyses revealed a Hedge's G quasi-effect size of 0.29)
- no design effect through randomising within schools and only being concerned with internal validity i.e. no need to generalise the results of the trial to a wider population
- probability 0.05 of a Type I error
- 80 per cent power.

With these assumptions the model required a minimum of 400 families. To account for loss to follow-up from school or family withdrawal, or pupil absence, SCUK had aimed to recruit an additional school per region (i.e. '25+5', so a total of 30 schools, six schools per region) and up to 20 families per school. To allow for this we intended at least 440 families go forward to be randomised. Due to difficulties in securing this many families, a booster recruitment phase was commissioned to achieve the minimum intended sample. A total of 483 families (499 pupils) were put forward for randomisation, 378 families (391 pupils) from the original recruitment phase, and 105 families (108 pupils) from the booster phase.

3.4.2 Eligible population

The following eligibility criteria were in place for the trial:

Schools

Primary schools were recruited with Reception and Year 1 classes, in schools with over 20 percent free school meals (FSM) eligibility in England, and over 25 percent FSM eligibility in Wales; with Y1 and Y2 in schools in Northern Ireland with over 40 percent FSM eligibility; and with P1 and P2 in Scotland, in areas of disadvantage determined in consultation with the local SCUK manager. Schools who had taken part in one previous cycle of FC prior to the trial could take part, i.e. if a school had taken part in two or more previous cycles of FC, they were not be eligible.

Families

Families with a child/children in Reception or Year 1 (in England and Wales) (the equivalent of P1/P2 in Scotland and Y1/Y2 Northern Ireland) in the academic year 2018/19 were eligible. Families may not have taken part in FC before (for example with an older sibling). This information was collected on the baseline proforma. Seven children had taken part in a cycle before, and 41

children were outside of these year groups (39 from nursery, and two from Year 2 in England), however were still recruited to the trial.

Age range

The trial was aimed at four to six year olds in R/Y1 in England/Wales (or equivalent year groups in the other countries). In practice 18 pupils were under 4 years old at the beginning of the trial, and some pupils were recruited to the trial from nursery (39) and Year 2 (2) classes. As the primary outcome measure is age adaptive²³ (suitable from three years of age), it was decided to retain these pupils in the trial.

Disadvantage

Data was collected on levels of disadvantage, for example household income (collected on the parent questionnaire using income bands) and FSM/Pupil Equity Fund eligibility. Responses were monitored to check whether at least 20 per cent of the families were from disadvantaged backgrounds. 40 percent of pupils were recorded as FSM eligible²⁴.

SEN

Children with special education needs (SEN) were eligible. Consideration was necessary as to the suitability of the outcome measures for each pupil, in particular for any with visual impairments for the primary outcome (which uses visual cue cards).

EAL

Where English was spoken by the family members as an additional language, schools and CPs made local arrangements to include them in delivery (as per usual practice) and the trial. Parents whose first language was not English may have needed local support to complete the parent questionnaire (for example translators in situ). As the primary outcome for the trial (BPVS3) was administered in English and required English vocabulary responses, Welsh-only speaking schools were not be eligible to take part in the trial.

3.4.3 Recruitment

Recruitment for the trial was led by SCUK. They had an overall recruitment target of 440 families of children in Reception (P1) and/or Year 1 (P2). Schools were initially recruited by SCUK through country teams, in the following regions: South of England, North of England, Wales, Northern Ireland and Scotland. Staff from each country team promoted the trial to schools in their region through telephone calls and school visits. Head teachers joining the trial signed a Memorandum of Understanding (MoU) which gave details about the programme and evaluation requirements. A mixture of first and second cycle schools were recruited (i.e. schools new to Families Connect and schools that had previously run the programme once). The MoU is included in Appendix A, and the school information sheet is in Appendix B. Section 5.2 provides further details about the SCUK country teams and their regional approaches to school recruitment.

²³ A pupils starting point on the assessment is dependent on their age and ability.

²⁴ Pupils in England in Reception and Year 1 and 2, and pupils in Scotland in P1 and 2 are eligible for FSM regardless of income.

Once schools were recruited, a ‘coffee morning’ was organised on school premises, and families from target year groups were invited to participate. Each participating school was asked to recruit up to 20 families. The parents wanting to sign up to the trial were asked to complete a consent form on behalf of themselves and their children at the end of the meeting, as well as a short questionnaire (baseline Parent Questionnaire). A family could have more than one child in the trial but a parent would have to complete a consent form and questionnaire for each child. Children from the same family were randomised into the same group.

The consent forms and the parent questionnaires were produced and printed by NFER, and sent to the SCUK country teams across the regions. SCUK country teams then distributed the instruments to participating schools and ensured completion. SCUK team members were also asked by NFER to complete a form indicating the questionnaire number, the school, the parent name and the child name, to aid in the allocation once the questionnaires were returned. NFER arranged the collection of the completed instruments from schools via secure courier. On some occasions, the completed instruments were collected from the SCUK country team leads directly.

Once families were recruited, the schools were asked to send child data to NFER through a dedicated secure data portal. Consent forms and parent questionnaires were logged by NFER, and the child data was matched against the list of consent forms. Child data was processed by NFER only if a child consent form was present. Receipt of child data and the completed consent forms were the conditions for children to be considered as participating in the trial (and subsequently randomised). In total 391, children from 378 families were recruited at this stage.

In order to achieve the target numbers required for the trial (to ensure adequate power to detect an effect), an additional round of recruitment was carried out (funded by SCUK). This ‘booster’ recruitment was focused in Scotland, and also in the North of England. Families were recruited in the same way as the first round, organising ‘coffee mornings’, and asking parents wanting to participate to sign a consent form and fill in the parent questionnaire. In total 108 children from 105 families were recruited from these seven schools.

Given the later recruitment, it was decided that these seven schools should follow a delayed timetable, labelled the ‘Booster phase’. The 24 schools initially recruited followed the original timetable, labelled ‘Main phase’. Throughout the project, the Booster phase lagged behind the Main phase by about a school term.

3.4.4 Outcome measure selection

Our modelling of SCUK’s 2016 data from 82 families who took part in Families Connect and 51 comparison children who did not take part in the programme, indicated that Families Connect had a beneficial effect on pupils’ vocabulary as measured by the British Picture Vocabulary Scale (3rd Ed. BPVS3, Dunn et al., 2009) immediately after the intervention.

The BPVS3 was chosen as the primary outcome for this investigation in order to explore developments in children’s communication skills – one of the main outcomes for children in the theory of change, and, as shown in existing literature influenced by parental engagement in learning activities in the home. The BPVS3 measures child’s receptive vocabulary (i.e. understanding of words and language that children hear or see). Whilst this is only one aspect of

communication, it was felt the most pragmatic to measure for this trial (in terms of ease of implementation (it takes about 10 minutes to administer per pupil), its psychometric properties (see below), budget and linkage to the notion of extending vocabulary and communication in the home in the ToC). We also considered using the CELF pre-school assessment (Clinical Evaluation of Language Fundamentals) which measures a broad range of expressive and receptive vocabulary in young children (aged 3–6), but noted that it takes 30–45 minutes to administer per child and is more expensive than the BPVS3.

Previous in-house studies of Families Connect had shown promising evidence of effects measured by the BPVS3 in quasi-experimental designs. The BPVS3 has strong psychometric and implementation properties. It received ratings of 3/3 and 2/3 from the review that formed the [EEF database of early years' measures](#)²⁵ for the above properties respectively. It is a one-to-one assessment conducted by a trained teaching professional. Originally, we had planned that class teachers would administer the baseline BPVS3. However, to reduce burden on schools, the baseline assessment was administered by SCUUK staff trained in BPVS3 administration. In order to ensure unbiased administration (between intervention and control group children), the follow-up BPVS3 assessments were administered by trained NFER test administrators (all ex-teachers). For this trial the raw score was used as this still reflected the adaptive aspect of the test. The BPVS3 is a test appropriate for ages three to 18+. As such, as per the BPVS3 manual (Dunn et al., 2009), start sets are determined by the pupil's age at the time of testing. Raw scores are calculated by taking the highest mark of the highest set reached (ceiling set), and subtracting all the mistakes made between the basal set (the lowest set in which no more than one mistake is made) and the ceiling set. Start sets were calculated by an NFER statistician in SPSS using a full audit trail, using pupils' dates of birth, and a proposed date of test within two weeks of actual testing. As per the BPVS3 manual, although the start set is determined by age, the basal set may have been lower than the start set if the pupil made more than one mistake in the start set.

The Hodder Progress in Understanding Maths Assessment (Hodder PUMA test, McCarty and Cooke, 2015) was chosen as it is a nationwide standardised test which has been aligned to the present national curriculum. It aligns well with the FC programme to improve general attainment in numeracy. As the test is designed to evaluate Reception children in the summer, it was not suitable to use it as a baseline for all the children in our study (where some children would have just started Reception). It was therefore decided not to use PUMA as a baseline covariate, but instead to use the BPVS3 baseline as a covariate in the numeracy outcome models (under the assumptions that reading/literacy and maths are correlated, using a covariate would improve the model over not including one, and BPVS3 was already being administered). In addition, we were aware that the youngest reception participants being measured at first follow-up (April/May 2019) may have struggled with the test. The teachers and students were made aware that this was to be expected to mitigate any negative impact this may have had on the pupils and schools. The PUMA scores (Appendix E) are normally distributed, implying that no group was disadvantaged in

²⁵ <https://educationendowmentfoundation.org.uk/projects-and-evaluation/evaluating-projects/early-years-measure-database/early-years-measures-database/>

particular by the test. The assessment was administered by external test administrators. The total raw scores were used as the outcome measure.

The Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997) was chosen as it is a reliable measure of pupils' emotional and social wellbeing and it had been used in previous FC cycles. The questionnaire consists of 25 items, split into 5 subscales with 5 items each (emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, prosocial behaviour). In addition, the SDQ consists of an impact supplement with a further five items. For this trial we used three measures:

- the total difficulties score – which evaluates the risk of mental health disorders. The total difficulties score is measured on a range of 0–40, with an increase in this score corresponding to an increase in the risk of mental health disorder, and is made up of the sum of the subscale for emotional symptoms, conduct problems, hyperactivity/inattention and peer relationship problems
- the prosocial score – which assesses positive behaviour and interactions, quantified in a scale that evaluates how often a child engages in behaviours that benefit others such as helping, comforting, sharing and cooperation. The prosocial behaviour scale is scored from 0–10, with an increase in score corresponding to an increase in the likelihood of the pupils behaving in a prosocial manner
- the impact score – which evaluates the impact of behavioural difficulties experienced by pupils. Teachers are asked if they think pupils are facing behaviour or emotional problems and, if so, are asked about chronicity, distress, social impairment, and burden to others. The answers to the supplement are compiled to produce an impact points score in the range of 0 to 10, with an increase in the score corresponding to an increase in the impact of the pupils' behavioural difficulties on themselves, their teachers and their peers.

These measures were computed using the syntax²⁶ published by Youth in Mind and were teacher assessed using a paper questionnaire.

The Child Softer Skills scale (CSS) is a bespoke 12 item scale designed by SCUK to be an age appropriate measure of children's attitudes and behaviours towards learning such as motivation, concentration and progress (Bradley *et al.*, 2016; Appendix H). It was chosen as it aligns well with the intended impact of the FC programme, and had been used in previous FC cycles. The raw score of the 12 items summed was used as the outcome measure and was teacher assessed.

Our prior investigation of SCUK's data also involved exploring correlations between teacher-reported and parent-reported behaviours relating to the home learning environment, parental efficacy and parent role construction. We found no correlation in the way teachers think about parents and how parents think about themselves and only a small correlation in reports about what parents are doing at home. These findings led us to include a parent questionnaire in the trial, rather than relying on teacher reports. We included the parent questionnaire at time-point one only (i.e. at the end of the eight-week programme). Several reasons drove this decision: 1) response rates to parent questionnaires are usually fairly low; 2) parents would be a captive audience at the end of the eight-week programme and schools could engage control group parents in a separate coffee morning to

²⁶<https://www.sdqinfo.org/c1.html>

complete the survey – longer-term follow-up would require greater efforts to engage parents in the survey; 3) the theory of change indicates that outcomes for parents should emerge during the programme; and 4) budget – this work was agreed after the grant from Nuffield was approved, and was funded by SCUK. The measures included in the parent questionnaire are described below.

The Key Stage 1 Home Learning Environment Scale (HLE) was chosen as it is a measure that captures the frequency of a range of general and work specific interactions between parents and pupils at home (Sylva et al., 2008). The activities in the scale align well with the activities practiced in the FC programme. It consists of 4 factors with three items in each; ‘Home computing’, ‘One-to-one interaction’, ‘Expressive play’ and ‘Enrichment outings’. The outcome measure for this trial was the raw sum of the 12 items and was parent-assessed.

The Parent Role Construction (PRC) scale is a subscale (Role Activity Beliefs) of the original Parental Role Construction for Involvement Scale (Hoover-Dempsey and Sandler, 2005). It is a reliable measure that captures a parent’s belief about what they should be doing with regards their child’s education, and can be used as an independent scale. It is a parent assessed measure that consists of 10 items. The sum of the 10 items was used as the outcome measure.

The Parent Efficacy Scale (PES) is a reliable measure of parents’ beliefs about their ability to influence their child’s educational outcomes (Hoover-Dempsey and Sandler, 2005). It is a parent assessed measure that consists of seven items. Some items are reverse coded. The sum of the seven items (reversed where appropriate) was used as the outcome measure.

3.4.5 Baseline data

All teachers and families that had consented to join the trial were asked to provide pupil administrative data (for example, names, DoB, gender, FSM), to fill out the baseline surveys and complete the baseline tests prior to randomisation. This included a teacher questionnaire (TQ), a parent questionnaire (PQ) and the BPVS3. Trained SCUK staff administered the baseline BPVS3. To avoid administration bias, these staff were not closely associated with the school (so were not the trainer attached to the school for example), but were part of the wider SCUK country or evaluation. If administrative data and the primary outcome measure (BPVS3) were returned, a pupil was put forward for randomisation. If the BPVS3 was not returned due to a pupil being absent on testing day, this pupil was still included in the randomisation list. If the pupil had left school, they were removed from the trial. As such the following numbers (in Table 2) refer to respondents who were included in the master trial list, and therefore put forward to randomisation for the trial.

Table 2: Baseline survey response figures

Randomisation Phase	No. of pupils with family consent	Randomised	No. of baseline BPVS3 tests returned (from randomised group)
1	396	391	382 (missing = 9)
2	108	108	100 (missing = 8)
Total	504	499	482 (missing = 17)

Source: NFER RCT of Families Connect (2018-2020)

3.4.6 Randomisation

As mentioned previously, consenting families who returned their administrative data and BPVS3 records were put forward for randomisation. If a pupil was absent on testing day, they were still put forward for randomisation. Efforts were made to get the baseline measurements, however 17 records were not collectable. It was felt that ethically this should not be justification to remove the families from the trial – as parents had consented for their child to be part of the trial, other data was being collected about their child, and they had not withdrawn. If a pupil withdrew from the trial prior to baseline testing/randomisation, or had left school, they were removed from the master pupil list prior to randomisation. Randomisation was stratified by school. Due to the nature of the intervention involving parents working with their child(ren) and intending to impact on parental behaviour, it was not possible to randomise at a pupil level in case siblings should be allocated to different groups. Therefore randomisation was conducted at the family level. So as to equally distribute participants, and because over 2 percent of the families had more than one child taking part (see protocol), randomisation was also stratified by whether or not the family had more than one child. A further randomisation was conducted to allocate families who were recruited during the second (i.e. ‘booster’) phase of recruitment. As such, randomisation took place in two phases, the first in January 2019, the second in March 2019. They were carried out by an NFER statistician using a full SPSS syntax audit trail (the syntax used is in Appendix D). The results are presented below in Table 3.

Table 3: Randomisation figures

Randomisation Phase	Families (I:C)	Pupils (I:C)
Main	378 (189:189)	391 (193:198)
Booster	105 (53:52)	108 (54:54)
Total	483 (242:241)	499 (247:252)

Source: NFER RCT of Families Connect (2018-2020)

3.4.7 Follow-up measurement

Immediately after delivery, pupils were tested on all outcome measures. Test administrators, who were blind to group allocation, tested pupils using the BPVS3 and PUMA tests. Teachers completed the TQ for each pupil, and PQs were provided to each parent about each child, to be returned as soon as possible. Most PQs were returned immediately, however some were returned after a delay.

Six months after the completion of delivery, pupils were tested again on all outcome measures apart from the parental engagement measures. Again, test administrators were used to administer the BPVS3 and PUMA tests, and teachers completed the SDQ and the CSS scales.

In the cases where a pupil completely withdrew from the evaluation, all data was deleted from our records, with only the de-identified pupil identifier retained in the records, so as to keep the randomised N consistent. One school withdrew post randomisation, but didn't request data deletion. Where a family withdrew from the intervention, records were retained and testing continued where possible. Further details on withdrawn pupils and schools are presented in section 4.1.1, and how missing data was handled is presented in section 3.5.1. Table 4 displays the number of completed records at follow-up 1 and 2.

Table 4: Follow-up survey response figures

Stage	Intervention	Control	Total
Randomisation	247	252	499
Follow-up 1	216 (missing = 31)	236 (missing = 16)	452 (missing = 47)
Follow-up 2	210 (missing = 37)	224 (missing = 28)	434 (missing = 65)

In this table missing refers to all randomised cases who were not measured, i.e. withdrawn and not present cases

Source: NFER RCT of Families Connect (2018-2020)

3.5 What methods were used for the implementation and process evaluation?

The implementation and process evaluation was designed to use the following range of qualitative approaches to collect data across a range of participants, set out by foci below.

Foci 1: understanding the programme model

- A programme **theory of change (ToC) workshop** facilitated by NFER and attended by SCUK programme and delivery staff, held at the start of the trial – to help understand the programme model, the delivery mechanisms, the resources required and the expected outcomes and impacts. The ToC was also reviewed during an emerging findings meeting held at the end of April 2020 for the NFER evaluation team to discuss impact and process evaluation findings.
- Interviews with up to six **programme managers** at both the start and end of the trial – to explore the programme model as planned, and reflections on the model in practice.

Foci 2: exploring implementation compliance and fidelity

- Visits to **Community Practitioner training sessions** (one per region), each involving a full day's observation, a post-training interview with a trainer, and up to two CPs – to explore what the training involved and how it prepared practitioners for delivery.
- Collection of **family register data** from each school in the trial, with data at family level – to identify how many sessions families attended, and whether they attended at least one from each topic area (i.e. social and emotional development, communication/literacy, and numeracy).
- **Implementation feedback data** from each school in the trial, collected by SCUK during a post-programme site visit – to explore the extent to which Community Practitioners and school leaders felt certain key aspects of delivery were implemented well or otherwise.
- An **end-point practice proforma** from each school, to explore any other parental engagement programmes delivered in the school and check control group activity during the trial.

Foci 3: exploring schools' experiences

- **Case studies**²⁷ (in one school per region), each involving a session observation, an SLT interview, a class teacher interview, up to two Community Practitioner interviews, parent interviews (up to three), and an interview with a small group of children – to explore perceptions of the key features of the programme, the conditions and factors that support schools to delivery Families connect, the costs involved and participant engagement.
- **Telephone interviews with school senior leaders** (up to ten, from non-case-study schools) – to explore perceptions of the key effective features of the programme, implementation, costs involved and wider views on sustaining the benefits and embedding the approaches in schools.

Foci 4: focus on parents and the home learning environment (HLE)

- **Follow-up interviews with parents** – in North of England, South of England and Wales (up to two parents per region) followed up with telephone interviews about six months after the programme; and in Northern Ireland and Scotland up to two parents per region followed up with telephone interviews both three and six months after the programme – to explore perceptions of longer-term benefits and outcomes.

The list below provides an overview of the process data collection achieved:

- interviews with programme managers (six at the start of the project; six towards the end)
- four training observations including interviews with trainers and community practitioners
- case studies in five schools each involving session observations and interviews with senior leaders, class teachers, community practitioners, parents and children
- nine telephone interviews with school senior leaders
- follow-up interviews with seven parents
- and a range of quantitative data collected through Family Registers (from 28 schools), implementation feedback questionnaires (from 25 schools) and school usual practice pro-formas (from 27 schools).

Appendix F provides further details of the number of interviews/visits achieved, and also shows how the IPE data maps onto the IPE research questions for the study.

3.6 What analysis was carried out?

3.6.1 Overview of impact analysis

Full analysis details were pre-specified in a published statistical analysis plan²⁸ (SAP). The presentation of the data in this report has been informed by CONSORT-SPI standards (Montgomery *et al.*, 2018). An overview of the analysis that was carried out, and any deviations from the SAP are covered below.

²⁷ Note, case study sites were selected to cover both first and second cycle sites, and observation sessions were selected across the three topic areas (i.e. so that researchers observed at least one session on social and emotional development, one on communication/literacy, and one on numeracy – across the five case studies).

²⁸ https://www.nfer.ac.uk/media/3856/fcon_rct_statistical_analysis_plan.pdf

Programmes/packages

Data preparation including consolidation of files, data checks, and data cleaning was conducted in SPSS. Further data preparation and analysis was carried out in R. Multilevel models were conducted using the lme4 package and contrasts were calculated using the emmeans package.

Data preparation

This was a within-school randomised repeated measures design. The data was put into long format for the analysis, split by time-point. One advantage of this design is that impact of missing data was mitigated through the use of two follow-up time points. Cases in which a participant was measured at only one of the two time-points could still be included in the model.

Siblings

As mentioned previously, for pragmatic reasons, siblings who took part in the trial were randomised together. As there were so few siblings, it was decided not to take account of potential family effects by nesting individual data into family groups. As such, sibling data was averaged to the family level. Where there may have been missing data due to absence or other reasons, data from the present sibling was used.

There were a small number of PQs returned in which the parent filled out one questionnaire for both siblings. In this instance, the PQ was used as a family average response.

Missing data

For the BPVS3, all cases where baseline and at least one follow-up measurement were returned were included in the model. For the PUMA, all cases with a baseline measurement of the BPVS3 (as this was the proxy prior attainment measure) and at least one follow up measurement of the PUMA were included in the model. For the SDQ, data and missing data was coded according to the standard coding²⁹. For the remaining measures (CSS, HLE, PRC, PES) in which a total was created by summing a number of items, cases in which no more than 33 percent of the items were missing were used to create a summed total for each pupil. If a pupil had more than 33 percent of the items on a respective scale missing, the measure was set to missing. If the pupil had less than 33 percent missing items on the respective scale, the population average for the item was inputted, and a total score was then created.

Primary Outcome Model

The primary outcome analysis of the BPVS3 raw scores was 'intention-to-treat' (ITT). The primary model was a multilevel model with three levels (time point, pupil and school). Pupils who had measurements at baseline and follow-up one and/or follow-up two were included in the model, regardless of whether their school implemented the intervention, or their family took part. The dependent variable for the model was the BPVS3 raw scores at follow-up one and follow-up two with the following covariates:

- A dummy variable indicating family group allocation
- A dummy variable indicating randomisation phase

²⁹ <https://www.sdqinfo.org/py/sdqinfo/c0.py>

- A dummy variable indicating whether the family had more than one child
- Prior attainment as measured by the baseline measurement of the BPVS3
- A dummy time variable indicating 2nd follow-up
- An interaction term time* intervention

In this model the school slopes were fixed. This model was run to determine whether the FC programme had an overall impact on pupils' receptive vocabulary, and if any impact had enhanced or attenuated over time through the use of the interaction term. It was also used to determine the effect at 2nd follow-up, which was the primary outcome time-point of the trial.

Secondary Outcome Model

We had intended to run a secondary ITT analysis of BPVS3 raw scores in a similar way to the primary model, but with one difference. Whereas in the primary model, school slopes were fixed, in the secondary model the school-by-treatment interaction was to be estimated, i.e. school slopes were to be random by making the intervention variable random at the school level. This model was to be run to explore potential differential effects of the intervention across schools. However, this model did not converge, i.e. there was not enough variation in the model for it to run.

Sub-group Models

To investigate whether the FC programme had differential effects for families from disadvantaged backgrounds, a subgroup analysis was conducted on the primary outcome. A multilevel model with three levels (time point, pupil and school) was run with the following covariates:

- A dummy variable indicating family group allocation
- A dummy variable indicating randomisation phase
- A dummy variable indicating whether the family has more than one child
- Prior attainment as measured by the baseline measurement of the BPVS3
- A dummy time variable indicating 2nd follow-up
- A dummy disadvantage variable indicating total household income below £20,000³⁰ PA
- An interaction term income*intervention

This model was run to determine whether the FC intervention had a differential effect on receptive vocabulary for disadvantaged families compared to non-disadvantaged families.

To investigate whether the FC programme had differential effects for pupils with SEN, a subgroup analysis was conducted on the primary outcome. A multilevel model with three levels (time point, pupil and school) was run with the following covariates:

- A dummy variable indicating family group allocation
- A dummy variable indicating randomisation phase
- A dummy variable indicating whether the family has more than one child
- Prior attainment as measured by the baseline measurement of the BPVS3
- A dummy time variable indicating 2nd follow-up

³⁰ Note that this threshold did not take into consideration the size of household, therefore should be considered an approximate measure of disadvantage.

- A dummy SEN variable indicating if the pupil had special educational needs as noted by the parent (if only one sibling had SEN only the data from that child was included in this model, not the average outcome)
- An interaction term SEN*intervention

This model was run to determine whether the FC intervention had a differential effect on receptive vocabulary for pupils with SEN compared to pupils without SEN.

The following analysis is a variation in the SAP, i.e. it was not pre-specified but run post hoc. A high proportion of the pupils who took part in this evaluation were pupils for whom English was an additional language. Considering the primary outcome was a test of receptive vocabulary in English, it was decided that this was an important subgroup to test, to see if the FC programme had any differential effects. As such a subgroup analysis was conducted on the primary outcome, looking at pupils with EAL. A multilevel model with three levels (time point, pupil and school) was run with the following covariates:

- A dummy variable indicating family group allocation
- A dummy variable indicating randomisation phase
- A dummy variable indicating whether the family has more than one child
- Prior attainment as measured by the baseline measurement of the BPVS3
- A dummy time variable indicating 2nd follow-up
- A dummy EAL variable indicating if the pupil's first language was no English as noted by the parent
- An interaction term EAL*intervention

This model was run to determine whether the FC intervention had a differential effect on receptive vocabulary for pupils with EAL compared to pupils without EAL.

Secondary outcome analysis: pupils

The secondary outcome analysis of numeracy was an ITT analysis of the raw PUMA score at both follow-up time points. The PUMA test was not measured at baseline as it was not age appropriate for the beginning of reception. As such, the baseline BPVS3 score was included as a covariate as a proxy measure of prior attainment in numeracy, under the assumption that it would be a predictor of numeracy. All pupils with measurements at baseline BPVS3 and either or both of the two PUMA follow-ups were included in the model. A multi-level model with three levels (time point, pupil and school) was run. It included the following covariates:

- A dummy variable indicating family group allocation
- A dummy variable indicating randomisation phase
- A dummy variable indicating whether the family has more than one child
- Prior attainment as measured by the baseline measurement of the BPVS3
- A dummy time variable indicating 2nd follow-up
- An interaction variable time*intervention

This model was run to determine whether the FC intervention had an impact on pupils' numeracy, and if any impact had enhanced or attenuated over time.

The secondary outcome analysis of social and emotional development was an ITT analyses of the total difficulties score, the prosocial score, and the impact score of the SDQ (as computed using the syntax published by Youth in Mind). Three multilevel models with three levels (time point, pupil and school) were run. All pupils with measurements at baseline and either or both follow-up time points, for each scale, were included in each model. Each model had the following covariates:

- A dummy variable indicating family group allocation
- A dummy variable indicating randomisation phase
- A dummy variable indicating whether the family has more than one child
- Baseline measures of the respective scales
- A dummy time variables indicating 2nd follow-up
- An interaction variable time*intervention

Whereas it was planned that the Impact score would be used as a continuous outcome measure, following a check of the distribution of scores, it was decided that a logistic regression would be a better fit to the data, as the data broke the assumption of normality, necessary for a linear regression (see Appendix E).

These models were run to determine whether the FC intervention had an impact on pupils' social and emotional wellbeing, and if any impact had enhanced or attenuated over time.

Furthermore, the secondary outcome analysis of social and emotional development was an ITT analysis of the total raw score of the child softer skills (CSS) scale. A multilevel model with three levels (time point, pupil and school) was run. The model was specified as the previous models, with the baseline measurement of the CSS as a covariate.

Secondary outcome analysis: parents

The secondary outcome analyses of parental engagement in pupils' learning were ITT analyses of the PES total raw score, the PRC total raw score and HLE total raw score. Three, two level (school and pupil) multilevel models were run on the respective outcomes, measured immediately after programme delivery. All pupils with data on the respective outcome at baseline and follow-up was included in the model. The following covariates were included:

- A dummy variable indicating family group allocation
- A dummy variable indicating randomisation phase
- A dummy variable indicating whether the family has more than one child
- Baseline measures of the respective scales

These models were run to determine whether the FC intervention has a short term effect on parent's engagement in their child's learning at home.

Outlier treatment/sensitivity analysis

Prior to running each model, the data distribution was checked visually for normality. Following the running of each model, the residuals were checked for normality and homoscedasticity. Furthermore, influential outliers were identified using Cook's Distance, and all those above 4/N were removed (Nieuwenhuis, Te Grotenhuis, and Pelzer, 2012). The models were compared

before and after. The models improved after removal of the outliers, and these are presented in this report..

Effect Size

Effect sizes and confidence intervals were calculated for all outcome models by converting the coefficients (in the respective models) of the intervention group variable into Hedges g effect sizes. This was done using the following formula:

$$g = \frac{\bar{x}_1 - \bar{x}_2}{S^*}$$

Where $\bar{x}_1 - \bar{x}_2$ denotes the model coefficient representing the mean difference between the intervention and control groups, while adjusting for the model covariates.

S^* is the standard deviation. For all models this was the square-root of the school and pupil variance from a model without covariates i.e. for repeated measures models, it did not include the time-level variance. This was to enable comparisons with simpler models with only one follow-up time point.

Confidence intervals for the effect sizes were derived by multiplying the standard error of the intervention group model coefficient or relevant contrast by 1.96. These were converted to effect size confidence intervals using the same formula as the effect size itself.

Missing data

The pattern and extent of missing data was explored through the use of a multi-level logistic model. A two level (family and school) logistic regression model was run on whether a pupil was missing at both follow up points or not. This was run as a two level model to reflect the nested structure of the data that is families nested within schools, however, unlike the primary analysis model, it was not three levels, (including time point) as the outcome was missing at follow-up (MAF) at both time points, so only one value for each family. Furthermore it was run at family level not pupil level, to match the data structure of all other analyses. The results of the analysis can be found in section 4.8.

Effects in the presence of non-compliance

Not all families attended all eight FC programme sessions. With the use of a Family Register, SCUK recorded how many sessions each pupil attended. Using this data we carried out a Complier Average Causal Effect (CACE) analysis in order to assess the effect of non-compliance on the outcome measure. The parameters set for this trial were a minimum of one session from each of the three programme topics and a minimum of five sessions in total. Two measures of compliance were used. The first was a binary variable indicating whether five sessions were attended (with at least one session from each of the three topic areas) or not. The second measure was a continuous variable, indicating how many sessions were attended from zero to eight, regardless of which sessions they were. Families may have potentially had unobserved characteristics that had an influence on both the compliance with the intervention and academic attainment. Therefore, a two-stage least squares model was used to calculate the CACE estimate (Angrist and Imbens, 1995) for each of the two compliance measures. The first stage of the model was compliance regressed on all covariates that were used in the main primary outcome model

and the group allocation variable. The second stage of the model regressed the primary outcome on the covariates used in the main model and included a covariate representing the pupil's estimated level of compliance from the first stage of the model. The coefficient of the compliance term was the CACE estimate of the compliance effect. This is a slight deviation from the SAP, in which it was stated that an interaction between compliance and intervention would be included, however this was not necessary for our model as no control participants took part in the programme. The R package *ivpack* was used to perform the CACE analysis on the primary outcome only.

3.6.2 Overview of process analysis

Qualitative data was summarised and written up using standard templates, collated by data subject (e.g. trainers, CPs, parents). The templates were organised thematically, mapping to the interview schedules and research questions outlined in Section 3.2.

Towards the end of the IPE data collection period (in November 2019), IPE researchers from NFER and QUB attended a workshop to plan the analysis approach for the IPE data in more detail. Researchers shared an overview of the plan with SCUK, and agreed that the IPE analysis would combine different aspects of the study into a reporting framework as set out below. The IPE analysis plan brought together:

- the process research questions (IPE RQs), and
- the process strands (i.e. programme model; implementation fidelity; schools' experiences; a focus on parents and the HLE)
- triangulation across participant groups
- mainly inductive but also some deductive analysis (i.e. allowing insights to emerge from observations/views, and also exploring the theory of change in terms of inputs, outputs, intermediate outcomes and longer-term outcomes).

It was agreed to report with a sense of scale: to provide numbers for quantitative data and an indication of the prevalence of views for qualitative data (e.g. all, most, some, a few); and to use quotes to illustrate key themes.

NFER took responsibility for the analysis and reporting of qualitative data relating to the overall programme and schools' experiences. QUB took responsibility for the analysis and reporting of data relating to parents' experiences and views.

Data from the Family Registers was analysed by NFER using SPSS to calculate how many families attended at least one session from each of the topic areas, and to calculate how many sessions each family attended in total. This data was used in the CACE analysis (described in section 3.6.1).

Quantitative data from the implementation feedback dataset was analysed in excel which enabled frequencies of responses to rating scale questions to be calculated. Qualitative data was used to explore reasons and examples for positive and negative ratings. The evaluation team intended to use implementation quality criteria (to be developed by SCUK ahead of implementation data collection) to explore, deductively, how well the programme was implemented, and which features seemed to support successful implementation. However, the implementation feedback form

developed by SCUK for use when reporting back from site visits did not lend itself to this kind of analysis, because it does not seek to *judge* quality or provide documented evidence to support ratings from staff. The form, which was updated for the trial to include specific aspects of implementation, collates *perceived ratings* from school senior leaders and Community Practitioners on their experiences of running the programme. SCUK collected forms from 27 schools. It is not appropriate to use this kind of data (perceptual and small scale) to conduct an analyses of the factors that affect quality or effectiveness. Instead we conducted analyses inductively, and allowed overall factors to emerge from across our datasets.

3.7 Ethical considerations and data protection

3.7.1 Ethical review

This research project received ethical approval from all parties involved in the study. This included Save the Children Ethics Committee, NFER's Code of Practice Group, and conformation to Queen's University Belfast Code of Conduct and Integrity in Research (Queen's University Belfast, 2014) and the Concordat to Support Research Integrity (Universities UK, 2012).

3.7.2 Safeguarding of children and families involved in the trial

All NFER, QUB and SCUK staff and test administrators involved in this project have current enhanced DBS checks. The project team were also aware of, and adhered to, SCUK Child Safeguarding Policy. Additionally, the administration of BPVS3 (a test that is carried one-to-one with children) was carried out according to the guidelines set by GL Assessment, with further adherence to child safeguarding policies set by participating schools.

3.7.3 Informed consent

As part of usual practice in Families Connect, families participating in the programme sign opt in consent forms prior to taking part in, and providing data for, Families Connect. The forms ensure that all families taking part are fully aware of the nature and demands of the programme and provide their informed consent to their data being processed including in any further analysis for programme development purposes.

These Families Connect programme consent forms were adapted to include information about the trial and evaluation requirements. All participants in the trial were given letters/information sheets about how their data would be processed and this information was reiterated at each point data was gathered. This included information about how their data would be kept confidential and reporting in a way that anonymises results. It also included information about the provision of de-identified quantitative data to both the UK Data Archive and to the SCUK programmatic data archive. Copies of the parent letters and consent forms can be found in Appendix .

3.7.4 Legal basis for data processing

All data processing was conducted in line with GDPR regulations from May 2018. Data was processed with the explicit consent of the parents for their and their child's data to be processed. This was necessary under the GDPR as some of the data (namely SDQ data) was classed as 'special' and therefore not suitable for processing under other lawful conditions that preclude consent.

The legal basis for processing parents' and children's personal data was covered by: GDPR Article 6 (1) (f) which states that 'processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party except where such interest are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of the personal data'. The legal basis for processing parents' and children's special personal data was covered by: GDPR Article 9 (2) (a) which states that 'the individual has given clear, opt-in consent for us to process their personal data for a specific purpose'.

3.7.5 Withdrawals

A parent could withdraw their consent for their or their child's data to be used in the trial at any point. Withdrawals could be made by informing their CP/school, NFER or SCUK. A [Privacy Notice](#) was provided for parents containing contact details for withdrawals and data subject requests.

3.7.6 Participant IDs

Each participant was allocated a unique identifier for the project, used across all relevant instruments, outcome and attendance measures, and matched to relevant data where needed (e.g. dates of birth, group allocation etc.). All analysis was undertaken on a secure drive, accessible by a small number of named researchers working on the trial. All data file outputs for the SCUK programmatic archive and the UK Data Archive will be de-identified, including having the unique pupil ID removed (see data storage below).

3.7.7 Data sharing

SCUK and NFER were joint Data Controllers for the RCT evaluation. In terms of data processing:

- NFER was data processor for the impact elements of the trial
- NFER and QUB were data processors for the implementation and process evaluation data
- SCUK were data processors for recruitment information, attendance data and implementation feedback data, prior to sharing with NFER for further analysis.

All three organisations signed up to a Data Sharing Agreement to reflect this. Personal data was shared between NFER and SCUK via secure portal, and between NFER and QUB via secure portal. Schools shared electric data using NFER secure school portal service. Schools and test administrations returned completed papers in sealed polylopes via secure tracked courier.

3.7.8 Data storage and further analysis

Currently Families Connect programmatic data is stored for seven years based on funder requirements. Any hard copies of data are securely stored in Save the Children facilities and soft

copies in Save the Children UK servers. Access to data stored within Save the Children is regulated and only available to members of the project team for further analysis if required. Trial outcome data will be de-identified by NFER before it is shared with and stored by SCUK. Similarly, de-identified trial outcome data will be lodged with the UK Data Archive for further research purposes.

4 Key findings: outcome/impact evaluation

4.1 Summary

What were the primary outcome results for children?

- This evaluation found no evidence that Families Connect had an impact on children's receptive vocabulary either immediately after the programme or six months later.
- The evaluation found no evidence that Families Connect had impacted on children's numeracy skills either immediately after the programme or six months later.
- There was also no evidence of an effect for disadvantaged children (according to household income) or for those with SEN in receptive vocabulary.
- Overall the CACE (Complier Average Causal Effect) results imply that when the number of sessions attended is taken into account, there is still no association between Families Connect and receptive vocabulary.

What were the secondary outcome results for children?

- We found no evidence of an effect on children's total difficulties score or their impact score. The evaluation found a positive impact on children's prosocial behaviour scores six months after taking part in Families Connect (effect size 0.2, $p = 0.05$).
- The evaluation also found a similar pattern in teachers' ratings of Child Softer Skills (children's attitudes towards school and learning such as general progress, motivation, concentration and enjoyment) to those of prosocial behaviour, suggesting a positive effect at six months (effect size 0.17, $p=0.06$).

What were the secondary outcome results for parents?

- There was evidence of a positive effect on home learning environment with parents in the intervention group than control parents immediately following the intervention (effect size 0.36, $p < 0.001$). Parents who had taken part in Families Connect reported engaging in more learning related activities with their children at home, than the parents of families who had not yet taken part.
- We also found evidence of a positive effect on parents' self-efficacy (effect size 0.21, $p = 0.01$). Parents who had taken part in Families Connect reported feeling more confident and able supporting their children's learning, than parents who had not yet taken part.
- We found no evidence that Families Connect made a difference to parents' role construction (i.e. what parents feel they should be doing as a parent to support their child's learning) compared with those who had not taken part in Families Connect.

Section 4 first sets out the number of schools, families and children that took part in the trial and that were analysed in the trial models – as per CONSORT-SPI reporting standards³¹. It sets out the completion and attrition rates for the various measures used in the trial, and describes the baseline characteristics of the participants (i.e. Section 4.2).

The primary outcome results (for the BPVS3) including at different time points and for sub-groups are provided in Sections 4.3 – 4.5. Section 4.6 covers the secondary attainment outcome results (PUMA). Children’s social and emotional outcomes are covered in Section 4.7, and Section 4.8 presents the results for the parent outcomes measured in the trial.

Missing data is covered in Section 4.9, and Section 4.10 explores the results of the compliance analysis (i.e. whether level of attendance is associated with the primary outcome).

³¹ <http://www.consort-statement.org/Media/Default/Downloads/SPI/CONSORT-SPI%20Checklist.pdf>

4.2 How many schools, families and children participated in the trial?

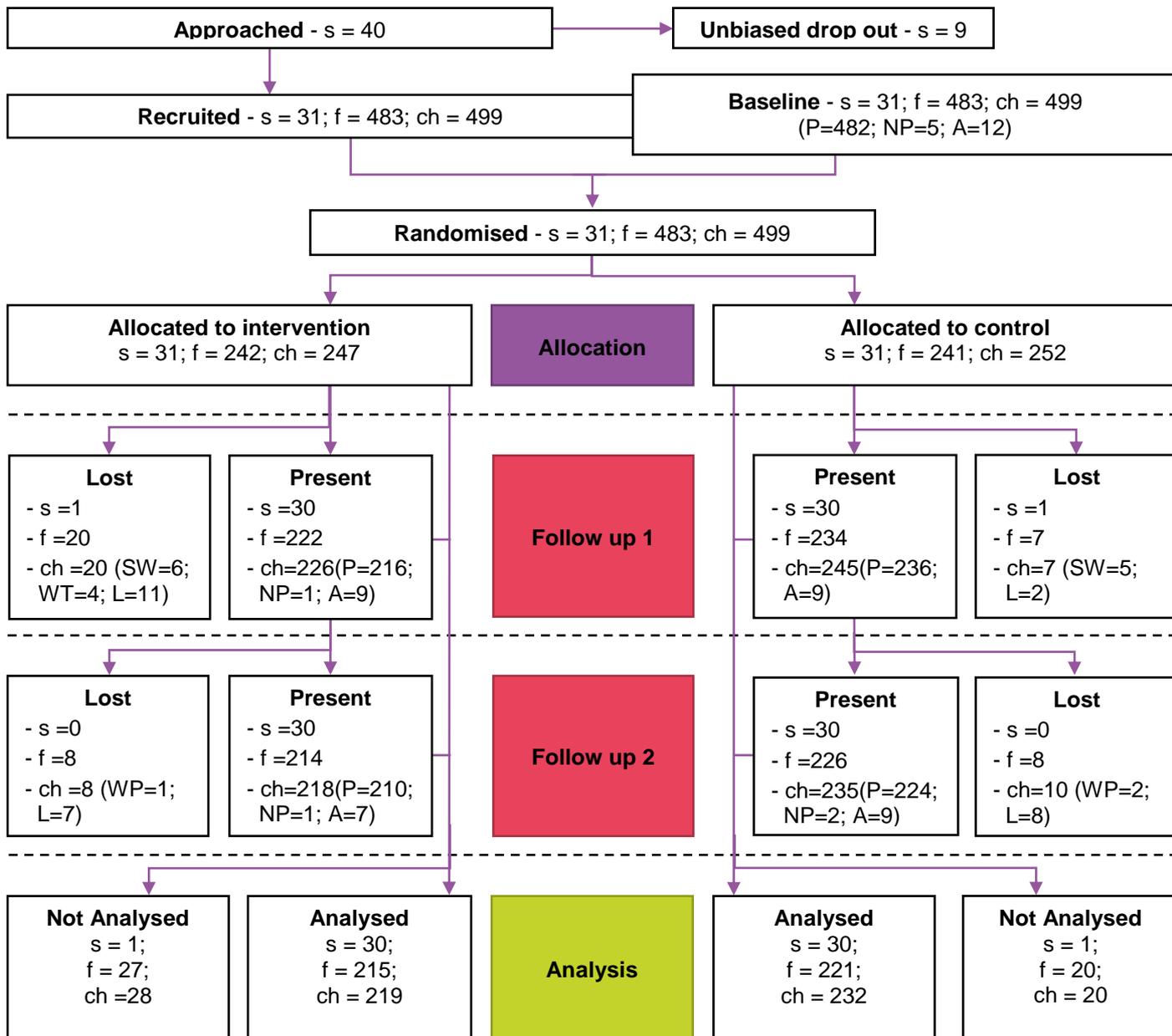
In total, 31 schools were involved in the Families Connect trial (24 in the Main phase; 7 in the Booster phase). The total number of families that agreed to take part was 483 (378 in the Main phase; 105 in the Booster phase), while the total number of children was 499 (391 in the Main phase; 108 in the Booster phase). Figure 3 provides further details.

4.2.1 CONSORT flow diagram

Figure 3: BPVS3 participant flow diagram

s = no. of schools; f = no. of families, ch = no. of children

Attendance Key: P = present; NP = present but could not participate; A = absent; WT = child withdrawn from trial & all data deleted; WP = child withdrawn from programme without requesting data deletion; SW = school withdrawn; L = left



Please find below the breakdown of schools (s), families (f) and children (ch), between the Main and Booster phases, and those figures split by group allocation:

Phase Ns: **Main phase** (s=24, f=378, ch=391); **Booster phase** (S=7, f=105, ch=108)

Randomised groups:

Main phase [*Intervention* (s=24, f=189, ch=193); *Control* (s=24, f=189, ch=198)];

Booster phase [*Intervention* (s=7, f=53, ch=54); *Control* (s=7, f=52, ch=54)]

4.2.2 Completion Rates

Table 5 shows child level completion numbers and rates for all instruments, at Baseline, Follow-up 1 and Follow-up 2. Please note that some of the baseline numbers are lower than the randomisation figures because the completion of baseline instruments was not a condition for randomisation (the condition was the signing of the consent form and the provision of child data).

Table 5: Child level completion numbers and rates

		Randomised	Parent Q.		Teacher Q.			BPVS3			PUMA	
			Baseline	Follow-up 1	Baseline	Follow-up 1	Follow-up 2	Baseline	Follow-up 1	Follow-up 2	Follow-up 1	Follow-up 2
Main	Control	198	197	183	197	192	180	193	187	177	185	175
	Control rate		99%	92%	99%	97%	91%	97%	94%	89%	93%	88%
	Intervention	193	190	154	192	179	159	189	171	161	164	158
	Intervention rate		98%	80%	99%	93%	82%	98%	89%	83%	85%	82%
	Total	391	387	337	389	371	339	382	358	338	349	333
	Total rate		99%	86%	99%	95%	87%	98%	92%	86%	89%	85%
Booster	Control	54	54	32	54	51	51	50	49	47	46	49
	Control rate		100%	59%	100%	94%	94%	93%	91%	87%	85%	91%
	Intervention	54	52	44	54	50	49	50	45	49	45	46
	Intervention rate		96%	81%	100%	93%	91%	93%	83%	91%	83%	85%
	Total	108	106	76	108	101	100	100	94	96	91	95
	Total rate		98%	70%	100%	94%	93%	93%	87%	89%	84%	88%
TOTAL	Control	252	251	215	251	243	231	243	236	224	231	224
	Control rate		100%	85%	100%	96%	92%	96%	94%	89%	92%	89%
	Intervention	247	242	198	246	229	208	239	216	210	209	204
	Intervention rate		98%	80%	100%	93%	84%	97%	87%	85%	85%	83%
	Total	499	493	413	497	472	439	482	452	434	440	428
	Total rate		99%	83%	100%	95%	88%	97%	91%	87%	88%	86%

Source: NFER RCT of Families Connect (2018-2020)

Looking at the completion rates in Table 5 above two potential trends emerge, which may have been due to chance:

- The first is that the control group tends to have better rates than the intervention group, for both phases and across time points; it is unclear why this might have been the case.
- The second point is that completion rates are better for schools in the Main phase at Follow-up 1, but better for schools in the Booster phase at Follow-up 2. This may be related to the different period of the academic year when testing was undertaken by the two groups, at the two time points. For example, the Follow-up 1 administration took place after the Easter holidays for the Main phase but close to the end of the summer term for the Booster phase. That said, considerable efforts were made to book Booster administration dates in advance and where not possible to re-book for as soon as schools opened (in August in Scotland). (In addition, one parcel containing seven parent questionnaires went missing via the courier at Booster phase follow-up 1. Efforts were made to trace the parcel by NFER and the courier company, but it remained missing). Follow-up 2 administration took place in September for the Main phase, which is a very busy time of the year, and in January for the Booster phase, a period when schools tend to have more time availability. In addition, in the Booster phase second Follow-up, both children and teacher instruments were collected where possible by test administrators at the same time, which helped to achieve high response rates.

4.2.3 Attrition

Table 6 shows the overall attrition rates at the school level, from randomisation to analysis.

- In total, 31 schools completed the baseline assessment, and were then randomised. Of those schools, one decided to withdraw from the trial after randomisation. The school did not participate in the delivery of the programme and did not take part in follow up assessments.
- School level attrition coincides for all instruments (BPVS3, PUMA, Teacher Questionnaire and Parent Questionnaire).

Table 6: School level attrition

Number of schools	Baseline	Randomised	Follow-up 1	Follow-up 2	Analysis	Attrition (% rounded)
Main phase	24	24	23	23	23	4%
Booster phase	7	7	7	7	7	0%
Total	31	31	30	30	30	3%

Source: NFER RCT of Families Connect (2018-2020)

Tables 7 and 8 show the overall attrition rates at the child and family level respectively, from randomisation to analysis:

- The number of randomised children (in Table 3a) coincides with the number of completed consent forms (part of the minimum condition for randomisation).
- The baseline numbers for children and families are lower than the randomised figures because the completion of baseline testing was not a condition for randomisation.
- Of the children that have not been included in the analysis, four (from four families – two in the Main phase and two in the Booster phase) requested to be completely withdrawn from the trial, so all their personal data collected from the beginning of the trial was securely deleted.
- The other missing data points are due to children having left the schools, families having withdrawn from the programme (without requesting data deletion), children being absent on the day of testing, or being present but not able to participate.
- Lastly, the analysis figures represent the cases that went into the final primary analysis model. As mentioned previously, the model was checked for outlier data points, therefore the missing data points also include those that were removed due to being outliers.

Table 7: Pupil level attrition

Number of pupils	Baseline	Randomised	Follow-up 1	Follow-up 2	Analysis	Attrition (% rounded)
Intervention	239	247	216	210	219	11%
Control	243	252	236	224	232	8%
Total	482	499	452	434	451	10%

Source: NFER RCT of Families Connect (2018 – 2020).

Table 8: Family level attrition

Number of families	Baseline	Randomised	Follow-up 1	Follow-up 2	Analysis	Attrition (% rounded)
Intervention	234	242	212	207	215	11%
Control	232	241	225	215	221	8%
Total	466	483	437	422	436	10%

Source: NFER RCT of Families Connect (2018 – 2020).

As mentioned previously, there were two follow-up data points, therefore the data was changed to long format with each family potentially having two cases. Table 9 shows Ns at the lowest level of the primary analysis model; observation level. Displayed you can see the baseline and randomised cases at family level, and the number of observations that would have been included under the assumption of no missing data. Following this, the actual amount of follow up data returned, is presented. And finally, the amount of data that was included in the final primary analysis model is

included. The attrition therefore represents the difference between what went into the model, and the potential number of observations from the randomised N.

Table 9: Observation level attrition

Number of observations	Baseline (family level)	Randomised (family level)	Potential Observations (2* randomised)	Total Follow-up Observations	Analysis	Attrition (% rounded)
Intervention	234	242	484	419	405	16%
Control	232	241	482	440	418	13%
Total	466	483	966	859	823	15%

Source: NFER RCT of Families Connect (2018 – 2020).

It should be acknowledged here that Tables 7, 8 and 9 can be viewed as overly pessimistic in terms of attrition. All cases that were lost at baseline were, by definition, unbiased drop-out since they were missing before randomisation took place. It therefore, might be argued that rates of missing should be calculated from the baseline number of cases, rather than the randomised number. If this were the case, attrition would be around 3 percent lower than reported in the tables. Furthermore, when considering the number of cases with baseline that were absent from the repeated measures model, only 4.5 percent of cases were missing.

Table 10: Balance at baseline

Variable	Control		Intervention	
	Number of observations	Mean /Percentage	Number of observations	Mean /Percentage
Baseline primary outcome: BPVS3	418	68.74 SD=18.60	405	71.74 SD = 18.08
FSM				
Non-FSM	229	55%	209	52%
FSM	164	39%	174	43%
Missing Data	25	6%	22	5%
EAL				
Non-EAL	216	52%	181	45%
EAL	199	48%	223	55%
Family with both	3	0%	1	0%
SEN				
Non-SEN	375	90%	362	89%
SEN	35	8%	24	6%
Missing Data	8	2%	19	5%
Age quintiles (in months)				
43-58	66	16%	63	16%
59-61	10	25%	92	23%
62-67	82	19%	87	21%
68-71	75	18%	80	20%
72-84	89	21%	83	20%
Gender				
Male	216	52%	181	45%
Female	199	48%	223	55%
Family with both	3	0%	1	0%
Household Income				
<20,000	241	58%	219	54%
>20,000	148	35%	153	37%
Missing Data	29	7%	33	8%

Source: NFER RCT of Families Connect (2018 – 2020).

Table 10 presents the baseline characteristics of the families that were entered into the primary analysis model. EAL and gender have a third category for families of whom the siblings were reported as having both types. Numbers are presented as a fraction of the total model cases, with the number of missing cases in parentheses.

At baseline, the intervention group had a slightly higher average BPVS3 score than the control group. As this was entered into the primary analysis as a covariate, this is not problematic. FSM, levels were roughly balanced between the intervention and control groups. The intervention group had a slightly higher number of pupils for whom English was a second language, and a slightly lower number of pupils with SEN. Age quartile proportions were roughly equal between the control and intervention groups. The intervention group had a slightly higher number of female pupils, and had a lower level of disadvantaged pupils.

4.3 What were the primary outcome results for children (BPVS3)?

The primary analysis of the BPVS3 scores was a three level model (school, family, time point) in which time was interacted with the intervention, meaning that any effect of the intervention could be explored immediately after delivery, and six months later, as well as any overall effect. Table 11 presents the results of the model. The table displays the number of observations that were included in the model across both time points. As displayed previously in Table 9, the data was arranged in a long format, meaning that each pupil may have had two cases (one for each time point). Pupils who had at least one follow up observation were included in the model. For this reason, the data is presented in terms of how many observations, not how many pupils were included in the model. The control group had 418 observations, and the intervention had 405 observations. The table presents the model means of the control and intervention groups, as well as the confidence intervals, calculated as described in the methods section. Furthermore, the estimates of the difference between the means are presented, as well as the confidence intervals around each estimate. Lastly, p values of the difference estimates, and effect sizes using the school and family level variance, as well as their confidence intervals are presented.

Table 11: Primary Analysis of BPVS3 at different time points

Primary Outcome : BPVS3					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	418	405			
Follow up time point 1	77.33 (74.65, 80.01)	76.74 (73.96, 79.52)	-0.59 (-2.38, 1.2)	-0.04 (-0.16, 0.08)	0.52
Follow up time point 2	82.39 (79.69, 85.09)	83.27 (80.49, 86.05)	0.88 (-0.94, 2.7)	0.06 (-0.06, 0.19)	0.34
Averaged across time points	79.86 (77.26, 82.46)	80.01 (77.29, 82.73)	0.15 (-1.43, 1.73)	0.01 (-0.1, 0.12)	0.86

Source: NFER RCT of Families Connect (2018-2020)

The primary outcome for this investigation was the longer term effect of the intervention on BPVS3 scores at follow up time point 2. At follow up time point 2, there was no statistically significant difference in BPVS3 scores between the intervention and control groups. Therefore we found no evidence of an effect of Families Connect on receptive vocabulary, six months after the intervention.

4.4 What were the secondary outcome results for children (BPVS3)?

The secondary outcomes from this model were the shorter term effect, immediately after delivery, and the overall effect, averaged across both time points of the intervention on BPVS3 scores. These results are displayed in Table 11. Both immediately after the intervention, and averaged across both time points, there is no statistically significant difference in BPVS3 scores between the

intervention and control groups. Therefore we found no evidence of an effect of Families Connect on receptive vocabulary, either immediately after the programme or overall.

4.5 What were the secondary outcome results for subgroups of children (BPVS3)?

Table 12: Subgroup Analysis of Household Income Bands

Secondary Outcome : BPVS3					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model (Low:High)	389 (242:147)	373 (220:153)			
Low (<£20,000)	79.05 (76.1, 82)	79.09 (76, 82.18)	0.04 (-2.06, 2.14)	0 (-0.14, 0.15)	0.97
High (>£20,000)	80.61 (77.4, 83.82)	80.86 (77.63, 84.09)	0.24 (-2.39, 2.87)	0.02 (-0.16, 0.2)	0.86
Averaged across income bands	79.83 (76.99, 82.67)	79.97 (77.06, 82.88)	0.14 (-1.54, 1.82)	0.01 (-0.11, 0.13)	0.87

Source: NFER RCT of Families Connect (2018-2020)

We conducted a subgroup analysis of the BPVS3 split by families with either above a household income band of £20,000 or below. This was used as a proxy measure of disadvantage. Income was interacted with the intervention. This means the results are averaged across both time points. The results of the model are presented in Table 12. The table presents the means and differences between the control and intervention groups, for those below the threshold, and above the threshold separately. The results show that for both families above and below the threshold, there was no statistically significant difference between the control and intervention groups. Averaged across all families, there was no significant difference between the intervention and control groups, and the interaction, representing the difference in effect between the subgroups, was non-significant (0.2, $p = 0.91$). Therefore we found no evidence of an effect of Families Connect on the receptive vocabulary levels of disadvantaged families, or non-disadvantaged families, and there was no difference in effect between the groups.

Looking at the effect of disadvantage, and ignoring the effects of the intervention, the table shows that for both the control and intervention groups, families who have a higher household income have higher BPVS3 scores. Families with lower incomes had an average score of 79.07, and families with higher incomes had an average score of 80.73. This was a difference of 1.67 score points ($p = 0.07$). However, this finding was non-significant so we cannot be sure this difference is not due to chance.

Table 13: Subgroup Analysis of families with/without SEN

Secondary Outcome : BPVS3					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model (Non-SEN:SEN)	412 (377:35)	385 (361:24)			
Non-SEN	79.78 (77.1, 82.46)	79.89 (77.09, 82.69)	0.11 (-1.58, 1.8)	0.01 (-0.11, 0.12)	0.90
SEN	80.62 (76.06, 85.18)	80.55 (75.38, 85.72)	-0.07 (-6.08, 5.94)	0 (-0.42, 0.41)	0.98
Averaged across groups	80.2 (77.07, 83.33)	80.22 (76.82, 83.62)	0.02 (-3.11, 3.15)	0 (-0.21, 0.22)	0.99

Source: NFER RCT of Families Connect (2018-2020)

We conducted a subgroup analysis of the BPVS3 split by families whose child had special educational needs. If the family had more than one child taking part, only the outcome of the child with special educational needs was used (in this model). SEN was interacted with the intervention. This means the results are averaged across both time points. The table presents the means and differences between the control and intervention groups, for those with SEN, and without SEN separately. The results of the model are presented in Table 13. It should be noted that there were particularly low numbers of pupils with SEN, and therefore this model is likely to be underpowered. The results show that for those with SEN and those without, there was no significant difference between the control and intervention results. Averaged across families with and without SEN, there was no significant difference between the intervention and control groups, and the interaction, representing the difference in effect between the two subgroups, was non-significant (-0.17, $p = 0.96$). Therefore we found no evidence of an effect of Families Connect on the receptive vocabulary levels of pupils with SEN or without, and there was no difference in effect between the groups.

Looking at just the effect of SEN, and ignoring the effect of the intervention, the table shows that for both the control and intervention groups, families with a child with SEN have higher BPVS3 scores. They had an average score of 80.59, whereas families whose child does not have SEN had an average score of 79.84. This was a difference of 0.75 ($p = 0.64$). However, this finding was non-significant so we cannot be sure this difference is not due to chance.

Table 14: Subgroup Analysis of families with/without EAL

Secondary Outcome : BPVS3					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model (Non-EAL:EAL)	419 (217:202)	406 (181:225)			
Non-EAL	79.60 (76.64, 82.56)	79.98 (76.98, 82.98)	0.39 (-1.92, 2.70)	0.03 (-0.13, 0.19)	0.74
EAL	79.95 (77.18, 82.72)	79.81 (76.87, 82.75)	-0.14 (-2.37, 2.09)	-0.01 (-0.16, 0.14)	0.90
Averaged across groups	79.77 (77.14, 82.40)	79.89 (79.15, 82.63)	0.12 (-1.47, 1.71)	0.01 (-0.10, 0.12)	0.88

Source: NFER RCT of Families Connect (2018-2020)

We conducted a subgroup analysis of the BPVS3 split by families whose first language was not English. English as an additional language (EAL) was interacted with the intervention. This means the results are averaged across both time points. The table presents the means and differences between the control and intervention groups, for those with EAL, and without EAL separately. The results of the model are presented in Table 14. The results show that for those with EAL and those with English as a first language, there was no significant difference between the control and intervention results. Averaged across families with and without EAL, there was no significant difference between the intervention and control groups, and the interaction, representing the difference in effect between the two subgroups, was non-significant (-0.32, $p = 0.75$). We ran this analysis post hoc to assess if the high proportion of families for whom English was a second language, may have been impacted differently by the FC programme, and if their scores on the primary outcome, a receptive vocabulary test in English were different to those for whom English was their first language. However, we found no evidence of an effect of Families Connect on the receptive vocabulary levels of pupils with EAL or without, and there was no difference in effect between the groups.

4.6 What were the secondary outcome results for children (PUMA)?

Table 15: Secondary Analysis of PUMA at different time points

Secondary Outcome : PUMA					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	416	388			
Follow up time point 1	14.98 (13.51, 16.45)	14.85 (13.33, 16.37)	-0.14 (-1.08, 0.8)	-0.02 (-0.19, 0.14)	0.78
Follow up time point 2	17.22 (15.75, 18.69)	17.7 (16.18, 19.22)	0.47 (-0.47, 1.41)	0.08 (-0.08, 0.25)	0.33
Averaged across time points	16.1 (14.66, 17.54)	16.27 (14.77, 17.77)	0.17 (-0.68, 1.02)	0.03 (-0.12, 0.18)	0.70

Source: NFER RCT of Families Connect (2018-2020)

The secondary outcome for this investigation was the PUMA score measured immediately after delivery, and 6 months after delivery. A three-level model (time point, pupil and school) was run, using BPVS3 scores as the baseline scores. The intervention was interacted with time point, meaning that any effect of the intervention could be explored immediately after delivery, and six months later, as well as any overall effect. The results are displayed in Table 15.

The table shows that there are no significant differences in PUMA scores between the intervention and control groups at either time points, or averaged across both time points. Therefore we found no evidence of an effect of Families Connect on pupils' numeracy skills.

4.7 What were the further secondary outcome results for children (SDQ and CSS)?

Table 16: Secondary Analysis of the Total Difficulties Score at different time points

Secondary Outcome : Total Difficulties Score					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	432	396			
Follow up time point 1	7.49 (6.47, 8.51)	7.53 (6.47, 8.59)	0.04 (-0.68, 0.76)	0.01 (-0.15, 0.17)	0.92
Follow up time point 2	7.19 (6.15, 8.23)	7.17 (6.09, 8.25)	-0.01 (-0.77, 0.75)	0 (-0.17, 0.16)	0.97
Averaged across time points	7.34 (6.36, 8.32)	7.35 (6.34, 8.36)	0.01 (-0.57, 0.59)	0 (-0.12, 0.13)	0.97

Source: NFER RCT of Families Connect (2018-2020)

Another secondary outcome for this investigation was the TDS measured immediately after delivery, and 6 months after delivery. A three-level model (time point, pupil and school) was run. The intervention was interacted with time point. The results are displayed in Table 16.

The table shows no significant differences in TDS scores between the intervention and control groups at both time points, or averaged across both times points. Therefore we found no evidence of an effect of Families Connect on pupils' levels of behavioural difficulties.

Table 17: Secondary Analysis of the Prosocial Score

Secondary Outcome : Prosocial Score					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	437	408			
Follow up time point 1	7.45 (7.01, 7.89)	7.58 (7.12, 8.04)	0.13 (-0.19, 0.45)	0.08 (-0.11, 0.26)	0.43
Follow up time point 2	7.13 (6.68, 7.58)	7.47 (7, 7.94)	0.34 (0.01, 0.67)	0.2 (0.01, 0.39)	0.05
Averaged across time points	7.29 (6.87, 7.71)	7.52 (7.08, 7.96)	0.23 (-0.02, 0.48)	0.13 (-0.01, 0.28)	0.07

Source: NFER RCT of Families Connect (2018-2020)

Table 17 displays the results of the analysis of the Prosocial Score. At time point 1 there is no significant difference between scores on the Prosocial scale between the intervention and control groups. At time point 2, there is a significant difference between the intervention and control group prosocial scores. The intervention group has a score of 7.47, whereas the control group has a score of 7.13. This difference represents an effect size of 0.2 ($p = 0.05$). This suggests that Families Connect has a positive impact on pupils' levels of prosocial behaviour six months after programme delivery. Averaged across both time points, the intervention group still has higher levels of prosocial behaviour ($p = 0.07$).

Interestingly, prosocial scores are lower at time point 2. At time point 1, overall prosocial scores are 7.51, and at time point 2 they are 7.30 (diff 0.21, $p = 0.05$). As such, the intervention impact at time point 2 can be interpreted as mitigating the effect of time on prosocial scores. Children in the intervention group at time point 2 have levels of prosocial behaviour just above the scores of the control group at time point 1, (7.47 and 7.45 respectively). The results are displayed in Figure 4.

Figure 4: Prosocial Scores at different time points

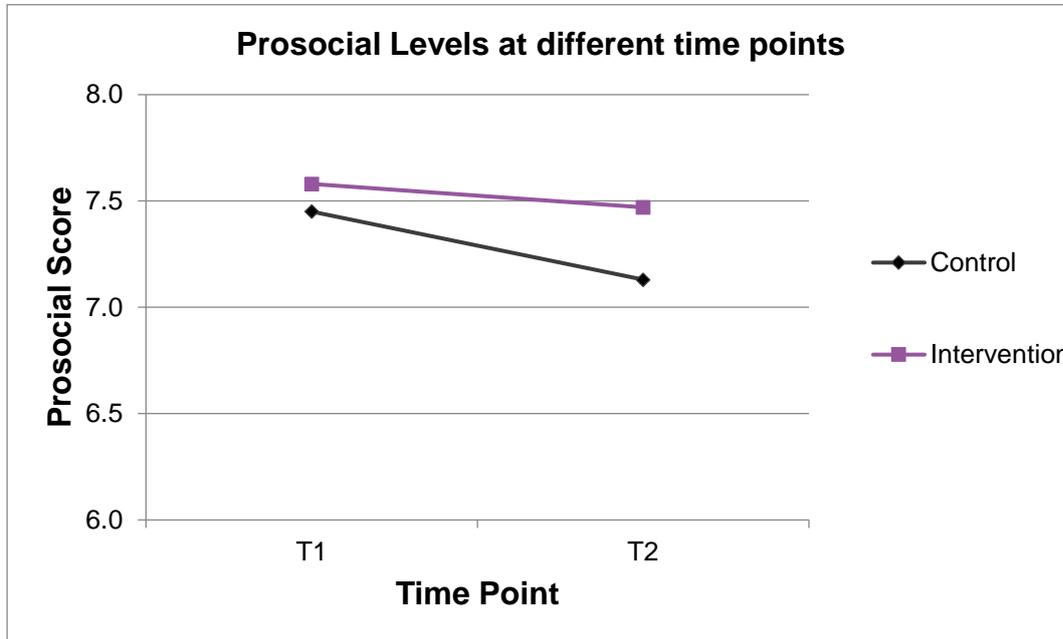


Table 18: Secondary Analysis of the Impact Score at different time points

Secondary Outcome: Impact Score					
	Log odds	SE	P value	95% CI Lower	95% CL Upper
Intercept	-5.77	0.81	0.00	-9.79	-6.08
Baseline Impact	6.95	0.95	0.00	5.24	9.11
Phase	0.08	1.00	0.94	-2.20	2.00
Sibling Flag	3.08	1.58	0.05	-0.22	6.48
Treatment	0.01	0.89	0.99	-1.87	1.81
Time	0.05	0.54	0.92	-1.03	1.13
Treatment*Time	-0.98	0.81	0.23	-2.62	0.59

Source: NFER RCT of Families Connect (2018-2020)

As a deviation to the planned analysis, the impact score was measured as a three-level (time point, pupil, school) logistic regression model. The impact score is either zero (no impact) or one (some impact), with one representing emotional or behavioural difficulties that have an impact in the classroom. Therefore the coefficients of this model do not represent average scores, but log odds, which represent the likelihood of scoring a one on the impact score. A higher value represents a higher chance of having an impact. The results are displayed in Table 18.

Table 18 shows that there was no significant impact of treatment on the impact scores (0.01, $p = 0.99$). Furthermore, the interaction term is non-significant (-0.98, $p = 0.23$), meaning that there was no difference in effect between the two time points. This suggests there is no evidence that

Families Connect has an impact on pupil's emotional and behavioural difficulties, as measured by the impact score.

Table 19: Secondary Analysis of Child Softer Skills

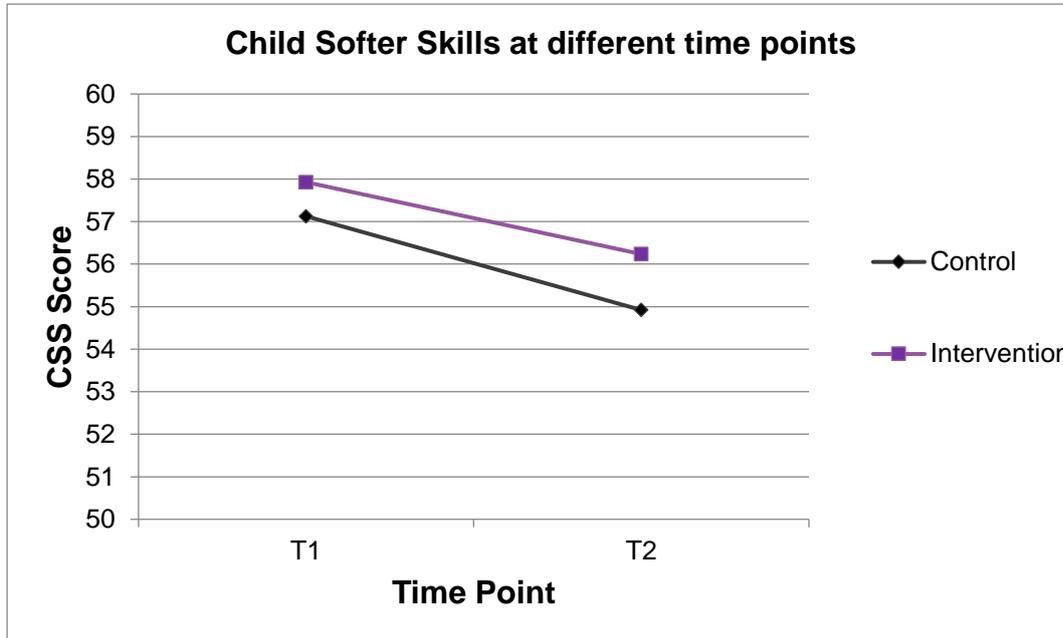
Secondary Outcome : Child Softer Skills					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	441	413			
Follow up time point 1	57.12 (55.38, 58.86)	57.93 (56.12, 59.74)	0.8 (-0.49, 2.09)	0.1 (-0.06, 0.27)	0.22
Follow up time point 2	54.92 (53.15, 56.69)	56.23 (54.39, 58.07)	1.32 (-0.04, 2.68)	0.17 (-0.01, 0.34)	0.06
Averaged across time points	56.02 (54.36, 57.68)	57.08 (55.35, 58.81)	1.06 (0, 2.12)	0.14 (0, 0.27)	0.05

Source: NFER RCT of Families Connect (2018-2020)

Table 19 displays the results of the secondary outcome analysis of children's softer skills. There is no significant difference in CSS scores between the intervention and control groups at time point 1. At time point 2, the intervention group has a higher level of CSS, than the control group (1.32, $p = 0.06$). This is an effect size of 0.17. Averaged across both time points, the intervention group has a higher level of softer skills than the control group (1.06 points, $p = 0.05$). This is an effect size of 0.14.

The softer skills are found to be at lower levels at the second time points. The average score at time point 1 is 57.53, and 55.58 at time point 2 (diff = 1.94, $p < .0001$). The results are displayed graphically in Figure 5. This means that children's softer skills reduce over time. Figure 5 shows that children in the intervention group at time point 2 have lower levels of softer skills than children in the control group at time point 1 (57.08 and 57.12 points respectively).

Figure 5: Child Softer Skills at different time points



4.8 What were the secondary outcome results for parents (PSE, PRC, HLE)?

The scales measured by the parents were measured at one time point only, immediately after delivery. Therefore, multilevel models with two levels (school and family) were run to assess the impact of Families Connect on the parental outcomes. The results of the three outcomes are presented in the tables below.

Table 20: Secondary Analysis of the Home Learning Environment

Secondary Outcome : Home Learning Environment					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	194	182			
Time point 1	42.19 (41.12, 43.26)	43.89 (42.8, 44.98)	1.7 (1.02, 2.38)	0.36 (0.22, 0.51)	<.000 1

Source: NFER RCT of Families Connect (2018-2020)

Table 20 displays the results of the analysis of the Home Learning Environment. Parents in the intervention group had a higher score on the HLE scale than the control parents by 1.7 points ($p = <.001$). This is an effect size of 0.36. This means that immediately after the intervention, parents who had taken part in Families Connect were engaging in more education related activities with their children, than the parents of families who had not taken part.

Table 21: Secondary Analysis of the Parent Efficacy Scale

Secondary Outcome : Parent Efficacy Scale					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	189	179			
Time point 1	31.86 (30.63, 33.09)	32.85 (31.6, 34.1)	1 (0.23, 1.77)	0.21 (0.05, 0.38)	0.01

Source: NFER RCT of Families Connect (2018-2020)

Table 21 displays the results of the Parent Efficacy Scale. Parents of families in the intervention group had a significantly higher level of Parent efficacy (0.996 points, $p = 0.01$), an effect size of 0.21. This means that parents who had taken part in Families Connect reported feeling more efficacious with regards to supporting their children's education, than parents who had not taken part.

Table 22: Secondary Analysis of the Parental Role Construction

Secondary Outcome : Parental Role Construction					
	Mean (95% CI)		Mean Difference (95% CI)	Hedge's G (95% CI)	P value
	Control	Intervention			
N in model	192	178			
Time point 1	52.29 (51.13, 53.45)	52.21 (51, 53.42)	-0.07 (-0.83, 0.69)	-0.02 (-0.19, 0.15)	0.85

Source: NFER RCT of Families Connect (2018-2020)

Table 22 shows the results of the Parental Role Construction scale. The table shows that there was no significant difference in scores between the parents in the intervention and control groups, (-0.07 points, $p = 0.85$). The result suggests that parents who had taken part in Families Connect, did not have a different concept of what they should be doing as a parent to support their children's education, as those who had not taken part.

When considering the overall picture from the parental engagement scales, it should be noted that the scales are self-report measures, and therefore may be subject to reporting bias. This issue is further discussed in Section 7.

4.9 Missing data / sensitivity analyses

A two level (family and school) logistic regression model was run on whether a pupil was missing at both follow up points or not. This was run as a two level model to reflect the nested structure of the data that is families nested within schools, however it was not a three level time point as the outcome was missing at follow-up (MAF at both time points, so only one value for each family).

Furthermore it was run at family level not pupil level, to match the data structure of all other analysis.

483 families were randomised. 4 pupils (and families) completely withdrew from the trial. Of the remaining 479 families, 17 had data missing at baseline. These families were not included in the MAF model as by definition this missing data was non-biased, as it was pre-randomisation. As such, the MAF variable captured those who had follow-up data (441) versus those who didn't due to missing follow up data (21). Therefore, 4.54 percent of the potential model data was MAF.

The logistic regression was run with the covariates of the main analysis (minus time) and the following covariates, as pre-specified: FSM (0/1), Income (above/below £20,000), EAL (0/1), SEN (0/1), age quintiles, education level, and whether the guardian changed during the programme. The model did not converge when including guardian change as only 14 cases were marked as having changed, (half the number of schools in the model). As such the final MAF model was run without this variable. The results are presented in Table 23.

Table 23: Missing At Follow up (MAF) analysis results

MAF analysis results			
	Estimate	SE	Pr(> z)
Intercept	-9.50	3.17	0.00
BPVS3 Baseline	-0.05	0.03	0.10
Phase	0.98	3.23	0.76
Sibling flag	0.48	1.71	0.78
Treatment	1.25	0.93	0.18
FSM	-3.82	2.15	0.08
Income	2.03	1.12	0.07
EAL	0.61	1.00	0.54
SEN	-0.27	1.57	0.86
Education level	-0.53	0.34	0.12

Source: NFER RCT of Families Connect (2018-2020)

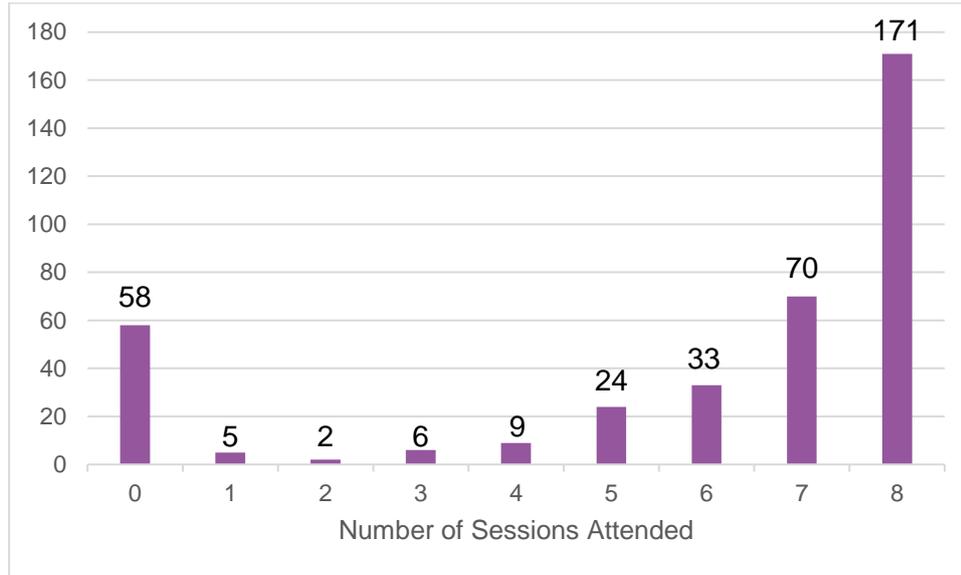
The table shows that no variable significantly predicted MAF. These results, in conjunction with the low proportion of MAF data, suggests that missing data did not significantly introduce bias into the primary model, and no imputation needs to be carried out.

4.10 CACE/dosage analysis

Attendance at the Families Connect sessions was recorded using a family register. Session frequency ranged from zero to eight sessions. Two CACE models were run: one using 'number of sessions attended' as a pseudo-continuous dosage measure and the other based on a dichotomous measure of whether a pupil had attended a minimum of five sessions and at least one session from each topic area. The CACE models were run as single level regression models at the level of observation, but the 95 percent confidence intervals were corrected for clustering at the family level. The models were run on attendance of those who were included in the primary analysis model only.

405 observations were included in the model from the intervention group. 27 observations from the intervention group had missing attendance data. The frequencies of the other 378 intervention observations are shown below in Figure 6. No participants from the control group took part in any sessions (they were all assigned zero in the model).

Figure 6: Frequencies of Continuous Compliance for intervention group observations



Source: SCUUK Family Register data provided to NFER for the RCT evaluation of Families Connect (2018-2020)

58 observations had zero attendance. 171 observations had full attendance, and 149 had between no and full attendance. For the binary measure, 286 observations met the compliance parameters set for this trial, 92 did not, and 27 had missing data. This means that of the observations used within the primary model, 71% achieved the compliance parameter set for the trial. Section 5 provides further details on attendance in terms of number of participants – rather than the number of observations in the model.

The coefficients of the binary compliance regression model are displayed in Table 23. The model explored whether there was any relationship between attending the minimum level of compliance, as described above, and BPVS3 scores, and if any effect was different at different time points. The binary compliance coefficient reflects the impact of reaching this minimum level of attendance, versus not, and the compliance by time interaction coefficient reflects the difference in effect of compliance at time point 2.

Table 24: Binary CACE Analysis for the BPVS3

CACE Analysis: Binary			
	Coefficient	SE	p value
Intercept	77.41	0.71	0.000
BPVS3 Baseline	0.71	0.03	0.000
Phase	2.15	1.13	0.058
Sibling Flag	-3.70	2.02	0.068
Binary Compliance	-0.57	1.27	0.654
Time Point	5.07	0.67	0.000
Compliance*Time	1.89	1.22	0.120

Source: NFER RCT of Families Connect (2018-2020)

Table 24 shows that there was no significant main effect of the binary compliance measure, signifying that the BPVS3 scores of those who met the minimum level of attendance were no different to those who did not meet that requirement. Furthermore there was no significant interaction effect, meaning that there was no impact at time point two either.

Table 25: Continuous CACE for the BPVS3

CACE Analysis: Continuous			
	Coefficient	SE	p value
Intercept	77.41	0.71	0.000
BPVS3 Baseline	0.71	0.03	0.000
Phase	2.14	1.13	0.058
Sibling Flag	-3.70	2.02	0.068
Continuous Compliance	-0.07	0.16	0.653
Time Point	5.07	0.67	0.000
Compliance*Time	0.24	0.16	0.120

Source: NFER RCT of Families Connect (2018-2020)

Similar results were found with the continuous measure of compliance – i.e. the total number of sessions attended (from zero to eight). The model explored whether there was any relationship between attendance (in terms of total number of sessions attended) and BPVS3 scores, and if any effect was different at different time points. The effect of compliance on BPVS3 scores at time-point 1 was non-significant; i.e. higher levels of attendance did not improve BPVS3 scores. The compliance by time interaction was also non-significant, implying that the effect of compliance on BPVS3 scores at time point 2 is no different from time point 1.

Overall the CACE results imply that when the number of sessions attended is taken into account, there is still no association between Families Connect and receptive vocabulary.

5 Key findings: implementation and process evaluation

5.1 Summary

School recruitment

- SCUK's approach to criteria for school recruitment varied across the regions. This included locality-based approaches, understanding of the particular school communities, and approaching a mix of first and second cycle schools.
- Schools got involved with Families Connect for a variety of reasons, most notably because parental engagement was a high (and sometimes new) priority for the school.

Community Practitioner training

- All Community Practitioners from first cycle schools received training and felt it was high quality. They appreciated the hands-on approach which involved modelling, practising and role-playing.
- Community Practitioners felt the delivery manual was comprehensive and the photocopyable resources were high quality.

Family recruitment

- Schools used both universal and targeted approaches to promote Families Connect to parents. The recruitment coffee mornings went well.
- Parents were motivated to take part for a variety of reasons including wanting to find out about ways to help with their child's learning and to meet other parents.

Delivering the eight-week programme

- Community Practitioners felt the programme was manageable to deliver. They felt the delivery manual helped them to plan each session well, but they needed additional time for preparing resources.
- Sessions were relaxed, positive and non-judgmental. Community Practitioners had a facilitative role, modelling approaches and gently supporting parents.

Adaptations

- **Model-level:** In the main, the model specified was implemented as intended, although a notable minority of schools delivered with an external practitioner alongside one member of school staff (rather than with two members of school staff).
- **Programme-level:** Community Practitioners and senior leaders felt they had delivered the eight-week programme as intended. They appreciated the flexibility to make minor adjustments in order to meet the needs of the group (such as the timing of snack time).

Family engagement

- Overall, attendance at the Families Connect sessions was good: two-thirds of the intervention pupils attended at least one session from across the different themes and at

least five sessions in total (i.e. they attended the minimum expected number and types of sessions as set for this trial). Nearly two-fifths (38 percent) attended all eight sessions. However, one in six did not attend any sessions at all.

- Parents' engagement in and enjoyment of sessions was very positive. Children enjoyed having their parent in school and doing things together with their parent.

Key features and challenges

- The key features of the programme that interviewees felt made it effective included: the range and balance of topics, the structured elements *within* each session, the facilitative delivery style, the 'high quality' delivery manual and support materials, and the ongoing support from SCUK for CPs.
- The key conditions in schools that supported successful implementation included: school leadership committed to the values of the programme; a school ethos inclusive of all families; a whole-school approach to implementing the programme; knowing the families and school community; and school commitment to space, time and resources.
- Any delivery challenges were overall minor, and schools mainly addressed them in the planning and preparation stages of the programme.

Perceived benefits and outcomes

- Parents reported enhanced confidence and skills in listening to and communicating with their child. They used a greater range of 'fun' learning activities at home and had established better routines (especially for homework). These outcomes continued longer term.
- Immediate and longer-term outcomes reported for children included improved social and emotional wellbeing, enhanced relationships with their parent, and increased motivation to learn.
- Longer term, schools reported improved strategies for engaging parents. Parent-school relationships had been enhanced.

Usual practice / control group

- Overall, there was no compensation rivalry³² for control families (i.e. additional support similar to the intervention sought or received in absence of the tested intervention) during the course of the trial. Just two schools reported providing support to control group families in addition to usual parental support, but the examples given were similar to those reported in usual practice such as classes on wellbeing and craft groups.

Embedding and developing the programme

- In light of continual developments towards sustainable models of programme delivery, SCUK were focusing on developing optimal models, rather than scale up *per se*. They were developing strategies for: a delivery model with a mix of school- and community-

³² <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118445112.stat06733>

based CPs; supporting schools to implement and sustain parental engagement beyond the eight week programme; ‘communities of practice’ to enable schools to share learning, good practice and discuss challenges they were facing around parental engagement; and maintaining and monitoring quality.

About this section

This section of the report presents the key findings of the implementation and process evaluation. The research questions for the IPE are set out in section 3.1, covering participation, implementation and embedding/scale up of the programme.

This section first presents findings relating to school recruitment, Community Practitioner training and family recruitment, before moving on to the implementation of the eight-week programme itself, family participation and the key supporting factors and challenges associated with delivery. (These sections explore implementation compliance and fidelity, as well as what appear to be the critical ingredients of the programme.) The section then covers perceived benefits and outcomes including perceptions of longer-term outcomes, how schools were embedding the approaches, and what else schools were doing to support parental engagement (including an overview of what happened in the control group). The section concludes with an overview of how the programme might be developed, sustained and scaled up.

The findings are based on the data collected through the process evaluation, which included interviews, observations and case studies involving a variety of participants, and quantitative data collected through Family Registers, implementation feedback questionnaires and usual practice proformas. Further details on the methods and analyses used for the process evaluation are set out in sections 3.5 and 3.6.2.

5.2 How were schools recruited?

5.2.1 SCUK regional recruitment

SCUK staff were responsible for recruiting schools to the programme for the trial. Each of the SCUK country teams aimed to recruit between five and seven schools. The country teams’ approach to school recruitment varied across the regions, with a focus on two cities in the North of England, a small number of local authorities in Greater London in the South of England, and second cycle schools in south Wales to build on the team’s previous understanding of each particular school community. The team in Northern Ireland continued their targeted locality-based approach, which builds the capacity of local communities to support schools. The team in Scotland were involved in existing funded delivery of Families Connect during the main recruitment phase, and so recruitment in Scotland took place mainly in the booster phase and with second cycle schools (reducing training requirements and to fit with term dates and project timescales).

In the first phase of the project, SCUK recruited six schools in the North of England, four in the South of England, six in Wales, six in Northern Ireland, and two in Scotland. A booster phase was implemented, and SCUK recruited a further five schools in Scotland and two in the North of

England. In total, they recruited 31 schools to the trial. One of the schools in the North of England withdrew very soon after randomisation, due to other priorities. Further details on school recruitment are provided in section 3.4.3.

5.2.2 Which schools took part?

As per the implementation protocol (see section 2.5), SCUK targeted schools in areas of disadvantage during recruitment. Most of the schools that took part were from areas of disadvantage, however, according to data provided by schools on their Family Registers, nine of the schools had school-level FSM below that stipulated for the trial. The school-level FSM criteria was waived on occasions where schools were, for example, recruited as part of a consortium approach, known to have previous examples of successes in engaging with families living in poverty through parental engagement, or part of an academy chain with longstanding relationships with SCUK.

As explained in section 2.5, the trial was intended for first and second cycle schools only, to avoid any contamination from any embedded practice from schools on their third cycle or more. SCUK approached both first and second cycle schools to take part; 13 first cycle schools and 18 second cycle schools signed up.

5.2.3 Why did schools get involved?

Schools got involved with Families Connect for a variety of reasons, most notably because parental engagement was a high (and sometimes new) priority for the school. This aligned well with SCUK's recruitment strategy and the values they employ when approaching schools to take part. They work with schools that demonstrate a commitment to wanting to improve parental engagement.

Headteachers anticipated benefits to the relationship between parents and school, such as helping parents to have the confidence to 'come into school' and demonstrating that learning in the early years is 'not about sitting at a desk'. One talked about Families Connect as a way to enable parents to work with staff and bridge the gap between schools and home.

Headteachers also wanted to support parents' engagement with their children's learning, for example: helping parents with ways to support their child's learning, and improving parents' confidence to interact with their child's learning more. One school had a current focus on children's emotions, and they saw the programme as a way of supporting parents with their children's emotional development.

Several headteachers mentioned being motivated by parental engagement as a way to improving children's achievement and raising standards. As one headteacher told us:

Engaging with parents is a high priority for us. The school is very community-based and is located in a close-knit community. Families Connect tied well with our school's ethos in terms of getting parents involved, helping them to help their children achieve and raising standards.

Headteacher, telephone interview

Several second cycle schools mentioned their previous positive experience of delivering Families Connect and that they wished to run it again. Interviewees from four schools told the trial team that they had agreed to participate in the project because they wanted to be part of an evaluation to measure the impact of the Families Connect programme.

5.3 How were CPs trained?

5.3.1 What did the CP training involve?

SCUK provided training for Community Practitioners in all first cycle schools. This involved two consecutive full days of training. In each region, training was held at a central location (for example, the SCUK regional office, or a local children's centre hub) and was run by two trainers from that region. Note, in the North of England, two central training sessions were held (one in Manchester, and another in Sheffield) to accommodate the locations of these schools.

The training covered all aspects of the delivery manual and explained how each of the eight sessions should be run. For each session, trainers gave the rationale and evidence behind the approach ('the science bit'). They then modelled the session, before CPs (working in pairs) practised facilitating the session. Community practitioners also role-played being a parent, and a child, in order to experience each activity from that perspective and understand its purpose and how to support parents (see section 5.2.4 for participants' views on the training). Importantly, the training also covered why parental engagement is important in schools, the values of working with parents, and approaches to recruiting and retaining families on the programme.

Each CP was given a delivery manual, which contained details of all the sessions and photocopyable materials.

5.3.2 Who trained as CPs and how many per school?

As set out in section 2.5, the programme was intended to be delivered by two Community Practitioners from each school. Most schools for which data was available ran the programme according to this intended model; according to implementation feedback data (completed by 25 of the 30 schools that took part), 17 schools delivered the programme with two trained Community Practitioners from their school. However, seven schools ran the programme with an external member of staff alongside one member of school staff. External practitioners included staff from the local authority who were trained to support a number of schools with delivery, and in one case a parent governor from the school trained as a Community Practitioner. Save the Children staff helped to deliver the programme in three schools, in order to support them to be able to take part in the trial.

5.3.3 How well were Community Practitioners trained?

Community Practitioners and headteachers spoke very highly about the content and quality of the training. They felt that the trainers were well-versed in the programme content, the training was well delivered and that it provided a 'good insight into the programme'. Trainees appreciated the 'hands-on' approach and the opportunity to practise the approaches with others in the room. They particularly praised the quality of the delivery manual, which they felt gave a clear outline of each

session, and the quality of the resources, many of which they could photocopy for the eight-week programme.

I thought the training worked well ... it was very hands-on which it needed to be. They [the trainers] explained the various strategies and provided the resources and an idea of what we would need to run the programme in school.

Community practitioner

The training was brilliant. The trainer delivered it to the lead teacher and her colleagues. It gave a good insight into how the programme should be delivered. Really good.

Headteacher

Community Practitioners from several second cycle schools attended the training for a second time. Some found this extremely beneficial, especially where a previously trained CP could work alongside a new CP from the same school. Others said they found the training a little 'long winded' and would recommend a shorter refresher training for second cycle schools.

Where CPs were very experienced in parental engagement work, some felt that the training focused too much on parenting/parental engagement, but acknowledged that this might have been useful for others in the room. Indeed, one CP suggested there needed to be greater attention to the challenges of engaging parents, as they considered the training to have given an overly positive impression: *we need to think negatively sometimes to overcome the barrier and come up with the right solution*. One CP commented that the numeracy area was quite new to her, and she would have appreciated more time on that element.

Some interviewees suggested that it would have been useful to have observed Families Connect being delivered in another school or setting in order to see how other practitioners were approaching the different elements and to inform their own practice.

Where schools were planning to deliver the programme under a different model (e.g. with one CP from the school supported by an external CP), participants suggested that there could have been greater attention in the training to the how this might work and the dynamics it might involve.

Of the 25 schools that completed the implementation feedback with SCUK, all agreed that they had received adequate training and understanding for programme delivery (indeed, 21 strongly agreed with this) (see Figure 7).

In the main, the trainers themselves felt that the training sessions went well, even where one group was much smaller than usual with just four practitioners being trained. In one area, the training was delivered by freelancers for the first time, supported by SCUK; and parents also attended the training in order to deliver sessions. This was described as atypical. In addition, this training also involved some non-RCT schools, which caused some challenges when it came to explaining the different evaluation requirements involved for RCT and non-RCT schools.

5.4 How did schools recruit families?

5.4.1 How did schools recruit families?

As discussed in section 3.4.3, the most common recruitment method was to invite parents to a special 'coffee morning' event in the school. Community Practitioners ran the coffee mornings, often supported by their local SCUK trainer. As schools were recruiting a larger number of families than usual (to enable randomisation within each school to the programme and to a waitlist control), additional (atypical) efforts were put in place by SCUK to support family recruitment. SCUK provided banners, posters, balloons and T-shirts to help schools promote these events. Schools created displays and handed out leaflets with information about the programme. In telephone interviews, school senior leaders from across the regions told us how much they appreciated SCUK's logistical support and input to family recruitment, particularly as SCUK could answer parents' questions about the programme in more detail than they could.

Other strategies included letters sent home to parents, notices via school websites, school newsletters, text messages and telephone calls. Personalised approaches were important:

Yes, well what we did, we did two coffee mornings and two coffee afternoons and so we invited them [parents] in the morning and then we found that going out to the school gates where they wait and inviting parents in personally worked better. So, we'd say, 'why don't you come in for a chat and find out about this programme'. We put it on our website and we sent out a text link about this new exciting programme for parents to see.

Community Practitioner

Community Practitioners took on the main role of recruiting families to the programme, and according to our case-study schools, took a universal approach (in keeping with the inclusive nature of the programme); the majority of families with a child of the appropriate age were offered the opportunity to participate. In some of the case-study schools a few families were targeted where the Community Practitioner or the class teacher felt they could particularly benefit from the Families Connect programme. Many of the Community Practitioners knew the families in the locality well, and the majority indicated that the two-day training event prepared them well for family recruitment, for example through role-play on recruitment of families.

I felt that it was easier for XXXXX (Community Practitioner's name) to approach the parents ... because she knows them all round here and has years of experience working with the parents in the school.

Headteacher

In one region, the schools had less time to use the above methods due to the short time frame for recruitment in advance of implementing the programme. They telephoned families directly and sent information and forms in the post to the families that wanted to take part. A Community Practitioner in the case-study school in this region had a wealth of knowledge of the families in the community and through her years of experience over a few generations of working with families, she had built up an awareness of the needs of families whose children attend the school. She also had a

reputation amongst the families as being a trusted member of the school staff. As a result she was able to select those families that she felt would respond positively to the invitation and encouraged them to sign up at short notice.

I phoned them, I think I spent like two days to do it all and phoned them... getting the forms out and getting the forms back that was it. It went well ... I phoned people that I knew that would be available because there was no point phoning somebody that was working because they weren't going to be able to make it. So, that was the first thing, looking at the availability of them being able to come ...

Community Practitioner

Most schools agreed that the strategies for recruiting and engaging families were appropriate (23 of 25 schools). Almost all those providing implementation feedback (24 of 25 schools) also believed that their schools had used adequate strategies to promote the inclusion and retention of parents. This reflected the way schools had deployed a range of engagement strategies which often built on their work to establish stronger relationships with parents. Amongst our case studies, engagement strategies included:

- inviting as many parents as possible to take part
- contacting parents by word of mouth (which had been identified as an effective strategy on previous programmes)
- working with individual parents whom the school believed would benefit, and encouraging them to attend
- keeping in touch with parents by contacting them throughout the duration of the programme to remind them when sessions were due to be held.

Settings usually used a combination of these methods to generate interest and sustain parents' commitment to attending. At the same time, the importance of ensuring that the engagement activities were thought-through and effective was emphasised regularly. In particular there was widespread agreement that a programme of this nature should be used to target parents who might not be already engaged with the school and that this called for the use of a range of activities to encourage them to take part.

As described in section 3.4.3, families who joined the trial signed a consent form for their, and their child's data to be used in the trial. They also completed a baseline parent questionnaire during the sign up process (for example, at the coffee morning, or at a later date, after having read the information about the trial). Section 3.7 provides further details about ethical considerations, consent and data security.

5.4.2 How many families were recruited?

In total, 483 families and 499 children were recruited to the trial. Sixteen families took part with more than one child (e.g. with siblings within the target age range, including twins). The implementation protocol (section 2.5) anticipated that all children involved would be aged four to six years (in Reception/Y1 in England and Wales, Y1/Y2 in Northern Ireland, P1/P2 in Scotland) at

the start of the trial. According to the school data provided, most of the children involved (461) were indeed in Reception and Y1 (or equivalent year groups) at the start of the trial, however, 32 were in nursery or pre-school classes, and four were in Y2 (and there were two children for whom we did not have year group listed).

Of the 483 families, 242 families were allocated to the intervention group (247 children), and 241 families were allocated to the control group (252 children). Section 4.1 provides further breakdown of the number of families and children involved in the main and booster phases and at each stage of the trial. Section 5.6 provides details of families' attendance during the eight-week programme.

5.4.3 Why did families want to take part?

Parents said they were motivated to take part for a variety of reasons including to find out about ways to help with their child's learning, to meet other parents, and for some, to find out more about child development. Most parents we interviewed said that the programme sounded 'fun' when they were told about it at coffee mornings. Several mentioned that they had never done anything like this before, so they were interested to see what it involved. Logistical factors also influenced parents' decisions to take part (such as shift work).

5.5 How did schools implement the eight-week programme?

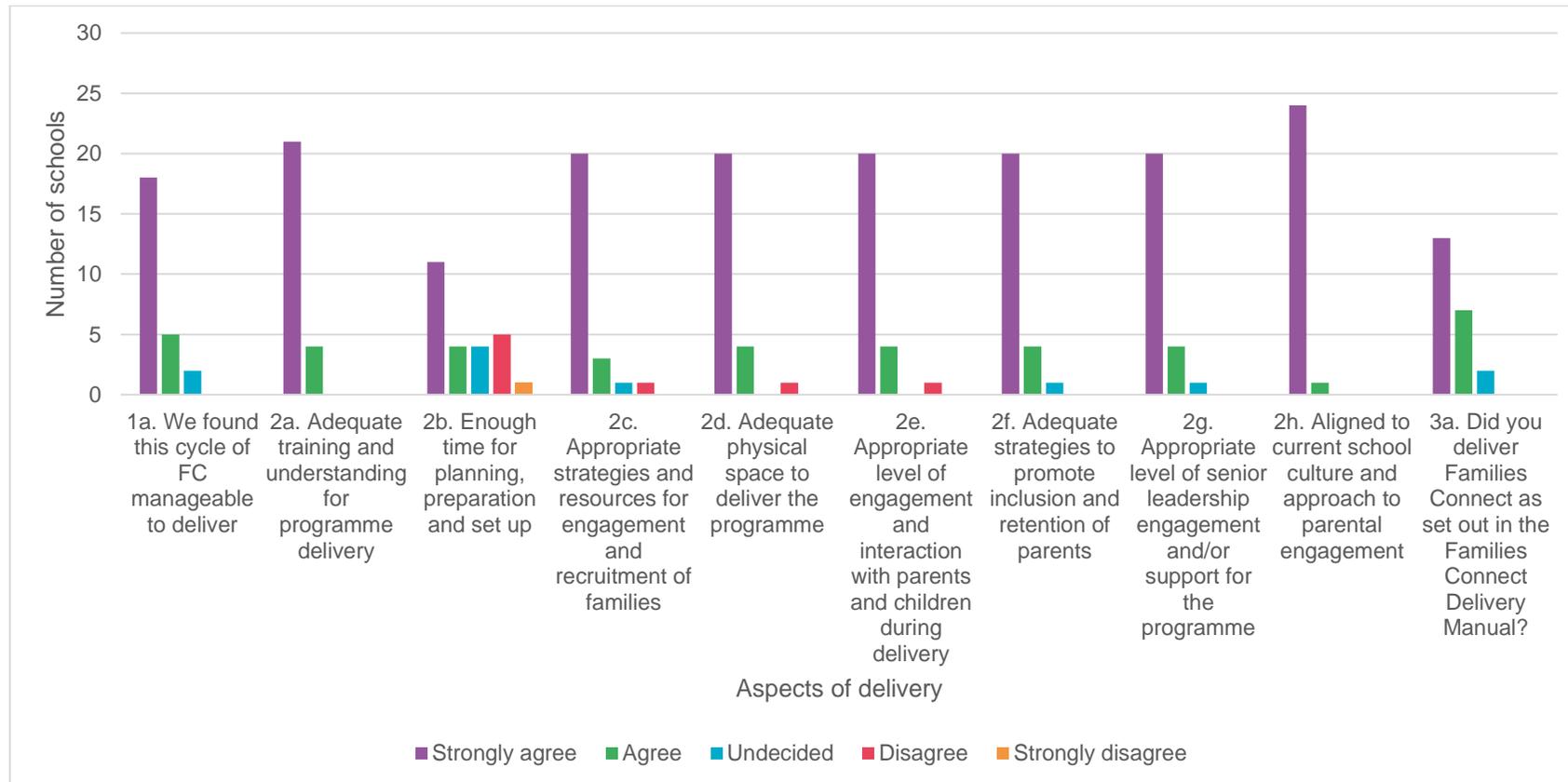
5.5.1 How well was the programme implemented?

This section of the report outlines feedback on the delivery of the eight-week programme from the case studies and sessions we observed and the implementation feedback data collected by SCUK. Further discussion of what appear to be the key features of the programme, supporting conditions in schools and challenges and barriers are discussed in section 5.7.

Overall, the implementation feedback data collected by SCUK from schools was very positive. Most senior leaders and practitioners strongly agreed with statements across all areas of implementation that they were asked to provide feedback on (for example, the programme was manageable to deliver, the strategies for recruiting and engaging parents were appropriate, and there was adequate time for planning and preparation). Schools' responses are shown in Figure 7.

The implementation data was collected by SCUK, as part of their usual site feedback visits after an eight-week programme. It was important that SCUK trainers/programmes managers connected with the school conducted these visits, rather than independent researchers, as they knew the context and could support schools to complete the data collaboratively as per their usual feedback practice. However, as such the data is not independent. Feedback data was provided for 25 of the 30 schools that delivered the programme. We draw on this data in conjunction with our findings from observations and interviews in the discussion below.

Figure 7: Aspects of delivery



Source: Save the Children (UK) implementation feedback data (main and booster phase schools) 2019.

Who delivered? As highlighted in section 5.3 a variety of staff delivered the programme. These included teaching assistants or higher-level teaching assistants, teachers, and some members of schools' senior leadership teams. In many schools the practitioner with responsibility for family engagement either led or was closely involved with the delivery of Families Connect. In determining who delivered, schools wanted to ensure that they used staff who already had established relationships with the families concerned. In some schools, one school-based CP was joined by a trained CP from the local authority or from SCUUK.

When? On the whole, settings were flexible about when the sessions would be delivered. Schools mostly arranged the timing to align with their timetables, when staff could be released to lead the sessions, and when it would be possible for the children to participate. Where those delivering the programme were not school staff they had come to agreement with schools about when the sessions would be held.

Where? Almost all (24 out of 25) of the respondents to the implementation feedback survey indicated that they had adequate physical space to deliver the programme, although the interviews revealed the differing nature of schools' arrangements, reflecting the layout of the school. For example, some made use of school halls while others had access to dedicated facilities that were used either solely or primarily for work with parents.

Planning and preparation? Interviewees felt that planning and preparation was especially important because Families Connect involved working with both parents and children. Community Practitioners emphasised that sessions had to be well thought-through and structured to enable parents to benefit and to make the most of the time they had with their children during each session. They felt the delivery manual helped them to plan each session well, but they needed additional time to prepare resources. Some schools described how they had deployed additional staff support (for example a teaching assistant who was not involved with the actual delivery) to help them prepare (see section 6 on costs and time involved for more details). Most (23 of the 25 of the) respondents to the implementation feedback survey either agreed or strongly agreed with the statement that they had enough time for planning, preparation, and set up (one respondent was not sure while another disagreed) (see Figure 7).

Alongside the need to prepare individual sessions carefully, respondents also believed that it was important to ensure that parents were engaged beforehand and that the 'essential groundwork' was done before the whole programme began (see section 5.4 on family recruitment).

Atmosphere/dynamics? Community Practitioners and parents referred to the relaxed atmosphere during the sessions and the way the groups had 'gelled' together. The sessions we observed generally appeared calm, positive and non-judgmental ('you can say anything you like' said one parent). We observed Community Practitioners taking a facilitative role, modelling approaches and gently supporting parents, only prompting with ideas very occasionally during the parent and child time in the session.

Pace? Schools also believed that each session should be run in a way which enabled participants to relax and develop their confidence. It was important to build in sufficient time to enable parents to build relationships and share experiences.

I think it's important that's why in the morning they get a cup of tea when they arrive and you're just more relaxed. They're a bit more chilled and then they're in the cycle now of it, so they know what's coming They are more confident now and chat a lot more in the sessions than when they started.

Community Practitioner

This was evident in the sessions that were observed which were characterised by a 'gentle' form of delivery that ensured parents were at ease and comfortable about sharing experiences and contributing to discussions. For example, the Community Practitioners asked at several points during the session whether the parents were ready to move on to discuss something.

Timescale? Opinions varied about whether the timescale for the programme was appropriate. Some respondents believed that the time frame for delivery was too short and that this meant that they had to move through the activities too quickly. However, a different view was expressed by other parents who believed that the programme could be made shorter.

Accessibility? Community Practitioners emphasised the importance of ensuring that the materials they produced and used with parents were accessible in terms of language to suit the diverse parent groups with whom they worked. Amongst our case study schools we observed Community Practitioners with additional language skills as well as translation by participants (for example, where an intervention parent translated session content to another parent during the session itself).

Manageable to deliver? Community Practitioners and headteachers we interviewed felt the eight-week programme was, for the most part, manageable to deliver – aided by the manual 'which covered everything'. Likewise, almost all (23 of 25) respondents to the implementation feedback data collected by SCUK strongly agree or agreed that the programme was manageable to deliver. Any challenges were mainly associated with the logistics and space and timetabling the sessions (see section 5.7.3 on challenges).

Delivering different elements within sessions? Those delivering the programme believed that the different components of the programme had been implemented effectively and that in general each session had worked well, a view that was shared by most of the parents interviewed and reinforced by the sessions that we observed. Respondents emphasised the importance of giving a practical focus to the work, for example by sharing ideas about how parents could help their children and how they could overcome any potential challenges.

Engagement and interaction? The implementation feedback collected by SCUK indicated that almost all (24 of 25) respondents either agreed or strongly agreed with the statement that there had been an appropriate level of engagement and interaction with parents during delivery. (Section 5.6 has further details on the extent to which parents engaged with the programme.)

5.5.2 Was the eight-week programme implemented as intended? Were there any adaptations and why?

Adherence to the programme model

As set in out section 2.5, the programme was intended to be delivered in first and second cycle schools, by two members of staff from each school trained as Community Practitioners, in schools in areas of disadvantage and for families with children aged four to six (in R/Y1 in England and Wales, in Y1/Y2 in Northern Ireland, and in P1/P2 in Scotland).

The programme model was adhered to in most cases, although as set out previously, a notable minority of schools (seven) delivered with an external practitioner (for example, from the Local Authority of SCUK) alongside one member of school staff (rather than with two members of school staff). All schools were either first or second cycle schools. All schools that completed the implementation feedback reported that they received their site coaching visits during weeks two to four (as specified). Whilst most schools met the disadvantage criteria, it appears from school pro-forma data that nine schools were less disadvantaged than intended in the trial protocol (although they generally still had higher rates than national averages – see section 5.2.2 for further details). Whilst most children were aged four to six and in R/Y1 (or equivalent year groups) at baseline, four were in Y2 (or equivalent, meaning they were older than intended for the programme) and 32 children were in nursery/pre-school at the start of the trial. The latter seemed to be related to schools that had nurseries/pre-schools spanning Foundation Stage 1 and 2 or equivalent, so whilst some children in the trial were in classes labelled ‘Nursery2’ (which may be equivalent to Foundation Stage 2 or Reception) 18 children were younger than four years and zero months (with the youngest being three years and three months) on the first day of testing.

Adherence to programme delivery

In terms of delivering the eight-week programme, most interviewees (SLT members and Community Practitioners) felt they had delivered the programme as intended. Practitioners emphasised that they had adhered closely to the manual and what they had learned during the training. Likewise, most (20 of 22) who responded to the implementation feedback question ‘Did you deliver Families Connect as set out in the Delivery Manual?’ either strongly agreed or agreed with the statement (two respondents said they were undecided).

Many of them commended the strong structure to the programme, but also appreciated the flexibility allowed to meet the needs of the particular group or context. It was important that staff were given sufficient time to consider the Families Connect manual to prepare how they would deliver each session in a way that met parents’ needs while also adhering to the programme requirements.

We always ensure that the key-messages are done, we always ensure that the beginning is a reflection a revisiting of the last week's reflection, but we decided very early on with XXXX (the trainer's) guidance that we didn't want it to be just reading from the script. We wanted it to be just fluid all as long as the key-messages were delivered and all of the questions were asked and the actions were undertaken. I think that we feel that that's it, it's not a lecture,

it's not a lesson it's just trying as much as possible to get an understanding of what we're trying to deliver, but again reinforcing the key-messages and they're on a little... handouts as well. So, that the parents can revisit them as well also and doing the science bit and getting the actual concept that we're at.

Community Practitioner

Case study schools made minor adaptations to the programme, chiefly around the sequence in which different components *within* a session were delivered. This was often done for practical reasons (for example a school had changed the sequence so that children did not lose a lesson), or to ensure that snack time suited the needs of the group. As far as we can tell from the data (case study and Family Register data), no school changed the ordering of the eight sessions themselves.

Other changes were instigated by the needs of the group, for example several Community Practitioners described how they adapted the mode of delivery in the first few sessions to include more modelling by the CPs before opening up for discussion or parents' practise. They felt this enabled the group to gel and parents to gain confidence:

The only thing we adapted was at the start, the parents didn't have the confidence to work in pairs, groups. They are not buddy pals, so it was quite hard for them to do that and we didn't want to make them feel uncomfortable. So, we decided that we would do that ourselves, we'd model that ourselves to let them see it.

Community Practitioner

Such changes were usually made in response to parents' feedback. This dialogue and the positive relationships which existed between the practitioners and the parents was clear in the sessions that we observed.

Several schools described how they had adapted the language used in the resources. This was described by a headteacher who said '*The type of changes were that we adjusted some of the resources to meet the needs of families so they were more accessible in terms of language – made them more basic*' (headteacher).

One school used the programme to support their existing reading scheme, by including some of the content from their scheme in the sessions. (The school had developed a set of questions around reading to prompt discussion of a text which they then promoted through the programme).

Other adaptations included:

- slightly changing the amount of time specified for certain activities because of logistical issues such as the time it took to get from place to place in the school (several schools)
- repeating the ice-breaker session each week because parents liked that and felt it encouraged all members to take part (one school)
- reflecting on what they had done previously every week (one school)
- adapting the closing activity because people were not comfortable with it (one school).

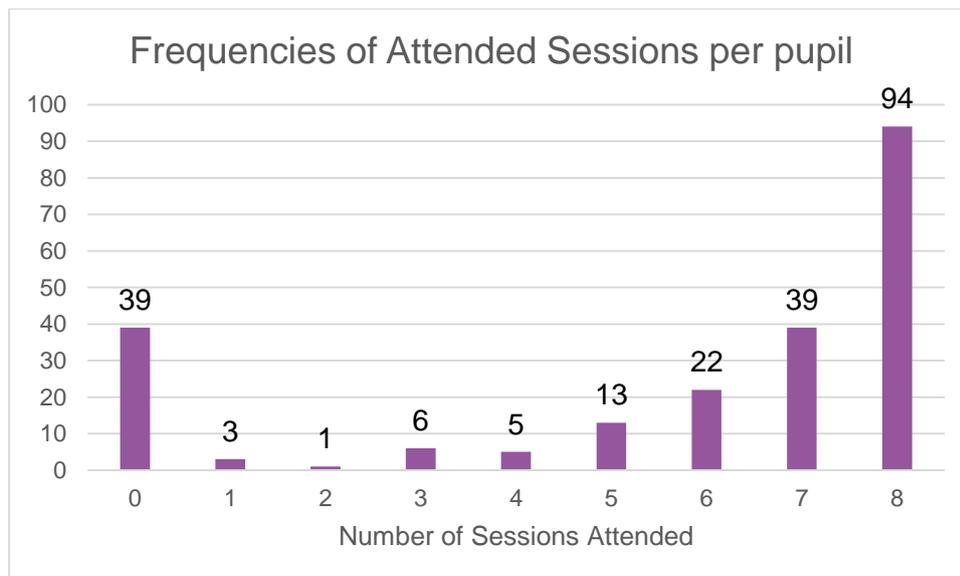
Any changes made appeared to be minor variations that did not alter the essence of the programme. We will return to the issue of flexibility and tailoring in section 5.7.1 on the key features of the programme.

5.6 Engagement in the eight-week programme?

5.6.1 How many families attended the programme?

SCUK received Family Register data from 28 of the 31 trial schools (note one school withdrew soon after randomisation and was not asked to provide any Register data; and two schools did not send their Registers to SCUK). Family Registers (with attendance columns for each of the eight sessions) were pre-populated with intervention pupils' names and IDs, for each school. According to the Register data from the 28 schools involving 223 intervention pupils, 183 pupils and their parent/guardian attended at least one session of the Families Connect programme (39 did not attend any sessions and one record was missing).

Figure 8: Number of sessions attended out of eight (per pupil)



Source: SCUK Family Register data 2019.

Note: Attendance records were obtained from 28 schools for 222 pupils (with a further one pupil-record missing). Records were missing from two schools (for 12 pupils), and one further school had withdrawn from the trial so no records were requested (for eight pupils). A total of four pupils withdrew from data processing in the trial, and so no attendance data records were retained for them.

5.6.2 How many sessions did they attend?

Whilst most families allocated to the intervention attended the programme, about one in six children and their parent/carer did not attend any sessions at all. As can be seen in Figure 8, 94 pupils attended all eight sessions and 39 attended no sessions (there were 25 cases in total with no data).

This trial set attendance parameters of at least one session from each of the different areas of the programme (social and emotional development, literacy and language development, and numeracy development) and a minimum of five sessions in total. This would have constituted a good level of attendance. According to Family Register data, 162 pupils (66 percent of intervention pupils) and their parent/guardian attended at least one session from each theme, and a minimum of five sessions³³. This is a good level of attendance. However, sixty pupils (24 per cent of intervention pupils) attended ‘below’ this minimum; 39 of whom attended no sessions at all, suggesting that something had changed between recruitment and the start of the programme. These 39 non-attending children and their families were spread across schools, and there were no schools where no families attended at all (although in one school, four of the eight intervention children and their families never attended). Interestingly, schools did not raise attendance as an issue. They felt that most families had attended, and where they had missed a session or not attended there were genuine reasons (such as shift work, or family illness).

5.6.3 How engaged were families in the programme?

Data from the five case-study schools, suggests that the engagement and enjoyment of parents with the Families Connect programme was very positive. The majority of parents stated they had never been involved in anything like this before taking part in the Families Connect programme. Community Practitioners reported that some parents were shy at outset but the majority of parents connected within their groups as the weeks progressed and many of them became friends. Interviewees said that parents’ confidence and motivation to contribute to the sessions increased. Retention of parents in the case study schools was high.

Amazing! They have been coming in every week from a position where some of them didn't know anyone. They have formed strong friendship groups. They have reflected on their own upbringing. Some are doing things they had not thought of. The children also enjoy them [parents] coming into school.

Community Practitioner

At first they had been a bit shy and reticent. That was mainly because they didn't know what to expect. After that it became easier, especially as their children were there.

Community Practitioner

Community Practitioners noted parents’ engagement, and felt that by explaining the programme content in a simple format this helped parents to feel more relaxed and gave them the confidence to engage in most of the activities.

I think they have engaged very well. I think that it's trying to keep it simplified for them. Okay, I'm reading it, but I'm then explaining and an easier meaning of what I mean or give an example but they have engaged. They've taken everything on board and when the

³³ Note, in addition to the trial parameters, SCUK expect attendance at six sessions and above. Of the data we have for 222 pupils, we see that 155 children and their parents attended at least six sessions.

children are coming in they're working you could really see they're all really working well together.

Community Practitioner

Interviewees reported that the children also engaged very positively with the Families Connect sessions. In particular they looked forward to the weekly sessions, enjoyed having their parents in the school and taking part in the activities with together.

They love it. You go to collect them from the class and they're waiting to see who gets to come. Because if their parent isn't here they can't come and they are disappointed. They think they're missing out.

Community Practitioner

'Fabulous'. They had been worried about some of the activities and that some of the children wouldn't like some of them, but they all seemed to enjoy. The things they had e.g. the magnifying glass –everyone enjoyed. Every child likes something different more than others but no challenges around any of the activities.

Community Practitioner

Teachers reported that the children were very excited when they came back to the class after the sessions and were very keen to talk about their experiences and share these with the other pupils in the class.

Very much so! They are always asking when they can come. They are excited and happy about what they're doing and the stickers they have after they've taken part. They are always talking about things they've enjoyed.

Class teacher

They are very excited about what they have been doing. They encourage the pupils to share with the other pupils what they have been doing in sessions. The pupils are very keen to talk about the different activities.

Class teacher

5.6.4 Which parts of the programme did parents like?

The majority of the 13 parents interviewed across the five regions had never participated in any parental engagement programme in their school previously. Whilst all the parents interviewed stated that they enjoyed the programme in its entirety, many reported the social and emotional learning sessions were the most enjoyable because these enabled parents to learn more about their child.

Many parents enjoyed Families Connect because of the opportunities for social contact and interaction with other parents and the school staff. The 'parent only' time gave parents the opportunity to reflect on each other's experiences of bringing up their children and to share 'the highs and lows of parenthood'. It was a time for peer support in terms of sharing knowledge and

experience of how they [parents] work at home with their children as well as an opportunity to make friends with other parents. One parent spoke about being shy and the group aspect of the 'parent only' time gave her the opportunity to meet other adults, which she really enjoyed.

I like talking to the girls (other parents) and Miss XXX and XXX (two Community Practitioners' names), they're all really nice and it's great fun. I am a wee bit shy to be honest with you and it's just nice to talk to other women at times.

Parent

All of it to be honest. I really like the introduction they give at the beginning [of each session] and then the activities with the children. I enjoy it all.

Parent

'The science bit' was well received in relation to building parents' confidence and gaining background knowledge about the week's topic. One of the parents we interviewed particularly enjoyed finding out about child development and the reasons why certain approaches might or might not work so well, during the 'science bit'.

Parents also enjoyed the 'parent and child time', spending quality time with their children and learning and playing games with them.

Teachers, children and parents all relayed the enjoyment of the opportunity for the parents and children to spend time together in school. For example, teachers described how pupils enjoyed when their parents came to the classroom to pick them up for the session or if they spotted their parents coming into the school grounds whilst in the playground. It was suggested by one class teacher that parents in general get very few opportunities to come into the school, and usually need a formal appointment to do so.

I think the kids like having their mummies in the building and coming to their class. ... with the new inspectorate, parents aren't allowed in the school buildings unaccompanied and without an appointment ... So, this was a massive change for our school. Within the last five years parents are not allowed in and out of the buildings ...

Class teacher

The majority of parents interviewed shared their enjoyment of attending the school and in particular going to their child's class to pick them up before attending the Families Connect session. One parent reported she particularly enjoyed the fact that her child loved to see her in the school and how much he loved being taken out of class by his mum.

I like going down to the class, he loves when I come down to the class and get him, he loves that and getting took out.

Parent

Many of the parents who were interviewed said there were no parts of the programme they did not enjoy.

5.6.5 Which parts of the programme did children like?

Many of the 19 children we interviewed said they liked the social aspects of the programme, such as their parents coming into the school, the snack times, and taking part in the craft activities. One child enjoyed circle time at the end of the session in particular: 'It's a circle where you do all the things like, when you grab a star you put it in your pocket and then you find stars all week; that's how you do it. This is my favourite bit'.

Many of the children recalled particularly enjoying activities such as drawing and colouring in and playing games.

5.7 Key factors and challenges?

5.7.1 What were the critical/key features of the programme?

Through the qualitative data (interviews with school senior leaders, Community Practitioners, parents, class teachers, and with SCUK programmes managers and country team staff who reflected on the programme nine–12 months on from delivery), we have identified several features of the programme that appear to be key to its effectiveness.

The key features of the programme that interviewees felt made it effective included: the balance of topics (social and emotional development, language/literacy, and numeracy); the structured elements *within* each session especially 'parent time', 'the science bit' and 'parent and child time'; the facilitative delivery style, which enabled parents to try activities rather than be 'told what to do'; the reflective nature of the programme; the 'high quality' delivery manual and support materials; and the ongoing support from SCUK for CPs. These are set out below.

A well balanced programme

Interviewees commended the programme structure and content for taking broad view of what parents could do to support their children's learning and broader development. Practitioners and providers believed that the course structure provided an appropriate range and balance of topics (emotional and wellbeing issues as well as, literacy/language and numeracy) and felt that it was this balance of content that made the programme effective. They also felt each session built well upon the previous one.

That said, Community Practitioners picked out certain sessions as particularly important, including: 'the importance of praise' (which they and parents then included and built upon in all subsequent sessions), 'beyond the page' (reading and storytelling in everyday situations and how to use resources they have available to support reading and stories) and 'the importance of counting'. To some extent this reflected parents' views – although parents particularly liked all three of the social and emotional sessions as well as 'beyond the page'. Interestingly, a number of CPs and parents we interviewed found the session on 'number talk' somewhat challenging – the concepts were harder to grasp than in other sessions. Despite this, both CPs and parents noted that the overall programme content was pitched well, and that it had often served to reassure parents that they were already 'doing the right thing'.

Well-structured sessions

CPs and parents also commented on the importance of specific elements *within* each session. For CPs, these included the specific allocation of parent time and the opportunities it provided for reflection, and ‘the science bit’ (reflecting on the evidence, reasons and experiences behind an approach). As noted in section 5.6.4, parents particularly appreciated the balance between ‘parent time’, and ‘parent and child time’.

SCUK programmes managers and country team staff also highlighted the core principles within each session as key, in particular moving from sharing and learning about a new theme, to giving parents time to prepare for the activities before practising them in the session with their child. They also felt it was key that the programme involves children themselves. The benefits were two-fold: i) that the children themselves could enjoy one-to-one time with their parent, and ii) that the parent could see the enjoyment the child gained from attending, which encouraged parents’ continued participation.

Facilitating practise and reflection

Practitioners and parents felt the overall style of delivery was a key strength of the programme. This involved modelling, discussion with parents, and ‘trying it out’ with your child. This approach ensured parents were ‘enabled’ to do things rather than being ‘taught’ on the programme. In the sessions we observed, we saw this facilitative style in action, with parents having plenty of time to discuss why an approach might work well and to have a go at the activities with their child.

In addition, the importance of the reflective nature of the programme ran throughout CPs’ and parents’ comments, as well in the sessions we observed. The programme provided valuable opportunities for parents to reflect on their approaches to parenting based on the themes they had explored each week:

The time with the other Mums, its good fun and we have a good chat too and it's good to hear what they (other parents) say.

Parent

CPs and parents’ appreciated the last session (Week 8), as it provided parents with the opportunity to reflect on what they had done during the previous seven weeks, the way they engaged with their children, and any changes they had made (or were planning to make) to their routines.

High quality programme resources and support

Practitioners believed that the delivery manual and support materials were an essential feature that enabled them to deliver each session effectively. A representative comment was that ‘We would not be able to do it without the resources’. Others commended the handouts that parents could take home with them, which Practitioners felt presented ideas and activities in an engaging and user-friendly way: *‘the parents can revisit them as well, also covering doing the science bit and getting the actual concept that we’re at’* (Community Practitioner) (i.e. respondents valued both the resources that could be used to deliver the programme itself and those that parents could take home with them).

The resources are sensational, they are absolutely sensational and because they are glossy, they are different, they're not I suppose, they're not school-type texts... I think that if a child has social and emotional strategies to discuss how they're feeling, right, that learning is much easier. The children are able to explain how they're feeling about something, it doesn't build up inside and I just think the resources I loved, I loved the actual file because you know what you want to do and you know the key principles behind it and you know what activities they are giving.

Community Practitioner

In addition, Practitioners felt that the way that the course content and resources that accompanied it signposted parents to other activities, resources or support, was a key strength of the programme.

Ongoing support from SCUK was also key. Community Practitioners valued having access to support from SCUK trainers (through phone calls and visits), and found them an important source of guidance and ideas as they delivered the programme. In the implementation feedback data collected by SCUK after the eight-week programme, headteachers and CPs mentioned the ongoing support they received from SCUK and their trainers throughout the eight-weeks.

5.7.2 What conditions are needed in schools to support the programme?

Previous evaluations of Families Connect have not focused on the conditions in schools that might support the programme. Hence, our evaluation has particularly explored this angle by asking CPs and school leaders about their school context and the factors that might support implementation including any pre-conditions in schools, school leadership and school culture.

The key conditions in schools that supported successful implementation included: school leadership committed to the values of the programme; a school ethos that is welcoming and inclusive of all parents and families; alignment with school policies on parental engagement; a whole-school approach to implementing the programme; knowing the families and school community; responding to school context; and school commitment to space, time and resources. These are set out below.

Supportive school leadership

As with many initiatives, participants identified support from school leaders for the programme and its delivery in their school as paramount. Senior leaders needed to both understand the value of the programme, and support those delivering it in practical ways. As one SCUK manager put it: *'When the full SLT is on board and there is top-down buy-in, schools are more likely to be engaged'*. School leaders and practitioners need to be committed to the aims of the programme. During the interviews, CPs described how their school leaders had both promoted the programme as an integral component of their school's work, and ensured that adequate resources were made available and staff were released. Almost all respondents to the survey (24 of 25) either agreed or strongly agreed that they had been given an appropriate level of senior leadership engagement and/or support for the programme.

Welcoming and inclusive school ethos

Interviewees emphasised that a school's ethos was a key determinant of whether the programme would succeed. It was important that parents were welcome in the school, and that the school reached out to them in order to gain their trust. The importance of creating a welcoming environment and the specific role of the headteacher in emphasising to parents that they were welcome in school was noted as a key success factor. This was summarised by one Community Practitioner who said *'it is about the ethos of wanting parents to be part of the school'* and that the *'school is there to help parents not to judge them'*. Such relationships needed to be built on principles of mutual respect, trust and transparency.

Alignment with school policies on parental engagement

Alignment with school policies on supporting families from disadvantaged backgrounds was important. Practitioners and senior leaders told us they believed that the programme content complemented their school's broader parenting and early intervention strategies. This was reflected in the implementation feedback data collected by SCUK, which revealed that 24 of the 25 respondents either agreed or strongly agreed with the statement that the programme was aligned to their current school culture and approach to parental engagement. Some school leaders had also considered how the programme fitted with their broader use of targeted funding to support children from the most deprived backgrounds.

Whole-school approach to implementing the programme

The teams delivering the programme needed to understand what their role entailed and to be able to work together as a team. In each school, this included not only the Community Practitioners who delivered the programme, but any crèche support workers and class teachers who would need to release the children to attend. Their work should be part of a whole-school approach to delivering the programme where all staff were aware of Families Connect, and how it could benefit the school and what it required (for example, being prepared to release some children to take part). In addition, the SLT were part of the whole school approach, so that they could provide the staff with responsibility for delivering the work with sufficient authority to take decisions. Reflecting this team approach, SCUK managers felt it was crucial to have good communication between all involved in the programme – CPs, trainers, schools and parents, and one point of contact to oversee the programme in the school.

Knowing the families and school community

Practitioners, school leaders, and indeed parents, felt that delivery by practitioners who were already known in the school was a key condition for success. Deploying staff experienced in family engagement work (such as family liaison staff, SEN coordinators and teaching assistants) to run the programme meant that schools were able to build on existing relationships between staff and parents. Indeed, the role of the Community Practitioner was vital in this respect given that they were the conduit between the school and parents.

As well as experience in family engagement generally, respondents considered it was preferable for those undertaking the role of Community Practitioner to have had some previous experience of

actually delivering programmes with parents and families. That said, perhaps the most important attribute for Community Practitioners was the ability to work with parents in a non-judgemental way. Schools noted that in some cases the Community Practitioners knew several generations of the same family which helped to build a sense of trust:

You need that relationship, you need the relationships! Yes, I think you need staff who are confident at working with parents because a lot of staff in the schools obviously it's children's their main first line of work. So, staff that are confident with parents, they need a dedicated space and they need the time to plan and prepare for it or it won't be successful. I suppose parents feeling comfortable coming through the door and [being] non-judgemental.

Headteacher

Responding to school context

Interviewees emphasised the importance of taking account of the school's context and the lives of the parents and children with whom they worked. This meant tailoring provision (such things as the language used, the kind of materials produced) to meet the specific needs of the diverse communities in which the programme was delivered. The importance of addressing the practical needs of the localities where the programme was delivered also extended to things such as what food should be provided. For example, in some areas it had been decided to provide a meal rather than a snack due to the level of deprivation in the area. (Other adaptations are outlined in section 5.5.2.)

School commitment to space, time and resources

The importance of having appropriate space, ideally a dedicated room that parents could use which their children could access easily from their classrooms underpinned the programme's successful delivery. Ideally this should include a dedicated room for parents that could be used for other meetings or activities with parents when the programme was not run; this would increase parents' confidence as they would be in a room with which they were familiar.

At the same time, schools had to commit to allocating time and buying resources. This meant that the funding that was required had to be committed notwithstanding the other financial pressures on schools. Further details about costs and time involved are outlined in section 6.

Schools supporting the logistics for parents to attend

A number of factors within schools' control also encouraged parents' participation. The timing of the sessions was important: for most of the parents interviewed either a morning time after dropping their child at school or an afternoon session that dovetailed onto the end of school day were the most suitable times.

The end of the day is good as I can pick them (children) up straight away afterwards.

Parent

Providing a crèche facility for younger children during the sessions was crucial to parents' participation. Many parents reflected that without the crèche facility they would not have been able to attend the Families Connect sessions. As one parent said: *'I mean, if they didn't have the crèche for the children, then I would never attend to be honest.'*

5.7.3 What delivery challenges and barriers were there?

Any delivery challenges were relatively minor, and most schools were able to deal with these during their planning and preparation. Challenges related to the length of the programme and sessions, timing of sessions to suit all parents in the group, the logistics of room and crèche facilities, releasing staff, language barriers and engaging parents who may not be comfortable in a school environment. These challenges are outlined further below.

- **Too much content:** Several Community Practitioners said they felt there was insufficient time to deliver all the programme content and that more time was needed for group formation, discussion and sharing. On the other hand, a few parents, felt that the eight-week programme was too long.
- **Working parents:** Sessions held during the day were not suitable for working parents and some advocated afternoon sessions.
- **The logistics of rooms and crèche facilities:** Senior leaders described how finding an appropriate space in which to run the programme had been a challenge. Furthermore, several interviewees felt that they would not have been able to deliver the programme were it not for existing crèche provision on site. It was important for crèche facilities to be close to the room in which the programme was delivered.
- **Releasing staff:** School leaders sometimes found it difficult to release staff to prepare and deliver sessions.
- **Language barriers:** Some parents could not speak English so Community Practitioners had translated materials. In some cases, parent attending sessions could translate in situ for other parent(s) in the group.
- **Engaging parents who may not be comfortable in a school environment:** One of the main challenges was to reach and build trust with parents to take part in something located in the school, especially with those who rarely, if ever, had much contact with school. Some parents were reluctant to mix with people they did not know.

The logistics of allocating families to groups (i.e. randomisation) was also noted as a challenge by a minority of teachers. This meant that families might not be attending with their friends (who might be allocated to the other group). This put a very small number of parents off from signing up in the first place. In the event, no families switched groups because of this.

5.8 Parents, children and schools – perceived benefits and outcomes?

5.8.1 What difference did it make? – overview of perceptions

Interviewees highlighted a range of immediate and longer-term benefits and outcomes for parents, children and schools.

Perceived benefits and outcomes for parents during and immediately after the programme included: increased levels of confidence, enhanced parenting skills in listening to and communicating with their child, improved home learning environment and better supporting their child's learning, improved connections with the school, and new social friendships.

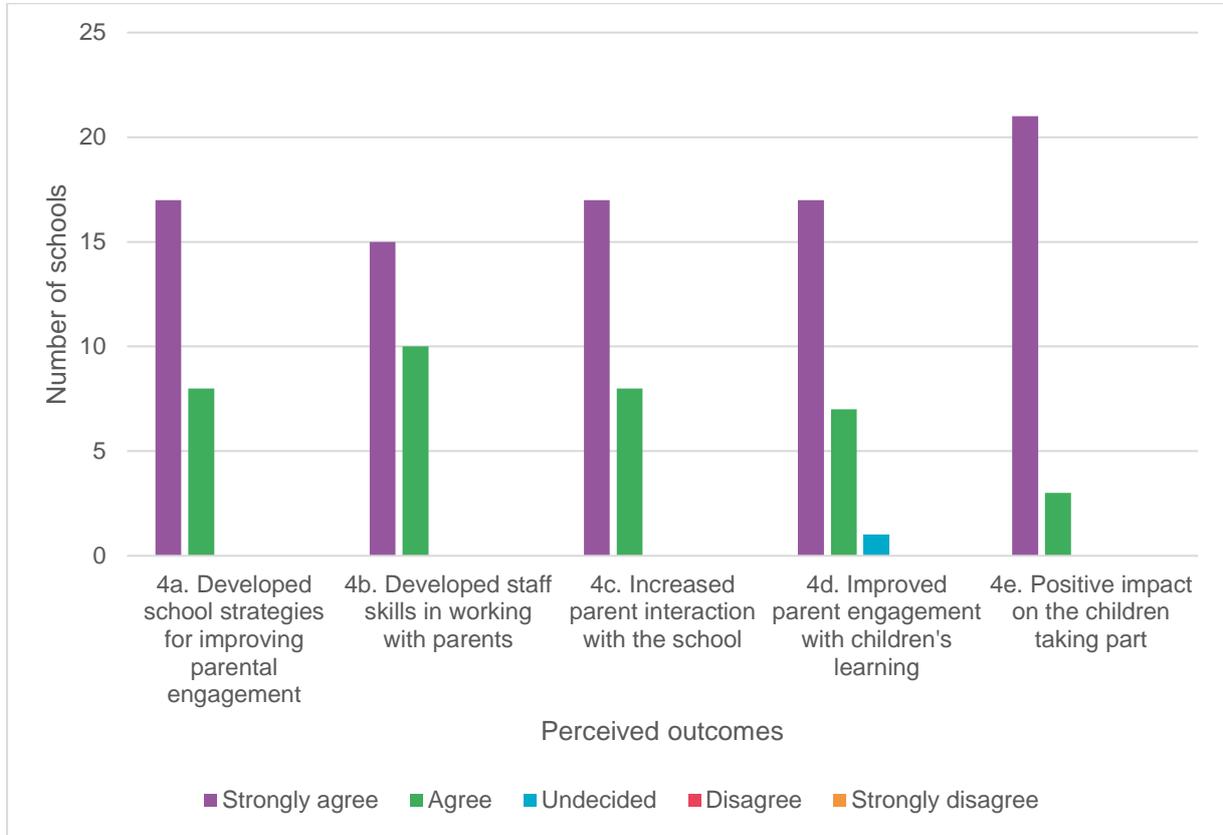
Further benefits and outcomes were suggested by parents in the follow-up interviews at three and six-to-nine months after the programme. These included stronger parent/child emotional relations, continuation of using activities and games at home with *all* their children, better home routines, and stronger connection and communication with the school,

Perceived immediate benefits and outcomes for children included: improved social and emotional wellbeing, improved learning interactions with their parent at home, improved standard of homework, and increased enthusiasm for learning.

School leaders, teachers and practitioners noted the following outcomes for schools: enhanced school capacity to connect with parents, enhanced understanding of the barriers to parental engagement, enthusiasm to run the Families Connect programme again.

Almost all schools who responded to the implementation feedback survey with SCUK either strongly agreed or agreed that participating in Families Connect had been beneficial for their school, parents and children (see Figure 9).

Figure 9: Implementation feedback data: perceptions of impact



Source: Save the Children (UK) implementation feedback data (main and booster phase schools) 2019.

Our study had a particular focus on parents’ experiences and any improvements they had made in the home learning environment. These perceived outcomes are outlined further below, organised around the research questions and theory of change.

5.8.2 Increased parents’ confidence and skills

Parents’ confidence developed as the programme progressed. All the parents we interviewed said they felt more confident in communicating and engaging with their children, and in their parenting skills. Teachers reported that parents seemed more confident in supporting their child after they had taken part in the programme. They felt that parents’ self-esteem had improved and described them as being more likely to ‘have a go’.

Parents reported **enhanced parenting skills, especially in relating to listening and communicating with their child and using praise**. During the programme itself, parents valued listening to their child and saw the one-to-one time on the programme as a valuable opportunity to have uninterrupted time together. They also suggested that they were a lot closer to the child who had been with them on the programme as a result.

Parents said they were more confident in communicating and engaging with their children at home. Parents said their communication skills improved and they were able to help their children to talk about their feelings. This enabled them to respond to and manage their children's behaviour. Parents reported spending more one-to-one time with their child at home, using listening techniques and constructive praise, and they felt this had a positive impact in terms of how they interacted with their child.

Well, I just came [to Families Connect] I hadn't a clue... it was about their feeling and all things like that... I did not know to listen ... you just don't think and it's [Families Connect] sort of changed me in the way I work with my other girl and him too.

Parent

In follow up interviews three months after Families Connect, parents said they were continuing to communicate and engage with their children in a positive way.

She just loves when you say, that's great, you're a great girl. It really works. It's so simple ... I do it with them all now.

Parent

5.8.3 Improved home learning environment

Parents described how their **home learning environment had improved through introducing a range of learning activities and routines**. They felt a real strength of Families Connect was that it helped them to make up games to play with their children and create strategies for learning that were fun.

I suppose learning the games, the way you play them and do them with your child ... it's things like [maths]...I am not very good at thinking up things ... but I wouldn't [normally] think about that stuff, other ways of learning and so on.

Parent

Parents also reported using the activities from the programme with other family members at home.

The games you take home he loves doing them and we use them all the time and he plays [them] with his sisters as well as when his daddy comes home from work.

Parent

Many parents from across several of the case-study schools expressed how they benefited from taking part in the programme in terms of being able to **manage homework time in a more constructive and positive manner**. Prior to attending the programme, some parents recalled homework being very pressurised and tense. One parent relayed how her daughter would often have melt downs and that since attending the programme, the parent had learnt strategies that were working and making this time more productive.

It just happens now when we come in and I say "right homework now and then you are free". I just put half an hour on it. That all seems to work. We are having less tantrums and shouting for sure.

Parent

Another parent relayed how she now ring fenced time and had a better routine in place when helping her child with their homework.

Well, when they come home from school, I try to get it done after school, but that's sometimes the way it works. I would sit down at the table and do their homework with them. I would sort of do like the written after school and then leave the reading or whatever until later, because if you do it all together they just lose interest so.

Parent

One parent reported that the programme had helped her develop techniques to stay calm and make homework time more fun:

I've learned new ways to approach it, where before he would have just had a meltdown, I'm learning other ways to approach it, I find it great.

Parent

Improvements in the home learning environment were noted by children too. Some of the children we interviewed during the programme said they were doing more learning together with their parents at home, including homework and 'chatting more' about feelings. They too felt that homework time was more fun and had noticed some new routines:

... as soon as I come in she's [my mum] like get up to the table and I will do your work with you

Pupil

Several parents reported that their child was more enthusiastic to do their homework now, and felt that the 'games' approach meant the child didn't have an awareness of these games being homework/school work but just considered them fun. As a result, a mum felt that homework time was less tense and more enjoyable for the child.

... but it was fun it didn't seem like schoolwork, my boy just hates anything to do with schoolwork. He is improving a bit in school and homework front and it doesn't seem to be that much a scary time.

Parent

Teachers reported that parents were reading with their children more at home than they did before taking part. Practitioners also believed that the programme was enabling parents to support other siblings at home, as well as the children who attended the programme.

5.8.4 Improvements in children's social and emotional development

Improvements for children were noted in relation to **increased confidence and self-esteem**, **improved behaviour at home**, and **better concentration and listening skills**. As noted by one parent, her child was responding well to praise (including the technique of using badges as rewards used in the programme):

She is definitely more accepting of sharing things with her brother. She actually would have struggled with this so putting the badge on really helped.

Parent

Children reported being more able to express their emotions. For example, children suggested that the programme had made them feel closer to their family and helped them to talk about their feelings.

It helps you feel like your friends are your family

Pupil

It helps me when I feel sad

Pupil

Benefits in terms of emotional development and wellbeing were also noticed in school. Teachers felt the programme had impacted positively on children's social and emotional literacy. Both parents and teachers perceived children to be happier and calmer after taking part in the programme. Children were better at coping with negative situations and responded better to adults. In addition, children indicated that the programme helped them to feel better about themselves and had enabled them to make new friends.

The improvements above were linked to better parent/child communication at home and also more positive participation in class from the child. One child described how she and her mum talked more about their feelings at home as a result of what they had learned on the programme, and the teacher noted how this conversation had then developed in class.

... nearly like conflict resolution when we were talking about how to sort out problems and dealing with tempers and what should you do; and she was... talking about emotions and I thought that was brilliant.

Class teacher

5.8.5 Improvements in children's attitudes and wider learning

Parents noticed improvements in **children's attitudes towards learning**. They felt their children were more interested and enthusiastic about school and were learning more effectively. They gave practical examples, including their children were motivated to read more often, had improved concentration when learning, and showed greater perseverance:

I think she's more settled, like she'll sit down until the things done, that's new.

Parent

Increased enthusiasm for learning was felt to be long lasting. It was suggested by a parent at the follow up interview that their child enjoyed doing her homework more now as a result of participating in the programme.

Dare I say it but I think she enjoys doing her homework with me now. She certainly talks more and when she comes out of school she'll be telling me what she has to do (for homework).

Parent – summer follow up interview

Class teachers noted improvements in the **standards of the homework** from the pupils participating in the Families Connect programme and they related this to the way parents who had taken part in the programme were engaging more with their children at home and ensuring that time was being set aside for homework.

I definitely think this honed improvement on their homework

Teacher

... my teachers says my homework's good

Pupil

Whilst a few interviewees noted improvements in children's literacy and language development, and that children were making progress in school, they were not sure if this was directly connected to having taken part in Families Connect.

5.8.6 Parent-school engagement

Parents reported **greater involvement in their child's learning at school**. Parents and practitioners believed parents were better at supporting children's learning and that they were more aware of what their child was doing in school – both in terms of learning and any social or emotional issues they might be confronting in class. Parents said they were more aware of the school's expectations of them in terms of helping their children reach the goals of the school curriculum:

Just knowing that maybe I'm doing the right thing this way because sometime maybe I'm expecting a bit too much from her so just kind of being aware that's her level and that's ok.

Parent

One parent described how her child had struggled with literacy and now felt better equipped to provide the help her child required.

Many parents also noted **enhanced engagement with the school**. They reflected that the programme had helped them feel more confident in communicating with the school. This included feeling more confident to liaise about their child's progress.

I just write in the homework book if we didn't get it finished and sometimes if it all goes well, I'll let her know that. I am probably talking to her [the teacher] more now.

Parent

I don't mind talking to her now anytime, I don't feel I'm being stupid. I just write to her if I don't see her at the school gate. I didn't do that much before.

Parent

The SLT and practitioners we interviewed believed that **relationships between the school and parents** had improved as they had got to know each other better. Parents were said to be visiting the school more often and were becoming involved in its work, for example supporting social events and attending parents' evenings. This had improved the communication between school and parents. Here, one teacher noted greater parental interaction with the school:

Yes, because the parents are coming into school more. They are doing more to support their child with homework. They are more involved in school-based activities.

Class teacher

In follow up interviews 12 months after Families Connect parents viewed their role with the school as more than just dropping their children off at the school door. They felt an enhanced connection with the school and felt more encouraged to be involved than previously.

It has changed things because it isn't just about pick up time when everyone is pressured to get the children and get home, and move the car out of the way as soon as possible, it is more now.

Parent

I used to just say 'hi' [to the teacher] quickly while I was dropping my son off or picking him up, but now, I feel like you actually know them [the teachers] and chatting more, and more connected.

Parent

All 25 schools that provided implementation feedback to SCUK, agreed or strongly agreed that the programme had increased parent interaction with the school. Moreover, all 25 agreed or strongly agreed that the programme had helped them to **develop their strategies for improving parental engagement**, and that the programme had develop staff skills in working with parents. Schools had gained a greater awareness of the barriers of engaging with parents, and how to address these. For example, one Community Practitioner reflected that as a result of recruiting families for this programme, she has come to realise that one of the biggest barriers for parents coming forward to being engaged with the school is their low literacy levels. Her inclusive approach helped to overcome this:

I have taught children and I know their parents can't read, but it's just through them saying I have difficulty reading that ... I would just...here's this note and I just read it as if I was doing it with everybody

Community Practitioner

5.8.7 Wider social outcomes for parents

Parents reported having developed **new friendships and social connections** with other parents, which extended beyond the programme setting. Some practitioners also mentioned that the programme had helped to overcome parents' sense of isolation by enabling them to forge new friendships. Parents interviewed 12 months after participating in Families Connect highlighted that

they had benefited from participating in the programme and building social networks with other families with in the school.

I looked forward to seeing the other mums every week. Like we have all become great friends and a few of us go for coffee now

Parent

Knowing the families of the children in the same class as the child.

Parent

5.9 Other parental engagement strategies during the trial?

5.9.1 What else were schools doing to support parental engagement?

Schools completed a proforma at the end of the trial with details of any other parental engagement practice and also details of what happened in the control group during the trial period. Of the 27 schools that returned the proforma, 13 delivered other parental engagement programmes/activities during the trial. Examples of these activities included numeracy and literacy sessions, a focus on phonics for parents, reading and writing; parent meetings/coffee mornings to discuss chosen topics and provide feedback to the school; and group activities, including cooking and 'parent gym'.

5.9.2 What happened in the control group?

Of the 27 schools that responded to the endpoint proforma, six schools said they had provided parental engagement support/activities to families in the control group. For four of them, this was part of their usual practice (support they would have provided to all parents during this time anyway), while for the remaining two it was additional to what they usually provide.

Examples of schools' support to families in the control group included support on topics of housing, budgeting, parenting and behaviour; and sessions involving morning teas and training (phonics, first aid). Overall there appeared to be no compensation rivalry for the control group. Activities specific to the control group were similar to those provided as part of usual parental support, and included classes on wellbeing, first aid and craft activities. No school ran Families Connect with control group families before the allocated time.

5.10 Embedding and sustaining parental engagement approaches in the schools involved

We asked school senior leaders and SCUK programme and country team managers how schools were embedding the approaches and how SCUK was supporting this, and any plans they had for sustaining and developing the programme more widely. The timing of these interviews is worth noting: we spoke to school senior leaders during and immediately after programme delivery (in case studies and telephone interviews respectively), and to SCUK managers nine – 12 months after programme delivery. SCUK had just restructured their organisation, which affected their plans for the programme.

5.10.1 Running further cycles of Families Connect?

All nine school senior leaders we interviewed, and those in all case study schools, said they would be interested in running a further cycle of Families Connect. However, most also said that this would depend on their school's funding situation. Note, most of the RCT schools delivered to the waitlist families, although some of the booster schools were unable to deliver the programme due to school closures during the Covid-19 pandemic.

5.10.2 'Keeping it going' – embedding parental engagement approaches in schools

After running the eight-week programme, schools are encouraged to sustain family engagement and continue to encourage parents to support their child's learning (known as 'keeping it going' in the delivery manual). The emphasis is on tailoring to the school's and families' context.

The delivery manual suggests talking to parents about how they wish to continue with supporting their child's learning, supporting them with extra ideas for activities to use at home, and using text messages, social media, phone calls and face-to-face sessions to communicate with the parents. It also includes suggestions for keeping the parent group going – seeing if parents are happy to swap phone numbers (or other contact details) so they can share regular updates and tips.

The delivery manual includes ideas for how class teachers and Community Practitioners themselves can continue to model and embed the principles of Families Connect, by using them in their everyday interactions with the Families Connect children and their parents. For example, praising children in front of their parents, or having a permanent display board of resources (although the latter was not encouraged during the trial, so as not to influence the waitlist control group).

In follow-up interviews, whilst parents noted developments in their own confidence to communicate and interact with school, as well as continued friendships with other parents from the group, they did not seem to describe overt examples of the school 'keeping it going' as suggested in the delivery manual.

That said, our interviews with SCUK programme and country team managers nine – 12 months on from the programme revealed strategic work underway to support schools with models of family engagement going forwards. Each region had different emphases, and these are outlined below:

- In the **North of England**, SCUK had started to develop a 'community of practice' for trial and other Families Connect schools to share learning, good practice and discuss challenges they were around parental engagement. Two schools that had taken part in the trial were now involved in this community practice. Schools had become more independent of SCUK with engaging parents and continuing their delivery of Families Connect.
- In the **South of England**, some trial schools found that their parents wanted to become more involved, with schools welcoming this further parental engagement (although no concrete examples were given). Challenges were raised around staff capacity for future delivery of the Families Connect programme, with this challenge likely to increase as schools face increasing demands on their budgets. It was highlighted that recruiting families requires someone with

time and is most successful when there is a parental support worker in place. Barriers to schools continuing with further cycles of the programme included: funding to buy resources, the need of a crèche and a method for measuring the value of parental engagement to show its importance in school.

- In **Wales**, SCUK managers were able to show trial schools how further cycles of Families Connect could empower parents to then deliver the programme. Some schools (not trial schools) are now running their 5th or 6th cycle of Families Connect. In these cases, parents who completed cycle 1 are delivering the sessions. Attending Families Connect had empowered parents to deliver and sustain the programme themselves, thus reducing the pressure upon school's capacity. This was part of an approach to develop a more sustainable model of Families Connect for schools that had already run the programme several times (see section 5.10.3 for further considerations for developing sustainable models). It was noted that family engagement officers played an important role in ensuring there was ongoing support from the school. Challenges for schools in terms of space and funding to deliver were still noted.
- In **Northern Ireland**, the local manager is supporting schools (both those in the trial and other who had previously implemented FC) to develop their own models going forward. This included developing resources, drawing up guidelines including the key principles and recruiting families to the next cycle of Families Connect in schools. The trial schools in NI want to continue using the programme.
- In **Scotland**, trial schools had been able to run further cycles of Families Connect as a result of funding, from the government and grants, which had covered associated costs such as teacher time, crèche facilities, snacks and additional resources. Trial schools are now embedding Families Connect into their parental engagement strategy.

5.10.3 Developing a sustainable model for the programme?

In light of continual programme developments that seek to optimise programme delivery, SCUK were focusing on developing sustainable models, rather than scale up.

To reduce the burden on schools, a delivery model with one (rather than two) school-based CP and one third party was being considered. LA staff or parents could be trained as co-deliverers. This model would reduce the burden on schools to release staff, but at the same time keep the local knowledge of the school context and families which was felt to be so important to the programme. A parent as a co-deliverer might increase the attraction of the programme for parents (see above, in Wales where this model is already underway).

A greater focus on embedding parental engagement and supporting schools in this was discussed. Understanding the needs of parents in this regard was felt to be important. SCUK's work might focus on the core elements of parental engagement and supporting schools in implementing and sustaining these beyond the eight week programme.

To this end (and as outlined above), a strategy to develop peer support and community practice between schools, as well as producing a range of best practice case studies schools can refer to was outlined. Sustainable models could focus on building local communities of practice, enabling schools to support each other with good practice around Families Connect and parental

engagement more widely. It was also suggested that greater responsibility and autonomy could be given to schools in terms of family recruitment and a more flexible approach to implementing the programme.

More focus on targeting was also discussed, particularly targeting schools and families in areas of disadvantage and where it was felt there could be greatest impact. Working in focused geographical areas was also being considered.

Across all of these considerations, there was a concern that removing SCUK support too soon or too much could impact on the quality of the programme and how it is monitored. Further work is needed to clarify how the programme will be monitored.

5.10.4 Key learning for SCUK from supporting Families Connect

Key learning for SCUK from supporting the delivery of Families Connect in this trial included two main themes.

The first was the importance of communication and relationship management with schools – particularly during school and family recruitment, but also throughout the duration of the programme and in relation to evaluation requirements. Schools that were new to Families Connect required greater relationship management, likewise schools where there was an established relationship with SCUK needed to be carefully managed as regards the trial requirements.

Secondly, having sufficient and ring-fenced time for management support was felt to be important – particularly in the recruitment stages of the project, where several visits to a school may be needed to secure involvement. Also during family recruitment, where SCUK local managers supported schools for whom this was new.

Section 8 discusses how this learning can be applied more broadly to SCUK's work and to parental engagement programmes in the early years more widely.

6 Cost evaluation

6.1 Summary

Costs to Schools

- Schools identified the main participation costs incurred in delivering the Families Connect programme as financial cost (mainly consumables) and staff time.
- Families Connect delivery cost to schools is based on £155 average consumable cost per year (it does not include staff time). Those costs included refreshments, the activity box and administration costs such as photocopying and printing.
- Under SCUK's model, there is no additional financial cost passed on to schools for the training of the Community Practitioners.
- The main participation costs related to the commitment of staff time in preparing for, delivering and managing the programme.

Costs to SCUK (training and delivery)

- The costs to SCUK involve training, staff and core costs. Families Connect costs SCUK £5,374 per school average year cost. These costs include training, monitoring, evaluation and programme development, and standard marketing, research and development.

6.2 About this cost evaluation

Our cost evaluation was informed by cost evaluation guidance drawn up by the Education Endowment Foundation ([EEF, 2016](#)). We have considered the costs to schools of running a cycle of the Families Connect programme in terms of both financial cost and staff time. We have also calculated the financial cost to SCUK. The main costs presented refer to costs incurred of running the intervention in the model used in the trial (i.e. two school-based CPs, a QA support visit from an SCUK trainer, and a site feedback visit post programme). Where costs are different when running a 'real world' cycle of Families Connect, they have been highlighted. Cumulative costs per target family are presented as well as costs per target child. These values differ slightly solely due to the presence of twins in some target families.

6.3 Costs to schools (training and delivery)

What are the training costs?

Under SCUK's model, there is no financial cost to schools for the training of the Community Practitioners. There is a cost to schools in terms of the time taken to attend the training. The training takes place over two days for the two Community Practitioners per school. Any financial cost to schools would depend whether schools required supply teachers to cover classes for teachers to attend training. The financial cost of possible supply cover is not included in the cost

estimations presented in this report as it was not raised by the school staff interviewed as a cost to the programme for the schools in the trial.

What are the delivery costs?

School leaders were asked to identify the main additional costs which they had incurred in delivering the Families Connect programme. These could be divided into two broad categories – financial costs (mainly consumables) and staff time as outlined below.

Financial costs

The main items identified by schools in terms of delivery costs related to their expenditure on consumables and office costs. These included (in order of size of cost):

- Refreshments such as food and drink for the snack/meal
- Activity boxes, art and craft materials, balloons and magnifying glasses (note, many of which can be used again in repeat cycles of Families Connect)
- Photocopying, printing etc.

Table 26 shows the additional financial costs associated with delivering three cycles of the programme in the same school with the same trainers to additional families. The mean number of families targeted per school in the trial was 7.8³⁴ so this was used as the number of families targeted by cycle/year. These cost estimations have not taken into account that some resources purchased during the initial cycle will not need to be purchased again in subsequent cycles.

Table 26: Cost per school

Cost per school								
Cost		Year/ cycle 1	Year/ cycle 2	Year/ cycle 3	Cumulative total	Average cost per year	Cost per target family per year*	Cost per target child per year*
Consumables	Food/snacks, craft/activity supplies, photocopying	£155	£155	£155	£465	£155	£20	£19

Source: NFER process evaluation for the RCT of Families Connect (2018 – 2020).

Note: *The total number of families/children per school per year is calculated from the numbers of families/children allocated to receive the programme divided by the number of schools in the trial. (See CONSORT flow diagram). These numbers are 7.8 and 7.9 respectively.

³⁴ This is calculated from the numbers of families allocated to receive the programme divided by the number of schools in the trial. (See CONSORT flow diagram).

The interviews revealed important differences in the way costs were recorded and reported by schools. Based on the nine telephone interviews with school leaders and interviews with school leaders and CPs in four case study schools, the mean average spent by schools was estimated to be £155 for one cycle. This amount varied considerably with some schools reporting zero additional expenditure and one reporting £650. This disparity could be related to how the schools viewed the £200 grant provided by SCUK for resources, with some schools taking this off their additional spend and other not. This grant was given to schools as part of the trial and is not part of the normal implementation model. While it was likely that some materials could be re-used for subsequent cycles on the programme, these represent a small proportion of the costs.

At the minute because Save the Children are providing extra financial, as you know for the toys and the little boxes and things, that's unfortunate that that doesn't continue.

Community Practitioner

A further additional financial cost that may be important for some schools to consider is the cost of running a crèche to look after younger siblings not involved in the programme. One school (of 14 interviewed) reported initially funding a crèche and in some cases SCUK covered this additional cost. Some schools may have provided childcare with negligible additional cost as schools may have been able to accommodate children in existing crèches.

Staff time

The main participation costs related to the commitment of staff time in preparing and delivering the programme. Staffing costs included: preparation time for staff; delivery time; and management time.

The cost of staff time was the biggest single expense incurred by schools to deliver the programme. However, this was mostly subsumed within schools' existing budgets – staff were re-deployed within existing budgets. Costs were therefore hypothetical and were met by reallocating duties or making delivering the programme a priority for staff employed to work with parents (such as Family Engagement Officers).

There was a similar variation in response to the question of how much time schools had devoted to preparation time in order to deliver the programme, as there was for monetary costs spent on resources. However, the majority of interviewees estimated between 30 minutes to an hour preparation time was required for each Community Practitioner per session. Some interviewees gave much higher estimates, including one who said it took as much as two hours per session, possibly because of the time they required to prepare a meal rather than a snack (note, one school chose to provide a meal rather than a snack in order to support their families from disadvantaged backgrounds). Activities requiring additional time were purchasing and organising the required consumables (including food), photocopying resources, meetings to plan activities and prepare resources, setting up rooms and clearing up. In terms of administrative and management time, activities such as organising cover and extra time needed to manage volunteers helping on the programme were mentioned. One case study school mentioned building in time to reflect and debrief after each session.

In the majority of cases, most of the time that had been spent was for delivering the programme itself. Sessions lasted two hours and ran weekly so the total time per school for delivery was four hours per week (assuming there were two Community Practitioners per school).

Staff costs varied depending on the role of the practitioners who were involved in delivering the programme. Thus, schools which deployed senior teaching staff (including a member of a school's SLT) were required to commit more to it than those who allocated the work to teaching assistants or a teacher and a teaching assistant.

However, a great deal depended on how the staff delivering the programme would be deployed otherwise. Some noted that they had to cover staff while they were delivering it but, where needed, schools appeared able to deploy internal cover staff to provide lesson cover. External supply cover was not needed and therefore covering lessons during delivery was not seen as a financial cost to schools.

Well there was an assistant because it was two and a half hours it'd be difficult for me to get a sub-teacher for two and a half hours. We have a classroom teacher allocated to each class, so I couldn't pull a class teacher out so it was a classroom assistant who took her class for those two and a half hours.

School senior leader

Therefore, when schools considered whether it was viable to deliver Families Connect they had to consider whether they would be able to meet the cost of releasing staff from other duties or re-allocating staff responsibilities to enable it to happen. Such decisions would depend on the extent to which a programme such as Families Connect was identified as a priority over other work which staff could be deployed to do.

6.4 Costs to SCUK (training and delivery)

The costs to SCUK are outlined in Table 27. These costs are calculated assuming the programme is run for three years in a school with the same Community Practitioners so there are no costs associated with training in cycles/years 2 and 3. (This assumption is also in line with other parental engagement literature, which suggests that the cost of delivering parenting programmes is front loaded and should reduce over time (Lindsay *et al.*, 2010)). The standard SCUK programme is based on 12 target families being reached per school per cycle whereas in this trial the mean number of families allocated to the programme per school was 7.8 (this was in part due to the trial design, requiring 16–20 families per school to be recruited and randomised). Table 26 provides an estimate on costs to SCUK based on 7.8 families per cycle per school. Some of the costs in the table (training costs, SCUK staff costs for example) are fixed per school so the reduced number of families accessing the programme per school means that these calculations are likely to be an over estimation for the costs of the Families Connect programme per family under 'real world' conditions. Table 28 show the costs to SCUK if 12 families/children access the programme per school using the same assumptions.

Table 27: Costs to SCUK

Costs to SCUK per school								
		Year/ cycle 1	Year/ cycle 2	Year/ cycle 3	Cumulative total	Average cost per year	Cost per target family per year**	Cost per target child per year**
Standard programme costs								
Training costs*	2x SCUK staff for 2 days, travel and accommodation, venue hire, catering	£1,380	£0	£0	£1,380			
SCUK staff and core costs*	Monitoring, evaluation and programme development, marketing, research and development costs, overheads	£4,964	£4,762	£4,762	£14,488			
Families Connect delivery manual*		£60	£0	£0	£60			
Printed resources for families		£65	£65	£65	£195			
TOTAL		£6,469	£4,827	£4,827	£16,123	£5,374	£688	£675
Trial specific costs								
Budget to schools	For resources (£200) and a thank you (£150)	£350	£0	£0	£350			
Marketing / promotional resources	Flyers, posters, gate banners, pens and T-shirts	£104	£0	£0	£104			
Thank you vouchers	For families	£160	£160	£160	£480			
Books	Given to each child as thank you	£61	£61	£61	£182			
TOTAL		£670	£567	£567	£1,104	£368	£47	£46
OVERALL TOTAL		£7,139	£5,394	£5,394	£17,227	£5,742	£736	£721

Source: SCUK programme delivery costs

Notes:* these costs are fixed per school (and not related to the number of target families per school). ** The total number of families/children per school per year is calculated from the numbers of families/children allocated to receive the programme divided by the number of schools in the trial. (See CONSORT flow diagram). These numbers are 7.8 and 7.9 respectively.

Table 28: Costs to SCUK (with average no. of families at 12)

Costs to SCUK per school							
		Year/ cycle 1	Year/ cycle 2	Year/ cycle 3	cumulative total	average cost per year	cost per target family/child per year
Standard programme costs							
TOTAL		£6,504	£4,862	£4,862	£16,228	£5,409	£451
Trial specific costs							
TOTAL		£787	£683	£683	£1,453	£484	£40
OVERALL TOTAL		£7,290	£5,545	£5,545	£17,681	£5,894	£491

Source: SCUK programme delivery costs

7 Interpretation and discussion

7.1 Interpretation of key findings

In this section, we draw together the key findings from the impact and process evaluation strands of the study. We discuss them in light of the theory of change for the study, the implementation protocol for the programme and previous research.

Primary outcome: communication

This evaluation found no evidence that Families Connect had an impact on children's receptive vocabulary (as measured by the BPVS3), either immediately after the programme or six months later (the latter being the primary outcome for the trial). The theory of change for Families Connect posits that improvements in children's communication skills are intermediary outcomes, hence exploring these six months post-programme. Such improvements are expected to derive from improvements in parents' parenting skills and changes to the home learning environment which are anticipated to develop during the programme.

Previous research into Families Connect has found positive outcomes in BPVS3 scores from pre to three month follow up for children who have taken part in the programme, with no statistically significant change in children in a comparison group in the same time period (Bradley *et al.*, 2016). Note, the study used a quasi-experimental design; schools nominated comparison children; groups weren't randomised. NFER's further analysis of previous Families Connect data also provided preliminary evidence that Families Connect had a beneficial effect on pupils' vocabulary immediately after the intervention (when analysing a dataset of matched pupils at baseline and follow-up). However, there were mixed results regarding the effect of time point on BPVS3 scores (Rennie and Styles, 2019). Individual time point regressions showed a distinction between follow up time point 1 and time point 2, however, in multilevel models there was no evidence to suggest a differential effect.

The results from our RCT do not mirror previous indicative findings relating to improved communication (as measured by the BPVS3). It could be that the mechanisms for improving communication are more complex than just improvements to the home learning environment. *Sustaining* any changes in the HLE would seem to be important, as well as the nature of any changes in the HLE, in particular in how parents support their child's learning. Findings from the process evaluation suggest that whilst parents were continuing to use the games and activities learnt on Families Connect in the home with their children, their focus was more on supporting their child's social and emotional development (a key area that parents enjoyed and learnt from in the programme) and continuing established routines (around homework and bedtimes), rather than necessarily on language and communication. Similarly, where there were siblings in the family, the parents' focus was improved parenting across all their children in the longer-term, not just the Families Connect child. Whilst communication is embedded throughout the whole programme, this might need strengthening through for example, direct follow-up activities in schools or greater encouragement for parents to focus on language and communication at home. It may be that post-programme there is insufficient sustaining of extending vocabulary and language in the home, to improve results beyond those of a control group. We know from other research that parents play a

key role in children's language development, and that socio-economic status affects language input (for example in terms of using a range of vocabulary and complex sentence structures) (Luo *et al.*, 2016; Law *et al.*, 2013). It is also worth noting that the BPVS3 measured children's receptive vocabulary; it could be that this outcome was too narrow to pick up wider aspects of children's communication. Further consideration needs to both the programme and its theory of change in terms of how it supports children's language development, and to the most appropriate measurement of that expected change.

Secondary outcomes: numeracy

Similarly, our evaluation found no evidence that Families Connect had an impact on children's numeracy skills (as measured by the PUMA), either immediately after the programme or six months later. Developments in numeracy sit alongside improvements to children's communication skills in the theory of change. However, they are framed around improvements in children's interest in and understanding of numeracy, rather development of particular numeracy skills. It could be that the programme itself does not focus on the broad numeracy skills assessed by PUMA (which for summer Reception (P1 in Scotland and Y1 in Northern Ireland) includes number, operations, fractions, measurement and geometry). Certainly the two sessions dedicated to numeracy in the eight-week programme focus very much on counting and talking about numbers in everyday contexts (house numbers, the number of red cars you might see on the way to school), rather than more specific numerical operations, fractions etc. Furthermore, given the number of programme sessions usually required to make an impact, for example as indicated by the EEF Toolkit, two sessions are unlikely to have much influence on attainment.

Secondary outcomes: home learning environment and parenting outcomes

This evaluation found evidence of a positive effect on home learning environment (parents in the intervention group had a higher score on the HLE scale than control parents by 1.7 points (effect size 0.36, $p < 0.001$). The HLE scale measures a range of interactions between parents and children at home, around home computing, one-to-one interaction, expressive play and enrichment outings. Immediately following the intervention, parents who had taken part in Families Connect were engaging in more learning related activities with their children at home, than the parents of families who had not yet taken part. Examples from the process evaluation included: playing games and activities from the programme at home with their children, establishing homework schedules and supporting bedtime routines.

We also found evidence of a positive effect on parents' self-efficacy (0.996 points) (effect size 0.21, $p = 0.01$). This means that parents who had taken part in Families Connect reported feeling more efficacious with regards to supporting their children's education, than parents who had not yet taken part. The PSE scale focuses on parents' beliefs about their ability to influence their child's educational outcomes. The results reflect findings from the process evaluation, where parents described how their confidence, motivation and ways in which their parenting could support their child's development had all improved. This very much reflects the immediate elements of the theory of change, which in turn become mechanisms for change in how parents continue to interact with their children.

We found no evidence that Families Connect made a difference to parents' role construction (i.e. what parents feel they should be doing as a parent to support their child's learning) compared with those who had not taken part in Families Connect. Perhaps it is unsurprising that what parents feel they should be doing is unchanged – the programme doesn't attempt to tell parents what to do, and certainly parents we interviewed felt the programme reinforced rather than changed their ideas about their role. (It is worth noting however, that parents' self-select to take part in Families Connect, and it could be that those who do participate have a greater sense of confidence in or understanding of their parental role, than perhaps harder to reach or more vulnerable parents who might not take part.)

Taken together, the results from these three areas show that parents feel more able to support their child's learning and make positive changes in the home environment as a result of taking part in Families Connect. This reflects the theory of change, which particularly highlights the immediate outputs from the programme as being improvements in parents' confidence, motivation, and engaging in positive activities with their child. The theory of change suggests that changes in the HLE take more time to establish. However, our evaluation suggests that changes in the home, particularly those directly related to the programme, can be immediate (such as using the games and activities learnt on the programme). A question might be how to continue to sustain and build on these changes to then impact on children's attainment (as discussed above).

It is also worth noting the high response rate to the parent questionnaires (83 percent overall; 80 percent intervention 85 percent control), which was a key achievement in the project. The parent questionnaire was completed in week 8 of the programme by intervention group parents, and during that same time period but in a separate coffee morning or sent home in bags for parents in the control group. It is therefore worth noting that a substantial minority of intervention families did not attend the programme at all, and so would not have been present in the week 8 session and therefore may not have completed the questionnaire. One caveat therefore to our positive results is that the findings are related to parents who attended Families Connect (or certainly those who attended in week 8) rather than the whole intervention cohort. (Indeed, just under two-thirds of non-completed parent questionnaires were from families who did not attend the programme at all.) A further caveat is that the questionnaires are self-report and completed in different situations (in particular that the intervention parents were attending their last programme session, which focuses on celebration, reflection and feedback; the control parents either completed it in a group coffee morning or on their own). Completer bias is therefore a caveat relating to these results.

Secondary outcomes: social and emotional outcomes for children

Families Connect has a strong focus on social and emotional development – three of the sessions are dedicated to this area, and moreover the themes from these sessions (such as using praise and listening to your child) then run throughout the whole programme. Outcomes related to this area are arguably therefore as important as the primary outcome for the trial.

The evaluation found a positive impact on children's prosocial behaviour scores six months after taking part in Families Connect (according to teacher completed SDQs)(effect size 0.2, $p = 0.05$), with children in the intervention group having higher scores than those in the control group. We found no evidence of an effect on children's total difficulties score or their impact score. The

evaluation also found a similar pattern in teachers' ratings of Child Softer Skills (CSS) to those of prosocial behaviour, suggesting a positive effect at six months (effect size 0.17, $p=0.06$).

Taken together these results about children's strengths and difficulties and softer skills point towards some longer-term (at least at six months after the programme) effects for children in terms of their outward facing behaviours. The prosocial scale evaluates how often a child engages in behaviours that are intended to 'benefit one or more people other than oneself – behaviours such as helping, comforting, sharing and cooperation'; and the CSS scale explores children's attitudes and behaviours towards learning. This finding links well with the theory of change, and with the more immediate improvements seen in the home learning environment (HLE scale) and parents' self-efficacy (PSE scale, immediately after the programme). It is also borne out in the qualitative data where parents talked about continued improved relationships with their children and sharing learning activities with other children at home. Perhaps it is unsurprising that there is no evidence of a difference between intervention and control children in terms of their total difficulties score which evaluates the risk of mental health disorder (not a direct focus of the Families Connect programme). Interestingly, whilst the theory of change might expect the impact of any behavioural difficulties in the classroom to improve (i.e. the impact to reduce), teachers rated the impact score of both intervention and control pupils similarly. The SDQ impact scale and its score evaluates any behavioural or emotional difficulties in terms of chronicity, distress, social impairment and burden to others. It could be that impacts in the classroom may take longer to notice; or perhaps chronic and distressing behaviours and their impact on others require other kinds of intervention to address these issues.

It is worth noting the timing of the SDQs and who completed them. Immediately after the programme they were completed by the children's usual class teacher. Whilst they had not been directly involved in Families Connect, they would have known which children had experienced the programme and which were in the control group, and one might have expected that their responses about the children's behavioural and emotional strengths and difficulties would be influenced by knowledge of group allocation. They were asked to think about the child over the last month, as they would have seen them – and this knowledge would include in the classroom, in the playground as well as any interactions with the parent at the beginning or end of the school day. That said, there were no appreciable differences immediately after the programme – perhaps it was too soon to pick up any changes, perhaps there was no 'halo effect' (the tendency for positive impressions of the programme in one area to positively influence opinion or feelings in other areas) of the programme. Six months later, the SDQs were completed by a new class teacher. It is less likely these teachers would have been influenced by group allocation being further on in time from the intervention and in a new academic year (and moreover, only in two cases was the new class teacher a CP). It is worth noting that the SDQ instructions ask teachers to think about the child over the last month when completing the questionnaire. To ensure that teachers had sufficient time to get to know the children in their new class, the second follow-up SDQs were completed towards the end of September/early October in the main phase. In the booster phase, second follow-ups took place in January, and so teachers had a term to get to know their new class before completion. The positive results indicated by the teachers at second follow-up (for prosocial behaviour at CSS), therefore seem unlikely to be biased and were indicated even in a short (but reasonable) time for teachers to get to know the children.

Disadvantage

Families Connect aims to work with families from disadvantaged backgrounds by both working in schools in areas of disadvantage (as indicated by high levels of FSM or other similar indicator) and ensuring at least 20 percent of families taking part are from families eligible for free school meals. 56% of families involved in our trial were from lower income households (annual income <£20,000) and 40% were eligible for FSM. The intervention and control groups were not balanced in terms of disadvantage. There were higher levels of disadvantage and low income in the treatment group. We found no evidence of an effect for disadvantaged children in terms of the primary outcome – receptive vocabulary. When comparing children from low income households in the intervention group with those in the control group, there was no difference.

Similarly, Families Connect had no impact on vocabulary outcomes for SEN children; when comparing SEN children in the intervention group with those in the control group, there was no difference.

Attendance (compliance)

Attendance at the eight-week programme was reasonable; 66 percent of children in the intervention group attended with their parent/carer at least one session from each themed area and at least five sessions in total which were the parameters used in this trial (24 percent did not attend at this level, and there was 10 percent missing this data). 38 percent attended all eight sessions. That said, a substantial minority did not attend any sessions at all (16 percent). These children (39) and their families were spread across schools, and there were no schools where no families attended at all (although in one school, half of the eight intervention children and their families never attended). This links with our qualitative data and the implementation feedback data collected by SCUK, where schools did not raise attendance as an issue. They felt that most families had attended, and where they had missed a session or not attended there were stated reasons (such as shift work, or family illness).

Attendance (according to the minimum compliance criteria set out above) did not make a difference to the primary outcome; similarly overall attendance did not make a difference.

Given that the balanced content of the programme was felt to be one of its more important features (covering social and emotional, communication/literacy and numeracy themes), it is positive that two-thirds of the children and their parent/carer experienced each of these areas, but also perhaps concerning that one in four did not get this broad input (note, there was 10 per cent missing data).

Implementation (delivery and fidelity)

Perceptions and experiences of delivering and taking part in the programme were overwhelmingly positive. The quality of training and delivery manual was particularly praised, and the facilitative and reflective approach to delivery was felt to be effective. Participants enjoyed all of the sessions especially those on social and emotional development, and they valued the parent time where they shared experiences with peers and the dedicated child and parent time for quality one-to-one time with their child.

Senior leaders and practitioners gave positive ratings across all areas in the implementation feedback with SCUK (for example, the programme was manageable to deliver, the strategies for

recruiting and engaging parents were appropriate, and there was adequate time for planning and preparation).

This efficacy trial set out to explore the impacts of a particular model of Families Connect – one which SCUK felt had some critical features of implementation, namely to be run by two school-based Community Practitioners so that they knew the school context and families well, and in first and second cycle schools. This approach avoids third cycle schools where Families Connect activities and parental engagement strategies might be more widely embedded. It is of note then, that a proportion of schools (seven of the 30 who implemented Families Connect) delivered the programme with an external practitioner alongside one member of school staff (rather than with two members of school staff). Given the positive feedback from all schools, this change in delivery model appears not to have influenced experiences of the programme. It may even have helped schools with any burden of releasing staff for planning and delivery time (a suggestion made by some senior leaders and SCUK). However, it may have reduced the potential for staff to build ongoing relationships and for any ongoing work with families in the school in terms of ‘keeping it going’ (with just one member of staff taking on this work).

Key features (factors, mechanisms, conditions)

This evaluation sought to explore the key and critical features of the programme, with a view to supporting SCUK’s developments around an optimal model. In addition, our evaluation particularly sought to establish what conditions in schools appear to support effective implementation (an area not previously focused on by SCUK in-house evaluations). Since designing the RCT, SCUK has continued to develop different versions of Families Connect, including a model for children under the age of 4 and models that build up local capacity, for example amongst parents, to run further cycles of the programme. Rather than providing a set of quality criteria or critical features to test in the trial, SCUK instead used their implementation feedback sessions to gather feedback on key features of the programme and how it was implemented in schools. This data, alongside our qualitative data, helps us to offer areas for optimisation, rather than set out an optimal model.

The critical features of the programme appeared to be the range and balance of topics (although greater focus may be needed throughout the programme on language development if this is indeed one of the main expected outcomes – see Section 8 for further discussion), the structured elements within each session, the facilitative delivery style, the reflective nature of the programme, and the high quality training, delivery manual and ongoing support from SCUK. The key conditions in schools that supported successful implementation included: school leadership committed to the values of the programme; a school ethos that is welcoming and inclusive of all parents and families; alignment with school policies on parental engagement; a whole-school approach to implementing the programme; knowing the families and school community; responding to school context; and school commitment to space, time and resources.

The eight-week programme itself was universally well supported. A potential area for development was the numeracy week on Number Talk, which some practitioners and parents found challenging to fully understand and build on. It might also be worth considering whether to increase the number of literacy and numeracy sessions, and/or the amount of input on these topics; evidence from other evaluations in the [EEF toolkit](#) for example suggests that a minimum of 10 sessions on any given

theme is important for making a difference to attainment³⁵ More broadly, it is worth considering how the programme might be developed to further support children's communication: for example, through increasing the number of sessions, greater embedding of communication development and activities throughout the programme, via direct follow-up activities in school, or greater encouragement for parents to continue with communication and language activities in the home.

For programme optimisation, it would seem key to develop further understanding of the different nuances in terms of who delivers the programme – in particular, by two members of school staff, or supported by external practitioners. This would help to explore for example, differences such as delivery style, content knowledge and relationship with parents.

Another area to consider is the school environment. Most interviewees talked about the school environment as a moderator – with the assumption that Families Connect would be more effective in a school that was committed to the aims of Families Connect and already had a supportive and inclusive ethos around parental engagement. Interestingly, school conditions were not being thought of as key mechanism for change. Our research suggests that more could be made of this to optimise the programme. For example, it is worth considering how to enable class teachers to be fully part of the whole school approach to the programme, to enable them to build on the work from Families Connect in the classroom with the children and indeed with parents during and after the programme.

Further discussion of plans to develop the programme, and embed learning from it, are outlined in Section 8.

7.2 What are the strengths and limitations of the evaluation?

This evaluation had a number of design and data collection strengths including the following.

Design

- Randomisation in view of obtaining unbiased causal conclusions.
- A six-month waitlist design, meaning that all families recruited and randomised in the trial had the opportunity to take part in Families Connect (the control families waited until the Autumn term 2019 to take part in the programme; Spring term 2020 for the booster phase)
- The collection of outcome data covering all areas of expected outcome for children and parents in line with the logic model/theory of change. This coverage provides a comprehensive picture of outcomes.
- The collection of outcome data from different perspectives, based on prior secondary analysis of data which informed the selection of outcome measures (Rennie and Styles, 2019). In particular, to include the parents' perspective on home learning environment and their parenting approach, rather than rely on teachers for this perspective or not include it at all.
- A qualitative process evaluation exploring implementation and experiences in each of the nations.

³⁵ <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit>

Data collection

- High response rates to all impact data collection, aided by good communications with all schools during the trial, flexibility to work around different term dates across the regions, and on the ground support from CPs and SCUk staff where needed.
- The trial exceeded the target number of families required – due to the instigation and additional funding of a booster phase.
- Family Register data to explore attendance, for which SCUk allowed NFER to amend the form to support the matching of pupil data to the RCT evaluation records.

The evaluation had a number of limitations (affecting implementation, design and data collection), some with solutions and mitigations to limit impact on the robustness of the results.

Implementation

- Randomly allocating families within schools, meaning that some friendship groups were split up. This appears not to have resulted in non-compliance or contamination, but instead, some schools and parents did not sign up to the trial.
- A shorter time period than usual for some regions in which to recruit schools and run training. This was an issue in one region where recruitment of families needed to start before CP training was complete.
- A shorter time period than usual for some regions and schools in which to recruit families. This was a particular issue in the booster phase, and so a more targeted rather than universal approach to engaging families was adopted.
- Being unable to fully share Families Connect practices across the school (such as with resource boards, or promoting it to other parents) in order to avoid contamination. This may have affected schools' ability to embed and sustain parental engagement practices after the eight-week programme and before waitlist delivery.

Design

- A follow-up survey with parents could have yielded useful data on whether impacts for parents had sustained.
- Limited process data collection from schools themselves beyond the eight-week programme. Given the outcomes seen at six months, it would be useful to understand better any embedding or further work being done in schools around parental engagement and sustaining the positive outcomes found around social and emotional development and home learning environment. This would seem all the more important to understand given the current situation relating to Covid-19 and how schools and families are adapting to supporting children's learning and social and emotional development in new ways. Section 8 provides further discussion on this.
- Possible limitations relating to self-report. The parental engagement measures were all based on parents' own responses, which could be subject to self-reporting bias. In particular, the HLE scale reflects some activities encouraged in the Families Connect programme, and therefore parents may be more likely to report higher levels of those activities after having taken part in

the programme due to being more conscious of them. However, there were differential effects between the different scales. Parents in the intervention group did not have higher scores on the PRC scale after the intervention, i.e. the control and intervention parents felt the same levels of responsibility towards their children. Moreover, in the interviews, parents described positive examples of enhancements to the home learning environment. This would suggest that intervention parents were not answering higher levels on all scales due to bias, but reporting genuine levels of activity and opinions.

- Self-report of SEN issues by parents may have led to some under-reporting, and limited the extent to which children with SEN were identified in the study. Future studies may wish to collect this data direct from schools.
- Inconsistency in those who scored the follow up measurements for pupil non-attainment outcomes (i.e. the SDQ and CSS). At each time point this was the child’s current class teacher – and as children had moved academic years, was therefore usually a different teacher at follow-up one and follow-up two (although as discussed above, the risk of any bias between intervention and control reporting is low).

Data collection

- Initially the target recruitment figures weren’t met for the trial. A booster phase was put in place, running one term later. Practicalities around term dates and cost were considerations: SCUK provided funding for this strand of the evaluation. Contingency planning for under-recruitment might be needed in trials involving families.
- Limited longer-term follow-up with parents. Follow-up interviews proved difficult to book in. A thank you gift voucher acted as an incentive to secure a small number of follow-ups.
- Limited data on implementation quality criteria to fully answer IPE RQ5 using a a deductive approach. Instead we were able to use perceptual data and ratings to conduct inductive analyses of the factors that appear to be important in effective delivery.
- One school started waitlist delivery before all teacher completed SDQs were complete. The primary outcome (BPVS3) was completed, and it is unlikely that the teacher SDQs would be influenced by their knowledge of the children having taken part in several sessions of Families Connect or indeed the children themselves displaying notable changes. The teacher is asked to complete the SDQ thinking about the child in the last month.

7.3 Generalisability and transferability?

This was an efficacy trial, involving a small number of schools in each of five regions. Given this and the slightly different strategic approaches adopted in each region, the findings cannot be generalised to the whole population of Families Connect schools. In addition, different implementation models were adopted across the sample – for example, some used external providers delivering the programme alongside a school-based Practitioner. We cannot therefore say that these results relate to the model as set out in the implementation protocol.

The results do, however, build on previous research into Families Connect, and point to elements of the theory of change that are borne out in practice, such as the steps from immediate outcomes

relating to parents' confidence and efficacy, and home learning environment, with outcomes for children's social and emotional development surfacing later. The results also chime with wider research on parental involvement, that home learning environment is important, and that schools and programmes have the potential to enhance HLE.

7.4 What are the possible areas for further research?

Given the positive immediate impacts on home learning environment, it might be important to research whether and how these are sustained, and whether any impacts in the areas of communication, literacy and numeracy occur later. In particular, this trial has revealed the importance of measuring parent outcomes. It might be important to also measure these longer term to understand if and how parent outcomes are sustained. Likewise, further follow-up research with schools that have taken part in Families Connect to understand how they continue to develop their parental engagement strategies would be valuable.

Further research into the mechanisms of change is needed, to understand more about how parents help their children with communication, literacy and numeracy at home in view of ultimately improving attainment. Further consideration of when best to measure outcomes for children against the Families Connect logic model would be useful. Exploration of other outcome measures/instruments might also be useful, to understand if other aspects of communication (and literacy/numeracy) are being developed, that were not captured by the instruments used in this evaluation. In addition, further exploration of sub-scales within the instruments used in this trial might prove valuable – for example, to explore parent-child interactions using the HLE and SDQ datasets. It is also worth noting that SCUK have developed an integrated revised programme - inclusive of children from age three, and so it could be worth tracking children's communication and social and emotional development from an earlier age (especially as we know that the critical time to intervene is early (Luo *et al.*, 2016; Laws., 2013).

In addition, exploration of the different models of Families Connect could be carried out. Given these appear to be regional or localised models, furthermore qualitative country specific evaluation would seem important.

In light of the current situation around Covid-19, further research into how our trial schools and other Families Connect schools are supporting families and children with learning at home and with returning to school could be very informative to understanding parental engagement, and children's wellbeing more widely. Exploration of how parents and children who have taken part in Families Connect have engaged during lockdown could be valuable. Children and parents enjoyed the time they spent together on the programme, and there may be positive benefits to social and emotional wellbeing from this now and in the future, for both parents and children. Families Connect schools may be able to provide case studies of how they and their school community has handled the situation.

8 Implications and recommendations for policy and practice

8.1 What are the implications and recommendations for the developing the programme?

The structure and content of the eight-week programme itself was positively received by those delivering and participating in the programme. The delivery manual and resources were felt to be high quality, and the facilitative delivery style was particularly effective in engaging and supporting participants. However, SCUK may wish to develop a number of areas in the programme including:

- greater support to schools in sustaining the learning from the programme beyond the eight-week programme ('keeping it going'), specifically for the families that took part in the programme
- support schools to further enhance their parental engagement strategies – perhaps as a specific discussion point in the post-programme site visit
- adjust the session on 'Number talk' (week seven), to include further practical examples to help practitioners' and parents' understanding – further feedback on this particular session might be useful to help SCUK understand any challenges with the session
- consider how developments in communication and language can be further supported via the programme – for example through greater embedding throughout the programme, specific follow-up activities in schools, developing further activities around communication, literacy, language and numeracy for parents to use in the home after the eight week programme, greater encouragement for parents to focus on communication activities at home, or via the social and emotional development aspects of the programme (where positive outcomes were evidenced in this trial)
- consider increasing the number of sessions on literacy and numeracy, to help support children's development and improve outcomes in these areas
- consider whether any other inputs/mechanisms need enhancing in the theory of change in order to support outcomes in communication, literacy and numeracy;
- further enhance the whole-school approach to the programme and to parental involvement (i.e. SLT, CPs, and class teachers/TAs involved) – as this seemed to be a key mechanism school's perceptions of effectiveness
- develop monitoring and quality procedures to maintain the quality of the programme going forward but include external providers and/or school-school support for implementation.

8.2 What are the applied developments to Families Connect?

A revised version of the programme is also currently in development which is inclusive of nursery age children (3-6 years) due to be delivered from 2021. As a result of the inclusion of younger children and ongoing facilitator feedback, more focus is placed on adapting the activities on children's interests and abilities. The number talk session has also been changed based on the feedback that parents and facilitators found this challenging. There has also been an opportunity to

strengthen the content of Families Connect to support children’s communication outcomes and embed the principles of the programme in families and in schools. The key areas of development to the programme are: applying a more child centred approach; utilising more of the expertise of facilitators to share practice; celebrating difference and inclusion; greater focus on learning through play; bolstering parental empowerment; and developing a listening culture in which children, parents and staff can share their views to shape their experiences in the setting. The aim is that through these changes Families Connect will be more embedded in the longer term as both families and facilitators will be more comfortable and confident in their contribution, feel more ownership over the activities and their engagement in the programme.

Further attention has also been placed on supporting children’s communication outcomes through ongoing parental interaction. Programme facilitators are encouraged to emphasise the importance of children’s language development within every session providing examples of how parents can support children’s speech and language development by introducing new vocabulary, listening to their child, singing songs and rhymes, extending conversations and engaging in positive interaction. More effort has also been made within the programme to scaffold and support parental engagement in children’s play based learning in the home. More time is made within the sessions to support parents to adapt the activities within the home environment to suit children’s needs, interests and abilities and to feedback on their experiences. Facilitators are also encouraged to enrich Families Connect, drawing on their own practice and knowledge and by working with parents to develop what works for them.

8.3 What is the key learning for the wider early years’ sector?

This study was funded as part of the Nuffield Foundation’s early years’ evaluation grants to generate evidence on supporting children’s development in the early years of their learning. Our study had a particular focus on how schools can support parental engagement (both in their child’s learning and with the school), and on how parents’ can develop the home learning environment. Our study reflects findings from other research, about the importance of the HLE. Schools and programmes have the potential to enhance the HLE which is recognised to be important for parent-child relationships and children’s longer-term outcomes. The SEED study (Melhuish and Gardiner, 2018; Melhuish and Gardiner, 2020) for example, found that high home learning environment (HLE) scores were associated with higher levels of prosocial behaviour and higher scores for Personal Social and Emotional Development on the Early Years Foundation Stage Profile (EYFSP) (DfE, 2016). Moreover, other research has shown that a high-quality HLE also operates independently from social class, which means that children from deprived backgrounds with a high quality HLE have better outcomes than children from deprived backgrounds with a lower quality HLE (Melhuish, 2010; Sylva *et al.*, 2007). A focus on the home learning environment, as part of parental engagement programmes, therefore seems particularly important.

Interestingly, the [EEF toolkit](#) suggests that although parental engagement is consistently associated with pupils’ success at school (through a ‘well established and long history of research into parental engagement programmes’), they say there is surprisingly little robust evidence about

the impact of approaches designed to improve learning through increased parental engagement³⁶. Our study found evidence of increased parental engagement in terms of improved HLE and parents' self-efficacy; but we did not find evidence of impact on children's receptive vocabulary or numeracy. Given these findings, again, understanding how best to support such wider impact through improvements to the HLE including through inputs beyond that of a single programme therefore seems crucial. Enhancing organisational connections across the sector, so that schools and communities can have access to and build upon parental involvement programmes seems important. Being able to signpost parents to other support might also need developing within such programmes (we found positive examples of this for families in the Families Connect programme). Moreover, greater clarity in, and testing of, programmes' theories of change regarding the nature of outcomes might be needed. Improving social and emotional wellbeing and parental engagement might be useful in their own right; and continuing to improve access to high quality childcare and early years' education would seem important.

Current government policy particularly highlights the importance of the home learning environment. The Government's Hungry Little Minds campaign aims to support parents with fun activities for children from newborns to five year olds, including ideas to help in the Covid-19 lockdown. Given the current situation around Covid-19, the early years' sector might have a particular role to play in supporting families with learning at home and returning to school/early years' settings. Parental engagement during these times seems crucial.

8.4 Concluding comment

Both the quantitative and qualitative findings from our study indicate that Families Connect increases parental engagement in children's learning, improves parental skills, and improves children's pro-social behaviour – all of which are valued in school settings and may have longer term benefits (Asmussen *et al.*, 2016). These outcomes are strongly reflected in the programme theory of change. However we found no impact on receptive vocabulary or numeracy at six months after the programme. Higher levels of attendance did not make a difference to vocabulary outcomes; two specific sessions on each topic may be insufficient. Further consideration needs to be given to the theory of change and focus of the programme in these areas, particularly where it aims to support those in lower income households (where research shows that children's language development lags behind their peers (Luo *et al.*, 2016; Law *et al.*, 2013). We know from previous research that the highest benefit to academic achievement is gained with an early intervention, but also that there must be sustained high quality educational support (Heckman, 2006 and 2011). As noted previously, further research and development into the earlier years' Families Connect programme could be valuable, in order to track children's earlier development. The programme is relatively high cost (per family), and so further exploration of parents' social capital, children's longer-term social and emotional and learning outcomes and schools' parental engagement strategies would be useful to understand the cost effectiveness of the programme. With limited funds, and if specific intervention is needed to develop children's language, literacy and numeracy, schools might consider accessing specialised literacy/numeracy interventions for those on low

³⁶ <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/parental-engagement/>

incomes. That said, given the positive engagement and pro-social outcomes achieved and families' overwhelming positive experience of the programme, continuing this kind of spend on parental engagement may be particularly important at a time when supporting the wellbeing of children and families is heightened and may have longer term ramifications.

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Appendix A: School MoU

Agreement to participate in the Randomised Controlled Trial Evaluation of the Families Connect Programme

Memorandum of Understanding (MOU) Information Sheet

Please sign two copies of this MoU, retaining one and providing one to the Save the Children UK (SCUK) representative. Alternatively, please scan and email this agreement to FCTrial@nfer.ac.uk

School name:

Aims of the evaluation

The Nuffield Foundation has commissioned the National Foundation for Educational Research (NFER) to evaluate the effectiveness of the Families Connect programme through a Randomised Controlled Trial (RCT).

The evaluation will explore and evaluate:

- the impact of the programme on children’s literacy, numeracy, social and emotional skills
- the impact on the home learning environment
- the implementation of the programme (including family attendance and how well it was implemented)
- children’s, parents’, Community Practitioners’, teachers’ and school leaders’ views on the programme and its benefits.

What is Families Connect and how does it work?

Families Connect is a parental engagement programme for families with children aged 4–6, delivered in schools with a high proportion of children on Free School Meals (FSM), or similar indicators of disadvantage, across the UK. The programme uses play as a vehicle for learning and interaction with, and between, parents and children. It focuses on three key areas: social and emotional development; literacy and language development; and numeracy and mathematics. It aims to provide parents with confidence and skills to support their child’s learning in the home environment, build relationships between parents and schools, and make a difference to children’s communication, literacy, numeracy and social and emotional outcomes.

Trial information for schools

All schools that participate in the trial will need to assign two Community Practitioners (CPs) who will be trained externally to deliver Families Connect in their school once a school has been recruited. One of these community practitioners will be the designated key contact for the trial throughout the period. The CPs will be members of teaching staff, teaching assistants, or family support workers from your school. They must not be teachers/teaching assistants of children in Reception or Year 1 in England/Wales, Y1/Y2 in Northern Ireland, P1/P2 in Scotland, in 2018/19.

There are five stages to this trial, set out below.



Recruitment data collection

Once schools have signed up to the trial, they will be asked to recruit up to 20 families with children in Reception (P1) and/or Year 1 (P2) onto the trial. Parents will complete a consent form on behalf of themselves and their children when they sign up to the trial. When they sign up to the trial, parents will also complete a short questionnaire so that we have some information about the families taking part.

Once these families are recruited, CPs will upload some school and pupil information to NFER's secure portal. This will include a list of the names and dates of birth of the Reception (P1) and Year 1 (P2) pupils signed up to the trial. We will provide CPs with a template for completion which you will need to share with us using NFER's secure portal. Please be assured that this process is very easy to complete and NFER staff will be happy to help you with any queries during the process.

Baseline assessments

An important aspect of the evaluation is to measure pupils' performance in both the control and intervention groups. For this evaluation we will use the British Vocabulary Picture Scale 3 (BPVS3) assessment. All pupils recruited to the trial will be required to complete the assessment, delivered one-to-one by a test administrator who will visit your school to do this; no writing by the pupils will be required for the BPVS3.

We will also ask each pupil's class teacher to complete a short Strengths and Difficulties Questionnaire in relation to each recruited pupil (this questionnaire also includes some questions about pupils' softer skills).

Random allocation of families

After the BPVS3 assessment sheets, SDQ questionnaires and parent questionnaires have been received at NFER, all relevant families will be randomly allocated into either the intervention or the control group. Schools will be informed which group their families and children have been allocated to in mid-late January 2019 – this is a revised timeline.

The children and families allocated to the intervention group will receive the Families Connect programme in Spring term 2019, while the children and families allocated to the control group will take part in Families Connect in Autumn term 2019. CPs will complete an attendance register for each session for the Spring term group.

Families must not switch groups.

First follow-up

During week 8 of the Families Connect programme parents in both intervention and control groups will be asked to complete a parent questionnaire.

After the end of the 8-week programme, all pupils will once again be asked to take the BVPS3 assessment with the addition of a PUMA maths assessment, both administered by a test administrator who will visit your school.

We will also ask class teachers to once again complete the softer skills and SDQ questionnaires for each pupil in both intervention and control groups.

Second follow-up

The second follow up will take place in September 2019 and will comprise all pupils taking the BVPS3 and PUMA assessments, once again administered by a test administrator who will visit your school.

We will ask class teachers to complete the softer skills and SDQ questionnaires for each pupil.



Once the second follow up has been administered the control group will begin their Families Connect programme

Summary of data requirements

For all families/children in the trial

The following must be completed for all families/children in the trial (i.e. in both the intervention and control groups):

- CP to provide required data on the school and on each pupil and family
- Parents to complete a baseline parent questionnaire
- Pupils to complete BPVS3 at baseline (with a test administrator)
- Teachers to complete an SDQ for each pupil at baseline
- Parents to complete a questionnaire during week 8 of the Families Connect programme
- Pupils to complete BPVS3 and PUMA assessments for follow up 1 (start of Summer term 2019) (with a test administrator)
- Teachers to complete an SDQ for each pupil at follow up 1
- Pupils to complete BPVS3 and PUMA assessments for follow up 2 (in September 2019) (with a test administrator)
- Teachers to complete an SDQ for each pupil at follow up 2
- Schools to complete some follow-up information

In addition, for families/children in the intervention group

CPs/schools must also complete the following for families/children in the intervention group:

- CPs to complete an attendance register during the 8-week programme
- Schools to complete a proforma about delivery of the programme

Schools and participants may also be invited to take part in interviews about their experiences and views of the Families Connect programme. This will be with researchers from NFER or Queen's University Belfast (QUB).

Please keep NFER and SCUUK up to date with any changes in CP, class teacher or headteacher contact details throughout the project.

Save the Children will provide:

- full training for two practitioners to deliver Families Connect
- all relevant printed programme materials



- guaranteed support for two cycles of the programme

Participating schools will receive from SCUK:

- £200 as a contribution towards snacks, play equipment and crèche facilities
- a £150 voucher for the school

As a thank you for contributing to the study, families will receive from SCUK:

- £20 for participating in the project (this is for intervention and control group families, and will be given out after the follow-up parent questionnaire for both groups in Spring 2019)
- a book for each intervention and control group family



Key dates for the evaluation

Key Dates	Activities for intervention group	Activities for control group
September – October 2018	Schools agree to participate in the trial by returning their reply form and signed MoU	
Revised: October – November 2018	CPs trained to administer Families Connect	
Revised November – early December 2018	CPs to provide data on participating families, and parents to complete baseline questionnaires	
Revised: Early January 2019	Teachers to complete baseline soft skills and SDQ questionnaires and pupils to take BVPS3 with test administrator	
Revised: Mid – late January 2019	Families are randomised into intervention and control groups and schools informed of result	
Revised: End January – early April 2019 (Spring term 2019)	All intervention families take part in the Families Connect programme; CPs complete attendance register. Parents complete a questionnaire in week 8 of the programme	Parents in control families to complete the parent questionnaire at the same time as the parents in the intervention group
End of Spring term 2019	Schools to complete a short form about programme delivery	
April - May 2019	Follow up assessments 1 – all pupils to take BPVS3 and PUMA assessments administered by NFER test administrators. Teachers to complete soft skills and SDQ questionnaires on all pupils.	
September 2019	Follow up assessments 2 – all pupils to take BPVS3 and PUMA assessments administered by NFER test administrators. Teachers to complete soft skills and SDQ questionnaires on all pupils.	
October – December 2019		Control group to receive Families Connect programme

Please sign two copies of this MoU, one should be retained by the school and one should be handed to the Save the Children representative.

We commit to the Evaluation of Families Connect as detailed above.

Signed:.....

Date:.....

Name:.....

Role:

School:

School postcode:.....

Key contact name (if different to above)::

Key contact role

Key contact Phone number:

Key contact email address:

Appendix B: Project Information Sheet

Randomised Controlled Trial of Families Connect: Information for schools

What is Families Connect?

Families Connect is a parental engagement programme for families with children aged 4–6, delivered in schools with a high proportion of children on Free School Meals (FSM), or similar indicators of disadvantage, across the UK. The programme uses play as a vehicle for learning and interaction with, and between, parents and children. It focuses on three key areas: social and emotional development; literacy and language development; and numeracy and mathematics. It aims to provide parents with confidence and skills to support their child’s learning in the home environment, build relationships between parents and schools, and make a difference to children’s communication, literacy, numeracy and social and emotional outcomes.

How is it delivered?

Families Connect is delivered through a series of two-hour sessions in school over eight weeks. The timings of the sessions are flexible to suit the families involved (for example, during school, after school or straddling the end of the school day). One hour of each session is for parents only; the other hour is for parents and children together.

Who delivers Families Connect?

Save the Children UK (SCUK) trains two members of staff from each school over two days, to deliver the eight sessions independently. These staff, known as Community Practitioners (CPs), need to be teachers, teaching assistants or family support workers from your school who do not currently teach Reception or Y1 in England/Wales, Y1 or Y2 in Northern Ireland, or P1 or P2 in Scotland, in 2018/19. SCUK provides the CPs with programme manuals, coaching calls and site visits to ensure that they are confident and supported in their delivery.

What activities are involved?

Each session involves a range of activities, techniques and games that parents and carers discuss, try out and practise with their children, in order to consider how they can introduce them into their home environments. SCUK developed the programme in conjunction with experts from the SEAL Programme, the National Literacy Trust and Edge Hill University, to ensure they are grounded in theory and good practice around young children’s learning.

Which schools can take part in the trial?

Country	Required age groups	Level of disadvantage
England	Reception and Year 1	Over 20% eligible for FSM
Wales	Reception and Year 1	Over 25% eligible for FSM
Scotland	P1 and P2	Consult local SCUK manager
Northern Ireland	Y1 and Y2	Over 40% eligible for FSM

Which families can take part?

Families with child(ren) in Reception or Year 1 in England and Wales, Y1/Y2 in Northern Ireland, and P1/P2 in Scotland, in 2018/19 can take part. The trial can run with between 12 and 20 families per school. Families must not have taken part in Families Connect before.

Can schools take part if they've done Families Connect before?

Schools in the trial must be new to Families Connect or only have run it once before in their school. If schools have previously run Families Connect more than once, they cannot take part in this trial.

What are the aims of the trial?

Families Connect is being evaluated through a randomised controlled trial (RCT) to explore the impact of the programme on children's literacy, numeracy, social and emotional outcomes, and on parents' role with their child's learning. The evaluation will also investigate children's, parents', teachers' and school leaders' views on the programme and its benefits.

Who is conducting the trial?

The Nuffield Foundation is funding the Families Connect trial. Save the Children UK (SCUK) is overseeing the delivery of the programme. The National Foundation for Educational Research (NFER) is conducting the trial, with colleagues from Queen's University Belfast (QUB) supporting with school visits and interviews that run alongside the trial.

What will the trial involve for schools?

Joining the trial: Each school will nominate a member of staff as the point of contact for the trial; and sign a Memorandum of Understanding, which should then be returned to SCUK. Schools that join the trial will identify **two members of staff** to be trained to deliver the programme, providing the contact details to SCUK. Schools will then recruit between **12 and 20 families** to take part.

Baseline data: Schools will provide some school information and a list of the families and pupils taking part to NFER. Parents will complete a short questionnaire when they sign up to the trial. Each pupil will complete a short vocabulary assessment administered by a test administrator who will visit your school. Teachers will complete a baseline soft skills and Strengths and Difficulties Questionnaire for each pupil in the trial.

Random allocation: Within each school, families will then be **randomly allocated** by NFER to either the intervention group or the control group. Intervention group families will take part in Families Connect in the spring term (Jan-Apr) 2019. Control group families will take part in Families Connect in the autumn term (Oct-Dec) 2019. **It is very important that families do not switch groups.** CPs will complete an attendance register for each session for the spring term group.

Follow-up data: Parents from both groups will complete a short questionnaire at the end of the spring term 2019. A test administrator will visit your school at the start of the summer term 2019, and again at the start of the autumn term 2019, to administer a vocabulary and a numeracy assessment to all the trial pupils, and collect teacher completed questionnaires about each child. Schools will also provide some implementation and follow-up information about taking part. **It is**

important to have assessments and questionnaire data about every child and family in the trial at baseline, first follow-up and second follow-up.

Some schools will take part in evaluation observations, interviews and case studies involving parents, children, Community Practitioners and other teachers.

Schools will need to provide a weekly snack for children, crèche facilities where needed, and play resources such as magnifying glasses. A small budget will be provided to support with these. All printed programme materials are provided by SCUK.

When will my school need to get involved?

Date	Activity
Sept/Oct 2018	Sign-up to the trial with SCUK and NFER, and identify two members of staff to be Community Practitioners (CPs).
Late Oct – Nov 2018	Community Practitioner training and recruit families to take part including parental opt in and parent baseline questionnaires
Dec 2018	Pupil lists and school information.
Early Jan 2019	Pupil baseline assessments and questionnaires.
Mid – late Jan 2019	Families randomly allocated by NFER to spring term (intervention) or autumn term (control) group. Schools informed of which families and pupils are in each group.
End Jan – early April 2019	Families Connect runs for the intervention group. Site support visits and calls to schools. Interviews and observations in some schools. Schools provide implementation data. All parents complete follow-up questionnaire.
April/May 2019	First pupil follow-up assessments and questionnaires completed.
June/July 2019	Interviews and observations in some schools.
September 2019	Second pupil follow-up assessments and questionnaires, and school information completed.
Oct – Dec 2019	Control group families take part in Families Connect.

How will schools and families benefit from taking part?

Families allocated to both groups will take part in Families Connect – just in different terms, so no one misses out. Two members of staff will receive full training and support from SCUK to deliver Families Connect. Taking part also provides an opportunity for staff who have an interest in educational research or methodology to develop their professional learning. Once trained the CP can run Families Connect in your school going forward.

What happens if a school, family or child wants to withdraw from the trial?

A family, child or school can withdraw from the programme at any point. They can also withdraw their consent for their data to be used in the trial at any time. However, in a randomised controlled

trial all data is important. It is really helpful if we can collect data about all families even if they do not attend all of the programme. The trial team really appreciate schools' and participants' support for the data collection.

How will NFER use and protect the data collected?

All data gathered during the trial will be held in accordance with the Data Protection Act 2018, and GDPR, and will be treated in the strictest confidence by the NFER, SCUUK and QUB. Your school's key contact details and school-level information for the trial will be shared securely between NFER, SCUUK and QUB. All pupil and family-level information and data will be stored securely by NFER, and by QUB where relevant, and only shared with SCUUK anonymously. A Privacy Notice for the study is available.

No school, family or child will be named in any report arising from this work.

How will the findings be used?

The findings from the trial will be freely available on SCUUK, NFER and QUB websites. Publications will include a report, academic papers and policy documents. The findings will be used to inform the development of Families Connect, as well as to help SCUUK, schools and other organisations to make evidence-based decisions to support schools and families in improving children's learning in the early years.

Who can I contact for more information?

Pippa Lord, Senior Trials Manager at NFER, is very happy to answer any questions you might have. Please contact her on 01904 XXXX XXX@nfer.ac.uk. If your query is about data collection or your wish to withdraw, please contact Michael Neaves, NFER Researcher on 01753 XXXX FCTrial@nfer.ac.uk.

Appendix C: Participant Information and Consent sheets

RCT Evaluation of Families Connect

Information sheet for parents

RPO\FCON\55027\p

Autumn 2018

Dear Parent/Carer

Evaluation of the Families Connect programme evaluation (FCON)

Your child's school is taking part in a project that will assess the impact of the Families Connect programme for families with children aged 4–6. The programme is designed to provide parents with confidence and skills to support your child's learning; develop your child's language and communication, numeracy, and social and emotional skills; and build relationships between parents and schools.

There will be eight weekly workshops at your child's school. The workshops will cover topics such as literacy and language development, numeracy and maths, and personal and social education.

You and your child(ren) will be randomly allocated to take part in the workshops in either the Spring term 2019 or the Autumn term 2019. **It is very important that you do not swap groups.** This is so that researchers can see what difference Families Connect makes.

The project is funded by the Nuffield Foundation. Save the Children UK will manage the Families Connect programme, and the research will be carried out by an independent evaluator team from the National Foundation for Educational Research (NFER) and researchers from Queen's University Belfast (QUB).

We are asking you to consent to you and your child(ren)'s personal information to be processed to evaluate Families Connect. We will collect your child(ren)'s data using a:

- short vocabulary assessment (the British Vocabulary Picture Scale) with an external administrator at the start, middle and end of the trial
- short numeracy assessment (Progress in Understanding Mathematics Assessment) with an external administrator at the middle and end of the trial (your child won't need to complete this one at the start)
- questionnaire (completed by your child's teacher) which collects information about their social and emotional development at the start, middle and end of the trial.

Please turn over

This questionnaire data will be provided to the evaluator team and make up part of the data set that is passed on to the organisations listed below, but will never have a name attached to it.

The school will also provide some pupil background data (including names and dates of birth of your child) to the NFER via a secure portal.

By becoming part of the trial, you will also need to consent for you to:

- Complete a parent questionnaire about you and your child at the start and middle of the trial

All of your child's and your information will be held in accordance with the Data Protection Act and will be treated in the strictest confidence by the NFER. Full details of the processing activities are available in our privacy notice. At the end of the trial, assessment and questionnaire data collected by NFER and Save the Children UK in this evaluation will have all identifiable data removed, and be stored in the UK Data Archive for research purposes and stored securely in Save the Children's programme archive.

The overall findings from this research will be included in a publicly available report used to enable organisations like Save the Children UK to support parents and children's learning in the early years and beyond. **Data on schools and pupils participating in the evaluation will be kept confidential, and no child, parent or school will be named in any report arising from this work. You and your child's name will not be included on any data stored at the end of the trial in the UK Data Archive or Save the Children's archive.**

If at any time you wish us to withdraw your child from the study or withdraw their data or correct errors in it, please contact Michael Neaves at NFER FCTrial@nfer.ac.uk or Christine Bradley at SCUK XXX@savethechildren.org.uk.

What do I need to do now?

If you would like to be part of the trial and you give consent for your data and your child's data to be given to NFER please complete the slip overleaf and return it to school.

The programme is for children aged 4–6. If you have more than one child aged 4–6, and would like them to take part, please complete a separate consent sheet for each child.

If you have any questions about the research, email the team at FCTrial@nfer.ac.uk and we will be happy to answer any queries you might have.

A Privacy Notice with information about why we are collecting your data and how we will use it and store it, is available here: https://www.nfer.ac.uk/media/3107/fcon_parent_privacy_notice.pdf

More information about the trial can be found here:
https://www.nfer.ac.uk/media/3114/fcon_information_sheet.pdf

.....
RPO\FCON\55027\p

Families Connect programme pupil data and Parent consent form

Please tick this box to confirm your opt-in consent to being part of the trial

Please complete this form if you would like to be part of the trial and for your and your child's data to be provided to NFER. If more than one of your children is involved in the trial then please complete a separate form for each child.

School name

.....

Your child's full name

.....

Year group.....Class name/Teacher.....

Your name (please print)

.....Signed.....

Date

Please could you or your child to return this form to the school contact

Please return this slip to the school within 5 days.

Appendix D: Randomisation syntax

* Encoding: windows-1252.

dataset close all.

* Encoding: windows-1252.

Title 'Randomisation for first block of the FCON trial - 22.01.19_R'.

subtitle 'Block one'.

GET DATA

/TYPE=XLSX

/FILE='I:\FCON\FCON family list for randomisation.xlsx'

/SHEET=name 'Sheet1'

/CELLRANGE=FULL

/READNAMES=ON

/DATATYPEMIN PERCENTAGE=95.0

/HIDDEN IGNORE=YES.

EXECUTE.

DATASET NAME DataSet1 WINDOW=FRONT.

*Check there are no duplicates in family id.

Sort cases by FamilyID.

Match files file = */by FamilyID/first =f/last=l.

Crosstabs f by l.

Delete variables f l.

Frequencies NFERNO P1_YOB P2_YOB.

*Check how many siblings we have.

Frequencies P2_DOB.

*13 *2 = 26 = 6.88% of the sample.

Do if nvalid(P2_DOB).

Compute Sibling = 1.

End if.

Execute.

Do if (P1_DOB = P2_DOB) and (P1_MOB = P1_MOB) and (P1_YOB = P2_YOB).

Compute Sibling = 2.

End if.

Execute.

Frequencies sibling.

Sort cases by Sibling Schoolname.

Add value labels Sibling 1 "Siblings" 2 "Twins".

*How many schools do the siblings come from?.

Temp.

Select if nvalid(sibling).

Crosstabs sibling by NFERNo.

Compute sibling_block = 0.

Do if nvalid(sibling).

COmpute Sibling_block = 1.

End if.

Frequencies sibling_block.

sort cases by NFERNo Sibling_block (a).

dataset copy families.

***Stratified randomisation of families.

*If we ensure schools are in random order

*And within schools the siblings_block is in random order.

*And within schools+sibling_block, families are in random order.

*We can allocate group in sequence.

```
aggregate outfile=*/break=NFERNo sibling_block/nfamilies=n(FamilyID).  
list vars=NFERNo sibling_block nfamilies.  
set rng=mt, mtindex=201911223.  
compute schsibrand=rv.uniform(0,1).  
execute.  
dataset copy schools_siblings.
```

```
aggregate outfile=*/break=NFERNo/nsibfam=n(sibling_block).  
list vars=NFERNo nsibfam.  
set rng=mt, mtindex=201911222.  
compute schrand=rv.uniform(0,1).  
execute.  
dataset copy schools.
```

```
match files file=families/table=schools_siblings/in=inschsib/by NFERNO sibling_block.  
freq inschsib.  
match files file = */table = schools/in = insch/by NFERNO.  
FREQUENCIES insch.  
Dataset name alldata.  
set rng=mt, mtindex=201911221.  
compute famrand=rv.uniform(0,1).  
execute.
```

```
*Randomise.  
sort cases by schrand schsibrand famrand.  
compute twos=2*trunc(($casenum-1)/2).  
compute group=$casenum-twos.  
list vars=NFERNo sibling group.
```

```
cross NFERNo by group.
```

*Creating string variable for excel output for schools.

String Randomisation_Results (A60).

Do if group eq 1.

Compute Randomisation_Results eq "Intervention group (Spring term delivery)".

End if.

Do if group eq 2.

Compute Randomisation_Results eq "Control group (Autumn term delivery)".

End if.

Crosstabs group by Randomisation_Results.

delete variables group P1_Startset P2_Startset sibling nfamilies inschsib nsibfam sibling_block
schrاند

schsibrاند famrand insch twos.

Sort cases by NFERNo (a) Randomisation_results (d).

Save outfile = "I:\FCON\CFS\Randomisation\FCON Randomisation block 1 - 23.01.19_C.sav".

Dataset close all.

OUTPUT SAVE outfile = "K:\FCON\CFS\Randomisation\FCON Randomisation block 1 -
23.01.19_C.spv".

* Encoding: windows-1252.

dataset close all.

* Encoding: windows-1252.

Title 'Randomisation for second block of the FCON trial - 22.03.19_R'.

subtitle 'Block two'.

GET DATA

/TYPE=XLSX

/FILE='I:\FCON\Booster sample\FCON family list for randomisation - Booster sample.xlsx'

/SHEET=name 'Sheet1'

```
/CELLRANGE=FULL  
/READNAMES=ON  
/LEADINGSPACES IGNORE=YES  
/TRAILINGSPACES IGNORE=YES  
/DATATYPEMIN PERCENTAGE=95.0  
/HIDDEN IGNORE=YES.  
EXECUTE.  
DATASET NAME DataSet1 WINDOW=FRONT.
```

*Check there are no duplicates in family id.

Sort cases by FamilyID.

Match files file = */by FamilyID/first =f/last=l.

Crosstabs f by l.

Delete variables f l.

Frequencies NFERNO P1_DOB P1_MOB P1_YOB P2_DOB P2_MOB P2_YOB.

Do if nvalid(P2_DOB).

Compute Sibling = 1.

End if.

Execute.

Frequencies sibling.

Do if (P1_DOB = P2_DOB) and (P1_MOB = P1_MOB) and (P1_YOB = P2_YOB).

Compute Sibling = 2.

End if.

Execute.

Frequencies sibling.

Sort cases by Sibling Schoolname.

Add value labels Sibling 1 "Siblings" 2 "Twins".

*How many schools do the siblings come from?.

Temp.

Select if nvalid(sibling).

Crosstabs sibling by NFERNo.

Compute sibling_block = 0.

Do if nvalid(sibling).

COmpute Sibling_block = 1.

End if.

Frequencies sibling_block.

sort cases by NFERNo Sibling_block (a).

dataset copy families.

***Stratified randomisation of families.

*If we ensure schools are in random order

*And within schools the siblings_block is in random order.

*And within schools+sibling_block, families are in random order.

*We can allocate group in sequence.

aggregate outfile=*/break=NFERNo sibling_block/nfamilies=n(FamilyID).

list vars=NFERNo sibling_block nfamilies.

set rng=mt, mtindex=20190323.

compute schsibrand=rv.uniform(0,1).

execute.

dataset copy schools_siblings.

aggregate outfile=*/break=NFERNo/nsibfam=n(sibling_block).

list vars=NFERNo nsibfam.

set rng=mt, mtindex=20190322.

compute schrand=rv.uniform(0,1).

execute.

dataset copy schools.

match files file=families/table=schools_siblings/in=inschsib/by NFERNO sibling_block.

freq inschsib.

match files file = */table = schools/in = insch/by NFERNo.

FREQUENCIES insch.

Dataset name alldata.

set rng=mt, mtindex=20190322.

compute famrand=rv.uniform(0,1).

execute.

*Randomise.

sort cases by schrand schsibrand famrand.

compute twos=2*trunc((\$casenum-1)/2).

compute group=\$casenum-twos.

list vars=NFERNo sibling group.

cross NFERNo by group.

*Creating string variable for excel output for schools.

String Randomisation_Results (A60).

Do if group eq 1.

Compute Randomisation_Results eq "Intervention group (Summer term 2019 delivery)".

End if.

Do if group eq 2.

Compute Randomisation_Results eq "Control group (Spring term 2020 delivery)".

End if.

Crosstabs group by Randomisation_Results.

delete variables group P1_Startset P2_Startset sibling nfamilies inschsib nsibfam sibling_block
schrand

schsibrand famrand insch twos.

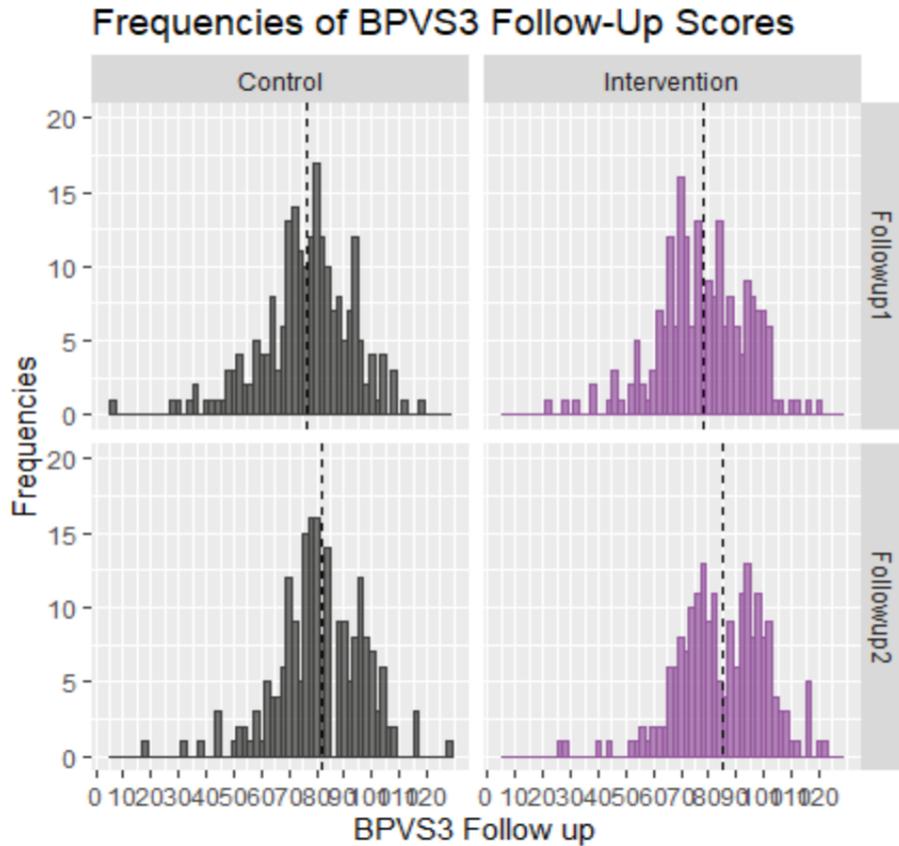
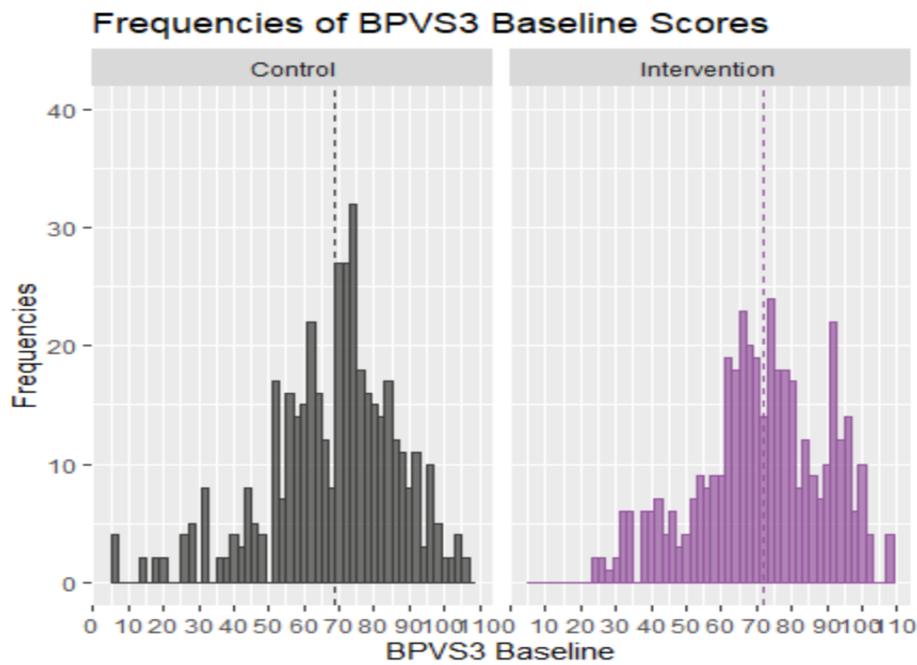
Sort cases by NFERNo (a) Randomisation_results (d).

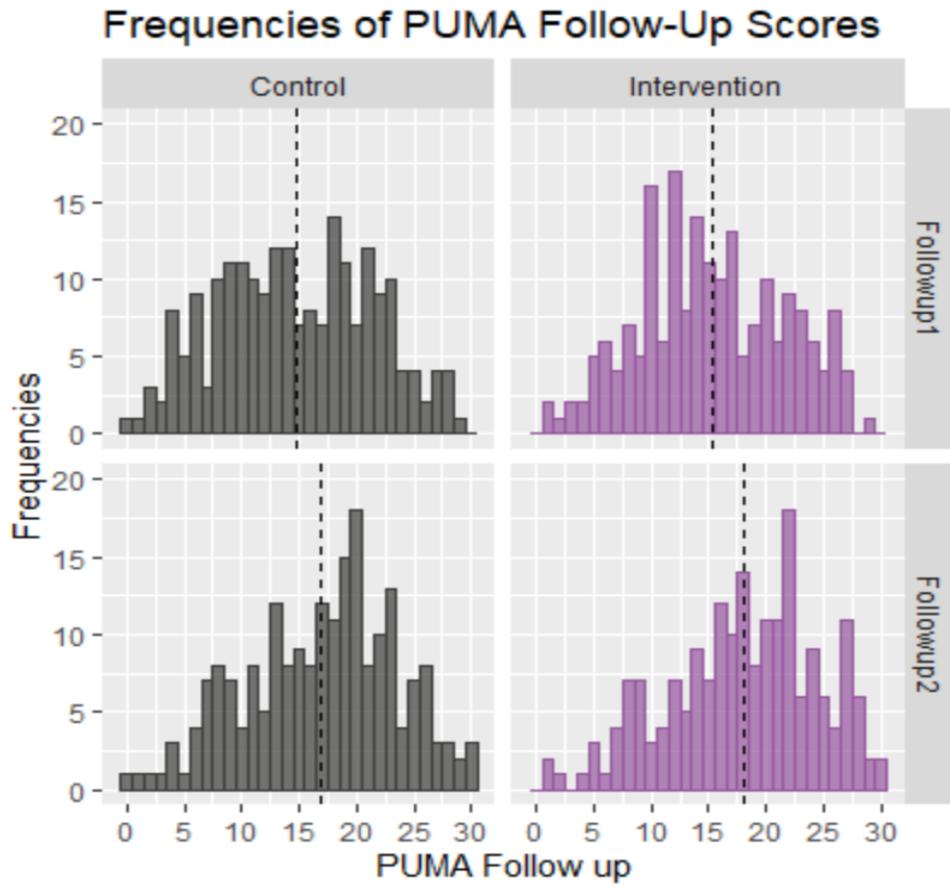
Save outfile = "I:\FCON\CFS\Randomisation\FCON Randomisation block 2 - 22.03.19_C.sav".

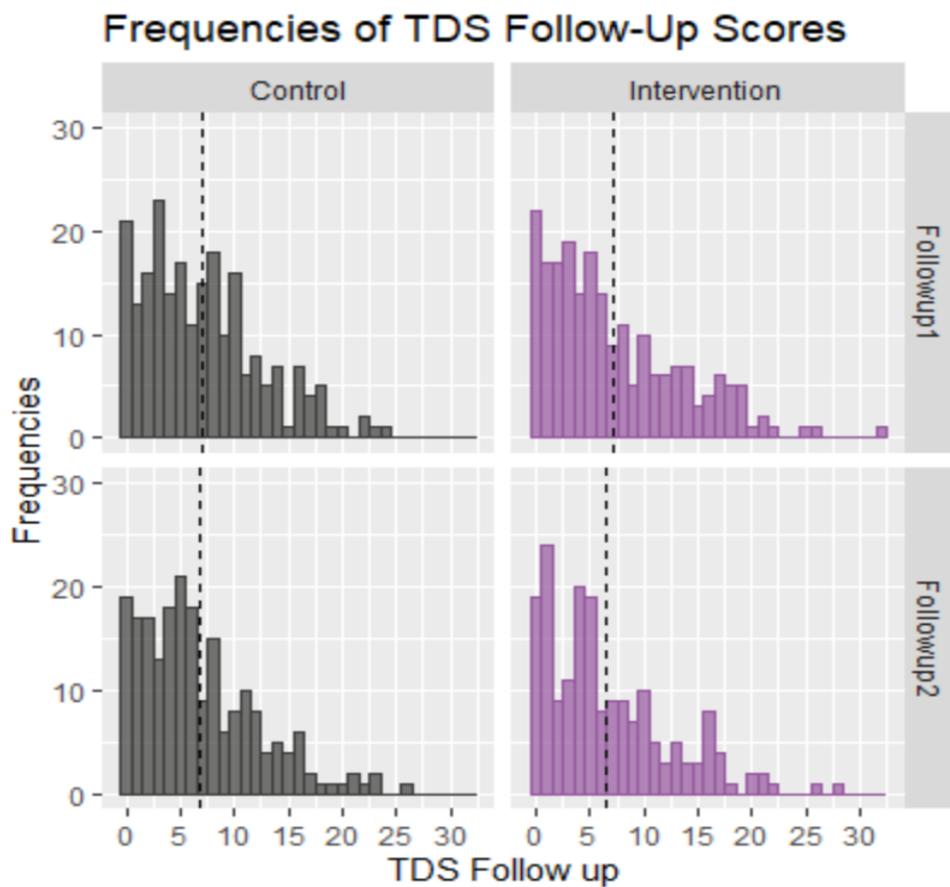
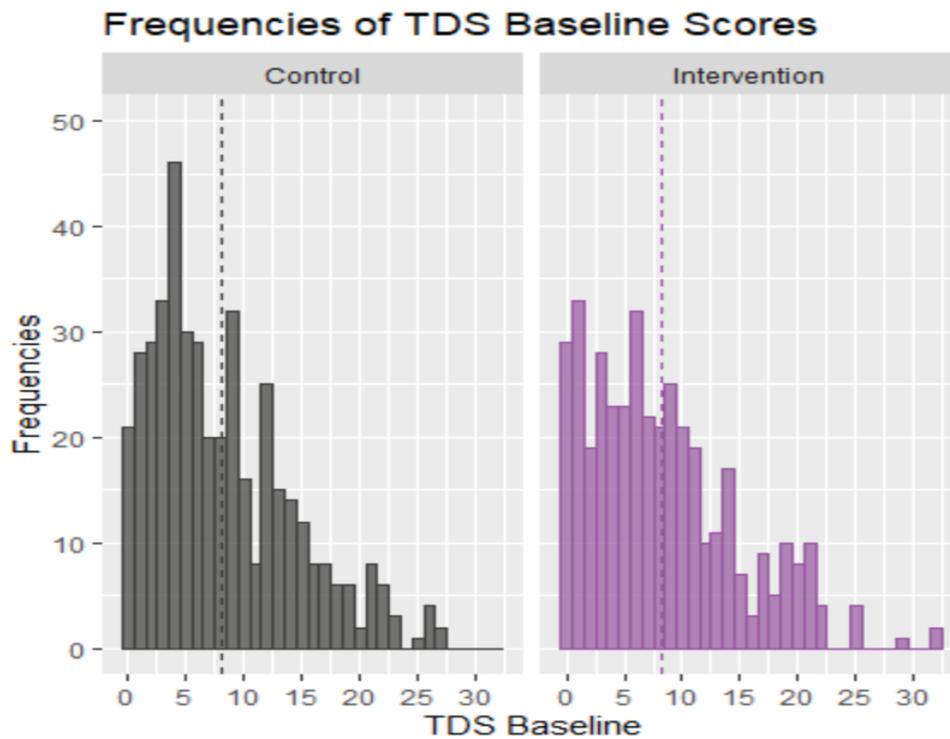
Dataset close all.

OUTPUT SAVE outfile = "K:\FCON\CFS\Randomisation\FCON Randomisation block 2 -
22.03.19_C.spv".

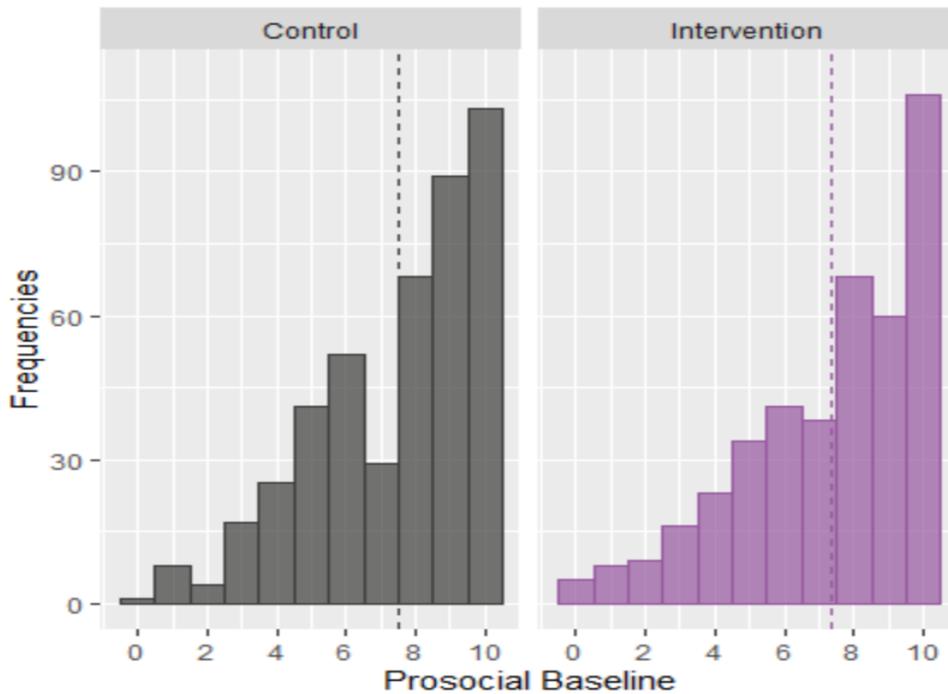
Appendix E: Outcome measure distributions



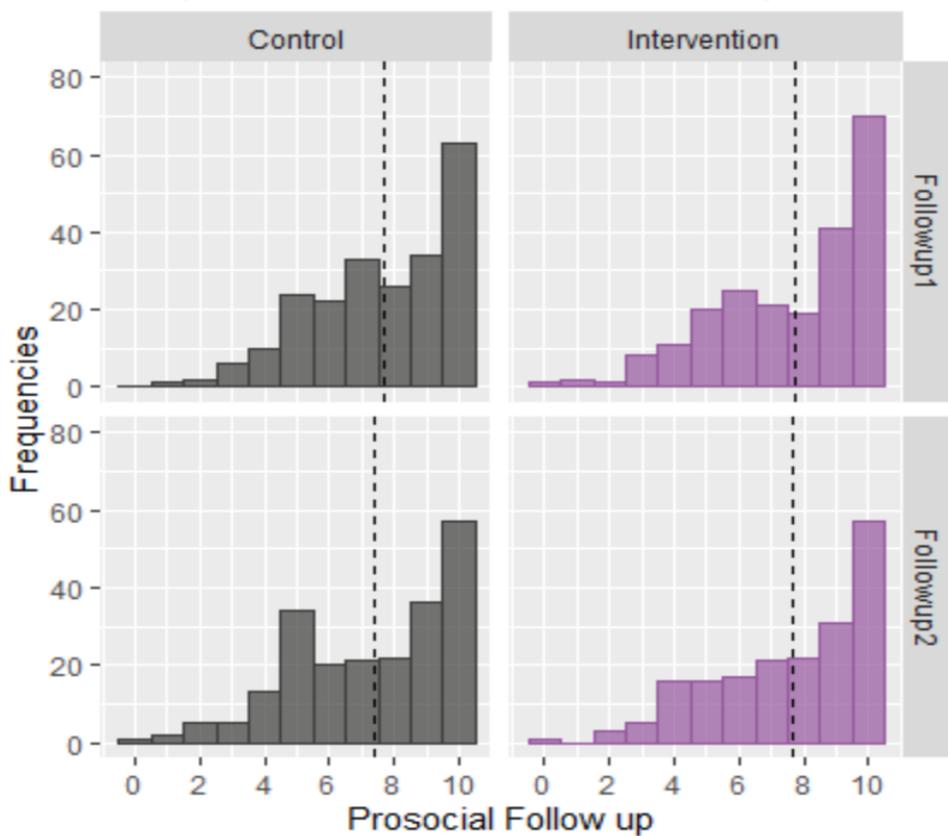


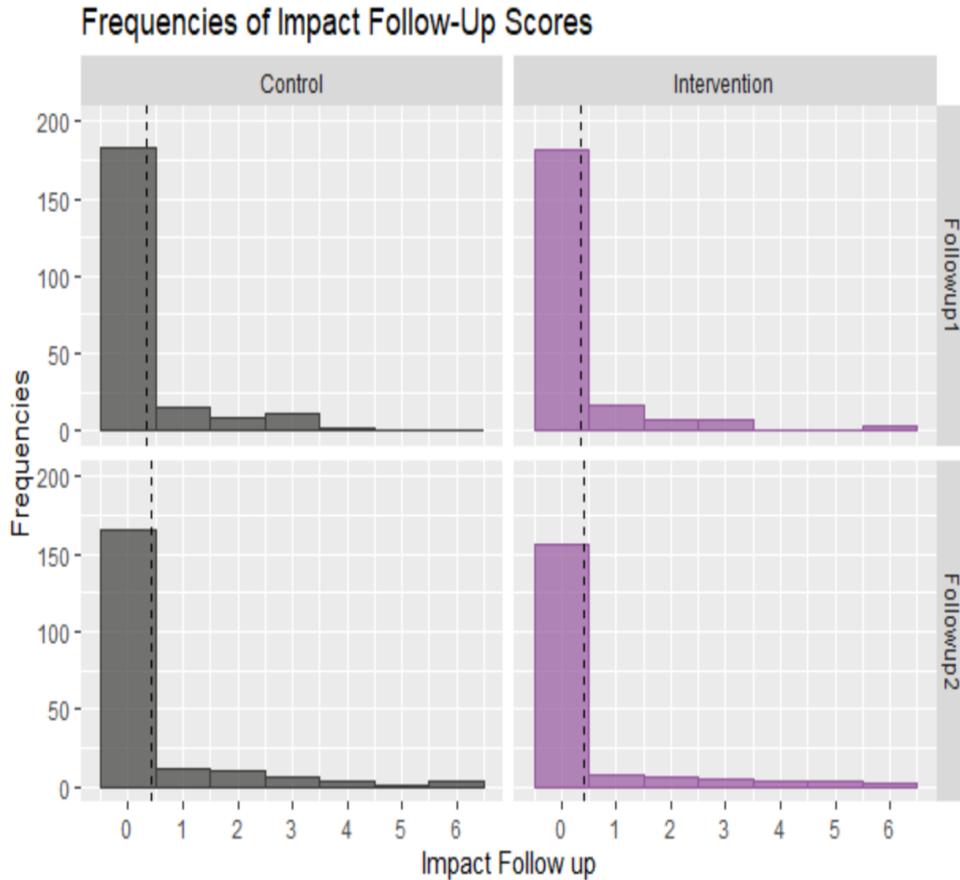
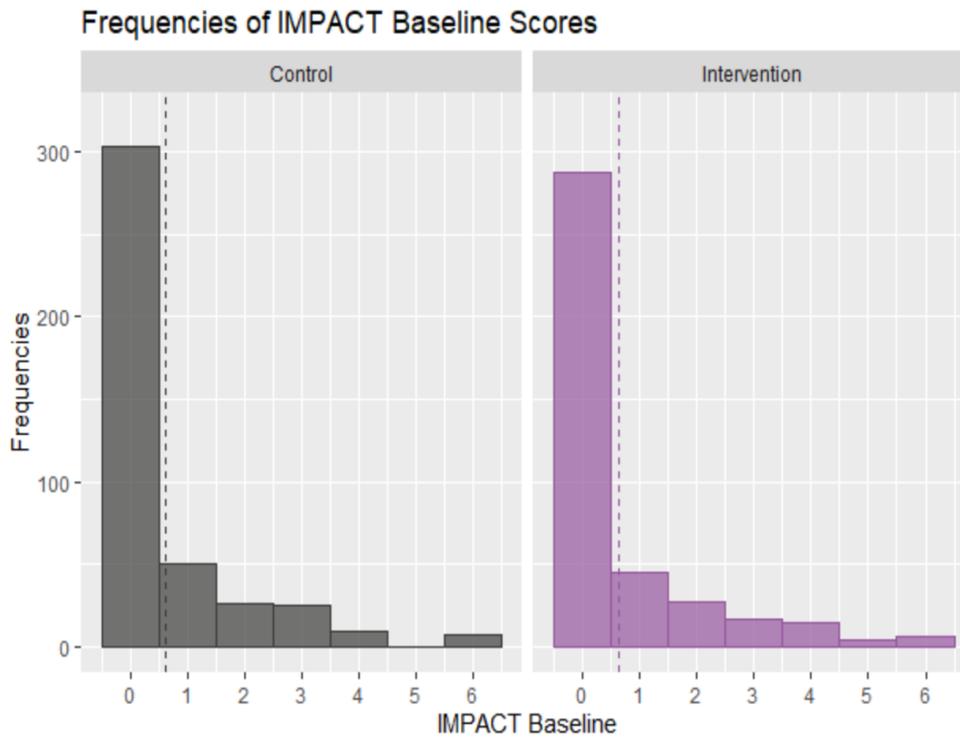


Frequencies of Prosocial Baseline Scores

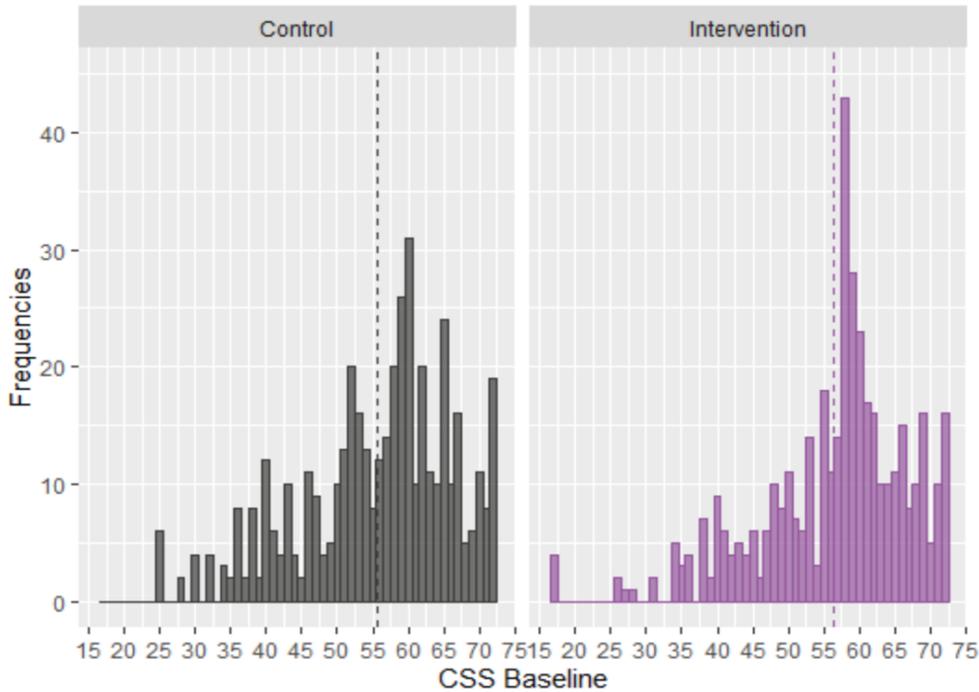


Frequencies of Prosocial Follow-Up Scores

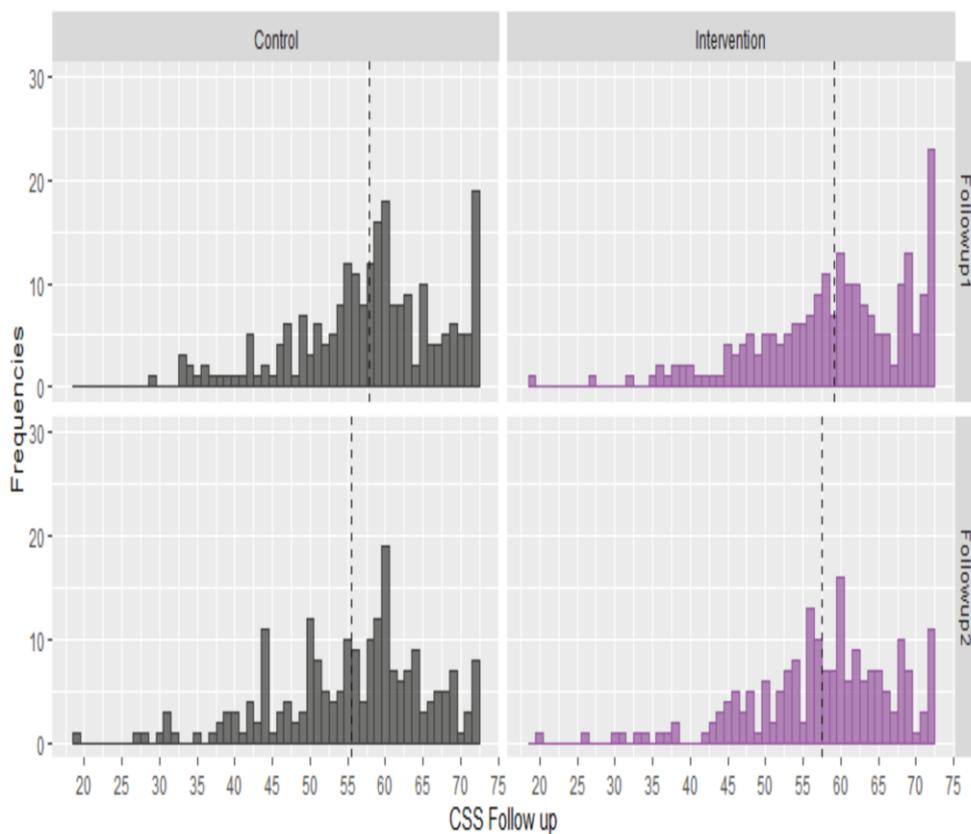


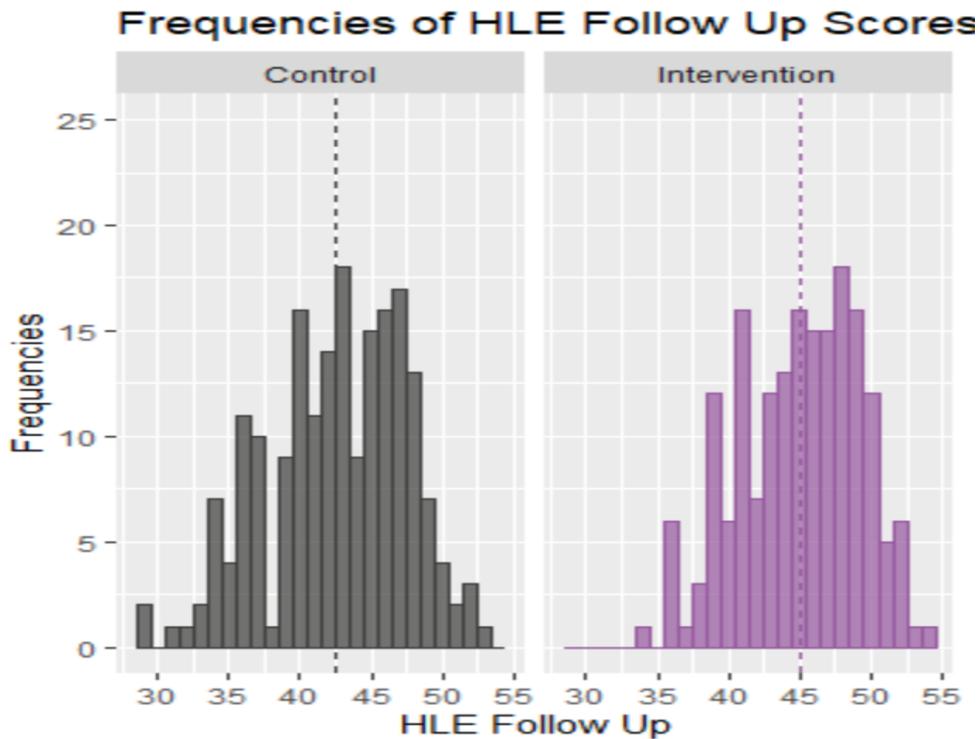
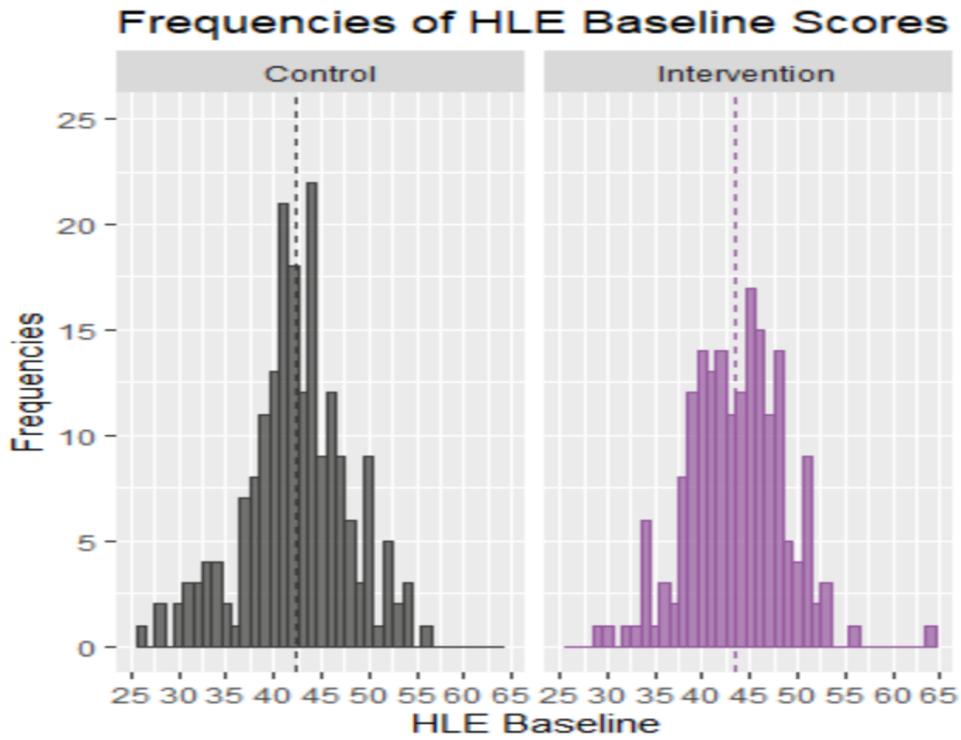


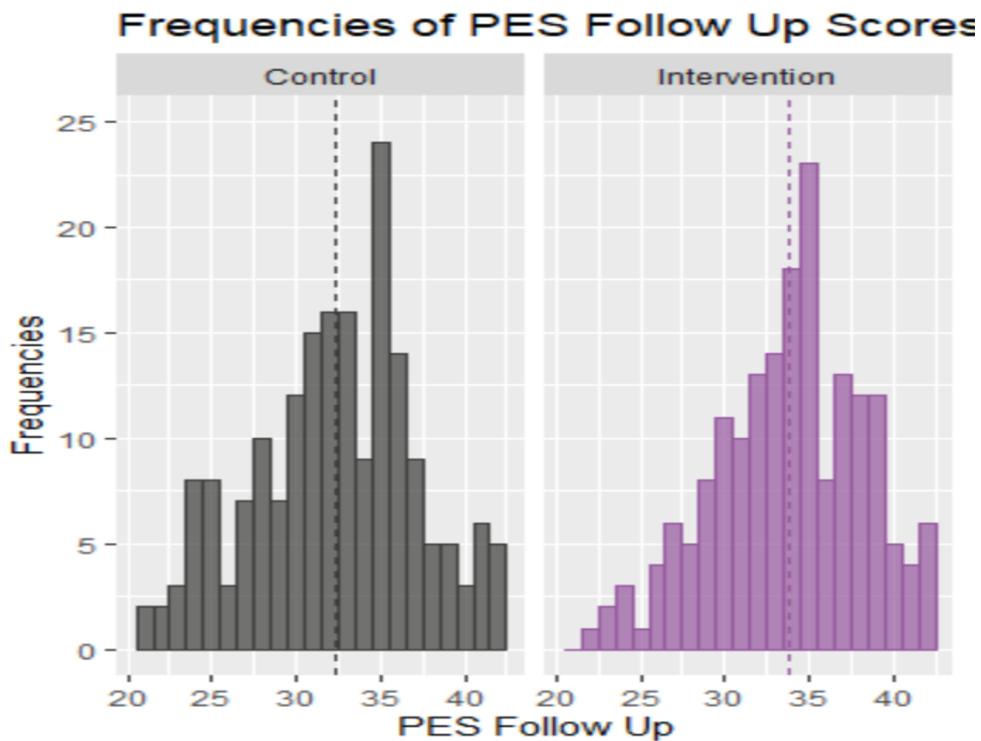
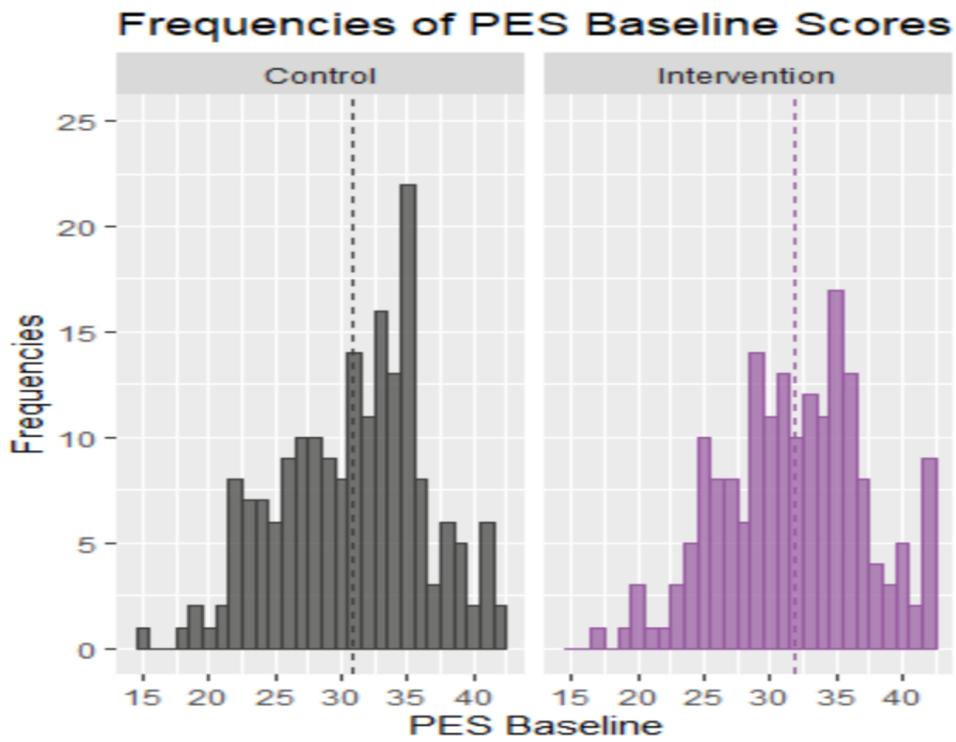
Frequencies of Child Softer Skills Baseline Scores

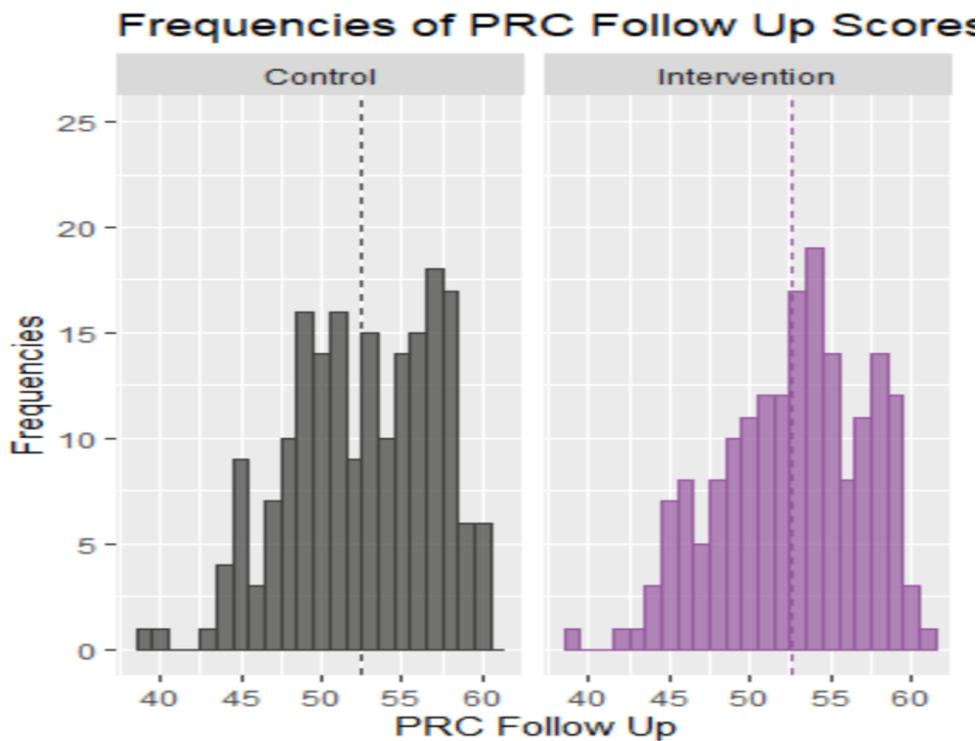
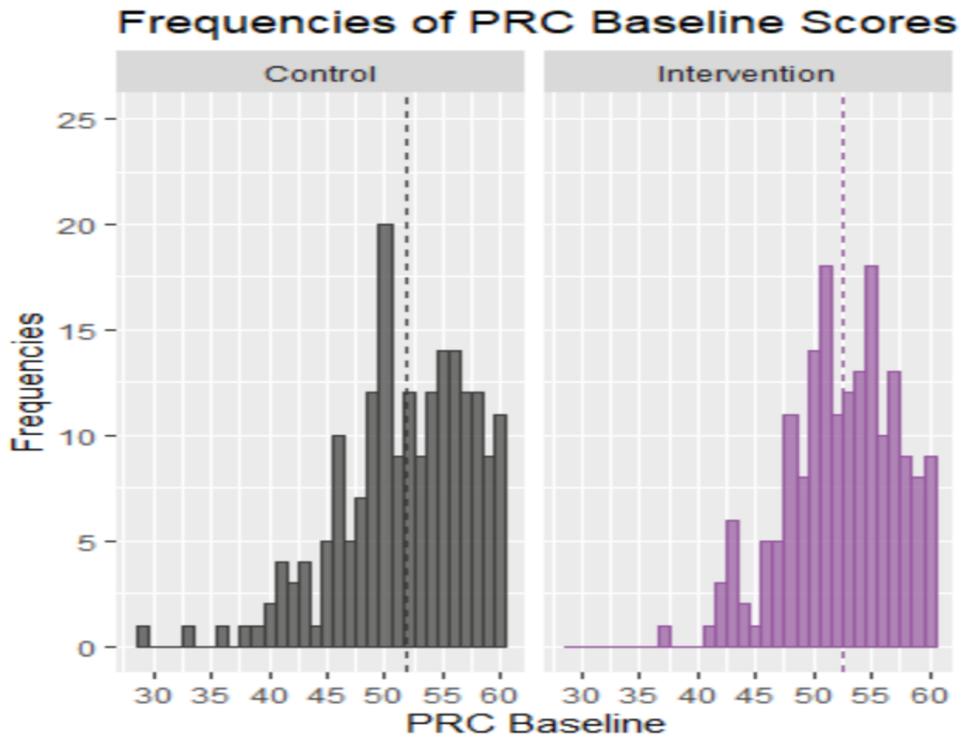


Frequencies of Child Softer Skills Follow-Up Scores









Appendix F: Process evaluation data collection overview

Table G.1 provides details of the number of interviews/visits planned and achieved, and also shows how the IPE data maps onto the IPE research questions for the study. Notes to accompany the table are set out below:

¹ NFER researchers were responsible for qualitative IPE data collection in the North of England, South of England and Wales (i.e. case study visits and telephone interviews); QUB researchers were responsible for qualitative IPE data collection in Northern Ireland and Scotland; SCUK was responsible for collating the Family Register and implementation feedback data.

² During training observation visits, the NFER and/or QUB researcher held a briefing session for participants to explain the trial's aims, methods and data collection requirements. The sessions also gave Community Practitioners an opportunity to ask questions about what the trial would entail. CPs were given copies of the school information sheet (Appendix B), [Privacy Notices](#) and a 'Dos and Don'ts' handout (Appendix G). Where CPs did not attend training (e.g. because they were from a 2nd cycle school), they could attend or watch a recording of a webinar RCT briefing session. NFER delivered three webinar sessions.

³ NFER/QUB researchers observed four training sessions – one in each of North of England, South of England, Wales and Northern Ireland. A training session was not held in Scotland, because all of the schools involved there were 2nd cycle schools. An NFER researcher also attended an additional training session in the North of England (as two northern locations were running training), in order to deliver the RCT briefing.

⁴ Family Register data was received from 28 schools, for 222 pupils. A member of the SCUK data team collated this data onto a pre-formatted spreadsheet provided by NFER. SCUK shared this data securely with NFER.

⁵ Implementation feedback data was collected by SCUK in 25 schools. SCUK collated the data on a pre-formatted spreadsheet provided by NFER. SCUK shared this data securely with NFER.

⁶ During case study visits, parents were asked if they were willing to be followed up later in the year, and if so to provide their contact details. When it came to arranging these interviews, it proved difficult to contact parents and make arrangements for interviews. To support response rates, NFER agreed with SCUK to offer a voucher (£10) to parents for participation in a follow-up telephone interview in case study sites. NFER wrote to the key Community Practitioner contact in each of the case study schools involved in North of England, South of England and Wales to ask them to pass on a letter about the follow-up interviews, to ascertain the best time to call, and to tell the parents about the voucher. NFER conducted follow-up interviews with three parents as a result of this contact. QUB were responsible for process data collection in Northern Ireland and Scotland; follow-up interviews were easier to arrange there and QUB did not need to offer incentives. These follow-up interviews had already been conducted by the time vouchers were offered in the other areas.

Table G.1: IPE overview of methods, research questions and data collection achieved

Strand	Method ¹	Research questions addressed	Planned no. of interviews/ visits	Actual no. of interviews/ visits	No. of individual interviewees
1: Understanding the programme model	Theory of change workshop	RQ2	1 workshop	1 workshop	Attended by ca. 12 SCUk staff
	Programme manager interviews (start of project)	RQ2	6	5	6
	Programme manager interviews (end of project)	RQ2, RQ6, RQ7, RQ8	6	6	6
2: Implementation compliance and fidelity	Training observations ²	RQ2, RQ5	5	4 ³	N/A
	Trainer interviews	RQ2, RQ5	5	4	8 (4 pairs)
	Community practitioner interviews	RQ2, RQ5	10	8	8
	Family Register data ⁴	RQ1	31 schools, 499 pupils	28 schools, 222 pupils	222 pupils
	Implementation feedback data ⁵	RQ2, RQ3, RQ5	30	31 schools	25 schools
	End-point online proforma for schools	RQ10	30	1 schools	27 schools
3: Exploring schools' experiences	Session observations	RQ2, RQ3	5	5	N/A
	Head/deputy head interviews	RQ2, RQ3	5	5	5
	Class teacher interviews	RQ2, RQ3	5	4	4
	Community Practitioner interviews	RQ2, RQ3, RQ4, RQ9	10	8	9
	Face-to-face parent interviews	RQ2, RQ3, RQ4, RQ9	10 - 15	10	13
	Small group interviews with children	RQ2, RQ3, RQ9	5 groups	8 groups	19
	SLT telephone interviews	RQ3, RQ6, RQ9	10	9	9
4: A focus on parents & HLE	Parent follow-up telephone interviews ⁶	RQ9	14	5	7

Appendix G: Dos and Don'ts Handout

This research project involves children aged 4–6 and their families. Some children and families receive the programme in Spring 2019; and some do not receive the programme then – they are our control group. They wait until after all the data collection has been done, to then take part in the programme in Autumn 2019. To avoid *contamination* between these two groups, please take note of these guidelines and follow them to the best of your ability.

Don't let families and children switch groups. Especially, don't let control group families attend sessions in the Spring term 2019.

Don't use any of the content, terminology or techniques from the programme when talking to other staff who are not delivering the programme, or to control group parents and children.

Don't leave programme manuals, materials or displays of Families Connect work on show to other staff, parents or children outside of the Spring term sessions.

Don't let families in the Spring term group share resources or activities from the programme with families in the control group, during Spring, Summer and September 2019.

It will be hard to entirely stop intervention families from talking to friends and families in the control group, but please let the Spring term families know that it is important that **families in the control group do not use** any aspects of the programme with their child until the Autumn term 2019.

Do take the children receiving the programme out of normal classes at the end of the day – **don't** run sessions in the same room as the rest of the R/Y1/Y2 class.

Do remember to fill in the family register for family/child attendance during the Spring term 2019.

Do make a note of any potential contamination; and complete a form about it at the end of the trial.

Do make sure the families in the control group understand their role as a control. Encourage them to wait until the Autumn term 2019 to take part in it with a trained session leader.

Email FCTrial@nfer.ac.uk if you have any queries.

Appendix H: Children’s Softer Skills Scale

The Child Softer Skills scale (CSS) is a bespoke 12 item scale designed by SCUK to be an age appropriate measure of children’s attitudes and behaviours towards learning such as motivation, concentration and progress (Bradley *et al.*, 2016).

Please indicate how much you AGREE or DISAGREE with each of the statements.						
	1	2	3	4	5	6
	Disagree very strongly	Disagree	Disagree just a little	Agree just a little	Agree	Agree very strongly
The child is interested in solving problems.	<input type="checkbox"/>					
The child wants to learn new things.	<input type="checkbox"/>					
The child can concentrate and work independently.	<input type="checkbox"/>					
The child seeks help when they don’t understand.	<input type="checkbox"/>					
The child deals well with mistakes.	<input type="checkbox"/>					
The child accepts criticism or corrections.	<input type="checkbox"/>					
The child behaves well in class.	<input type="checkbox"/>					
The child gets on well with their peers.	<input type="checkbox"/>					
The child is proud of their work and achievement.	<input type="checkbox"/>					
The child is generally positive about learning.	<input type="checkbox"/>					
The child is adaptive to new tasks and challenges.	<input type="checkbox"/>					
The child makes progress in learning.	<input type="checkbox"/>					

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