



Evaluation of Small Steps Big Changes

Interim Report: January 2020

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Executive summary

Small Steps Big Changes (SSBC) is a 10 year programme hosted by Nottingham CityCare Partnership and funded by the National Lottery Community Fund's 'A Better Start' strategic programme. The programme operates across four wards in Nottingham - Arboretum and Hyson Green, Aspley, Bulwell, and St Ann's. It aims to improve outcomes for 0-3-year-old children in the areas of diet and nutrition, social and emotional skills, and language and communication skills. It also aims to bring about system change by 'tipping the system on its head' and empowering parents, communities and workforces to coproduce services and achieve together. Small Steps Big Changes commissions a range of services and activities (for further details please see: www.smallstepsbigchanges.org.uk) to achieve these aims.

This report presents the findings from the evaluation of two commissioned components of Small Steps Big Changes in Nottingham: the Dolly Parton Imagination Library (DPIL) and Small Steps at Home programmes. The DPIL sends age-appropriate books to children who are enrolled in the programme from birth to their fifth birthday to inspire a love of reading. The Small Steps at Home programme is run by local community organisations and delivered by Family Mentors who have lived experience of parenting. It is a home visiting programme that starts at 32 weeks pregnancy and runs until the child's fourth birthday. The programme contains advice, information and activities. Each visit focusses on a range of topics, which are relevant to children's age. The aim of the programme is to improve children's communication and language, social and emotional development, and nutrition. It also aims to ensure there is a good relationship between Family Mentors and parents.

The evaluation of the DPIL tested whether there were differences in reading routines and behaviours (i.e. frequency of book sharing between parent and child and frequency of visits to a library, see appendices 1-3 for further details) between parents/children who received books from the DPIL for various lengths of time (i.e. 0-11 months (n=75), 12-24 months (n=99) and more than 25 months (n=105))¹ and those who did not (recruited from other areas of Nottingham-'comparison group', n=185). The evaluation also examined whether

¹ Sample size varies depending on the question (see Table 3).

there was an association between length of registration with the DPIL and frequency of reading.

The evaluation of Small Steps at Home programme examined whether there were differences in 24-Month Ages and Stages Questionnaire (ASQ) scores in communication, fine motor, gross motor, personal-social and problem-solving between children who participated in the Small Steps at Home programme for various length of time (i.e. children from SSBC wards who participated in the programme for more than 18 months (n=158), children from SSBC wards who participated in the programme for less than 17 months (n=129), children from SSBC wards who did not participate in the programme (n=621)) and those who were from 'comparison' wards and did not participate in the programme (n=2351).

The key findings from the evaluation of the DPIL and Small Steps at Home programmes are summarised below:

Dolly Parton Imagination Library:

1. Parents whose children were not registered with the DPIL read to their child and sang with them more frequently than parents whose children received DPIL books for 0-11 months. There were no statistically significant differences between children from the 'comparison group' and children who received DPIL books for more than 12 months, suggesting that participation in the programme may help parents to engage in more frequent activity.
2. Children who were not registered with the DPIL asked their parents to read to them and looked at books by themselves more frequently than children who received DPIL books for 0-11 months. There were no statistically significant differences between children from the 'comparison group' and children who received DPIL books for more than 12 months. Importantly, the longer children received DPIL books, the more frequently they asked their parents to read to them and looked at books by themselves.
3. The longer children received DPIL books, the more their parents interacted with them during reading sessions. In addition, parents whose children received DPIL books for more than 12 months interacted with their child much more when sharing books than parents whose children were not registered with the DPIL.

- a. When we considered child age, parents whose children received DPIL books for more than 25 months and were aged 2 years old interacted with their child much more than parents whose children were not registered with the DPIL and were aged 2 years old.
 - b. In addition, parents whose children received DPIL books for more than 25 months and were aged 4 years old interacted with their child much more than parents whose children were not registered with the DPIL and were aged 4 years old.
4. Children who were registered with the DPIL for more than 25 months had longer reading sessions with their parents than children who were registered with the DPIL for 0-11 months.
 - a. When we considered child age, children who were registered with the DPIL for 12-24 months and were aged 1 year old had longer reading sessions with their parents than children who were not registered with the DPIL and were aged 1 year old.
 - b. In addition, children who were registered with the DPIL for more than 25 months and were aged 4 year old had longer reading sessions with their parents than children who were not registered with the DPIL and were aged 4 year old.
5. Parents whose children were not registered with the DPIL had more books at home than parents whose children were registered with the DPIL.
 - a. When we considered child age, parents whose children were not registered with the DPIL and were aged 2 years old had more books at home than children who received DPIL books for more than 25 months and were aged 2 years old.
 - b. In addition, parents whose children were not registered with the DPIL and were aged 3 years old had more books at home than children who received DPIL books for more than 25 months and were aged 3 years old.
 - c. **These findings indicate that the families who register with the DPIL programme are more in need of the support it provides.**

6. Similarly, parents whose children were not registered with the DPIL and were aged 3 years old visited their local libraries more frequently than parents whose children were registered with the DPIL for more than 25 months and were aged 3 years old.
7. Parents whose children were registered with the DPIL for more than 12 months were more likely to read to their child daily than parents whose children were registered with the DPIL for 11 months or less even after controlling for parent ethnicity, employment and marital status; child age and sex; and whether English was the first language.
8. Unemployed parents whose children were registered with the DPIL were less likely to read to their children daily than parents with a full-time job.

Small Steps at Home:

1. Children from SSBC wards who participated in the programme for more than 18 months had the highest mean 24-Month ASQ (excluding problem-solving domain) and 'overall' scores. However, there were no statistically significant differences in ASQ scores between the four groups of children.

Overall, it is recommended that:

Dolly Parton Imagination Library:

1. SSBC could inform parents of the benefits of reading daily to their child(ren) at an earlier age.
2. Future reports could examine whether children registered with the DPIL would have higher literacy scores than children not registered with the DPIL when Key Stage 1 results for children aged 5 are available.
3. SSBC could encourage parents to go to their local libraries more frequently where they could find DPIL and other books.
4. SSBC could undertake some targeted work, with parents who are unemployed, around the benefits of reading to child(ren) frequently.

Small Steps at Home:

1. SSBC could focus on the ingredients of the Small Steps at Home visits to increase the impact of the programme on ASQ scores.

1 Introduction

Small Steps Big Changes (SSBC) is a programme hosted by Nottingham CityCare Partnership and supported by the National Lottery Community Fund's A Better Start Initiative. The programme operates across four wards in Nottingham - Arboretum and Hyson Green, Aspley, Bulwell, and St Ann's. It aims to improve outcomes for 0-3-year-old children in the areas of diet and nutrition, social and emotional skills, and language and communication skills. It also aims to bring about system change by 'tipping the system on its head' and empowering parents, communities and workforces to coproduce services and achieve together. Small Steps Big Changes commissions a range of services and activities (for further details please see: www.smallstepsbigchanges.org.uk) to achieve these aims.

The Nottingham Centre for Children, Young People and Families (NCCYPF) commenced its evaluation with SSBC in May 2018. This is the January 2020 interim report that presents findings from the evaluations of the Dolly Parton Imagination Library (DPIL) and Small Steps at Home (a home visiting programme) programmes. For the DPIL evaluation, the report analysed the reading routines questionnaires that were developed by the NTU evaluation team. For the Small Steps at Home evaluation, it analysed Small Steps at Home attendance and 24-Month Ages and Stages Questionnaires (ASQ) data that were provided by SSBC. The findings presented in this interim report should be read along with the findings from the annual report that was submitted to SSBC in Autumn 2019 (Lushey et al., 2019 - *Evaluation of Small Steps Big Changes: First Annual Report. Nottingham Trent University, Nottingham Centre for Children Young People and Families, Nottingham*).

2 Dolly Parton Imagination Library

Dolly Parton Imagination Library (DPIL) was first established by Dolly Parton in Tennessee, the USA, in 1996. Every month, the DPIL sends high-quality, age-appropriate books (which are selected each year by a panel of early childhood literacy experts) to children who are enrolled in the programme from birth to their fifth birthday. The DPIL is run in five countries (USA, Canada, Australia, UK, and Republic of Ireland) and has distributed over 131 million books as of December 2019 across the World². Children living in the Arboretum and Hyson Green, Aspley, Bulwell and St Ann's areas of Nottingham are entitled to receive free books through the DPIL scheme funded by SSBC.

2.1 Aim of the Dolly Parton Imagination Library evaluation

The evaluation of the DPIL tested whether there were differences in reading routines and behaviours (i.e. frequency of book sharing between parent and child and frequency of visits to a library, see appendices 1-3 for further details)³ between parents/children who received books from the DPIL for various lengths of time (i.e. 0-11 months (n=75), 12-24 months (n=99) and more than 25 months (n=105)) and those who did not (recruited from both other areas of Nottingham and SSBC wards- 'comparison group', n=185). The evaluation also examined whether there was an association between length of registration with the DPIL and frequency of reading.

2.2 Methodology

2.2.1 Respondents

A questionnaire was developed by the evaluation team based on surveys designed by Funge et al., 2017; Harvey, 2016; Ridzi et al., 2014; and Fong, 2007 (see Section 2.2.2 for details). The questionnaire was made available online (using Qualtrics - an online subscription software for collecting and analysing data) from January to September 2019 to parents whose children were registered with the DPIL and to those whose children were not registered. It was made available to the two groups separately in order to minimise possible

² <https://imaginationlibrary.com/uk/>

³ Sample size varies depending on the question.

confusions for respondents (see appendices 1 and 2). Links to the online questionnaires were posted on SSBC's Facebook page and tweeted from the Nottingham Centre for Children, Young People and Families' (NCCYPF) and SSBC's twitter accounts. Some questionnaires were also completed face-to-face with parents attending SSBC Story and Rhyme Time and Messy Makers⁴; and also by Family Mentors with families they visit as part of the Small Steps at Home programme. To increase the sample size of the DPIL group, a text message with a link to the online questionnaire, was also sent by SSBC to all parents whose children were registered with the scheme (where they had consented to being contacted). The questionnaires took 10 minutes to complete and were anonymous. In total 557 questionnaires were completed, and this included 355 completed by parents whose children were registered with the DPIL and 202 whose children were not. After deleting inappropriate cases (e.g. duplicates) in the process of data cleaning (see Section 2.2.3) the sample size was 512. It should however be noted there were missing cases regarding different socio-demographic characteristics of parents and children. That is why the summing of the total DPIL and comparison group sample sizes in Table 1 did not make 512.

The characteristics of parents and children who formed the DPIL group were as follows. The majority of the DPIL parents were in part-time work (35.1%), married (40.1%), white British (64.6%), aged between 25 and 34 (57.2%) and spoke English as their first language (80.9%). All DPIL children were under five years old with most aged between one and three years old (88.1%). There was an even split between males (51.8%) and females (48.2%).

Similarly, the majority of the parents from the 'comparison group' were in part-time work (43.3%), married (66.8%), white British (85.4%), aged between 25 and 34 (54.5%) and spoke English as their first language (93.0%). All children from the 'comparison group' were under five years old with most aged between one and three years old (77.1%). There was an even split between males (50.8%) and females (49.2%).

⁴ Story and Rhyme Time: Parents learn how to support their child to develop important language and communication skills through songs, stories and play.

Messy Makers: Parents and their child make things from craft materials, which let children explore textures and simulate their senses. Themed, fun activities help children to concentrate and develop their gross and fine motor skills.

It should be noted that there were disparities between the DPIL and the ‘comparison’ groups in terms of socio-demographic characteristics. In other words, parents whose children were registered with the DPIL were more likely to be unemployed than parents whose children were not (10.1% vs 2.7%). Parents whose children were registered with the DPIL were more likely to be single than parents whose children were not (28.5% vs 5.3%). Parents whose children were registered with the DPIL were more likely to be Black/African/Caribbean/Black British than parents whose children were not (11.2% vs 0.5%). Parents whose children were registered with the DPIL were more likely to speak English as an additional language than parents whose children were not (19.1% vs 7.0%). These statistics imply that the DPIL group had a disadvantaged background and this requires consideration when reading the findings from this report (see Table 1 for further details).

Table 1: Descriptive statistics for parent/child socio-demographic characteristics

| | DPIL Group | | Comparison Group | |
|-----------------------------------------------|-------------|----------------|------------------|----------------|
| | Sample Size | % Within Group | Sample Size | % Within Group |
| Relationship to Child | | | | |
| Mother | 296 | 94.3 | 187 | 96.4 |
| Father | 13 | 4.1 | 6 | 3.1 |
| Other (i.e. relative, friend) | 5 | 1.6 | 1 | 0.5 |
| Total | 314 | 100.0 | 194 | 100.0 |
| Parent Employment Status | | | | |
| Employed full-time | 52 | 18.8 | 51 | 27.3 |
| Employed part-time | 97 | 35.1 | 81 | 43.3 |
| Not in employment | 28 | 10.1 | 5 | 2.7 |
| Student | 5 | 1.8 | 5 | 2.7 |
| Homemaker (i.e. stay at home parent or carer) | 94 | 34.1 | 45 | 24.1 |
| Total | 276 | 100.0 | 187 | 100.0 |

Table 1: Descriptive statistics for parent/child socio-demographic characteristics and chi-square test of association (continued)

| | DPIL Group | | Comparison Group | |
|---------------------------------------------|-------------|----------------|------------------|----------------|
| | Sample Size | % Within Group | Sample Size | % Within Group |
| Parent Marital Status | | | | |
| Married | 111 | 40.1 | 125 | 66.8 |
| Civil partnership | 14 | 5.1 | 3 | 1.6 |
| Co-habiting | 65 | 23.5 | 44 | 23.5 |
| Separated | 6 | 2.2 | 4 | 2.1 |
| Divorced | 2 | 0.7 | 1 | 0.5 |
| Single | 79 | 28.5 | 10 | 5.3 |
| Total | 277 | 100.0 | 187 | 100.0 |
| Parent Ethnicity | | | | |
| Asian or Asian British | 24 | 8.7 | 13 | 7.0 |
| Black / African / Caribbean / Black British | 31 | 11.2 | 1 | 0.5 |
| Mixed / Multiple ethnic background | 12 | 4.3 | 5 | 2.7 |
| White British | 179 | 64.6 | 158 | 85.4 |
| Other ethnic group | 25 | 9.0 | 6 | 3.2 |
| Prefer not to say | 6 | 2.2 | 2 | 1.1 |
| Total | 277 | 100.0 | 185 | 100.0 |
| Parent Age | | | | |
| 17 or under | 1 | 0.4 | 0 | 0.0 |
| 18 to 24 | 22 | 8.0 | 7 | 3.7 |
| 25 to 34 | 158 | 57.2 | 102 | 54.5 |
| 35 to 40 | 63 | 22.8 | 61 | 32.6 |
| 41 or over | 32 | 11.6 | 17 | 9.1 |
| Total | 276 | 100.0 | 187 | 100.0 |
| English as a First Language | | | | |
| Yes | 224 | 80.9 | 174 | 93.0 |
| No | 53 | 19.1 | 13 | 7.0 |
| Total | 277 | 100.0 | 187 | 100.0 |

Table 1: Descriptive statistics for parent/child socio-demographic characteristics and chi-square test of association (continued)

| | DPIL Group | | Comparison Group | |
|---------------------------------------------|-------------|----------------|------------------|----------------|
| | Sample Size | % Within Group | Sample Size | % Within Group |
| Child Age | | | | |
| Under 1 years old | 38 | 13.7 | 12 | 6.1 |
| 1 years old | 50 | 18.0 | 35 | 17.8 |
| 2 years old | 80 | 28.8 | 46 | 23.4 |
| 3 years old | 77 | 27.7 | 59 | 29.9 |
| 4 years old | 30 | 10.8 | 37 | 18.8 |
| 5 years old | 3 | 1.1 | 8 | 4.1 |
| Total | 278 | 100.0 | 197 | 100.0 |
| Child Ethnicity | | | | |
| Asian or Asian British | 22 | 8.0 | 14 | 7.5 |
| Black / African / Caribbean / Black British | 29 | 10.5 | 1 | 0.5 |
| Mixed / Multiple ethnic background | 39 | 14.2 | 14 | 7.5 |
| White British | 164 | 59.6 | 151 | 81.2 |
| Other ethnic group | 15 | 5.5 | 4 | 2.2 |
| Prefer not to say | 6 | 2.2 | 2 | 1.1 |
| Total | 275 | 100.0 | 186 | 100.0 |
| Child Sex | | | | |
| Male | 142 | 51.8 | 93 | 50.8 |
| Female | 132 | 48.2 | 90 | 49.2 |
| Total | 274 | 100.0 | 183 | 100.0 |

2.2.2 Questionnaire

As noted earlier, a questionnaire was developed by the evaluation team based on surveys designed by Funge et al., (2017); Harvey, (2016); Ridzi et al., (2014); and Fong, (2007). The aim was to explore and compare the reading routines of parents whose children were registered with DPIL with those whose children were not registered with the scheme. For example, a series of questions that indicated a child's love of books and reading were asked

of parents (i.e. 'how excited is your child to receive books from the Imagination Library?' and 'how much does your child enjoy reading and looking at books?'). In order to measure frequency of book sharing, parents were asked 'how often do you read to your child' and 'how long does a reading session usually last'. To explore interactions between parent and child during book sharing (i.e. whether parents encourage their child to actively participate during book sharing) a number of questions were developed. Examples of questions included 'how often do you talk about what specific words in the book mean?' and 'how often do you talk about what is happening in the story'. Parents were also asked to rate their confidence in sharing books, and singing songs and rhymes with their child. Finally, parents were asked how many non-DPIL books they had at home and how often they visited their local libraries to see if the DPIL had encouraged parents to acquire additional books to those provided by the DPIL (see appendices 1 and 2 for further questions).

2.2.3 Data cleaning

The analysis started with cleaning the data. A total of 355 questionnaires were completed by parents whose children were registered with the DPIL. Those who answered the question of 'Do you have a child that receives books from Imagination Library book gifting scheme' as 'No' (n=23) along with missing cases (n=3) were deleted. In addition, missing cases regarding the question of 'Do you live in Nottingham' (n=28) were also excluded.

A total of 202 questionnaires were completed by parents whose children were not enrolled with the DPIL. Those who answered the question of 'Do you have a child that receives books from Imagination Library book gifting scheme' as 'Yes' were removed (n=1). In addition, those who answered the question of 'Do you live in Nottingham' as 'No' (n=1) along with missing cases (n=2) were also deleted.

The two data sets were then merged. An initial check found that there were 9 duplicates (parents who completed the questionnaires twice) in the data set and they were deleted. Furthermore, it was identified that some parents reported that they had a child who was under 1 year old but had been receiving books for 25 months to 3 years. These 5 cases were deleted. The final sample size was 512 and this included 315 questionnaires completed by

parents whose children were registered with the DPIL and 197 questionnaires completed by parents whose children were not registered with the DPIL.

It should be noted there were missing cases regarding different questions on socio-demographic characteristics of parents/children and reading routine and behaviours. However, they were not deleted all together to be able to conduct the analyses with large sample sizes as much as possible. That is why the summing of sample sizes in Table 3 (Section 2.3.1) varied and did not make 512. In Section 2.3.2, the analyses were conducted with the DPIL sample only. In addition, missing cases regarding socio-demographic characteristics of parents and children of the DPIL sample were deleted to conduct a logistic regression analysis (see Section 2.2.4.2). That is why the total sample size was 263. Details of the methods that were applied to analyse the cleaned data can be found in following and the 'Results' sections.

2.2.4 Data analysis

2.2.4.1 *Kruskal-Wallis H test*

This part of the report conducted Kruskal-Wallis H test (sometimes also called the "one-way analysis of variance on ranks") to determine if there are statistically significant differences between two or more groups of an independent variable (i.e. four groups of children/parents with different lengths of time registered with the DPIL) on a continuous or ordinal dependent variable (i.e. reading routines and behaviour scores). The reason for choosing this method was that some individual variables and the residuals were not normally distributed which is one of the core assumptions of one-way analysis of variance (ANOVA).

2.2.4.2 *Logistics regression*

This part of the report (Section 2.3.2) also conducted a logistic regression to predict the probability that an observation falls into one of two categories of a dichotomous dependent variable (i.e. reading to child daily or not) based on one or more independent variables that can be either continuous (i.e. age) or categorical (i.e. socio-demographic characteristics of parents and children such as ethnicity).

2.2.5 Ethics statement

2.2.5.1 Ethical approval

Ethical approval was obtained from the Nottingham Trent University College of Business, Law and Social Sciences Research Ethics Committee. The evaluation has also been registered with Research and Innovation, Nottinghamshire Healthcare NHS Foundation Trust with permission to proceed provided.

2.2.5.2 Informed participant consent

Written informed consent was obtained from all participants. Participants were assured that they did not have to answer any questions that they did not want to and could withdraw from the evaluation, without giving a reason, at any time up until publication of the findings.

In order to adequately brief parents with English as an additional language we made the questionnaire available in other languages although none were completed. A number of face-to-face questionnaires were completed by the evaluation team and by some Family Mentors but due to time and resources this was limited. Participants did not receive any reward for participating in the study.

2.2.5.3 Anonymity and data security

All data was anonymised as soon as possible after collection. Participants were assigned a unique identification number and data was stored against this number rather than against the names of the participants. The data and findings were kept on a secure drive allocated to NCCYPF at Nottingham Trent University. The member who carried out the statistical analysis has an honorary NHS contract

2.3 Results

2.3.1 Were there differences in the reading routines/behaviours between different groups of children/parents?

This section reports findings from an analysis that tested whether there were differences in various reading routine and behaviour scores between different groups. The analysis started with calculating total scores for questions that indicated similar concepts (see Table 2 for the questions that were merged and Appendix 3 for item scoring). Following that Kruskal-Wallis tests⁵ were run to determine if there were differences in various reading routine and behaviour scores between four groups of children/parent with different lengths of time that they received DPIL books for (without considering child age): 0-11 months, 12-24 months, more than 25 months and children from the 'comparison group' who did not receive DPIL books. A number of statistically significant findings were found. Post hoc analyses revealed that:

1. parents whose children were not registered with the DPIL read to their child and sang with them more frequently than parents whose children received DPIL books for 0-11 months (See Tables 2 and 3, Case 2)
2. children who were not registered with the DPIL asked their parents to read to them and looked at books by themselves more frequently than children who received DPIL books for 0-11 months
 - a. the longer children received DPIL books, the more frequently they asked their parents to read to them and looked at books by themselves (See Tables 2 and 3, Case 3)
3. the longer children received DPIL books, the more their parents interacted with them during reading sessions
 - a. parents whose children received DPIL books for more than 12 months interacted with their child much more than parents whose children were not registered with the DPIL (See Tables 2 and 3, Case 4)

⁵ See Section 2.2.4

4. children who were registered with the DPIL for more than 25 months had longer reading sessions with their parents than children who were registered with the DPIL for 0-11 months (See Tables 2 and 3, Case 6)
5. parents whose children were not registered with the DPIL had more books at home than parents whose children were registered with the DPIL (See Tables 2 and 3, Case 7)
6. there was a statistically significant difference in frequency of going to a local library between the four groups. However, the post hoc analysis did not report statistically significant *adjusted p-values*⁶ for pairwise comparisons (See Tables 2 and 3, Case 8).

⁶ Adjusted p-values are reported as part of multiple comparisons to reduce the risk of reporting wrong results. The adjusted *p*-value for a test is the unadjusted *p*-value multiplied by the number of tests. In our case, although the unadjusted *p*-value for frequency of going to a local library was significant (.017) when we considered each pairwise comparison in isolation, the adjusted *p*-values were not significant because there were six pairwise comparisons (0-11 months vs 25+ months; 0-11 months vs 12-24 months; 11 months vs Comparison group; 25+ months vs 12-24 months; 25+ months vs Comparison group; 12-24 months vs Comparison group) being made and therefore the initial unadjusted *p*-value was multiplied by six to get the adjusted significance level.

Table 2: Comparison of four groups of children/parents in terms of reading routines/behaviours, Initial analysis

| Reading Routine and Behaviours | Merged Questions | Sig (H ²)* |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------|
| Child interest in books, songs and rhymes | How much does your child enjoy reading and looking at books? | .528 |
| | How much does your child enjoy joining in with songs and rhymes? | |
| Frequency of reading and singing with child | How often do you (or someone else in your household) read to your child? | .044 |
| | How often do you (or someone else in your household) and your child sing together? | |
| Frequency of child-initiated reading | How often does your child ask you read to them? | .001 |
| | How often does your child spend looking at books by themselves? | |
| Interactions when sharing books | Do you ask your child to read with you? | <.0005 |
| | Do you ask your child questions about the pictures in the book? | |
| | Do you talk about letters? | |
| | Do you talk about what specific words in the book mean? | |
| | Do you talk about what is happening in the story? | |
| | Do you ask your child questions to see if they understand the story? | |
| Parent confidence in reading and singing | How much do you agree with the following statement: I am confident reading to my child? | .551 |
| | How much do you agree with the following statement: I am confident singing songs and rhymes with my child? | |
| Length of a reading session | If you do read to your child, how long does a reading session usually last? | .026 |
| Number of books at home | How many children's books that are not from the Imagination Library do you have at home? | <.0005 |
| Frequency of local library visit | How often do you visit your local library? | .017 |

*Figures smaller than .05 suggest a statistically significant difference between four groups of parent/children in terms of reading routine and behaviours

Table 3: Comparison of four groups of children/parents in terms of reading routines/behaviours, Post hoc analysis

| Reading Routine and Behaviours | Group | Sample size | Mean | Median | Min | Max | Sig (H ²)* | Post Hoc Analysis with Adjusted p-value (X ²)* |
|---------------------------------------------|------------------|-------------|-------|--------|-----|-----|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency of reading and singing with child | Comparison group | 185 | 10.18 | 11 | 6 | 12 | .044 | 0-11 months vs Comparison group, $p=.034$ |
| | 0-11 months | 75 | 9.48 | 10 | 3 | 12 | | |
| | 12-24 months | 99 | 9.95 | 10 | 4 | 12 | | |
| | 25 + months | 105 | 9.94 | 10 | 3 | 12 | | |
| Frequency of child-initiated reading | Comparison group | 185 | 9.42 | 10 | 2 | 12 | .001 | 0-11 months vs Comparison group, $p=.010$ 0-11 months vs 12-24 months, $p=.007$ 0-11 months vs 25 + months, $p<.0005$ |
| | 0-11 months | 70 | 7.71 | 9 | 2 | 12 | | |
| | 12-24 months | 98 | 9.53 | 10 | 3 | 12 | | |
| | 25 + months | 104 | 9.93 | 10 | 3 | 12 | | |
| Interactions when sharing books ** | Comparison group | 181 | 15.83 | 15 | 6 | 24 | <.0005 | 0-11 months vs 12-24 months, $p=.001$ (.001) 0-11 months vs 25 + months, $p<.0005$ (.0005) Comparison Group vs 12-24 months, $p=.017$ (.021) Comparison Group vs 25 + months, $p<.0005$ (.0005) |
| | 0-11 months | 70 | 14.44 | 14 | 6 | 24 | | |
| | 12-24 months | 98 | 17.53 | 17 | 8 | 24 | | |
| | 25 + months | 105 | 18.56 | 19 | 9 | 24 | | |
| Length of a reading session | Comparison group | 187 | 1.51 | 1 | 1 | 3 | .026 | 0-11 months vs 25 + months, $p=.049$ |
| | 0-11 months | 67 | 1.43 | 1 | 1 | 3 | | |
| | 12-24 months | 76 | 1.63 | 2 | 1 | 3 | | |
| | 25 + months | 91 | 1.66 | 2 | 1 | 3 | | |

Table 3: Comparison of four groups of children/parent in terms of reading routines/behaviours, Post hoc analysis (Continued)

| Reading Routine and Behaviours | Group | Sample size | Mean | Median | Min | Max | Sig (H ²)* | Post Hoc Analysis with Adjusted p-value (X ²)* |
|----------------------------------|------------------|-------------|------|--------|-----|-----|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Number of books at home | Comparison group | 187 | 4.73 | 5 | 1 | 5 | <.0005 | 0-11 months vs Comparison group, $p<.0005$ 25 + months vs Comparison group, $p=.011$ 12-24 months vs Comparison group, $p=.016$ |
| | 0-11 months | 74 | 3.89 | 5 | 3 | 5 | | |
| | 12-24 months | 99 | 4.42 | 5 | 4 | 5 | | |
| | 25 + months | 108 | 4.39 | 5 | 3 | 5 | | |
| Frequency of local library visit | Comparison group | 187 | 2.51 | 3 | 1 | 4 | .017 | No statistically significant adjusted p-value |
| | 0-11 months | 75 | 2.16 | 2 | 1 | 4 | | |
| | 12-24 months | 99 | 2.27 | 2 | 1 | 4 | | |
| | 25 + months | 108 | 2.19 | 2 | 1 | 4 | | |

*Figures smaller than .05 suggest a statistically significant difference between four groups of parent/children in terms of reading routine and behaviours

** This comparison was conducted by both creating a total score for interactions and conducting a principal component analysis, which created another total score for interactions. Both analyses reported similar results.

2.3.1.1 Age effects

Next, we considered whether the children's age was an influence on the result and compared various groups of children:

1. Children who received DPIL books for 0-11 months and were under 1 year old⁷ vs children from the 'comparison group' who were under 1 year old
2. Children who received DPIL books for 12-24 months and were aged 1 year old vs children from the 'comparison group' who were aged 1 year old
3. Children who received DPIL books for more than 25 months and were aged 2 years old vs children from the 'comparison group' who were aged 2 years old
4. Children who received DPIL books for more than 25 months and were aged 3 years old vs children from the 'comparison group' who were aged 3 years old
5. Children who received DPIL books for more than 25 months and were aged 4 years old vs children from the 'comparison group' who were aged 4 years old

A number of statistically significant findings were found. Post hoc analyses revealed that:

1. parents whose children were not registered with the DPIL and were aged 3 years old read to their child and sang with them more frequently than parents whose children received DPIL books for more than 25 months and were aged 3 years old (See Table 5, Case 2)
2. parents whose children received DPIL books for more than 25 months and were aged 2 years old interacted with their child much more than parents whose children were not registered with the DPIL and were aged 2 years old when sharing books
 - a. parents whose children received DPIL books for more than 25 months and were aged 4 years old interact with their child much more than parents whose children were not registered with the DPIL and were aged 4 years old (See Table 5, Case 4)

⁷ Under 1 year old (0-11 months); 1 year old (12-23 months); 2 years old (24-35 months); 3 years old (36-47 months); 4 years old (48-59 months)

3. children who were registered with the DPIL for 12-24 months and were aged 1 year old had longer reading sessions with their parents than children who were not registered with the DPIL and were aged 1 year old
 - a. children who were registered with the DPIL for more than 25 months and were aged 4 years old had longer reading sessions with their parents than children who were not registered with the DPIL and were aged 4 years old (See Table 5, Case 6)
4. parents whose children were not registered with the DPIL and were aged 2 or 3 years old had more books at home than parents whose children were registered with the DPIL for more than 25 months and were aged 2 or 3 years old (See Table 5, Case 7)
5. parents whose children were not registered with the DPIL and were aged 3 years old visited their local libraries more frequently than parents whose children were registered with the DPIL for more than 25 months and were aged 3 years old (See Table 5, Case 8)

Table 4: Comparison of different groups of children/parents in terms of reading routines/behaviours considering child age, Initial analysis

| Reading Routine and Behaviours | Child age/Length of time, Sig (H ²)* | | | | |
|---------------------------------------------|--------------------------------------------------|----------------|------------------|---------------|---------------|
| | <1/0-11 months | 1/12-24 months | 2/25 + months | 3/25 + months | 4/25 + months |
| Child interest in books, songs and rhymes | .823 | .361 | .771 | .394 | .559 |
| Frequency of reading and singing with child | .201 | .817 | .557 | .041 | .479 |
| Frequency of child-initiated reading | .745 | .490 | .251 | .664 | .374 |
| Interactions when sharing books | .593 | .140 | <.0005 | .282 | .005 |
| Parent confidence in reading and singing | .643 | .943 | .139 | .362 | .912 |
| Length of a reading session | .245 | .001 | .349 | .552 | .002 |
| Number of books at home | .175 | .397 | .036 | .001 | .068 |
| Frequency of local library visit | .754 | .110 | .085 | .014 | .672 |

*Figures smaller than .05 suggest a statistically significant difference between different groups of parent/children in terms of reading routine and behaviours

Table 5: Comparison of different groups of children/parents in terms of reading routines/behaviours considering child age, Post hoc analysis

| Reading Routine and Behaviours | Group | Sample size | Mean | Median | Min | Max | Sig (H ²)* |
|---------------------------------------------|----------------------------------|-------------|-------|--------|-----|-----|------------------------|
| Frequency of reading and singing with child | Comparison group, 3 Years Old | 56 | 10.25 | 11 | 6 | 12 | .041 |
| | More than 25 months, 3 Years Old | 51 | 9.70 | 10 | 3 | 12 | |
| Interactions when sharing books ** | Comparison group, 2 Years Old | 43 | 14.53 | 15 | 7 | 22 | <.0005 |
| | More than 25 months, 2 Years Old | 23 | 18.56 | 19 | 12 | 24 | |
| Interactions when sharing books ** | Comparison group, 4 Years Old | 32 | 17.09 | 16.5 | 8 | 24 | .005 |
| | More than 25 months, 4 Years Old | 25 | 20.24 | 21.0 | 12 | 24 | |
| Length of a reading session | Comparison group, 1 Year Old | 34 | 1.18 | 1 | 1 | 3 | .001 |
| | 12-24 months, 1 Year Old | 27 | 1.63 | 2 | 1 | 3 | |
| Length of a reading session | Comparison group, 4 Years Old | 33 | 1.42 | 1 | 1 | 3 | .002 |
| | More than 25 months, 4 Years Old | 22 | 1.91 | 2 | 1 | 3 | |
| Number of books at home | Comparison group, 2 Years Old | 44 | 4.77 | 5 | 1 | 5 | .036 |
| | More than 25 months, 2 Years Old | 24 | 4.42 | 5 | 1 | 5 | |
| Number of books at home | Comparison group, 3 Years Old | 57 | 4.86 | 5 | 2 | 5 | .001 |
| | More than 25 months, 3 Years Old | 52 | 4.31 | 5 | 1 | 5 | |
| Frequency of local library visit | Comparison group, 3 Years Old | 57 | 2.53 | 3 | 1 | 4 | .014 |
| | More than 25 months, 3 Years Old | 51 | 2.06 | 2 | 1 | 4 | |

*Figures smaller than .05 suggest a statistically significant difference between different groups of parent/children in terms of reading routine and behaviours

**These comparisons were conducted by both creating a total score for interactions and conducting a principal component analysis, which created another total score for interactions. Both analyses reported similar results.

2.3.2 Was there an association between length of registration with the DPIL and frequency of reading?

In this section, the analyses were conducted for a more specific subgroup of parents and their children (the DPIL sample), so that the effects of programme could be considered in a more targeted way.

We first divided the DPIL sample into those enrolled for 6 months or less (n=34) and those enrolled for more than 6 months (n=229). A chi-square test of association was conducted between length of registration with the DPIL and frequency of reading and it was found that there was no statistically significant association between the two, $\chi^2(1) = 2.850$, $p = 0.091$.

Secondly, we divided the DPIL sample into those enrolled for 11 months or less (n=71) and those enrolled for more than 11 months (n=192). There was a statistically significant association between length of registration with the DPIL and frequency of reading. In other words, parents whose children were enrolled in the DPIL for 12 months or more were more likely to read to their children on a daily basis than parents whose children were enrolled in the DPIL for 11 months or less (See Table 6 for further details).

Table 6: Was there a difference between newer enrollees and more experienced in terms of reading frequency?

| | 11 months or less | | 12 months or more | | Chi-square test of association* |
|-----------------|-------------------|----------------|-------------------|----------------|----------------------------------------------------------------------------------------------|
| | Sample Size | % Within Group | Sample Size | % Within Group | |
| Less frequently | 23 (2.7) | 32.4 | 33 (-2.7) | 17.2 | $p=.007$ $\Phi=.165$ Adjusted residuals are in parentheses below observed frequencies. |
| Every day | 48 (-2.7) | 67.6 | 159 (2.7) | 82.8 | |
| Total | 71 | 100.0 | 192 | 100.0 | |

*Figures smaller than .05 suggest a statistically significant association

Next, we examined whether the aforementioned association persisted when socio-demographic characteristics of parents and children (parent ethnicity, employment and marital status; child age and sex; and whether English is the first language) were controlled via a logistic regression analysis (Tabachnick and Fidell, 2013).

Table 7: Predicting likelihood of reading to children every day

| Explanatory variables | B | S.E. | Wald | df | Sig.* | Exp(B) | 95% C.I. for EXP(B) | |
|-----------------------------------------------|--------|------|-------|----|-------------|--------|---------------------|-------|
| | | | | | | | Lower | Upper |
| Duration in the Programme (11 months or less) | 1.053 | .377 | 7.813 | 1 | .005 | 2.867 | 1.370 | 6.002 |
| Parent Ethnicity (White) | -.350 | .413 | .718 | 1 | .397 | .704 | .313 | 1.584 |
| Parent Employment Status (Full time) | | | | | | | | |
| Part time | -.243 | .545 | .198 | 1 | .656 | .785 | .270 | 2.284 |
| Unemployed | -1.079 | .496 | 4.737 | 1 | .030 | .340 | .129 | .898 |
| Parent Marital Status (Married) | -.318 | .339 | .881 | 1 | .348 | .727 | .374 | 1.414 |
| Child Age (3 and over) | .501 | .367 | 1.864 | 1 | .172 | 1.650 | .804 | 3.387 |
| Child Sex (Female) | -.270 | .328 | .675 | 1 | .411 | .764 | .401 | 1.453 |
| English is the First Language (Yes) | -.116 | .503 | .053 | 1 | .817 | .890 | .332 | 2.385 |
| Constant | 1.360 | .648 | 4.406 | 1 | .036 | 3.895 | | |

*Figures smaller than .05 suggest a statistically significant finding

We found that parents whose children were registered with the DPIL for more than 11 months were more likely to read to their child daily than parents whose children were registered with the DPIL for 11 months or less even after controlling for socio-demographic characteristics of parents and children. Further, unemployed parents were less likely to read to their children daily than parents with a full-time job⁸.

⁸ $\chi^2(8) = 22.469$, $p = .004$, $-2 \log \text{likelihood} = 249.899$. The inferential goodness of fit test, the Hosmer Lemeshow (HL), was not significant $\chi^2(8) = 7.278$, $p = .507$, indicating the model fit the data well.

2.4 Discussion and conclusions

This section summarises the main findings from the evaluation of the DPIL; acknowledges the limitations of the present study; and discusses the main findings.

2.4.1 Summary of the findings

The statistically significant findings from the present study can be summarised as follows:

Dolly Parton Imagination Library:

1. Parents whose children were not registered with the DPIL read to their child and sang with them more frequently than parents whose children received DPIL books for 0-11 months. However, there were no statistically significant differences between children from the 'comparison group' and children who received DPIL books for more than 12 months.
 - a. When we considered child age, parents whose children were not registered with the DPIL and were aged 3 years old read to their child and sang with them more frequently than parents whose children received DPIL books for more than 25 months and were aged 3 years old.
2. Children who were not registered with the DPIL asked their parents to read to them and looked at books by themselves more frequently than children who received DPIL books for 0-11 months. There were no statistically significant differences between children from the 'comparison group' and children who received DPIL books for more than 12 months. Importantly, the longer children received DPIL books, the more frequently they asked their parents to read to them and looked at books by themselves.
3. The longer children received DPIL books, the more their parents interacted with them during reading sessions. In addition, parents whose children received DPIL books for more than 12 months interacted with their child much more than parents whose children were not registered with the DPIL.
 - a. When we considered child age, parents whose children received DPIL books for more than 25 months and were aged 2 years old interacted with their

- child much more than parents whose children were not registered with the DPIL and were aged 2 years old.
- b. In addition, parents whose children received DPIL books for more than 25 months and were aged 4 years old interacted with their child much more than parents whose children were not registered with the DPIL and were aged 4 years old during reading sessions.
4. Children who were registered with the DPIL for more than 25 months had longer reading sessions with their parents than children who were registered with the DPIL for 0-11 months.
 - a. When we considered child age, children who were registered with the DPIL for 12-24 months and were aged 1 year old had longer reading sessions with their parents than children who were not registered with the DPIL and were aged 1 year old.
 - b. In addition, children who were registered with the DPIL for more than 25 months and were aged 4 years old had longer reading sessions with their parents than children who were not registered with the DPIL and were aged 4 years old.
 5. Parents whose children were not registered with the DPIL had more books at home than parents whose children were registered with the DPIL.
 - a. When we considered child age, parents whose children were not registered with the DPIL and were aged 2 years old had more books at home than children who received DPIL books for more than 25 months and were aged 2 years old.
 - b. In addition, parents whose children were not registered with the DPIL and were aged 3 years old had more books at home than children who received DPIL books for more than 25 months and were aged 3 years old.
 - c. These findings all indicate that the DPIL programme is being targeted at the right families (i.e. those most in need of support from this programme).
 6. Similarly, parents whose children were not registered with the DPIL and were aged 3 years old visited their local libraries more frequently than parents whose children were registered with the DPIL for more than 25 months and were aged 3 years old.

7. Parents whose children were registered with the DPIL for more than 12 months were more likely to read to their child daily than parents whose children were registered with the DPIL for 11 months or less even after controlling for parent ethnicity, employment and marital status; child age and sex; and whether English was their first language.
8. Unemployed parents whose children were registered with the DPIL were less likely to read to their children daily than parents with a full-time job.

2.4.2 Limitations

There are some limitations of using self-report questionnaires, such as 'social desirability bias' and 'response bias'. 'Social desirability bias' is a tendency to answer questions that will be viewed favourably by others. 'Response bias' is respondents' tendency to answer questions in a certain way regardless of the question. As a result, respondents might provide invalid answers or exaggerate the answers (Arnold and Feldman, 1981, Bryman, 2016). In our case, it was difficult to measure the possibility of 'social desirability bias' in response to the questions asked in the questionnaires. With regards to 'response bias', parents did not see the questionnaire a second time as in a pre-test post-test model. Avoiding a pre-test post-test model might have reduced the inflation of parents' reports of reading frequency in particular or reading routines in general (Ridzi et al., 2014). A final note is that we can never know the full extent of other services and activities that children and their parents participate in and their possible effects on their reading routines. Consequently, it is difficult to say for sure that the DPIL was solely responsible for any improvements in reading routines presented in this report (see Ridzi et al., 2014 for a similar discussion).

2.4.3 Discussion of the findings

2.4.3.1 *Quality over quantity*

This present study examined whether there were differences in various reading routines and behaviours between different groups. The results suggested that parents in Nottingham whose children were not registered with the DPIL seemed to be reading to their child and singing with them more frequently than parents whose children received DPIL books. However, the longer children received DPIL books, the more frequently they asked their parents to read to them and looked at books by themselves. Importantly, the present study

found that parents whose children received DPIL books interacted with their child whilst reading a book much more than parents whose children were not registered with the DPIL. They also had longer reading sessions with their parents. These findings are in line with an existing study, which reported that parents scored significantly higher on literacy interactions when their children were registered with the DPIL than parents whose children were not registered with the DPIL (Thompson et al., 2017). Therefore, this present study concludes that although parents whose children were registered with the DPIL were less likely to read to their child and sing with them than parents whose children were not registered with the DPIL, the quality and length of their reading sessions were significantly higher. Therefore, future reports could examine whether children who are registered with the DPIL would have higher emergent literacy indicator scores than children who are not registered with the DPIL when Key Stage 1 results for children aged 5 are available.

2.4.3.2 Length of time registered with the DPIL

This present study focused on the parents whose children were registered with the DPIL in order to examine whether length of registration with the DPIL had an effect on frequency of reading. It was found that parents whose children were registered with the DPIL for 12 months or more were more likely to read to their children almost every day than parents whose children were registered with the DPIL for 11 months or less. Ridzi et al. (2014) conducted a similar analysis which found that parents whose children were registered with the DPIL for four months or more were more likely to read to their children daily. Considering the findings, it is recommended that SSBC inform parents of the benefits of reading daily to their child(ren) at an earlier age.

2.4.3.3 Parent employment status

This present study also examined whether the length of registration with the DPIL (12 months or more) continued to be significant when some socio-demographic characteristics of parents and children (parent ethnicity, employment and marital status, child age and sex, and whether English is the first language) were controlled for (via applying a logistic regression). It was found that parents whose children were registered with the DPIL for more than 11 months were more likely to read to their child daily than parents whose children were registered with the DPIL for 11 months or less even after controlling for socio-

demographic characteristics of parents and children. In addition, unemployed parents were less likely to read to their children daily than parents in full-time employment. This finding can be related to Anderson et al.'s (2018) study which reported that parents from higher income households were significantly more likely to read to their children more often than those from lower income households. Hence, SSBC could undertake some targeted work, with parents who are unemployed, around the benefits of reading to child(ren) frequently.

2.4.4 Concluding remarks

This report examined whether there were differences in reading routines and behaviours between parents whose children were registered with the DPIL and parents whose children were not. The present study suggested that parents whose children were not registered with the DPIL read to their child and sang with them more frequently than parents whose children received books from the DPIL. However, the longer children received DPIL books, the more frequently they asked their parents to read to them and looked at books by themselves. In addition, in terms of the quality and length of reading sessions, parents whose children were registered with the DPIL fared better.

The present study also reported that parents whose children were registered with the DPIL had fewer books at home and they went to their local libraries less frequently than parents whose children were not registered with the DPIL. These findings indicate that the DPIL programme is being targeted at the right families (i.e. those most in need of support from this programme).

Furthermore, the present study found that children who were registered with the DPIL for 12 months or more were more likely to be read to nearly every day or more than children who were registered with the DPIL for 11 months or less. Therefore, SSBC might consider encouraging parents to read to their child every day at an earlier age.

Finally, unemployed parents were less likely to read to their children daily than parents in full-time employment. Hence, SSBC could encourage these parents to read to their children more frequently.

3 The Small Steps at Home programme

The Small Steps at Home programme is run by local community organisations and delivered by Family Mentors who have lived experience of parenting. It is a home visiting programme that starts at 20 weeks pregnancy and runs until children's fourth birthday. The programme contains advice, information and activities. Each visit focusses on a range of topics, which are relevant to children's age. The aim of the programme is to improve children's communication and language, social and emotional development, and nutrition. It also aims to ensure there is a good relationship between Family Mentors and parents. The programme is available to parents who live in the council wards of Arboretum and Hyson Green, Aspley, Bulwell, and St Ann's.

3.1 Aim of the Small Steps at Home evaluation

The evaluation of the Small Steps at Home programme examined whether there were differences in 24-Month Ages and Stages Questionnaire (ASQ) scores in communication, fine motor, gross motor, personal-social and problem-solving between children who participated in the Small Steps at Home programme for various lengths of time (i.e. children from SSBC wards who participated in the programme for more than 18 months (n=158), children from SSBC wards who participated in the programme for less than 17 months (n=129), children from SSBC wards who did not participate in the programme (n=621)) and those who were from 'comparison' wards and did not participate in the programme (n=2351)⁹. This present evaluation should be read along with the first annual report (Lushey et al., 2019) where qualitative interviews were conducted with Family Mentors.

3.2 Methodology

3.2.1 Respondents

Small Steps Big Changes routinely collects Small Steps at Home attendance data and children's ASQ scores that are recorded by Family Mentors (2nd, 4th, 6th (optional) and 18th

⁹ This report uses ASQs to evaluate the Small Steps at Home programme as SSBC selected the ASQ for this purpose. Small Steps Big Changes' rationale for selecting ASQs is as follows. Twelve and 24-Month ASQs are administered by Health Visitors for all children living in Nottingham. Therefore, it becomes possible to compare children who live in SSBC wards with children who live outside of the SSBC wards.

months in SSBC wards) and Health Visitors (12th and 24th months in all wards of Nottingham). Therefore, this report used available data that were recorded by Health Visitors and provided by SSBC as of August 2019. While the sample size of the 'comparison group' was 2351, there were 908 children living in SSBC wards.

3.2.2 Ages and Stages Questionnaire

The Ages and Stages Questionnaires (ASQs), which was previously called the Infant/Child Monitoring Questionnaires, is a parent-completed child-monitoring system (or developmental screening tool). It was developed at the University of Oregon in 1980 (Bricker et al., 1995 cited in Squires et al., 1997) and the last revision of it was released in 2009, the ASQ-3 (Squires and Bricker, 2009). It is composed of 21 questionnaires available for children aged (in months): 2, 4, 6, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 27, 30, 33, 36, 42, 48, 54, and 60. The questionnaires are designed to identify whether children are in need of further assessment to determine whether they are eligible for early intervention (EI) or early childhood special education (ECSE). Using 30 developmental items, each questionnaire measures children's performance in five key developmental domains (Squires and Bricker, 2009):

1. Communication (language skills)
2. Gross motor (large muscle movement and coordination)
3. Fine motor (small muscle movement and coordination)
4. Problem-solving (focus on the child's play with toys)
5. Personal-social (focus on the child's interactions with toys and other children)

3.2.3 Administration of the ASQ

If the questionnaires are completed on a home visit (which is the primary way of completing 12-Month and 24-Month ASQs by Health Visitors in Nottingham), the administration of the ASQs summarised by Squires and Bricker (2009: 112-114) is as follows:

- Obtain consent from the parent(s)
- Schedule a time for home visit
- Take the language and age appropriate questionnaire
- Arrange for an interpreter if necessary

- Determine whether the parents are capable of reading and comprehending the questionnaire

If the parents are not capable of reading and comprehending the questionnaire

- Read the items on the questionnaire
- Demonstrate for parents how to elicit the behaviour required for questionnaire items

If the parents are capable of reading and comprehending the questionnaire

- Parents read and administer the questionnaire with the health visitor's assistance
- Demonstrate for parents how to elicit the behaviour required for questionnaire items

Health Visitor then

- Describes the questionnaire
- Completes the family information sheet (i.e. demographic information)
- Enters the parent's name in the section called "Person filling out questionnaire"
- Explains the scoring system
 - 'yes' (10 points)-child is performing the behaviour
 - 'sometimes' (5 points)-child is just beginning to perform the behaviour
 - 'not yet' (0 points)-child is not performing the behaviour
- Introduce each area of development on the questionnaire:
 - Communication (language skills)
 - Gross motor (large muscle movement and coordination)
 - Fine motor (small muscle movement and coordination)
 - Problem-solving (focus on the child's play with toys)
 - Personal-social (focus on the child's interactions with toys and other children)
- Administer the questionnaire
- Score the questionnaire

If infants have one standard deviation below the mean in any domain, they are coded as 'monitoring'. If they have two standard deviations below the mean in any domain, they are coded as 'below cut-off'. Otherwise, they are coded as 'on track' (Schonhaut et al., 2019).

3.2.4 Data cleaning

The data cleaning process for this part of the present report can be summarised as follows:

1. Merge 12-Month ASQ and 24-Month ASQ data sets that were provided by SSBC
2. Delete duplicates
3. Add 'InitialWard' variable from 'Child demographics' data set that was provided by SSBC
4. Delete ASQ scores if not 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, and 60
5. For the sake of consistency, delete records of children whose ward changed from birth (InitialWard) to the time when their 24-Month ASQ scores were recorded
6. Delete records of children who lived in a 'comparison' ward but had Small Steps at Home visits
7. Delete records of children who did not have their 12-Month ASQ assessment between 11th and 13th month and 24-Month ASQ assessment between 23rd and 26th month

Details of the methods that were applied to analyse the cleaned data can be found in the following and 'Results' sections.

3.2.5 Data analysis

This part of the report conducted Kruskal-Wallis H test (sometimes also called the "one-way analysis of variance on ranks") to determine if there are statistically significant differences between two or more groups of an independent variable (i.e. four groups of children with different lengths of time registered with the Small Steps at Home) on a continuous or ordinal dependent variable (i.e. ASQ scores). The reason for choosing this method was that some individual variables and the residuals were not normally distributed which is one of the core assumptions of one-way analysis of variance (ANOVA).

3.2.6 Ethics statement

3.2.6.1 Ethical approval

Ethical approval was obtained from the Nottingham Trent University College of Business, Law and Social Sciences Research Ethics Committee. The evaluation has also been registered with Research and Innovation, Nottinghamshire Healthcare NHS Foundation Trust with permission to proceed provided.

3.2.6.2 Anonymity and data security

The data used in this present report were anonymised by an intelligence analyst from SSBC. The data and findings were kept in a secure drive at SSBC which was allocated to a member of the NTU evaluation team, seconded to SSBC to analyse the data. The member who carried out the statistical analysis has an honorary NHS contract.

3.3 Results

3.3.1 Were there differences in 24-Month ASQ scores between different groups of children?

This section reports findings from an analysis that tested whether there were differences in ASQ scores between different groups with various length of participation in the Small Steps at Home programme. Particularly, Kruskal-Wallis tests¹⁰ were run to determine if there were differences in 24- Month ASQ scores (in communication, fine motor, gross motor, personal-social, problem-solving and 'overall') between four groups of children: children from SSBC wards who participated in the programme for more than 18 months (n=158), children from SSBC wards who participated in the programme for less than 17 months (n=129), children from SSBC wards who did not participate in the programme (n=621), children from 'comparison' wards who did not participate in the programme (n=2351).

Table 28 shows that children from SSBC wards who participated in the programme for more than 18 months had the highest mean 24-Month ASQ (excluding problem-solving domain) and 'overall' scores. However, there were no statistically significant differences in ASQ scores between the groups, except for the problem-solving domain ($p=0.37$). Although this

¹⁰ See Section 3.2.5

Table 8: Comparison of four groups of children in terms of 24-Month ASQ and 'overall' scores

| ASQ Score | Group | Sample Size | Mean | Median | Min | Max | Sig (H ²)* |
|-----------------|--------------------|-------------|--------------|--------|-----|-----|------------------------|
| Communication | Comparison group | 2351 | 50.03 | 60 | 0 | 60 | .160 |
| | SSBC (18 + months) | 158 | 50.95 | 60 | 0 | 60 | |
| | SSBC (17 - months) | 129 | 47.91 | 55 | 0 | 60 | |
| | SSBC (0 months) | 621 | 48.62 | 60 | 0 | 60 | |
| Fine motor | Comparison group | 2351 | 52.69 | 50 | 0 | 60 | .276 |
| | SSBC (18 + months) | 158 | 53.61 | 55 | 30 | 60 | |
| | SSBC (17 - months) | 129 | 51.98 | 50 | 30 | 60 | |
| | SSBC (0 months) | 621 | 52.51 | 50 | 5 | 60 | |
| Gross motor | Comparison group | 2351 | 56.34 | 60 | 0 | 60 | .178 |
| | SSBC (18 + months) | 158 | 57.31 | 60 | 30 | 60 | |
| | SSBC (17 - months) | 129 | 56.71 | 60 | 0 | 60 | |
| | SSBC (0 months) | 621 | 56.03 | 60 | 0 | 60 | |
| Personal social | Comparison group | 2351 | 52.17 | 55 | 0 | 60 | .404 |
| | SSBC (18 + months) | 158 | 52.88 | 55 | 15 | 60 | |
| | SSBC (17 - months) | 129 | 51.05 | 50 | 10 | 60 | |
| | SSBC (0 months) | 621 | 52.05 | 55 | 5 | 60 | |

Table 8: Comparison of four groups of children in terms of 24-Month ASQ and 'overall' scores (Continued)

| ASQ Score | Group | Sample Size | Mean | Median | Min | Max | Sig (H ²)* |
|-----------------|--------------------|-------------|---------------|--------|-----|-----|------------------------|
| Problem-solving | Comparison group | 2351 | 52.22 | 55 | 0 | 60 | .037 |
| | SSBC (18 + months) | 158 | 51.33 | 50 | 5 | 60 | |
| | SSBC (17 - months) | 129 | 50.97 | 50 | 5 | 60 | |
| | SSBC (0 months) | 621 | 51.12 | 50 | 10 | 60 | |
| 'Overall' score | Comparison group | 2351 | 263.45 | 270 | 0 | 300 | .236** |
| | SSBC (18 + months) | 158 | 266.07 | 275 | 120 | 300 | |
| | SSBC (17 - months) | 129 | 258.60 | 270 | 125 | 300 | |
| | SSBC (0 months) | 621 | 262.79 | 270 | 30 | 300 | |

*Figures smaller than .05 suggest a statistically significant difference between four groups of children in terms of ASQ scores

** This comparison was conducted by both creating a total score for 24-Month ASQs and conducting a principal component analysis, which created another total score for 24-Month ASQs. Both analyses reported similar results.

initial analysis found a statistically significant p-value for problem-solving scores, subsequent pairwise comparisons did not report statistically significant *adjusted* p-values, meaning there were no statistically significant differences in problem-solving scores between the four groups.

3.4 Discussion and conclusions

3.4.1 Summary of the findings

This part of the report evaluated whether the Small Steps at Home programme had an impact on the 24-Month ASQ scores of children who participated in the programme for more than 18 months by comparing them with children from SSBC wards who did not participate in the programme, children from SSBC wards who participated in the programme for less than 18 months and children from ‘comparison’ wards. The present report found that children from SSBC wards who participated in the programme for more than 18 months had the highest mean 24-Month ASQ (excluding problem-solving) and ‘overall’ scores. In particular, their scores were always higher than the scores of those who live in SSBC wards but did not participate in the programme at all. However, there were no statistically significant differences in ASQ scores between the four groups of children.

3.4.2 Limitations

Since ASQs are self-reported questionnaires completed by parents, the limitations noted in Section 2.4.2 are applicable here, too.

3.4.3 Discussion of the findings

The results suggest that although children who participated in the programme for more than 18 months had the highest mean 24-Month ASQ (excluding problem-solving domain) and ‘overall’ scores than others, there were no statistically significant results in favour of children who participated in the programme. However, since children who participate in the programme live in the deprived areas of Nottingham, they might have narrowed the gap between them and their peers who might live in affluent areas and households as the scores of children who live in SSBC wards and participated in the programme for more than 18 months were always higher than the scores of those who live in SSBC wards but did not participate in the programme at all.

3.4.4 Concluding remarks

This part of the report assessed whether children participating in the Small Steps at Home programme for 18 months or more had greater 24-Month ASQ scores than children who either participated in the programme for a shorter period of time or did not. The Small Steps at Home programme seems to be promising. SSBC could focus on the ingredients of the visits to increase the impact of the programme on ASQ scores.

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5 Appendices

Appendix 1: Dolly Parton Imagination Library (SSBC wards): Parents/carers questionnaire

1. Do you have a child that receives books from the Imagination Library book gifting scheme?

| | |
|-----|--|
| Yes | |
| No | |

If you answered 'No' please do not continue to complete questionnaire as it has been created for children that are part of the Imagination Library book gifting scheme.

2. Are you the child's:

| Mother | Father | Other (i.e. relative, friend) |
|--------|--------|-------------------------------|
| | | |

2a. If other please provide details below:

| |
|--|
| |
|--|

3. Do you live in Nottingham?

| | |
|-----|--|
| Yes | |
| No | |

If you answered 'No' please do not continue to complete this questionnaire as has been designed for parents and carers of children that are part of the Imagination Library book scheme in Nottingham only.

4. Please provide the first four characters of your postcode (i.e.NG1 2):

| |
|--|
| |
|--|

5. How many of your children receive books from the Imagination Library?

| | | | |
|---|---|---|-----------|
| 1 | 2 | 3 | 4 or more |
| | | | |

Please answer the following questions in relation to one child. If more than one of your children receives books from the Imagination Library please complete a separate questionnaire for each child.

6. How long has your child been receiving books from the Imagination Library?

| | | | | | |
|--------------------|----------------|-----------------|-----------------|----------------------|-------------------|
| Less than 6 months | 6 to 11 months | 12 to 18 months | 19 to 24 months | 25 months to 3 years | More than 3 years |
| | | | | | |

7. How excited is your child to receive books from the Imagination Library?

| | | | | |
|--------------|------------------|---------|------------------|--------------------|
| Very excited | Somewhat excited | Neutral | Not very excited | Not at all excited |
| | | | | |

8. Time spent reading can vary amongst families. Please tell us about reading routines in your home.

| | Not at all | 1 to 2 times a month | 1 to 2 times a week | 3 times a week | Every day or nearly every day | More than once a day |
|------------------------------------------------------------------------------------|------------|----------------------|---------------------|----------------|-------------------------------|----------------------|
| How often do you (or someone else in your household) read to your child? | | | | | | |
| How often do you (or someone else in your household) and your child sing together? | | | | | | |
| How often does your child ask you to read to them? | | | | | | |
| How often does your child spend looking at books by themselves? | | | | | | |

9. If you do read to your child, how long does a reading session usually last?

| Under 15 minutes | 15 to 30 minutes | Over 30 minutes |
|------------------|------------------|-----------------|
| | | |

10. All adults read with children in different ways. Please tell us how often you (or someone else in your household) do the following things when you share a book with your child.

| | Always | Usually | Sometimes | Never |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|-----------|-------|
| Ask your child to read with you? | | | | |
| Ask your child questions about the pictures in the book (i.e. Who is that? What are they doing?) | | | | |
| Talk about letters (i.e. Ask your child what a letter is and what sound it makes, point out letters in the book that are in your child's name)? | | | | |
| Talk about what specific words in the book mean? | | | | |
| Talk about what is happening in the story (i.e. Ask your child what they think will happen next before turning the page or lifting a flap)? | | | | |
| Ask your child questions to see if they understand the story? | | | | |

11. Children's reading interests vary. Please tell us how much your child enjoys reading books and joining in with songs and rhymes.

| | Not at all | A bit | Quite a lot | Very much |
|------------------------------------------------------------------|------------|-------|-------------|-----------|
| How much does your child enjoy reading and looking at books? | | | | |
| How much does your child enjoy joining in with songs and rhymes? | | | | |

12. Please tell us how much you agree with the following statements.

| | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|-------------------------------------------------------|----------------|-------|----------------------------|----------|-------------------|
| I am confident reading to my child | | | | | |
| I am confident singing songs and rhymes with my child | | | | | |

13. How many children's books that are not from the Imagination Library do you have at home? (So these can be books you bought, books from the library or ones bought for your child by friends and family).

| None | 1 to 5 | 6 to 10 | 11 to 20 | More than 20 books |
|------|--------|---------|----------|--------------------|
| | | | | |

14. How often do you visit your local library?

| | | | |
|------------|----------------------|-----------------------|----------------------|
| Not at all | Once or twice a year | Once or twice a month | Once or twice a week |
| | | | |

15. In the last 12 months has your child gone to any of the following groups or services run by Small Steps Big Changes?

| | Yes | No | Not sure |
|----------------------------------|-----|----|----------|
| Stories, Songs and Rhymes | | | |
| Jiggle and Wiggle | | | |
| Story Time | | | |
| Chatterpillars | | | |
| Boogie Tots | | | |
| FRED (Fathers Reading Every Day) | | | |

16. Have you seen books from Imagination Library being used in a group setting (i.e. Stories, Songs and Rhymes) such as a library?

| Yes | No | Not sure |
|-----|----|----------|
| | | |

16a. If yes, have you picked up any tips or ideas for using Imagination Library books at home after seeing them used in group a setting such as a library?

| Yes | No | Not sure |
|-----|----|----------|
| | | |

17. If you go to any other reading groups or activities please provide details below:

18. If you have any further comments about the Imagination Library please provide them below:

Below are some questions about you and your child, which we ask to ensure that we get the views of a wide cross-section of people.

19. Is English your first language?

| | |
|-----|--|
| Yes | |
| No | |

20. How old are you?

| 17 or under | 18 to 24 | 25 to 34 | 35 to 40 | 41 or over |
|-------------|----------|----------|----------|------------|
| | | | | |

21. What is your ethnicity?

| | |
|-----------------------------------------------------|--|
| Asian or Asian British | |
| Black / African / Caribbean / Black British | |
| Mixed / Multiple ethnic background | |
| White English/Welsh/Scottish/Northern Irish/British | |
| Other ethnic group | |
| Prefer not to say | |

21a. If other please provide details below:

| |
|--|
| |
|--|

22. What is your current employment status?

| Employed full-time | Employed part-time | Not in employment | Student | Homemaker (i.e. stay at home parent or carer) |
|--------------------|--------------------|-------------------|---------|-----------------------------------------------|
| | | | | |

23. What is your marital status?

| Married | Civil partnership | Co-habiting | Separated | Divorced | Widowed | Single |
|---------|-------------------|-------------|-----------|----------|---------|--------|
| | | | | | | |

24. How old is your child?

| Under 1 years old | 1 years old | 2 years old | 3 years old | 4 years old | 5 years old |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| | | | | | |

25. What is your child's ethnicity?

| | |
|-----------------------------------------------------|--|
| Asian or Asian British | |
| Black/African/Caribbean/Black British | |
| Mixed multiple ethnic background | |
| White English/Welsh/Scottish/Northern Irish/British | |
| Other ethnic group | |
| Prefer not to say | |

25a. If other ethnic group please provide details below:

| |
|--|
| |
|--|

26. What sex is your child?

| | | |
|------|--------|-------|
| Male | Female | Other |
| | | |

Appendix 2: Dolly Parton Imagination Library (Comparison Wards): Parents/carers questionnaire

1. Do you have a child that receives books from the Imagination Library book gifting scheme?

| | |
|-----|--|
| Yes | |
| No | |

2. How old is your child?

| Under 1 years old | 1 years old | 2 years old | 3 years old | 4 years old | 5 years old | Over 5 years old |
|-------------------|-------------|-------------|-------------|-------------|-------------|------------------|
| | | | | | | |

3. Do you live in Nottingham?

| | |
|-----|--|
| Yes | |
| No | |

4. Please provide the first four characters of your postcode (NG1 2):

| |
|--|
| |
|--|

5. Are you the child's:

| Mother | Father | Other (i.e. relative, friend) |
|--------|--------|-------------------------------|
| | | |

5a. If other please provide details below:

| |
|--|
| |
|--|

6. Time spent reading can vary amongst families. Please tell us about reading routines in your home.

| | Not at all | 1 to 2 times a month | 1 to 2 times a week | 3 times a week | Every day or nearly every day | More than once a day |
|------------------------------------------------------------------------------------|------------|----------------------|---------------------|----------------|-------------------------------|----------------------|
| How often do you (or someone else in your household) read to your child? | | | | | | |
| How often do you (or someone else in your household) and your child sing together? | | | | | | |

| | | | | | | |
|-----------------------------------------------------------------|--|--|--|--|--|--|
| How often does your child ask you read to them? | | | | | | |
| How often does your child spend looking at books by themselves? | | | | | | |

7. If you do read to your child, how long does a reading session usually last?

| | | |
|------------------|------------------|-----------------|
| Under 15 minutes | 15 to 30 minutes | Over 30 minutes |
| | | |

8. All adults read with children in different ways. Please tell us how often you (or someone else in your household) do the following things when you share a book with your child.

| | Always | Usually | Sometimes | Never |
|--------------------------------------------------------------------------------------------------|--------|---------|-----------|-------|
| Ask your child to read with you? | | | | |
| Ask your child questions about the pictures in the book (i.e. Who is that? What are they doing?) | | | | |
| Talk about letters (i.e. Ask your child what a letter is and what sound it makes, point out | | | | |

| | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| letters in the book that are in your child's name)? | | | | |
| Talk about what specific words in the book mean? | | | | |
| Talk about what is happening in the story (i.e. Ask your child what they think will happen next before turning the page or lifting a flap)? | | | | |
| Ask your child questions to see if they understand the story? | | | | |

9. Children's reading interests vary. Please tell us how much your child enjoys reading books and joining in with songs and rhymes.

| | Not at all | A bit | Quite a lot | Very much |
|------------------------------------------------------------------|------------|-------|-------------|-----------|
| How much does your child enjoy reading and looking at books? | | | | |
| How much does your child enjoy joining in with songs and rhymes? | | | | |

10. Please tell us how much you agree with the following statements.

| | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|-------------------------------------------------------|----------------|-------|----------------------------|----------|-------------------|
| I am confident reading to my child | | | | | |
| I am confident singing songs and rhymes with my child | | | | | |

11. How many children's books do you have at home? So these can be books you bought, books from the library or ones bought for your child by friends and family.

| None | 1 to 5 | 6 to 10 | 11 to 20 | More than 20 books |
|------|--------|---------|----------|--------------------|
| | | | | |

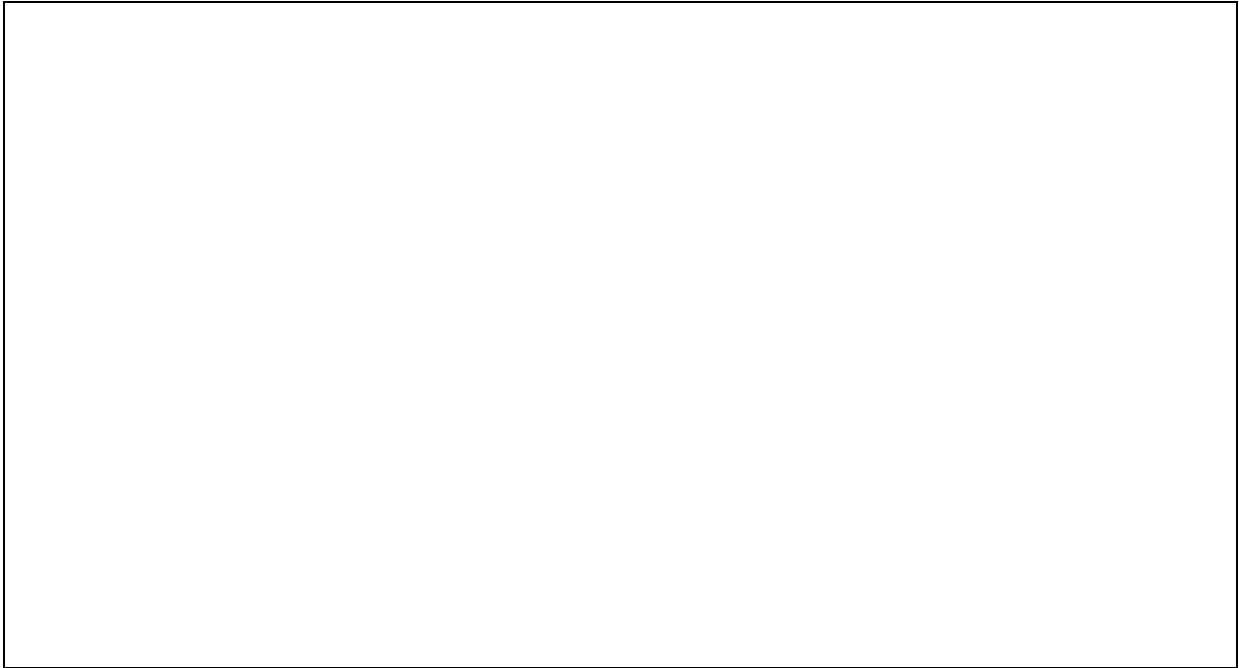
12. How often do you visit your local library?

| | | | |
|------------|----------------------|-----------------------|----------------------|
| Not at all | Once or twice a year | Once or twice a month | Once or twice a week |
| | | | |

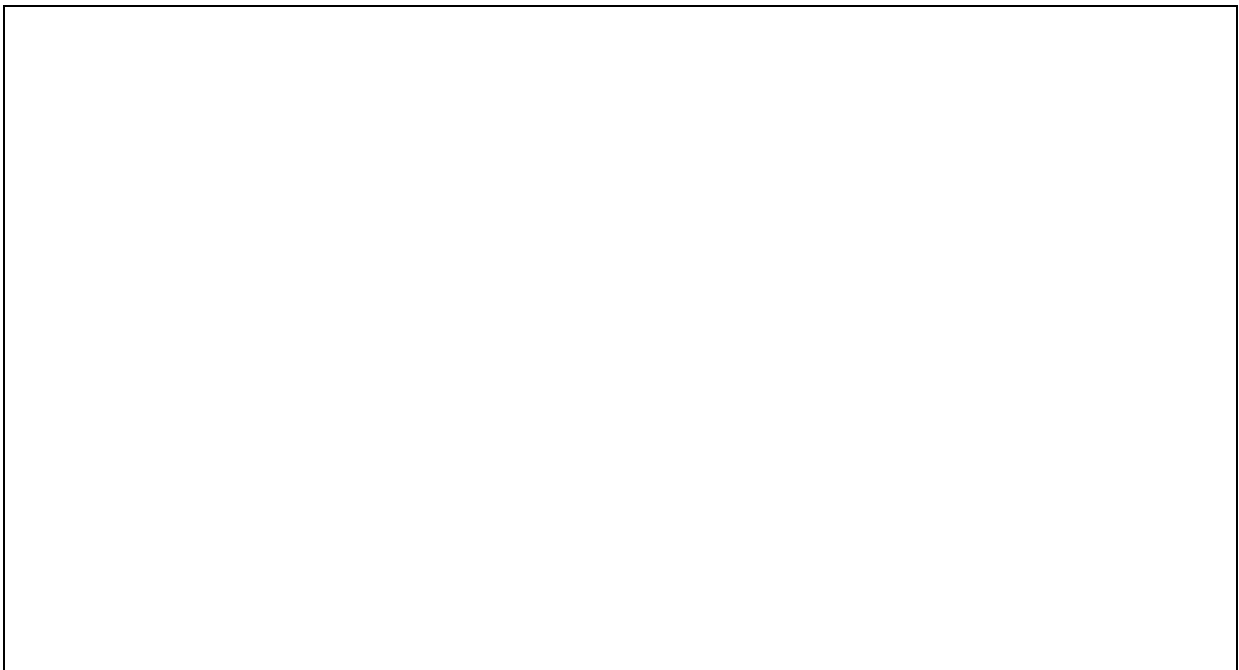
13. In the last 12 months has your child gone to any of the following groups or services run by Small Steps Big Changes?

| | Yes | No | Not sure |
|----------------------------------|-----|----|----------|
| Stories, Songs and Rhymes | | | |
| Jiggle and Wiggle | | | |
| Story Time | | | |
| Chatterpillars | | | |
| Boogie Tots | | | |
| FRED (Fathers Reading Every Day) | | | |

14. If you go to any other reading groups or activities please provide details below:



15. If you have any further comments please provide them below:



Below are some questions about you and your child, which helps to ensure that we get the views of a wide cross-section of people.

16. Is English your first language?

| | |
|-----|--|
| Yes | |
| No | |

17. How old are you?

| | | | | |
|-------------|----------|----------|----------|------------|
| 17 or under | 18 to 24 | 25 to 34 | 35 to 40 | 41 or over |
| | | | | |

18. What is your ethnicity?

| | |
|-----------------------------------------------------|--|
| Asian or Asian British | |
| Black / African / Caribbean / Black British | |
| Mixed / Multiple ethnic background | |
| White English/Welsh/Scottish/Northern Irish/British | |
| Other ethnic group | |
| Prefer not to say | |

18a. If other please provide details below:

| |
|--|
| |
|--|

19. What is your current employment status?

| Employed full-time | Employed part-time | Not in employment | Student | Homemaker (i.e. stay at home parent or carer) |
|--------------------|--------------------|-------------------|---------|-----------------------------------------------|
| | | | | |

20. What is your marital status?

| Married | Civil partnership | Co-habiting | Separated | Divorced | Widowed | Single |
|---------|-------------------|-------------|-----------|----------|---------|--------|
| | | | | | | |

21. What is your child's ethnicity?

| | |
|-----------------------------------------------------|--|
| Asian or Asian British | |
| Black/African/Caribbean/Black British | |
| Mixed multiple ethnic background | |
| White English/Welsh/Scottish/Northern Irish/British | |
| Other ethnic group | |
| Prefer not to say | |

21a. If other ethnic group please provide details below:

| |
|--|
| |
|--|

22. What sex is your child?

| | | |
|------|--------|-------|
| Male | Female | Other |
| | | |

Appendix 3: Dolly Parton Imagination Library: Item scoring

| How much does your child enjoy reading and looking at books? | Existing Code | Recode |
|---------------------------------------------------------------------|----------------------|---------------|
| Not at all | 1 | 1 |
| A bit | 2 | 2 |
| Quite a lot | 3 | 3 |
| Very Much | 4 | 4 |

| How much does your child enjoy joining in with songs and rhymes? | Existing Code | Recode |
|-------------------------------------------------------------------------|----------------------|---------------|
| Not at all | 1 | 1 |
| A bit | 2 | 2 |
| Quite a lot | 3 | 3 |
| Very Much | 4 | 4 |

| How often do you (or someone else in your household) read to your child? | Existing Code | Recode |
|---------------------------------------------------------------------------------|----------------------|---------------|
| Not at all | 1 | 1 |
| 1-2 times a month | 2 | 2 |
| 1-2 times a week | 3 | 3 |
| 3 times a week | 4 | 4 |
| Every day or nearly every day | 5 | 5 |
| More than once a day | 6 | 6 |

| How often do you (or someone else in your household) and your child sing together? | Existing Code | Recode |
|-------------------------------------------------------------------------------------------|----------------------|---------------|
| Not at all | 1 | 1 |
| 1-2 times a month | 2 | 2 |
| 1-2 times a week | 3 | 3 |
| 3 times a week | 4 | 4 |
| Every day or nearly every day | 5 | 5 |
| More than once a day | 6 | 6 |

| How often does your child ask you read to them? | Existing Code | Recode |
|--------------------------------------------------------|----------------------|---------------|
| Not at all | 1 | 1 |
| 1-2 times a month | 2 | 2 |
| 1-2 times a week | 3 | 3 |
| 3 times a week | 4 | 4 |
| Every day or nearly every day | 5 | 5 |
| More than once a day | 6 | 6 |

| How often does your child spend looking at books by themselves? | Existing Code | Recode |
|------------------------------------------------------------------------|----------------------|---------------|
| Not at all | 1 | 1 |
| 1-2 times a month | 2 | 2 |
| 1-2 times a week | 3 | 3 |
| 3 times a week | 4 | 4 |
| Every day or nearly every day | 5 | 5 |
| More than once a day | 6 | 6 |

| If you do read to your child, how long does a reading session usually last? | Existing Code | Recode |
|------------------------------------------------------------------------------------|----------------------|---------------|
| Under 15 minutes | 1 | 1 |
| 15 to 30 minutes | 2 | 2 |
| Over 30 minutes | 3 | 3 |

| Do you ask your child to read with you? | Existing Code | Recode |
|------------------------------------------------|----------------------|---------------|
| Always | 1 | 4 |
| Usually | 2 | 3 |
| Sometimes | 3 | 2 |
| Never | 4 | 1 |

| Do you ask your child questions about the pictures in the book? | Existing Code | Recode |
|------------------------------------------------------------------------|----------------------|---------------|
| Always | 1 | 4 |
| Usually | 2 | 3 |
| Sometimes | 3 | 2 |
| Never | 4 | 1 |

| Do you talk about letters? | Existing Code | Recode |
|-----------------------------------|----------------------|---------------|
| Always | 1 | 4 |
| Usually | 2 | 3 |
| Sometimes | 3 | 2 |
| Never | 4 | 1 |

| Do you talk about what specific words in the book mean? | Existing Code | Recode |
|----------------------------------------------------------------|----------------------|---------------|
| Always | 1 | 4 |
| Usually | 2 | 3 |
| Sometimes | 3 | 2 |
| Never | 4 | 1 |

| Do you talk about what is happening in the story? | Existing Code | Recode |
|----------------------------------------------------------|----------------------|---------------|
| Always | 1 | 4 |
| Usually | 2 | 3 |
| Sometimes | 3 | 2 |
| Never | 4 | 1 |

| Do you ask your child questions to see if they understand the story? | Existing Code | Recode |
|-----------------------------------------------------------------------------|----------------------|---------------|
| Always | 1 | 4 |
| Usually | 2 | 3 |
| Sometimes | 3 | 2 |
| Never | 4 | 1 |

| How many children's books that are not from the Imagination Library do you have at home? | Existing Code | Recode |
|-------------------------------------------------------------------------------------------------|----------------------|---------------|
| None | 1 | 1 |
| 1 to 5 | 2 | 2 |
| 6 to 10 | 3 | 3 |
| 11 to 20 | 4 | 4 |
| More than 20 books | 5 | 5 |

| How often do you visit your local library? | Existing Code | Recode |
|---------------------------------------------------|----------------------|---------------|
| Not at all | 1 | 1 |
| Once or twice a year | 2 | 2 |
| Once or twice a month | 3 | 3 |
| Once or twice a week | 4 | 4 |

| How much are you agree with the following statement: I am confident reading to my child? | Existing Code | Recode |
|-------------------------------------------------------------------------------------------------|----------------------|---------------|
| Strongly agree | 1 | 5 |
| Agree | 2 | 4 |
| Neither agree nor disagree | 3 | 3 |
| Disagree | 4 | 2 |
| Strongly disagree | 5 | 1 |

| How much are you agree with the following statement: I am confident singing songs and rhymes with my child? | Existing Code | Recode |
|-------------------------------------------------------------------------------------------------------------|---------------|--------|
| Strongly agree | 1 | 5 |
| Agree | 2 | 4 |
| Neither agree nor disagree | 3 | 3 |
| Disagree | 4 | 2 |
| Strongly disagree | 5 | 1 |