# THE IMPACT OF FAMILIES CONNECT

## FOR FAMILIES LIVING WITH SOCIAL DISADVANTAGE

Nuffield Foundation

NFER
National Foundation for Educational Research

Save the Children

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# INTRODUCTION

In the UK, over 4 million children live in poverty with negative consequences for their immediate well-being and longer-term life chances. Save the Children developed the Families Connect programme in response to the negative impact of poverty on children's educational attainment and to improve their life chances. It does this through encouraging learning through play and supporting children's well-being, communication skills and language development. The programme is based on evidence that parents' self-efficacy (skills and confidence) in supporting their children's learning, and a strong home learning environment, are protective factors for the future attainment of children living in social disadvantage. Save the Children, in partnership with the National Foundation for Educational Research (NFER) and Queen's University Belfast, funded by the Nuffield Foundation, conducted an evaluation of the programme to test the impact on children's and parents' outcomes (Lord et al. 2021).

The original scope of the evaluation consisted of a randomised controlled trial and implementation analysis. After publication, we subsequently conducted an additional assessment of the data which consisted of moderation analyses investigating, in more detail, how families living in disadvantage experience the impact of the programme (explored in this paper); and mediation analyses exploring the theory of change and the relationship between outcomes (to be explored in a future publication).

This learning paper builds on our findings from the original evaluation, providing us with a more detailed understanding of the relationship between families living in social disadvantage and key outcomes of the Families Connect programme, with a particular focus on children's receptive vocabulary and numeracy skills and the home learning environment.

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# THE IMPACT OF POVERTY ON CHILDREN AND PROTECTIVE FACTORS

The number of children living in poverty in the UK is exceptionally high and the risks of poverty are greatest for families with younger children. A recent research review from the Nuffield Foundation on the changing patterns of poverty in the UK raised awareness of the fact that more than one in three families with a child under five are living in poverty (Oppenheim and Milton, 2021). Furthermore, the impact of the Covid-19 pandemic has widened inequalities and increased economic risks for those already living in social disadvantage (Stewart and Reader, 2021). As the impact of poverty in the early years is highly detrimental to children's overall development and longer-term outcomes, this is particularly worrying. Social disadvantage has been theorised to negatively impact across the entire ecological system of the child (Bronfenbrenner, 1979) and essentially disrupt the developmental processes within the family system that support child development through the individual and combined impacts of a lack of resources and increase in stress (Stewart and Cooper, 2013). Evidently, a persistent attainment gap exists between children living in disadvantage and their better off peers throughout their education, which has major implications for their future life chances and is present from when children start school (Waldfogel and Washbrook, 2011; DFE 2019a; DFE 2019b; DFE, 2020; Ofstead, 2015). A longitudinal study in the UK explored factors related to the attainment gap and highlighted the quality of the home learning environment and parenting style (including parent–child interaction) as being of particular significance in explaining the gap in early childhood for disadvantaged families (Waldfogel and Washbrook, 2010).

Moreover, these same factors – the strength of the home learning environment and quality of parent–child interactions in early childhood – have been shown to minimise the negative impact of disadvantage on children's development (Gutman and Feinstein, 2007; Roulestone et al., 2010; Desforges and Abouchaar, 2003; Sylva et al., 2004). The strength of the home learning environment is based on the quality of parent–child interaction and a parent's use of resources, their language and engagement with play, within and outside of the home to stimulate and scaffold their child's understanding of themselves, their surroundings and their relationships with others.

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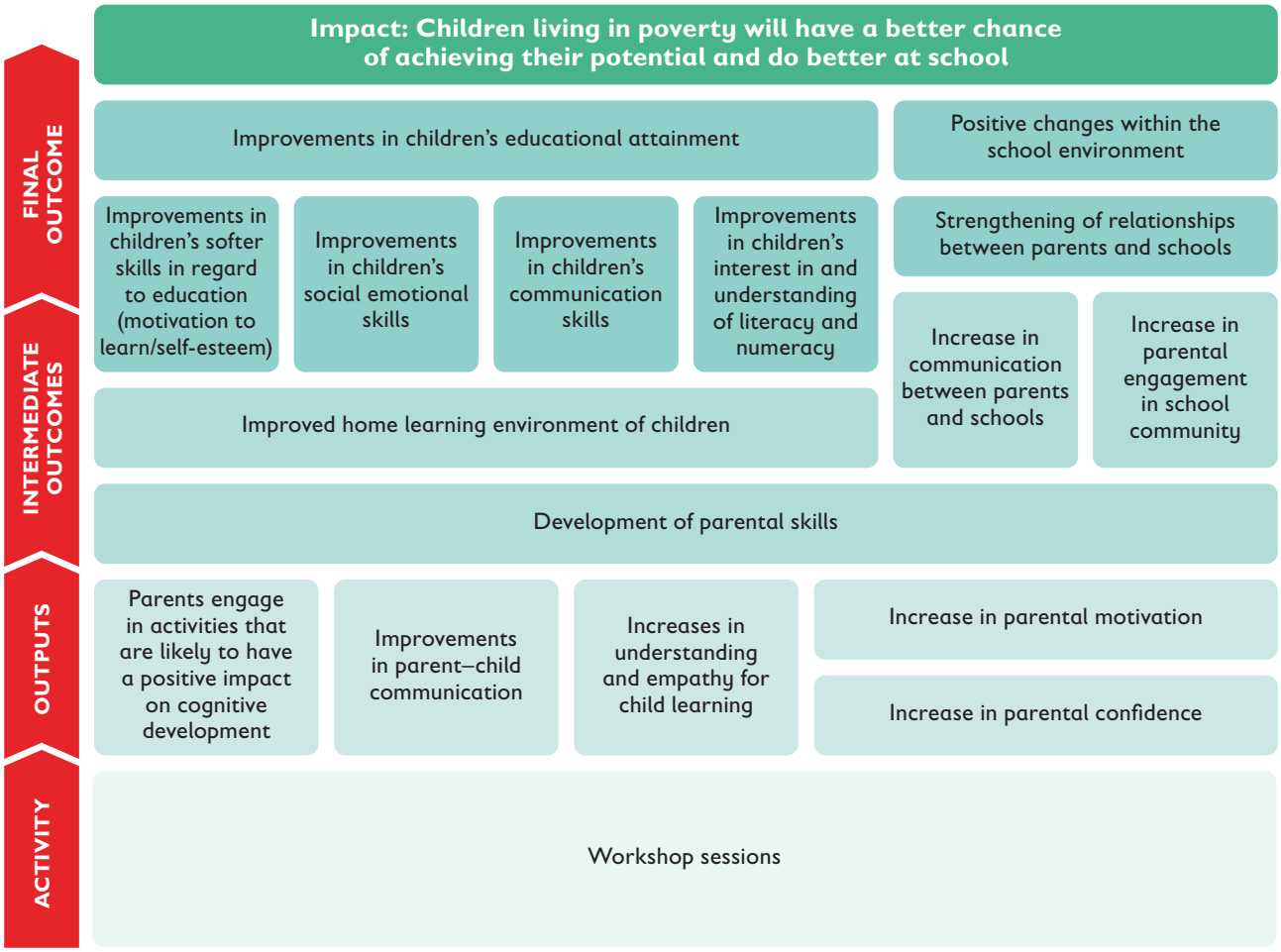
# THE FAMILIES CONNECT PROGRAMME

Save the Children UK developed Families Connect to respond to the needs of families living in disadvantaged circumstances and reduce the attainment gap. It aims to empower and support parents to nurture and strengthen their home learning environments and increase their own social capital within the child's learning environments, as these have been evidenced to support children's communication and language development and future attainment in the context of social disadvantage.

Families Connect is delivered in schools, nurseries and other settings facilitated by trained staff based within the settings. Families of children aged three to six are invited to take part and although the programme is a universal offer within the setting, the schools and nurseries involved are targeted based on levels of social disadvantage. The programme is delivered in small groups of families (ideally between eight and twelve) within the school or nursery across eight weekly sessions.

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 programme is designed to provide parents with the resources needed to actively engage their children in learning. Each session focuses on an

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



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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 that parents build through engagement in the sessions within the school or nursery community – with other parents, teachers, key workers and wider staff. Through the interactions within the sessions parents communicate more and develop confidence and stronger relationships with others.

Further information on the programme model can be found in the main report of the RCT here.

# THE EVALUATION OF THE PROGRAMME

In 2019, Save the Children in partnership with the NFER, Queen's University Belfast and funded by the Nuffield Foundation conducted a randomised controlled trial and implementation analysis of the programme focused on measuring the impact on parent and child outcomes identified by the theory of change of the programme.

Nearly 500 children and families were involved in the trial that was conducted across the UK. The trial involved school-based delivery of the programme and included families with a target child aged between four and six years. The trial was set up as a within-school waitlist design and outcomes were measured for parents and children across the theory of change at different time intervals. Attainment was assessed using two proxy measures, children's receptive vocabulary (the British Picture Vocabulary Scale: BPVS3) and numeracy skills (Hodder Progress in Understanding Maths Assessment: PUMA) and was measured immediately and six months after delivery. Children's intermediary outcomes were measured including teacher reported behaviours (Strengthens and Difficulties Questionnaire: SDQ) and children's softer skills (general motivation and attitudes towards school and learning) immediately and six months after the programme. Parent outcomes were measured immediately after the programme only, and included the Home Learning Environment Index (HLE KS1), Parents' self-efficacy and Parents' role construction scales (Hoover-Dempsey and Sandler, 2005).

The results of the randomised controlled trial were mixed. The programme did not demonstrate an immediate or longer-term impact on children's receptive vocabulary or numeracy skills. However, changes in teacher reported prosocial behaviour (SDQ) and children's softer skills were evident after six months (no changes were evidenced for children's total difficulties – SDQ). Moreover, the programme was able to demonstrate an impact on changes to the home learning environment and parent self-efficacy (no changes were evidenced for parent role construction). The findings indicate that the programme had a positive impact aligned to the programme's theory of change (see figure on page 5) on parents' skills and confidence in children's learning and to changes in the home learning environment which would support children's subsequent development, and that there were subsequent positive changes to children's attitudes and behaviours towards learning (motivation, concentration and progress) six months later. However, no changes were found in the outcome measures used to assess children's potential attainment.

Within the trial some initial exploration of the impact of the programme for families living with disadvantage was carried out. The impact of the programme on children's receptive vocabulary was tested differentially depending on whether the children were from families with lower levels of household income or not. Similar to the results found assessing the sample as a whole, no impact of the programme was found on children's receptive vocabulary, for either the disadvantaged families, or those not classified as disadvantaged.

Further information on the methodology, measures and findings of the randomised controlled trial and implementation analysis can be found here.

# RESEARCH OBJECTIVES

Building on the above, we were interested in exploring in more depth the relationship between social disadvantage and the parent and child outcomes of the programme. We expanded on the previous study by including a broader definition of social disadvantage and a wider range of outcomes to explore how the programme might be experienced differently by those living in social disadvantage. Our indicators of social disadvantage, included three measures:

- household income (measured in intervals rather than a binary variable).
- parents' highest education level.
- free school meal (FSM) eligibility.

We also focused on an exploration of a broader set of parent and child outcomes to assess impact as defined by the theory of change of the programme, and in particular whether social disadvantage had a particular relationship with:

- Receptive vocabulary and numeracy skills as the measures of potential children's attainment.
- The home learning environment and separately the subscales of parent–child interaction and parent–child enrichment activities within this.
- Parent self-efficacy (parents' skill and confidence in supporting their children's learning).

The following research questions were explored in the sample of almost 500 families involved in the evaluation.

1. How disadvantaged were the sample of families taking part?
2. How does social disadvantage and parent self-efficacy determine the level of engagement in the home learning environment?
3. Does social disadvantage have a potential impact on children's attainment and do families living with social disadvantage have a different experience of the impact of the programme on children's potential attainment?
4. Does social disadvantage have an impact on parents' reports of the home learning environment and do families living with social disadvantage have a different experience of the impact of the programme on the home learning environment?
5. Does social disadvantage have an impact on parents' reports of the parent–child interaction or parent–child enrichment activities (subscales of the Home Learning Environment Index) and do families living with social disadvantage have a different experience of the impact of the programme on these different subscales?
6. Does social disadvantage have an impact on parents' reports of their own efficacy and do families living with social disadvantage have a different experience of the impact of the programme on parent self-efficacy?

# METHODOLOGICAL APPROACH TO ANALYSIS

**Research question 1.** To assess how disadvantaged families included in the sample were at the time of data collection, frequency counts and percentages for each of the three indicators of social disadvantage measured at baseline have been provided with comparison made to the closest available UK population data or the equivalent measured across the UK.

**Research question 2.** Testing for associations between the indicators of social disadvantage, parent self-efficacy and the home learning environment scores was conducted using a two level (school and family) regression model. Home learning environment scores (KS1 HLE Index) measured at baseline were included in the statistical model as the dependent variable and the three measures of social disadvantage (household income, parents' highest educational level and free school meal eligibility) and parent self-efficacy scores measured at baseline (Hoover-Dempsey and Sandler, 2005), were included as independent variables. Main effects of the independent variables were measured to assess the influence of the independent variables on the home learning environment.

The analysis was repeated testing for associations between the indicators of social disadvantage, parent self-efficacy and two subscales of the home learning environment – parent–child interaction scores and parent–child enrichment scores. Two separate analyses were conducted using two level (school and family) regression models. Parent–child interaction scores measured at baseline were included in the first model as the dependent variable and the parent–child enrichment scores measured at baseline were included as the dependent variable in the second model. The three measures of social disadvantage (household income, parents' highest educational level and free school meal eligibility) and parent self-efficacy scores at baseline were included as independent variables. Main effects of the independent variables were measured to assess the influence of the independent variables on the two subscales of the home learning environment.

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**Research question 3.** Testing for interactions between the indicators of social disadvantage, Families Connect allocation, and the measures of attainment (receptive vocabulary – BPVS3 and numeracy skills – PUMA) were conducted using six separate two-level (school and family) multiple regression models.

The first three models used receptive vocabulary scores as the dependent variables (measured six-months after the programme). The independent variables were programme allocation (the family was allocated to attending the programme or the waitlist control), and one of the three measures of disadvantage, at baseline, respectively (household income, highest level of parental education, and free school meal eligibility). In each of the models, programme allocation was included in the model, as was the measure of disadvantage, as was an interaction between the two. This enables the assessment of main and interaction effects. Main effects assess the impact of the independent variables on attainment, whereas interaction effects assess if the impacts of one independent variable influence the effect of another.

The same three models were replicated using the numeracy scores as the dependent variables (measured six months after the programme).

**Research question 4.** Testing for associations and interaction effects between the indicators of social disadvantage, Families Connect allocation and the measures of home learning environment (KS1 HLE Index) were conducted using similar interactions models used above. Three separate two level (school and family) multiple regression models including programme allocation and a measure of social disadvantage as the independent variables but using home learning environment scores as the dependent variable (measured immediately after the programme).

**Research question 5.** Testing for associations and interaction effects between the indicators of social disadvantage, Families Connect allocation and the two subscales of the home learning environment – parent child interaction and parent child enrichment (KS1 HLE Index) were conducted also as above. Six separate two level (school and family) multiple regressions models including programme allocation and a measure of social disadvantage as the independent variables and parent child interaction scores and then parent–child enrichment as the dependent variables (measured immediately after the programme).

**Research question 6.** Testing for associations and interaction effects between the indicators of social disadvantage, Families Connect allocation and parent self-efficacy (Hoover-Dempsey) were conducted also as above. Three separate two level (school and family) multiple regressions models including programme allocation and a measure of social disadvantage as the independent variables and parent self-efficacy scores as the dependent variables (measured immediately after the programme).

# RESEARCH FINDINGS AND INTERPRETATION

## 1. How disadvantaged were the sample of families taking part?

**TABLE 1** FAMILIES' HOUSEHOLD INCOME

| Income category | Number of families | Percent of sample |
|---|---|---|
| Under £5,000 | 56 | 11.7 |
| £5,000 – £9,999 | 65 | 13.6 |
| £10,000 – £19,999 | 149 | 31.1 |
| £20,000 – £29,000 | 60 | 12.5 |
| £30,000 – £39,999 | 49 | 10.2 |
| £40,000 – £49,999 | 23 | 4.8 |
| £50,000 | 37 | 7.7 |
| Missing data | 40 | 8.4 |
| **Total** | **479** | **100** |

**TABLE 2** PARENTS' HIGHEST LEVEL OF EDUCATIONAL QUALIFICATION

| Highest level of qualification | Number of families | Percent of sample |
|---|---|---|
| No qualifications | 55 | 11.5 |
| NVQ Level 1, Foundation GNVQ/SVQ Level 1 or 1 or more GCSE/CSEs/O levels (any grade)/ National 4/5 | 68 | 14.2 |
| NVQ Level 2, Intermediate GNVQ/SVQ Level 2 or 5 or more GCSE/CSEs/O levels (any grade)/ National 4/5 | 82 | 17.1 |
| NVQ Level 3, Advanced GNVQ/SVQ Level 3 or 1 or more A levels/AS levels/Higher/ Advanced Higher | 91 | 19.0 |
| NVQ Level 4-5, HNC, HND/SVQ Level 4 or First Degree (BA, BSc) | 92 | 19.2 |
| Higher Degree (MA, MSc, PhD, PGCE) | 44 | 9.2 |
| Missing data | 47 | 9.8 |
| **Total** | **479** | **100** |

**TABLE 3** CHILDREN'S ELIGIBILITY FOR FREE SCHOOL MEALS

| FSM eligibility | Number of families | Percent of sample |
|---|---|---|
| Not eligible | 262 | 54.7 |
| FSM eligible | 192 | 40.1 |
| Missing data | 25 | 5.2 |
| System | 479 | 100 |

**Overwhelmingly, the results of the descriptive statistics used to measure social disadvantage indicate that the sample of families included a higher proportion of socially disadvantaged families than is representative of the UK population.** Over half the sample of families involved in the evaluation reported a household annual income of less than £20,000. This is in comparison to median household disposable income of £29,600 in the financial year ending 2019 (ONS, 2020). Parents reported free school meal eligibility of their children at 40% compared to 15.4% eligible in England, 18.3% in Wales and 29.3% in Northern Ireland. Over 60% of families reported a highest parent education level below a degree, GNVQ level four or equivalent qualification. Our findings related to parents' highest educational level are comparable to those found across the UK. Highest educational level is measured on UK workforce population (age 19–64) on an individual level. Rates of highest level of education below a degree or higher education for 2019 are 58% in England, 52% in Scotland, 60% in Wales and 61% in Northern Ireland (Joseph Rowntree Foundation, 2021). That there are a greater proportion of disadvantaged families as measured by household income and free school meal eligibility included in the sample is unsurprising given that the intervention was targeted at schools with higher proportions of families living with social disadvantage or within disadvantaged communities. It does, however, mean that **the programme is effective at recruiting the target population of disadvantaged families even though it is provided as a universal offer within schools**. The impact of social disadvantage on parent and child outcomes shown in this study is restricted to the diversity of the population of families in the sample. As higher incomes and higher educational levels are likely to be unrepresented compared to the general population of the UK, the true extent of the impact of social disadvantage on parent and child outcomes is likely to be underestimated.

PHOTO: NINA RAINGOLD/SAVE THE CHILDREN

## 2. What types of parents are engaging at home?

*The relationship between social disadvantage, parents' self-efficacy and home learning environment scores were assessed at baseline to provide more context on what influences the home learning environment prior to families engaging in the programme.*

**TABLE 4** WHAT TYPES OF PARENTS ARE ENGAGING AT HOME

| **Home Learning Environment** | | | |
|---|---|---|---|
| | **Coefficient** | **Std. Error** | **P value** |
| Intercept | 32.20 | 1.62 | <0.01 |
| FSM | -0.42 | 0.60 | 0.49 |
| Income | 0.09 | 0.18 | 0.64 |
| Education Level | 0.18 | 0.20 | 0.36 |
| Parent Efficacy | 0.33 | 0.05 | <0.01 |
| **Parent–Child Enrichment** | | | |
| | **Coefficient** | **Std. Error** | **P value** |
| Intercept | 5.39 | 0.66 | <0.01 |
| FSM | 0.01 | 0.24 | 0.97 |
| Income | 0.00 | 0.08 | 0.97 |
| Education Level | 0.20 | 0.08 | 0.01 |
| Parent Efficacy | 0.10 | 0.02 | <0.01 |
| **Parent–Child Interaction** | | | |
| | **Coefficient** | **Std. Error** | **P value** |
| Intercept | 8.90 | 0.57 | <0.01 |
| FSM | -0.20 | 0.21 | 0.34 |
| Income | 0.06 | 0.06 | 0.32 |
| Education Level | 0.13 | 0.07 | 0.07 |
| Parent Efficacy | 0.11 | 0.02 | <0.01 |

The analysis showed that parent self-efficacy in children's learning (measured at baseline) was significantly associated with higher levels of activity prior to the programme in the home learning environment (0.33, $p < 0.05$), however household income, free school meal and parents' highest education level were not. **The parents reporting greater levels of self-efficacy at baseline – skills and confidence in supporting their children's learning – reported higher home learning environment scores at baseline.**

The same significant relationships between parent self-efficacy were evident for both the home learning environment subscales of parent–child interaction (0.10 $p < 0.05$) and parent–child enrichment activities (0.11, $p < 0.05$), both measured at baseline. **Parents reporting greater self-efficacy – skills and confidence in supporting their children's**


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**learning – reported higher parent–child interaction scores and parent–child enrichment scores.** Additionally, when exploring the subscales of the home learning environment, although no relationship was evident between social disadvantage and parent–child interaction, parents' highest educational level was significantly associated with parent–child enrichment scores. **Higher levels of parental education were associated with greater parent–child enrichment.**

**Social disadvantage was not found to be associated with home learning environment scores when measured with parent self-efficacy, other than the significant relationship between parental education and enrichment activities. These findings imply that how confident and skilled parents feel to support their children's learning is critical to supporting a positive home learning environment.**

## 3. Does social disadvantage have an impact on children's attainment and are the families living with social disadvantage impacted differently by the programme than those who are not?

*The relationships between children's attainment (as measured by their receptive vocabulary and numeracy skills six months after the programme), social disadvantage and Families Connect allocation, were assessed to consider whether social disadvantage impacted attainment and whether there were differential impacts of the programme for families based on social disadvantage.*

The analysis showed no main effect of income, educational level or free school meal eligibility on children's receptive vocabulary. **Social disadvantage was not found to influence children's receptive vocabulary scores.** As found in the randomised controlled trial analysis, there was no main effect of Families Connect on receptive vocabulary. Furthermore, no interaction (Families Connect and disadvantage) effects were found, i.e. the impact of Families Connect on receptive vocabulary was not different depending on levels of disadvantage.

Main effects of income (0.50, $p < 0.05$) and parents' education level (0.61, $p < 0.05$) were found on children's numeracy skills. **Social disadvantage was found to influence children's numeracy skills with higher income and parental education related**

**to higher numeracy skills.** There was no main effect of free school meal eligibility on numeracy skills.

Again, as found in the randomised controlled trial analysis, there was no main effect of Families Connect on numeracy skills; and no interaction effect (Families Connect and disadvantage) were found, i.e. the impact of Families Connect on numeracy skills was not different depending on levels of disadvantage.

## 4. Does social disadvantage have an impact on parents' reports of the home learning environment (HLE) and are the families living with social disadvantage impacted differently by the programme than those who are not?

*The relationships between the home learning environment (measured immediately after the programme), social disadvantage and Families Connect allocation were assessed to consider whether social disadvantage impacted on home learning environment scores and whether there were differential impacts of the programme for families based on social disadvantage.*

**TABLE 5** RELATIONSHIP BETWEEN THE HOME LEARNING ENVIRONMENT, SOCIAL DISADVANTAGE AND FAMILIES CONNECT ALLOCATION

| **HOME LEARNING ENVIRONMENT** | | | |
|---|---|---|---|
| **Income** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 41.33 | 0.74 | 0.00 |
| HLE at baseline | 0.53 | 0.04 | 0.00 |
| Families Connect | 4.52 | 1.01 | 0.00 |
| Income | 0.43 | 0.19 | 0.02 |
| Interaction | -0.78 | 0.26 | 0.00 |
| **Education Level** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 41.65 | 0.63 | 0.00 |
| HLE at baseline | 0.57 | 0.04 | 0.00 |
| Families Connect | 2.69 | 0.85 | 0.00 |
| Education Level | 0.47 | 0.20 | 0.02 |
| Interaction | -0.45 | 0.28 | 0.10 |
| **Free School Meal Eligibility** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 42.92 | 0.43 | <0.01 |
| HLE at baseline | 0.56 | 0.04 | <0.01 |
| Families Connect | 0.92 | 0.57 | 0.11 |
| FSM | -0.61 | 0.64 | 0.34 |
| Interaction | 1.85 | 0.89 | 0.04 |

The analysis showed a main effect of income (0.43, $p < 0.05$) and Families Connect allocation (4.52, $p < 0.05$) on the home learning environment. **Families on a low household income had lower levels of home learning environment scores than families on a higher household income. Those families who were allocated to attending the**

**programme had higher home learning environment scores after the programme than those who were not allocated** (in the waitlist control group). An interaction effect was also evident between Families Connect allocation and household income (-0.78 $p < 0.05$). **A greater positive impact of attending the programme was found on the home learning environment for those families on lower incomes.**

The analysis showed a main effect of parents' education (0.47, $p < 0.05$) and Families Connect allocation (2.69, $p < 0.05$) on the home learning environment. **Parents with higher educational levels reported higher home learning environment scores than those with lower educational levels. Those families allocated to the programme had higher home learning environment scores after the programme than those families not allocated** (waitlist control). However, there was no interaction effect, therefore no difference in impact of the programme based on parents' education level. **Families experienced the positive impact of the programme on the home learning environment similarly based on parent educational levels.**

The analysis found no main effect of free school meal eligibility for the home learning environment nor main effect of Families Connect allocation. However, an interaction effect was found between free school meal eligibility and Families Connect allocation on the home learning environment (1.85, $p < 0.05$). **For the families allocated to the programme and reporting eligibility for free school meals the programme had a positive impact on their home learning environment scores.**

**Social disadvantage was found to impact the home learning environment with families on higher incomes and higher educational levels having greater home learning environment scores. The programme was also found to have an impact on the home learning environment with those attending the programme also reporting greater home learning environment scores. Moreover, the programme was found to be more impactful for families on lower incomes and those eligible for free school meals.**

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## 5. Does social disadvantage have an impact on parents' reports of parent–child interaction or parent–child enrichment activities (subscales of the Home Learning Environment Index) and are the families living with social disadvantage impacted differently by the programme than those who are not?

*The relationships between parent–child interaction / parent–child enrichment (measured immediately after the programme), social disadvantage and Families Connect allocation were assessed to consider whether social disadvantage had an impact and whether there were differential impacts of the programme for families based on social disadvantage.*

**TABLE 6** RELATIONSHIP BETWEEN PARENT–CHILD INTERACTION, SOCIAL DISADVANTAGE AND FAMILIES CONNECT ALLOCATION

| **PARENT–CHILD INTERACTION** | | | |
|---|---|---|---|
| **Income** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 6.12 | 0.57 | <0.01 |
| PCI at baseline | 0.49 | 0.04 | <0.01 |
| Families Connect | 1.10 | 0.36 | 0.00 |
| Income | 0.05 | 0.07 | 0.47 |
| Interaction | -0.14 | 0.09 | 0.14 |
| **Education Level** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 5.56 | 0.59 | <0.01 |
| PCI at baseline | 0.50 | 0.04 | <0.01 |
| Families Connect | 1.34 | 0.31 | <0.01 |
| Education Level | 0.23 | 0.07 | 0.00 |
| Interaction | -0.27 | 0.10 | 0.01 |
| **Free School Meal Eligibility** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 6.13 | 0.57 | <0.01 |
| PCI at baseline | 0.52 | 0.04 | <0.01 |
| Families Connect | 0.34 | 0.20 | 0.09 |
| FSM | -0.37 | 0.23 | 0.11 |
| Interaction | 0.53 | 0.32 | 0.10 |

The analysis found no main effect of low income but a main effect of Families Connect allocation (1.10 $p < 0.05$) on the home learning environment subscale of parent–child interaction. **Families on a low household income did not have significantly different parent–child interaction scores than families on higher household incomes. Those allocated to the programme had higher parent–child interaction scores after the programme than those in the waitlist control group.** No interaction effect was evident between programme allocation and household income on parent–child interaction. **Families with different household incomes experienced the positive impact of the programme on parent–child interaction similarly.**

The analysis found a main effect of parents' education (0.23, $p < 0.05$) and Families Connect allocation (1.34 $p < 0.05$) on parent–child interaction. **Parents with higher educational levels reported higher parent–child interaction scores than those with lower educational levels. Those allocated to the programme had higher parent–child interaction scores after the programme than those in the waitlist control group.** An interaction effect was also evident between programme allocation and educational level (-0.27, $p < 0.05$). **The programme has a greater positive impact for families with lower educational levels than those with higher educational levels.**

The analysis found no main effects for free school meal eligibility and Families Connect allocation on parent–child interaction scores. **Families eligible for free school meals did not have significantly different parent–child interaction scores than families not eligible. Those allocated to the programme did not have higher parent–child interaction scores after the programme than those in the waitlist control group.** No interaction effect was evident between programme allocation and eligibility for free school meals on parent–child interaction, the impact of Families Connect on parent–child interaction was not different depending on free school eligibility.

**TABLE 7** RELATIONSHIP BETWEEN PARENT–CHILD ENRICHMENT, SOCIAL DISADVANTAGE AND FAMILIES CONNECT ALLOCATION

| **PARENT–CHILD ENRICHMENT** | | | |
|---|---|---|---|
| **Income** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 3.42 | 0.46 | <0.01 |
| PCE at baseline | 0.55 | 0.04 | <0.01 |
| Families Connect | 1.65 | 0.40 | <0.01 |
| Income | 0.23 | 0.07 | 0.00 |
| Interaction | -0.33 | 0.10 | 0.00 |
| **Education Level** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 3.65 | 0.43 | <0.01 |
| PCE at baseline | 0.56 | 0.04 | <0.01 |
| Families Connect | 0.88 | 0.34 | 0.01 |
| Education Level | 0.20 | 0.08 | 0.01 |
| Interaction | -0.21 | 0.11 | 0.07 |
| **Free School Meal Eligibility** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 4.37 | 0.41 | <0.01 |
| PCE at baseline | 0.55 | 0.04 | <0.01 |
| Families Connect | 0.28 | 0.22 | 0.22 |
| FSM | -0.60 | 0.25 | 0.02 |
| Interaction | 0.44 | 0.36 | 0.22 |

The analysis found main effects of low income (0.23 $p < 0.05$) and Families Connect allocation (1.65 $p < 0.05$) on the home learning environment subscale of parent–child enrichment. **Families with higher household income had significantly higher parent–child enrichment scores than families on lower household incomes. Those families**


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**allocated to the programme had higher parent–child enrichment scores after the programme than those in the waitlist control group.** Furthermore, an interaction effect was evident between programme allocation and household income on parent–child enrichment (-0.33, $p < 0.05$). **The programme had a greater positive impact on families with lower household incomes.**

The analysis found main effects of parents' education (0.20, $p < 0.05$) and Families Connect allocation (0.88, $p < 0.05$) on parent–child enrichment. **Parents with higher educational levels reported higher parent–child enrichment scores than those with lower educational levels. Those allocated to the programme had higher parent–child enrichment scores after the programme than those who were in the waitlist control group.** No interaction effect was evident between attending the programme and parents' educational level. **Families experienced the positive impact of the programme on parent–child enrichment similarly based on parent educational levels.**

The analysis found a main effect of free school meal eligibility (-0.60 $p < 0.05$) but no main effect of Families Connect allocation on parent–child enrichment immediately after the programme. **Parents reporting child eligibility for free school meals had lower parent–child enrichment scores. Those allocated to the programme did not have higher parent–child enrichment scores after the programme than those in the waitlist control group.** There was no interaction effect between free school meal eligibility or Families Connect allocation on parent–children enrichment scores. The impact of Families Connect on parent–child enrichment was not different depending on free school meal eligibility.

**Social disadvantage was found to impact on the home learning environment subscales of parent–child interaction and enrichment interaction differently. Lower household income and free school meal eligibility had a negative impact on parent–child enrichment but no impact on parent–child interaction. Both subscales were positively influenced by higher parental educational level. Families Connect allocation was impactful for both subscales of the home learning environment. The programme was also found to have a greater impact on parent–child enrichment for families on lower household income and a greater impact on parent–child interaction for parents with lower education levels.**

## 6. Does social disadvantage have an impact on parents' reports of the parent self-efficacy in supporting their child's learning and are families living with social disadvantage impacted differently by the programme than those who do not?

*The relationships between parent self-efficacy in children's learning (measured immediately after the programme), social disadvantage and Families Connect allocation was assessed to consider whether social disadvantage had an impact and whether there were differential impacts of the programme based on social disadvantage.*

**TABLE 8** RELATIONSHIP BETWEEN PARENT SELF-EFFICACY, SOCIAL DISADVANTAGE AND FAMILIES CONNECT ALLOCATION

| **PARENT SELF-EFFICACY** | | | |
|---|---|---|---|
| **Income** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 16.98 | 1.44 | <0.01 |
| PSE at baseline | 0.50 | 0.04 | <0.01 |
| Families Connect | 1.96 | 1.10 | 0.08 |
| Income | -0.12 | 0.20 | 0.56 |
| Interaction | -0.21 | 0.28 | 0.45 |
| **Education Level** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 15.96 | 1.41 | <0.01 |
| PSE at baseline | 0.54 | 0.04 | <0.01 |
| Families Connect | 0.46 | 0.91 | 0.61 |
| Education Level | -0.11 | 0.21 | 0.61 |
| Interaction | 0.07 | 0.30 | 0.81 |
| **Free School Meal Eligibility** | | | |
| | **Coefficient** | **Std. Error** | **P Value** |
| (Intercept) | 16.12 | 1.33 | <0.01 |
| PSE at baseline | 0.52 | 0.04 | <0.01 |
| Families Connect | 0.92 | 0.60 | 0.12 |
| FSM | -0.25 | 0.66 | 0.70 |
| Interaction | -0.12 | 0.94 | 0.90 |

The analysis found no main effects of social disadvantage (measured by either household income, parent education or free school meal eligibility) or Families Connect allocation on parent self-efficacy. **Social disadvantage was not found to influence parent's self-efficacy in children's learning.** Furthermore, no interaction effects were found between social disadvantage and Families Connect allocation on parent self-efficacy.

The lack of impact of social disadvantage on parent self-efficacy in children's learning indicates that it may not be an important determinate of parent self-confidence and perceived skills in supporting children's learning. Interestingly, the programme was not shown to impact on parent self-efficacy scores when social disadvantage was included in the model, contrary to the findings of the randomised controlled trial. However, social disadvantage was found predictive of families' engagement in home learning environment activities. Attending the programme supported those living in social disadvantage to increase their engagement in home learning environment activities.

# SUMMARY OF KEY FINDINGS

- Parent self-efficacy, their confidence and skills in supporting their children's learning, are critical to supporting a positive home learning environment.

- Social disadvantage was not found to influence children's receptive vocabulary scores (measured six months after the programme).

- Social disadvantage was found to negatively impact on children's numeracy skills (measured six months after the programme). Children in families on lower household incomes and in families with lower educational levels receive lower numeracy skill scores.

- Social disadvantage was found to impact on the home learning environment (measured immediately after the programme) with families on higher incomes and families with higher educational levels reporting greater home learning environment scores.

- Families Connect was found to have an impact on the home learning environment (measured immediately after the programme) with those allocated to the programme reporting greater home learning environment scores than those in the waitlist control group.

- Families Connect was more impactful on the home learning environment (measured immediately after the programme) for families on lower incomes and those eligible for free school meals.

- The relationship between social disadvantage and the two different subscales of the home learning environment – parent–child interaction and parent–child enrichment (measured immediately after the programme) – differed. Lower household income and free school meal eligibility had a negative impact on parent–child enrichment scores but no impact on parent–child interaction scores. Both subscales were positively impacted by higher parental educational level.

- Families Connect was impactful for both subscales of the home learning environment (measured immediately after the programme). The programme was also found to have a greater impact on parent–child enrichment scores for families on lower household incomes and a greater impact on parent–child interaction scores for parents with lower education levels.

- The lack of impact of social disadvantage on parent self-efficacy scores indicates that it may not be an important determinate of parent self-confidence and perceived skills in supporting children's learning.

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Authors: Christine Bradley, Connie Rennie and Pippa Lord



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