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Improvements in Parental Emotional Well-Being During Home Visiting Support: What Works for Whom?

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Abstract

Home visitors can support parents who have low levels of emotional well-being. While support may be effective for some families, the circumstances in which it is effective are less well understood. Longitudinal administrative data from Home-Start UK were analysed to identify how the nature of support was related to changes in parental emotional well-being, and whether these effects were the same for families with different risk factors. Sub-groups were identified of people experiencing problems with various aspects of emotional well-being: mental ill health ($n = 1{,}289$), social isolation ($n = 1{,}413$) and low self-esteem ($n = 1{,}400$). Multiple linear regression models were used to explore the relationships between the nature of support and the rate of improvement. These effects were considered in subgroups of families with domestic violence problems, disabled parents, a disabled child, large family sizes or multiple risks. More frequent visits and support being provided by paid workers, as opposed to volunteers were related to faster improvements. Paid worker support was particularly related to faster improvements in families with domestic abuse, disabled parents and multiple risks. However, volunteer support seemed just as effective for large families and those with disabled children. These findings have implications for those providing and commissioning home visiting services.

Keywords: Disability, domestic violence, family support, home visiting, mental health

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Introduction

Family support services may help parents with young children who are struggling with their emotional well-being. Support provided to parents in their own homes is described as home visiting, and may have several benefits. These include being more accessible for families who cannot access services outside the home (Finello *et al.*, 2016), meaning parents are less likely to miss appointments (Azzi-Lessing, 2011). Home visiting also enables home visitors to develop longer term, more trusting relationships with parents, and a more detailed understanding of a family's circumstances (Azzi-Lessing, 2011; Finello *et al.*, 2016).

Various home visiting programmes have previously been subject to evaluations and a number of reviews and meta-analyses of these evaluations have been carried out (Sweet and Appelbaum, 2004; Olds *et al.*, 2007; Nievar *et al.*, 2010; Turnbull and Osborn, 2012; Dalziel and Segal, 2012; Segal *et al.*, 2012; Filene *et al.*, 2013; Goyal *et al.*, 2013; Peacock *et al.*, 2013; Stamuli *et al.*, 2015; Casillas *et al.*, 2016). While not all randomised controlled trials of home visiting programmes have shown significant effects, overall, the meta-analyses suggest that some home visiting programmes do have an effect on some outcomes for children and parents. Effect sizes are, however, generally small. Nievar *et al.* (2010) report an average effect size on maternal behaviour across all countries of $d = 0.37$. Filene *et al.*, (2013) report an aggregated effect size over a range of different outcomes of 0.2, while Sweet and Appelbaum (2004) report average effect sizes for parent outcomes in the studies they looked at of 0.14.

Small effect sizes can occur because the home visiting programmes have a small effect on all families. Alternatively, they could occur if the programmes have a larger effect on some families, and no effect on others. If this is the case, then it leads to questions about the circumstances in which the support is effective. It could be that the way support is delivered affects its effectiveness, and the need to understand the effective ingredients of home visiting programmes has been stressed (Hermanns *et al.*, 2013).

A number of previous home visiting studies have explored these effective ingredients. Korfmacher *et al.* (2008) conceptualise parent involvement in home visiting support in terms of the quantity of support provided and the quality of the contact between the home visitor and parent. They suggest a number of ways of measuring the quantity of support including the total number of hours of support, its duration, its frequency, the mean length of visits and the proportion of visits cancelled. Previous studies have explored the effects of these aspects of support on home visiting outcomes; however, these have considered a range of different outcomes, and the effects on parental emotional well-being are more limited.

While it is not clear whether the elements of support that affect improved emotional well-being would equally affect other outcomes of home visiting, there are theoretical reasons for considering that they may be related. This study will focus on home visiting provided by one UK third sector organisation, Home-Start. Home-Start has a theory of change which postulates that social support provided through home visiting can lead to improvements in parental well-being, resulting in increased feelings of parental competence. This in turn leads to more adaptive parental behaviour and improvements in child behaviour (Kenkre and Young, 2013). This theory of change fits in with the evidence about the relationships between parental well-being, parenting and child well-being (Newland, 2015), and suggests that elements of support that improve parental well-being could also result in improved parenting behaviours and child outcomes. Because of this, and the limited evidence on the effects of different elements of support on emotional well-being outcomes, studies exploring the effects of different elements of support on parenting and child outcomes are also reviewed.

Several studies have provided evidence that a higher frequency of home visits is related to improved maternal behaviour outcomes (Nievar *et al.*, 2010), and child development and attachment (Powell and Grantham-McGregor, 1989; Flemington *et al.*, 2015). For example, Nievar *et al.* (2010) found programmes where visits occurred at least three times per month, were more than twice as effective in relation to maternal behaviour outcomes, as those in which visits were less frequent. While these findings are consistent, they do not indicate the impact of more frequent visits on emotional well-being.

Findings about the duration of support and effectiveness are inconsistent. This is illustrated by Sweet and Appelbaum's (2004)meta-analysis of home visiting, in which no consistent effect was found between either the intended programme duration or number of home visits and outcomes, including child development, child abuse prevention and parenting behaviours. Fewer studies have explored the impact of the length of individual visits, and where they have, findings are inconsistent. For example, Wen *et al.* (2016) found that longer home visits were associated with increased engagement in home visiting support in a study of a service provided to mothers in late pregnancy and shortly after birth. However, Raikes *et al.*'s (2006) study of Early Head Start found no relationship between the mean length of the visits and a variety of outcomes, including parental depression, as well as child development and parental behaviour.

One aspect of the way home visiting support is delivered, that has been subject to much debate, concerns whether support is provided by professionals or other types of home visitors. Professionals are those with a professional qualification, including health visitors or social workers. However, some home visiting programmes deliver services using

other paid workers with more basic family support training, and some home visiting services may also be delivered through unpaid volunteers. It has been suggested that the credentials of home visitors might be one of the most 'controversial debates' in the home visiting field (Rapoport and O'Brien-Strain, 2001). This has been addressed in several meta-analyses of the home visiting literature, but again there have been inconsistent results. Some studies found no difference between support provided by professionals and paraprofessionals (Nievar *et al.*, 2010; Casillas *et al.*, 2016). Sweet and Appelbaum (2004) found professional home visitors were associated with higher effect sizes than paraprofessionals when considering child cognitive outcomes. However, when considering potential child abuse outcomes effect sizes were higher for paraprofessionals compared to both professionals and non-professionals. Olds and Kitzman (1993) carried out a systematic review of home visiting support in which they found that support for vulnerable families is more effective when professionals are used rather than paraprofessionals. Filene *et al.*'s (2013)meta-analysis found that visits from professionals were associated with larger effects on child physical health outcomes but smaller effects on birth outcomes, and had no effect on other outcomes. The authors suggested that this might be because of different types of professionals being used or because there were other programme differences between the programmes that used professionals and non-professionals.

Another factor that might affect the quality of the support is the length of time that a family have to wait for it to start. Qualitative evidence from Home-Start's home visiting programme in the UK has suggested a long wait can have a negative impact on parents. For example, McAuley *et al.* (2004) indicate that waiting too long for support to start can mean that it is not provided at the time when it is needed. While long waits can have a negative impact, it is not clear what effect having to wait for support to start would have on the outcomes of support once it starts.

The evidence relating to the elements of support that may be effective is in many cases inconsistent. One explanation for this inconsistency is that different elements of support are important for families in different circumstances. However, the evidence in relation to what is effective for whom is much more limited. Asscher *et al.* (2007) considered the interaction effects between participant demographic characteristics and programme effects on parenting outcomes, in their study of Home-Start in the Netherlands. The programme characteristics considered included the overall intensity of the programmes as well as measures of its integrity and parental satisfaction with it. Overall, not many effects were found and where they were found they were not consistent across different parenting outcomes. The authors suggest that this might show that different aspects of support affect different outcomes differently. Their study was carried out with a very small sample size ($N = 54$), which they

concede may have made it difficult to detect differences in subgroups in the sample. The authors recommended that their study be repeated with a much bigger sample of families.

This article presents an analysis of a large administrative data set from Home-Start in the UK, which considers how different elements of support are related to changes in parental emotional well-being over the course of support. It is able to build on the existing literature and explores these aspects of support by looking very specifically at their effects on changes in parental emotional well-being. It looks not only at which elements of support are related to faster improvements but also how these vary for families in different circumstances. Because it uses administrative data, the study relates only to those receiving support and is not therefore able to present data on the overall effectiveness of the intervention compared with not receiving Home Start support. However, the large sample size provided by the administrative data enables the impact of different elements of support to be considered for families in different circumstances.

Method

Administrative data from Home-Start UK was used in a 'within-treatment analysis' (McCall and Green, 2004) to consider the relative impact of different elements of support on improvements in parental emotional well-being. The study looked at changes in how well parents reported they were coping with three issues relating to their emotional well-being: their mental health, self-esteem and feelings of isolation. It asked how the nature of support provided by Home-Start was related to improvements in their emotional well-being and how this relationship is affected by the family's circumstances.

Intervention

Home-Start is a UK family support charity that works with families at risk of social exclusion, primarily with children <5 years old. The majority of families receiving support receive it in the form of regular home visits, mostly from volunteers, although some families are visited by paid workers. The support of a paid worker, as opposed to a volunteer, is particularly common in families with more complex needs. Families are referred for various different reasons and may be supported because they are struggling with a range of different problems. The largest proportion of referrals come from health visitors; however, referrals also come from other professionals including social workers and community organisations, and a small number are self-referrals (Kenkre and Young,

2013). Support is entirely voluntary, so some families who are referred choose not to receive support. Many parents in families being supported report problems with aspects of their emotional well-being; however, not all parents do. Families may be being supported because of issues relating to physical or mental health in either a parent or child in the family, or problems of domestic violence, child behaviour and family budgeting. Home visitors visit the family on a regular basis and provide support tailored to the family's needs. This includes the type of support provided, and the frequency and length of visits. Home visitors will continue to support the family as long as they are needed, so all families receive different overall durations of support. There are also cases where on starting support Home-Start discovers that a family's needs are better met through the support of more specific services or through a statutory intervention, and so Home-Start support may finish relatively quickly (Warner, 2018).

Data

The study utilised administrative data collected from local Home-Start organisations across the UK. The data were collected through a centralised administrative data system and included information about the families, the issues they were struggling with and the way they were supported. Data for this study came from families referred to Home-Start between April 2013 and March 2015. The entire data set for this period contained $n = 46{,}972$ families who had received initial referrals to Home-Start. However, the analysis presented only relates to a portion of these families according to the following criteria:

- families had to receive support;
- families had to receive support in the form of home visiting. Home-Start supports some families through group support and these families were therefore excluded from the study;
- families had to have at least one child <5. This was required as this was a study of families with young children;
- the data required had to be available. Although the administrative data system was available to all Home-Start schemes, some did not utilise all parts of it, so certain pieces of relevant data were not available; and

families had to have completed support and had a final visit from Home-Start at which levels of how well parents were coping with different aspects of their emotional well-being were assessed. There was a proportion of families for whom this data was not available, either because the data were missing or because families had not completed support (Figure 1).

Results published in the full study (Warner, 2018) explored and discussed how those who did not complete support with a planned ending differed from those who had. Those who did not have end data were more likely to be from families with substance abuse problems, multiple risks, asylum seeker/refugee families or families with domestic violence or housing problems. Families with a disabled child were more likely to have end data. It is important to highlight that the findings presented in this study only relate to those who chose to continue with support.

Families receiving support from Home-Start receive it to support them for a wide variety of different reasons. This article is only concerned with those families from the 7,569, who started support with problems with an aspect of their emotional well-being. Within the sample of 7,569, subsamples of families were used to look at the effects of the way support is provided for families where the parent has indicated they are struggling with their mental health ($n = 1{,}289$), feelings of

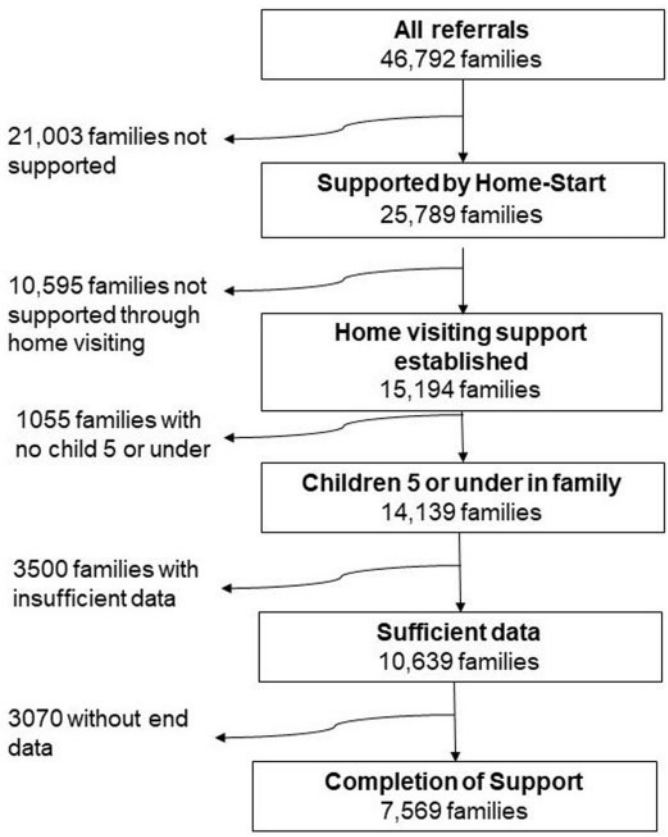

Figure 1: The exclusion of cases not meeting study criteria

isolation ($n = 1{,}413$) or low self-esteem ($n = 1{,}400$). These subsamples overlapped, with some parents indicating more than one of these emotional well-being problems: 1,131 families reported just one emotional well-being problem, 695 two and 527 all three.

Measures

Coping with emotional well-being

Parents receiving support from Home-Start report how well they are coping with different issues through a series of 'coping measures'. These measures were developed by Home-Start and are not externally validated scales. The analysis presented here used scores reported by parents in relation to three coping measures. These respectively reported how well the parents felt they were coping with their mental health, self-esteem and feelings of isolation. Each measure provided a score on a six-point scale, rating how well they feel they are coping with the specific issue that day. A zero indicates that they feel they are not coping at all well, while a five indicates they feel they are coping very well. Data used in this analysis came from scores taken at each family's first visit from Home-Start and from a visit carried out at the end of support.

Variables reporting on how support was provided to the families were derived by recoding information in monthly diaries completed by home visitors, which included details of each visit made to a family. Variables derived included 'Service Delivery', a categorical variable indicating if all visits are provided by volunteers, paid workers or a mixture of the two. Where home visits were provided by a mixture of the two this would indicate that some visits had been provided by a volunteer and others by a paid worker. 'Frequency' related to the frequency of visits. It was derived from counting the total number of home visits that took place and dividing it by the total duration of support in days. This was then multiplied by seven to give an average frequency per week. 'Wait' was the length of time that a family might wait for home visiting to start. It was calculated as the time in days between the initial visit and the first home visit. 'Percentage cancelled' referred to the percentage of all visits that had been planned for a given family that was cancelled. 'Average Length' referred to the average length of each individual visit in hours.

Variables describing the family circumstances at the start of support were derived either from the referral form, or the form completed at the first visit from Home-Start. They included 'Domestic abuse' which indicated the referrer had highlighted this as an issue in the family. 'Disabled Parent' meant that a least one parent had indicated that they consider themselves to be disabled. 'Disabled Child' indicated that the

parents consider at least one child in the family to be disabled. 'Large family size' indicated that there were three or more children in the family, this information being taken at referral but kept up-to-date during support. 'High risk' indicated that the family contained three or more risk factors out of ten risk factors for child behaviour problems identified in previous research. (The ten risk factors were: at least one parent was an asylum seeker/refugee; a child in the family had a child protection plan; there was a disabled child in the family; there was a disabled parent in the family; domestic abuse; overcrowded or temporary housing; parental mental health issues; post-natal depression; one parent was in prison; and substance misuse). These variables were used to create subgroups of families with specific risk factors. Five subgroups were formed: domestic violence; disabled parent; disabled child; large family and high risk. Some families fell into more than one of these subgroups. Of the families with emotional well-being problems, 1,119 did not fall into any of the risk factor subgroups, 899 fell into one, 247 two and 88 three or more. Table 1 shows descriptive statistics for each of the variables in the respective subsamples of families where parents had reported mental ill health, social isolation and low self-esteem.

Analysis

The analysis was carried out to determine how aspects of support were related to improvements in the measures of emotional well-being. This was done by considering how the nature of support was related to the average rate at which improvements were made. This approach was

Table 1. Descriptive statistics variables.

Variables	Parents receiving support for		
	Mental health	Isolation	Low self-esteem
Numerical variables $-\bar{X}$(SD)			
Average length of visits (h)	2.0 (0.6)	2.1 (0.6)	2.0 (0.6)
Frequency of visits (per week)	0.5 (0.3)	0.5 (0.3)	0.5 (0.3)
Wait before start of visits (in days)	47.8 (56.0)	49.9 (63.5)	48.6 (56.8)
Percentage of visits cancelled	24.2 (17.3)	23.7 (17.0)	24.1 (17.0)
Categorical variables, *n* (%)			
Service delivery			
Volunteer visits only	1,041 (80.8%)	1,193 (84.4%)	1,151 (82.2)
Paid worker visits only (%)	135 (10.5)	112 (7.9)	135 (9.6)
Mixture of volunteer and paid worker (%)	113 (8.8)	108 (7.6)	114 (8.1)
Risk factors Identified in families			
Domestic abuse	180 (14.0%)	196 (13.9%)	220 (15.7)
Disabled parent (%)	119 (9.2)	127 (9.0)	109 (7.8)
Disabled child (%)	122 (9.5)	137 (9.7)	126 (9.0)
Large family size (%)	406 (31.5)	449 (31.8)	438 (31.3)
High risk (3+ out of 10 risk factors) (%)	114 (8.8)	109 (7.7)	122 (8.7)

taken because the duration of Home-Start support varies from family to family depending on their need, and families may remain in support until they have made sufficient improvements. The effect of the nature of support on the overall average rate at which those improvements were made was therefore considered. Rate of improvement variables was created by dividing the total amount of change on a coping measure by the total duration of support. For a fuller discussion on the rationale behind this approach see Warner (2018). While the majority of families receiving support improve, a minority do not. Bivariate analysis was used to explore how the families who do not improve differ from those that do. Linear regression models were used to look at the relationship between the nature of support and the rate of improvement variables. Initial models developed showed high levels of heteroscedasticity. Therefore, the models were redeveloped using a log of the rate of improvement variables. Outliers were removed from models if the standardised residuals were $>+3$ or <-3. The linear regression models were used to identify aspects of support that had an impact on the rate of improvement. Variables related to the rate at which improvements were made were then added to models using subgroups of data to identify if the effects of these aspects of support on improvements in emotional well-being were the same for parents in different circumstances.

Ethics

Consent for Home-Start's administrative data to be used for research relating to the evaluation of Home-Start support was obtained from the families by Home-Start at the start of support. During their first visit from a Home-Start member of staff, each family is provided with information about Home-Start's confidentiality and data protection procedures. The staffs explain how the data collected from them is used for monitoring and evaluation purposes. The parents/carers sign to confirm their agreement to this. Ethical approval for the research was granted from Cardiff University School of Social Sciences Research Ethics Committee in October 2015.

Results

Outcomes of support

Table 2 shows the outcomes of support for families in the three subsamples. The majority of families who completed Home-Start support, and who had started it indicating problems with coping with issues relating

Table 2. Outcomes of support.

Outcome	Mental health	Isolation	Low self-esteem
Improvement, *N* (%)	1,219 (94.6)	1,351 (95.6)	1,314 (93.9)
No improvement, *N* (%)	70 (5.4)	62 (4.4)	86 (6.1)
Rate of improvement,[a] $-\bar{X}$ (sd)	0.0161 (0.0160)	0.0178 (0.0208)	0.0162 (0.0175)

[a]Measured as change in coping measure scale per day.

to their emotional well-being, improved over the course of support. However, a proportion of families did not improve.

Effect of nature of support on whether improvements occur

In order to determine if there were any differences in the way support was provided to those who improved and those who did not, bivariate analysis was carried out, as shown in Table 3.

For each measure higher percentages of families who improve are being supported by volunteers in contrast to those supported by paid workers.

Effect of nature of support on rate of improvement

Initial linear regression models compared the effects of different elements of the nature of support and the rates of improvement. Coefficients and R^2 values are shown in Table 4.

R^2 values suggest that these variables can account for 8.4, 9.5 and 8.2 per cent of the variation in the way that these issues improve for families For each coping measure, more frequent visits related to faster improvements, and the support of a paid worker as opposed to a volunteer resulted in faster improvements in mental health and self-esteem, but had little effect on social isolation. Both mixed support and longer visits are associated with slower improvements. There was little relationship between either the length of time that parents spent waiting for support to start, or the percentage of visits, that got cancelled and the rate of improvement (Table 5).

Families in different circumstances

The large size of the sample enabled the models to be rerun containing families with specific risk factors only to be considered. The risk factors were domestic abuse, disabled parent, disabled child, large family size and high risk. The variables Wait and Percentage Cancelled were not

Table 3. Bivariate analysis, whether improvements occurred by the nature of support

Variables	Mental health score improved ($N = 1{,}289$)		Isolation score improved ($N = 1{,}413$)		Self-esteem score improved ($N = 1{,}400$)	
	Yes	No	Yes	No	Yes	No
Numerical variables $-X$(sd)						
Average length (h)	2.0 (0.6)	2.0 (0.6)	2.1(0.6)	1.9 (0.5)	2 (0.6)	2 (0.6)
Frequency (per week)	0.52 (0.26)*	0.46 (0.23)*	0.52 (0.26)	0.51 (0.25)	0.52 (0.26)	0.54 (0.28)
Wait (in days)	48.5 (56.8)*	34.6 (36.1)*	49.3 (59.7)	64.7 (122)	48.6 (55)	48.6 (79.7)
Percentage cancelled	23.8 (17.2)**	32.6 (16.1)**	23.5 (16.9)	27.5 (17.9)	23.9 (17)	26.6 (17.2)
Categorical variables *n* (%)						
Service delivery						
Volunteer visits	990 (81.2)	51 (72.9)	1,149 (85.0)**	44 (71.0)**	1,085 (82.6)	66 (76.7)
Paid worker visits	125 (10.3)	10 (14.3)	99 (7.3)**	13 (21.0)**	124 (9.4)	11 (12.8)
Mixture	104 (8.5)	9 (12.9)	103 (7.6)**	5 (8.1)**	105 (8.0)	9 (10.5)

**Significant at $p < 0.01$.
*Significant at $p < 0.05$ (independent samples Mann–Whitney U-tests/Chi^2 tests).

Table 4. Regression statistics, effects of the nature of support on rates of improvement

Regression statistics	Mental health	Isolation	Self-esteem
R^2	0.084	0.095	0.082
Standardised regression coefficients			
Paid worker	0.072*	0.029	0.078**
Mixed support	−0.138**	−0.130**	−0.069*
Average length	−0.165**	−0.208**	−0.189**
Frequency	0.176**	0.206**	0.196**
Wait	−0.046	−0.009	−0.016
Percentage cancelled	0.053	0.041	0.058

**Significant at $p < 0.01$.
*Significant at $p < 0.05$.

added to these models since they had not had an effect on the rate of improvement in the models above. The results of these models are shown in Table 5. Model 1 contained all the families, while Models 2–6 relate to different subgroups. As can be seen removing the variables from the models increased the R^2 values. The sample size of each of the subgroups is also provided. These have a large impact on the statistical significance of the results, with a greater degree of confidence being more likely in those subgroups, such as large family size, which have larger sample sizes. Because of this conclusions regarding the relative importance of different factors in different subgroups are made on the basis of the standardised coefficients. While the frequency of support appeared to increase the rate of improvement for families in all subgroups, particularly in relation to self-esteem and social isolation, the effects of having a paid worker as opposed to a volunteer were less consistent across the range of different risks. While having the support of a paid worker as opposed to a volunteer was important for families where there is domestic violence, a disabled parent or a high number of risks, it did not appear to be as important for those with a disabled child or a large family.

Discussion

The analysis described above showed that the majority of parents who start Home-Start support with low levels of emotional well-being, and who complete the support, improve over the course of support. Where this occurs, certain factors were associated with faster improvements, namely having more frequent visits and the support of a paid worker, while having longer visits and a mixture of support was related to slower improvements. There did not appear to be any relationship between the rate of improvement and either the length of time that a family had

Table 5. Comparisons of regression models for nature of support variables, using subgroups of families with different risks

Regression statistics	Model 1 All families	Model 2 Domestic abuse	Model 3 Disabled parent	Model 4 Disabled child	Model 5 Large family size	Model 6 High risk
Mental health coping measure						
Sample size	1,212	170	105	115	382	104
R^2	0.086	0.135	0.106	0.048	0.044	0.105
Standardised regression coefficients						
Paid worker	0.080**	0.200*	0.150	0.045	−0.010	0.177
Mixed support	−0.139**	−0.149*	−0.125	−0.070	−0.144**	−0.070
Average length	−0.170**	−0.189*	−0.069	−0.180	−0.156**	−0.124
Frequency	0.175**	0.120	0.225*	0.059	0.068	0.211*
Isolation coping measure						
Sample size	1,340	185	119	129	423	99
R^2	0.108	0.116	0.169	0.102	0.118	0.092
Standardised regression coefficients						
Paid worker	0.035	0.186*	0.150	−0.075	−0.057	0.178
Mixed support	−0.138**	−0.133	−0.128	−0.149	−0.156**	−0.023
Average length	−0.212**	−0.179*	−0.121	−0.236**	−0.299**	−0.177
Frequency	0.222**	0.133	0.294**	0.170	0.168**	0.141
Self-esteem coping measure						
Sample size	1,303	205	101	113	400	112
R^2	0.099	0.136	0.098	0.104	0.066	0.106
Standardised regression coefficients						
Paid worker	0.089**	0.187**	0.091	0.023	0.018	0.275**
Mixed support	−0.084**	−0.134*	−0.034	0.012	−0.090	0.021
Average length	−0.198**	−0.217**	−0.012	−0.240*	−0.211**	−0.044
Frequency	0.211**	0.155*	0.300**	0.222*	0.147**	0.137

**Significant at $p < 0.01$.
*Significant at $p < 0.05$.

spent waiting for support to start or the percentage of visits cancelled. When all families are considered, R^2 values from the regression models suggest that these factors may account for between 8.6 per cent and 10.8 per cent of the variance in the rates of improvement. While these percentages may seem quite small, they need to be interpreted within the context that there are many aspects of a parent's life that might affect their emotional well-being. There are also elements of support which are not covered by the administrative data. Therefore, such an amount of variance being related to this nature of support variables might be considered to be reasonable.

The importance of paid worker support appeared to vary, depending on family circumstances. It was related to faster improvements for families where there was domestic abuse, a disabled parent or a higher number of risks, however, having a paid worker as opposed to a volunteer was not associated with faster improvements in large families or those with a disabled child. Families who did not improve at all were also

more likely to have the support of a paid worker. The inconsistency of the effects of having paid worker support, as opposed to volunteer support, in some ways reflects the inconsistent effects of the credentials of home visitors found in previous research. These findings suggest that different types of home visitor might be more effective for different families depending on their needs. This finding is important for those commissioning home visiting services as it shows that in certain circumstances, such as where there is evidence of domestic violence or where there is high number of risks, then there is a rationale for funding a service which can provide home visiting support through paid workers. It also shows that for families in other situations, for example, those who are struggling because of a large number of children, or a disabled child, or among families who are socially isolated, then the support of a volunteer can be just as beneficial. This highlights the value of commissioning volunteer support services in these circumstances.

While paid worker support is associated with faster improvements among those who improve, those receiving paid worker support were also less likely to improve. This may seem counter-intuitive; however, it must be remembered that paid workers are more likely to be placed with families with more complex needs. These families may be more likely to end support because it has been decided that Home-Start support is not appropriate and their needs might be better met via an alternative service or statutory intervention. If this is the case, then families will be less likely to not have improved on Home-Start's coping measures during the period in which they are supported by them.

The families who receive support from a mixture of volunteers and paid workers improve the most slowly. These are either families who had particular problems at the start of support that warranted the support of a paid worker, and who were subsequently given a volunteer, or who conversely started with a volunteer but were felt to need the additional support of a paid worker. In either case, it is not surprising that it took these families longer to improve. Families might have initially, for example, been assigned a volunteer, but when they appeared to be coping less well than expected, then perhaps they might have swapped to having paid worker support. Alternatively, there may be situations where paid workers are able to support families for a limited period of time. If the family improved sufficiently during this time then no more support may be required and the family would have fallen into the paid worker only category. However, if the family had not improved sufficiently, perhaps a volunteer may have been placed with them resulting in a family in the mixed category.

The relationship between longer visits and slower improvements in coping may seem in some ways counter intuitive. However, it is worth considering the particular challenges in exploring how the nature of support relates to improvements in parental coping when that support is

needs-based. The nature of support may both impact on improvements in parental coping and be affected by them. Therefore, longer individual visits may be associated with slower improvements because home visitors find they need to spend longer with families where the parents are not improving. This seems more plausible than an alternative explanation that somehow it is the home visitors staying there longer that means that the parents are less able to cope. This effect of the needs-based nature of support is important for interpreting the relationships between numerical measures of the nature-of-support and changes in coping. Barnes *et al.* (2006) study of Home-Start also provides evidence that it is the lack of coping that results in longer visits rather than the other way round. The study found a positive correlation between the average length of individual visits and parental dysfunctional child interaction. This suggests home visitors were staying longer with families where there were problems with the parent–child relationship.

More frequent home visits were related to faster improvements in coping. As discussed above, in interpreting the effects of these needs-based nature-of-support variables, there is a need to be mindful of the fact that coping could improve faster because the visits are more frequent, or the visits might be occurring more frequently because the parents are improving. The latter situation might occur if families who were not coping well were cancelling visits for some reason. However, this is not a plausible explanation for the relationship between frequency of visits and the rate of improvements, since there is not much of a relationship between the percentage of visits cancelled and rates of improvements in coping. If the reason that more frequent visits were leading to improvements in coping was because families who were not coping were cancelling visits, then a relationship between the visits cancelled and the rate of improvement would have been seen in the initial regression models. The idea that the more frequent the visits are the faster families will improve is also backed up by findings from previous studies. It is in keeping with other home visiting studies (Powell and Grantham-McGregor, 1989; Olds and Kitzman, 1993; Nievar *et al.*, 2010; Flemington *et al.*, 2015). Nievar *et al.*'s (2010)meta-analysis considered many programmes of a set frequency and suggested that home visiting programmes with greater frequency were more successful. This finding is also backed up by qualitative literature relating directly to Home-Start which suggests families welcome more frequent visits (Frost *et al.*, 2000; McAuley *et al.*, 2004). This highlights how those commissioning home visitor family supports should consider the importance of ensuring home visiting support is carried out frequently.

The time that the families had to wait for home visiting support to start did not appear to be related to the rate of improvement in coping once support started. Nor was there any relationship between this wait and the likelihood of parents reporting an improvement by the end of

support. Remarkably, among the families that improved there was very little relationship between the percentage of visits cancelled and the rate at which coping improved. However, those who did not improve reported higher levels of cancelled visits. This could perhaps be an indication of lack of engagement in support, or other problems that might lead to the premature ending of support.

Limitations

The study was a within-treatment analysis and as such had no comparison group. This means that overall changes cannot necessarily be attributed to the intervention; however, the analysis was only intended to show how differences in changes in emotional well-being are related to the way support is provided. A further limitation with the analysis presented here is that it only considers those families who completed support with an end visit from Home-Start. There are a number of families who either dropped out of support, were still receiving support when the data were extracted from the administrative data system, or for whom data were missing. These families are also considered in the fuller study (Warner, 2018).

Conclusion

This study has used Home-Start's administrative data to look at the relationship between the way home visiting support is provided and changes in parental emotional well-being for parents in various different adverse situations. The large size of the dataset meant that it was possible to look at the relationship between the way support is provided and improvements in emotional well-being for subgroups of families. This is a novel approach, however, in keeping with other studies in the home visiting field, it identified the frequency of support as being related to better outcomes for families. The results also highlighted how the support of a paid worker as opposed to a volunteer may be more important for some families but that this may depend on family circumstances. The findings bring new understanding to the debates about whether home visiting can be effective when provided by volunteers.

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