Home or care? A comparison of educational outcomes for maltreated children

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Home or care? A comparison of educational outcomes for maltreated children

Abstract:

Previous research has highlighted the poor educational attainment of children in out-of-home care, until relatively recently seen as a potential failure of the care system itself. However, the relationship between care and education outcomes is complex. It is important to disentangle the impact of the care system from that of adverse circumstances leading to admission to care. In this study, educational outcomes for 68 children (aged three to nine) in foster care due to concerns about abuse or neglect were compared to those for 166 children with current or past child welfare involvement living at home. Data from teacher assessments of communication and literacy, and a standardised measure of receptive vocabulary was analysed. Accounting for key differences between the two groups, there was little evidence that educational attainment of children in care was significantly worse than that of children living at home. The findings suggest that being in care is unlikely to be the direct cause of poor educational achievement among children in care relative to the wider population of children. The study has implications for the ways in which schools and other services, both across the UK and internationally, work with children in and on the margins of care.

Key words: child abuse and neglect; child outcomes; communication; educational attainment; out-of-home care

1 Introduction

There are long-standing concerns in the UK and internationally about outcomes for children placed in out-of-home care (hereafter referred to as 'in care'), with children who are, or have been, in care more likely to have poor educational attainment than their peers (Heath et al., 1994; Viner and Taylor, 2005; Stein, 2012; Australian Institute for Health and Welfare, 2015; O'Higgins et al., 2015). They have also been found to have poorer employment prospects, poorer health, higher rates of mental health problems, and to be over-represented in the prison and homeless populations (Meltzer et al., 2003; Ford et al., 2007; Dixon, 2008; Centre for Social Justice, 2015; Goemans et al., 2016). Poorer longer-term outcomes are known to be associated with low educational attainment and progress, thus understanding and addressing the factors that help or hinder educational outcomes for children in care remains important.

This evidence of poor educational attainment for children in care relative to those in the general population led to concerns that the care system itself might be detrimental to educational outcomes. However, the relationship between being in care and education outcomes is complex, and it is important to disentangle the impact of the care system from the effects of the adverse circumstances that led to children's admission to care. While comparisons with the general population of children may be helpful in encouraging policy makers and professionals to aim higher for children in care, the relationship between being in care and educational performance is not directly causal, as the difficulties that bring children into care may also contribute to their poor progress.

Children placed in care are far more likely to have experienced abuse or neglect than other children and, in the UK and the USA, the majority enter care for precisely this reason (U.S. Department of Health and Human Services, 2017; Department for Education, 2018a). They are also more likely to come from families experiencing poverty and deprivation (Bebbington and Miles, 1989; Dregan and Gulliford, 2012; Bywaters et al., 2018). Since previous research has shown that both child maltreatment and poverty are independently associated with poor educational outcomes, many children who enter care are already at higher risk of poor outcomes as a result of the adverse circumstances that led to their admission to care.

Studies which have tried to overcome this selection bias by comparing children in care to others with similar demographic characteristics (Farruggia et al., 2006) or socio-economic status (Pears et al., 2013), have reported a weaker relationship between placement and educational outcomes. Others have compared them to children involved with child welfare services who remain at home, with an early English study finding that foster children performed no worse than a comparison group receiving social work support in the community. It concluded that, while care did not appear to compensate children for prior educational disadvantage, nor was it the cause of their poor educational achievement (Heath et al., 1994). A later Scottish study came to somewhat more positive conclusions, finding that although children in care (aged 15 or over) scored worse than those in the general population, they scored better than other high-risk children supported at home by social services (McClung and Gayle, 2010). More recently, an analysis of examination results of all children at age 16 (GCSEs) found that although children in care had significantly lower average points scores than children in the wider population, those continuously in care for

one year or more performed better in examinations than 'children in need,' who received home-based services (Sebba et al., 2015). Children in care for less than a year performed worst of all, a finding consistent with another study which reported better educational outcomes for adolescents in long-term foster placements (Dixon et al., 2006).

Some studies in the USA and Australia which compared children in care to other child welfare-involved children found no differences in academic performance after controlling for differences between the groups (Font and Maguire-Jack, 2013; Berger et al., 2015), although others found their educational performance was worse than that of the comparison group (Weiss and Fantuzzo, 2001; Smithgall et al., 2004). However, an American study which compared children in care to others in the community, including maltreated children not in care, reported that children's test scores on various measures were fully or partly mediated by maltreatment (Fantuzzo and Perlman, 2007). An Australian study which compared children in care to others investigated for maltreatment similarly found that, once children's pre-existing adversities were controlled for, there was no significant difference in the proportions with low reading scores (Maclean et al., 2016).

The findings of these studies suggest that school attainment is likely to be influenced not only by children's current circumstances but also by their previous experiences in their home environment. Research on education has pointed to the importance of the early home environment, indicating that the gap in educational attainment in the general population starts prior to school entry and that parenting in the early years is critical to children's later life chances (Pordes Bowers and Strelitz, 2012). The home learning

environment is particularly important for child development, including cognitive, language and literacy development (Sénéchal and LeFerve, 2002; Hillman and Williams, 2015).

Differences in the preschool skills of advantaged and disadvantaged children have been found to be predominantly in language and communication. Early language, including vocabulary development, is linked to early literacy and it is this which is linked to wider educational attainment and later life outcomes (Phillips and Lonigan, 2009; Marmot, 2010). For most children who start school behind their peers, the attainment gap will only increase throughout their school career (Phillips and Lonigan, 2009; Sylva et al., 2012; Asmussen et al., 2016). It is therefore essential to understand the early development of vocabulary, communication and literacy skills for children who enter care at an early age.

This article reports the findings of a new study, which drew on a set of variables compiled from multiple data sources to compare the educational development of a sample of young children in care due to abuse or neglect to that for children with histories of maltreatment currently living at home. The analysis draws on the conceptual framework that children's backgrounds and pre-care experiences, including of maltreatment, are implicit in mediating their educational outcomes. This investigation was undertaken as part of a wider study of outcomes for children (see Biehal el al., 2018; Baldwin et al., 2019), which was funded by the UK Economic and Social Research Council (ESRC).

2 Design and methods

2.1 Design

The study was conducted in 2014-2016 in an urban English local authority with high levels of deprivation and an ethnically diverse population. It investigated the histories, circumstances and educational development of 234 children with past or current involvement with child welfare services arising from concerns about abuse or neglect. The study drew on multiple types of data from a variety of sources, linking administrative data to primary data gathered through interviews with children's current caregivers (parents or foster carers), an online survey of social workers, and assessments of educational performance. Ethical approval was given by the ethics committee of the Department of Social Policy and Social Work, University of York.

This was an observational study, where we observed and compared education outcomes for two groups of children, both with histories of maltreatment and child welfare involvement, without any control over group membership. One group of children were in care at the time of the study (the *care group*) while the other group were living at home (the *home group*). The *home group* included both children who had been reunified with parents following placement in care and those who were (or had ever been) the subject of a Child Protection Plan (CPP) but had never been in care. A CPP is a multi-agency plan agreed at a child protection case conference and is designed to address ongoing risks of harm due to abuse or neglect and to support a child to remain at home. It is a quasi-compulsory measure rather than one imposed by the courts, but parents are undoubtedly aware that non-compliance may result in an application to the court to place the child in care.

2.2 Sampling and Data Collection

The procedure for the sample selection and data collection is illustrated in Figure 1. Anonymised administrative data on all Children in Need (CiN) referrals, Child Protection Plans (CPP) and episodes of care due to abuse or neglect prior to August 2015 was obtained for all children born 1 September 2005- 31 August 2012 (n=1,801). Children who had died, or left care to a permanent placement (through adoption, a Special Guardianship Order or a Residence Order) were excluded (n=406).

[insert figure 1 here]

Of the remaining 1,395 children, all those currently (n=204) or previously (n=263) in care due to maltreatment, and a random one-in-three sample of the larger group of 928 children who had never been in care were selected for the study (total sampling frame=776). Recruitment packs were then sent to the children's current caregivers (parents, kinship carers or foster carers) by the local authority, on behalf of the research team, providing information about the study and giving parents the opportunity to opt-out. After a 3-week opt-out period, caregivers of the remaining 727 children were invited to take part in an interview (parents of 26 children opted-out and 23 recruitment packs were returned undelivered).

The survey company (TNS-BMRB) conducted face-to-face interviews with children's current caregivers, focusing mainly on children's current development and well-being. A total of 390 caregiver interviews were conducted (a 50.3% response rate). The caregivers of the

remaining children could not be interviewed due to contact details being out-of-date or inaccurate (25.5% of the sampling frame) or refusal (8.4%).

Data on children's histories and current status was collected via an online survey of their current or most recent social worker (n=209). Where no current (or recent) social worker was available, case file analysis, collecting the same data items with no significant impact on data quality, was conducted by fully qualified social workers, who were trained for this task (n=181). Informed consent was obtained from both caregivers and social workers. All data was anonymised and stored securely, in line with data protection guidelines.

Where permission was obtained from caregivers, this data was linked to educational attainment data at specific points from the National Pupil Database (NPD) through the child's Unique Pupil Number (UPN) (n=169 children). Trained educational assessors also administered the British Picture Vocabulary Scale (BPVS-II) to the children, either at or home or in school, where permission was obtained from the parents (n=133). Analysis of the administrative child welfare data found no significant differences between the children included in the analysis versus those who not included because no educational outcome data was available in terms of age at first referral, sex, ethnicity, and number of episodes of involvement with services.

The analysis reported below concerns the 234 children for whom data was available on at least one educational outcome measure. The 68 children in foster care at the time of the study (the *care group*) were compared to the 166 children living at home at this point (the

home group), 115 of whom had been the subject of a CPP and had never entered care and 51 previously in care who were reunified with parents by the time of the study.

2.3 Measures

2.3.1 Outcomes measures

The BPVS-II and NPD provided benchmarks for age-related expectations of educational performance for the general population of children, allowing us to compare outcomes for the two study groups with those for the wider population.

Receptive vocabulary (*BPVS-II*)

The BPVS-II is a standardised measure of acquired or receptive vocabulary, which is known to be closely linked to later literacy, and could be independently administered across the full age range of the children. It showed high reliability with a national sample of children in the United Kingdom (Cronbach's alpha of 0.93 and a split-half reliability of 0.86) (Dunn et al., 1997). Raw scores are age-standardized to give a mean score of 100, and a binary measure of whether children had achieved a standardized score of 100 or above was constructed.

Literacy and communication (NPD data)

The NPD provided data from two assessment points:

- *The Early Years Foundation Stage Profile (EYFSP):* teacher assessments at the end of the school year when children turn five, covering communication and language; physical development; personal, social and emotional development; literacy; mathematics; understanding the world and expressive arts and design.

- *Key Stage 1 (KS1) teacher assessments* in the year pupils turn seven, which provided separate scores for reading, writing, mathematics and science.

A measure of meeting the expected level in *literacy* was constructed using data available from the EYFSP (age 5) or KS1 (at age 7) assessment (n=107). Data from these two assessments were similarly used to construct a measure of whether children were meeting the expected standard in *communication* (speaking, listening and understanding).

2.3.2 Parenting

Parenting by the child's caregiver was measured using two sub-scales from the Child Rearing Questionnaire (CRQ) (Sanson, 1995): 'caregiver warmth' (use of a positive, emotional tone in parent-child interactions; Cronbach's alpha = 0.79) and 'inductive reasoning' (tendency to discuss reasons for rules and limitations with children; Cronbach's alpha = 0.81). For each sub-scale, a mean score across the items was calculated, with higher scores indicating higher levels of warmth and inductive reasoning.

The level of engagement by caregivers in a variety of carer-child activities was measured using the 'parenting activities' module from the Millennium Cohort Study (Hansen et al., 2010), which includes questions on how often the caregiver engages in a variety of activities including reading, telling stories, musical activities, and playing games (Cronbach's alpha = 0.73). A binary variable indicating 'positive engagement', based on scores on the scale above the median (range = 4-35, median = 23) was used in the analysis. A measure of caregiver confidence in supporting the child's learning was derived from three questions (whether they feel able to help with homework, know how to help the child do well, think

they can make a difference to success at school) (Cronbach's alpha = 0.83), with a binary variable based on above-median scores (range 4-12, median = 10).

2.3.3 Educational experiences

Data on a number of measures of children's educational experiences were collected. Children's current caregivers were asked whether they felt the child was making good progress at school, whether they had behavioural problems in school, and whether they received extra help from teachers or other school staff. A measure of whether the child received support with special educational needs (SEN) at school (whether or not they had a formal 'statement' setting out their needs) was derived from information from both the NPD data and caregiver interviews.

2.3.4 Child mental health

Two validated measures of child mental health were administered with children's current caregivers. The Strengths and Difficulties Questionnaire (SDQ) is a 25-item rating scale widely used to screen for common child mental health problems (Goodman, 1997). Psychometric properties of the SDQ were established for a large epidemiological sample of 10,485 British 5-15 year olds. Reliability was generally satisfactory, with Cronbach's alpha = 0.73 (Goodman, 2001). The Relationship Problems Questionnaire (RPQ) is a 10-item rating scale for reactive attachment disorder (RAD), a disorder of social functioning associated with abuse and neglect (Minnis et al., 2007; Minnis et al., 2013). In a large general population twin sample, the RPQ had good internal consistency (Cronbach's alpha = 0.85) (Minnis et al., 2007). Binary variables indicating likely mental health problems (SDQ total difficulties scores of 16+ (if aged two to four years) or 17+ (if aged five years and over) and total RPQ scores of

7+ were computed, in line with scoring guidelines for these measures (Minnis et al., 2013; YouthinMind, 2015).

2.3.5 Child maltreatment

The Modified Maltreatment Classification System (MMCS) (English et al., 1997) was used to assess the type(s) and severity of abuse or neglect experienced by each child. Maltreatment severity was rated on a scale from 1 to 5, with 5 being the highest severity level , and was recorded for each type of maltreatment experienced by the child (physical, sexual or emotional abuse or neglect). Variables indicating the total number of types of maltreatment ever experienced, and whether or not higher severity maltreatment (defined as levels 3-5) had ever been experienced were also derived.

2.3.6 Parent problems

Information on whether there had ever been professional concerns about specific family problems such as parental substance misuse, physical health/disability, offending or domestic violence was obtained from social workers/case files. The total number of types of maltreatment ever experienced by the child and the total number of family problems that had ever been of concern were summed to create a 'cumulative risk' variable.

2.4 Data analysis

Educational outcomes – receptive vocabulary, literacy and communication - were compared for the 68 children in foster care at the time of the study (the *care group*) to the 166 children living at home at this point (the *home group*). Chi-square tests were used to compare nominal data between groups, and Mann-Whitney U or Kruskal-Wallis tests to

compare interval-level data. Descriptive data are presented as median and inter-quartile range, or frequencies and percentages. Univariate logistic regression models were used to measure the association of children's status (in care or at home) and observed factors with each binary outcome measure – receptive vocabulary, communication, and literacy. Factors that were significantly associated with education outcome measures (at the 95% confidence level) were then entered into multivariate logistic regression models for each outcome measure, to determine the adjusted effects of factors entered on educational outcomes.

Analysis was conducted using IBM SPSS Statistics 24 and regression and collinearity diagnostics were run to check for model fit and multicollinearity.

3 Results

Of the 234 children, 54% were male, and 31% were known to have a disability and/or chronic illness. Two-thirds (67%) were White, with almost a fifth (18%) of South Asian origin and the remainder of mixed ethnic origin. The children's ages ranged from 33 to 115 months at the time of the caregiver interviews, with a median age of just over six years (75 months).

Children in the *care group* had spent 5-112 months in care, with a median duration of 42 months. Many of the 51 children in the *home group* who were previously in care had been removed from home only briefly, spending between less than one month and 47 months in care, with a median of 12 months.

3.1 Associations between child status and observed factors

As Table 1 shows, there were some significant differences between the two study groups. The *care group* included a higher proportion of children of White ethnicity and children with a reported disability/chronic illness than the *home group*. Children in the *care group* were also more likely to have scores on the SDQ indicating likely emotional and behavioural problems and scores on the RPQ indicating likely attachment and relationship problems than those living at home. They also appeared more likely to receive support with Special Educational Needs (SEN) in school (although this association was not statistically significant), more likely to have behaviour problems at school, and more likely to receive extra help from teachers or other staff. The caregivers of children in the *care group* felt more confident in supporting the child's learning and were more positively engaged in activities with them (although neither relationship was statistically significant), but they showed lower levels of caregiver warmth compared to the caregivers of those living at home.

Insert Table 1 here

There was no statistically significant association between where children were living (in care or at home) and age at first referral or age on first entering care/being placed on a Child Protection Plan. However, children currently in care were significantly more likely than the *home group* to have experienced higher severity maltreatment. Professional concerns about parental substance misuse, offending, physical illness or disability were significantly more common in relation to the *care group*, and they also had higher average 'cumulative risk' scores (sum of the total number of types of maltreatment ever experienced and the total number of family problems that had been of concern).

3.2 Levels of receptive vocabulary

Overall, the total sample of maltreated children (living in care or at home) performed less well on the BPVS-II than would be expected for the population as a whole, with only just over a quarter (28%) achieving the expected level (compared to an expected 50% in the general population). Children in the *care group* on average demonstrated slightly more positive outcomes, with 32% achieving a score of 100 or above on the BPVS-II compared with 26% of those in the *home group*, although this difference was not statistically significant. The results of univariate logistic regression models showed that the odds of children in the *care group* achieving a score of 100 or above on the BPVS-II were not statistically significantly different than those for the *home group* (p=.505).

Associations between the observed factors (table 1) and achieving the expected level on the BPVS-II were tested using univariate logistic regression models. Only three factors were significantly associated with children scoring highly on the BPVS-II: caregiver reports that they did not have behaviour problems at school, caregivers being more engaged in activities with the child, and the child not receiving extra help from teachers or other school staff.

To determine the adjusted effect of child status and other factors on receptive vocabulary these factors were entered into a multivariate logistic regression model together with child status (table 2). This showed that the odds of children reported as not having behavioural problems at school scoring highly on the BPVS-II were three times as high as those for children as those with behavioural problems. The effect of the other factors, including child status, were not statistically significant.

Insert Table 2 here

3.3 Literacy

The univariate and multivariate analysis presented above were repeated with the literacy outcome measure. Overall, 58% of the sample achieved the expected level in literacy in the statutory measures (Early Years Foundation Stage Profile or Key Stage 1 teacher assessment), with this being higher for the *home group* (60%) than for those in care (54%). This compares with a national average of 70% of all children achieving the expected level in literacy in the Early Years Foundation Stage in 2015 and 89% at Key Stage 1 (DfE, 2015a, b).

The results of univariate logistic regression models showed that the odds of children in the *care group* achieving the expected level in literacy were not statistically significantly different than those for the *home group* (p=.586). Children who did not have a chronic illness or disability, were not reported to have behaviour problems in school, did not have support for SEN or get extra help from teachers or other school staff were more likely to achieve the expected level of literacy.

To determine the adjusted effect of child status and other factors on achieving the expected level in literacy six factors were entered into a multivariate logistic regression model (table 3). This showed that the odds of achieving the expected level of literacy were higher for children who did not receive support for special educational needs and those who did not have behaviour problems in school. The effect of the other factors, including child status, were not statistically significant.

Insert Table 3 here

3.4 Communication

Overall, 64% of children in the sample achieved the age-related expected level in communication (speaking, listening and understanding) as measured at the end of the Early Years Foundation Stage or at the end of KS1. Children currently living in foster care were, on average, less likely to be meeting the expected level than those currently living at home (46% achieving the expected level compared with 70%, respectively; p= 0.028). Both groups had lower levels of achievement than children in the general population: in 2015 80% met the expected level for communication at the end of EYFS and 90% at the end of Key Stage 1 (Department for Education 2015a, b).

The results of univariate logistic regression models showed that the odds of children in the *care group* meeting age-related expectations on the communication measure were significantly lower than those for the at *home group* (OR=0.378; 95% CI=0.156, 0.915; p=.031). Children who did not have a disability or chronic illness, did not receive support for SEN or receive extra help from teachers, were not reported by caregivers to have behaviour problems in school, and had a caregiver who displayed positive levels of engagement in activities with the child were more likely to achieve the expected level for communication.

To determine the adjusted effect of child status and other factors on achieving the expected level in communication, four factors were entered into a multivariate logistic regression model (table 4). In this model, just one factor remained significantly associated with

children achieving the expected level for communication: not receiving SEN support in school. The odds of achieving the expected level in communication remained lower for children in care compared to those living at home, but this association was no longer statistically significant.

Insert Table 4 here

4 Discussion

Many studies of the educational attainment of children in care, undertaken in the UK and internationally, have compared these children to those in the wider population, but the selection bias inherent in comparisons of this kind makes it difficult to draw clear conclusions as to whether or not it is the care system *per se* that is responsible for poor educational outcomes. Few studies have compared children in care to others with histories of child welfare involvement who are not currently living in care. We identified only three such studies from the UK, two of which focussed solely on attainment at age 16 (Heath et al., 1994; McClung and Gayle, 2010; Sebba et al., 2015). However, an understanding of any differences in early learning between children in care and others from similar backgrounds is essential if we are to develop early educational interventions to support children in care.

This study aimed to fill this gap in the research, drawing on administrative, survey and interview data gathered, as part of a wider study of outcomes for children in care, to investigate the relationship between care status and educational attainment for a sample of children aged from just under three years to nine and a half years, all of whom had been referred due to concerns about abuse or neglect. It compared children currently in care (the

care group) to others with histories of child welfare involvement living at home (the *home group*), some of whom were reunified with their families following an episode of care while others had never been in care.

The two groups proved to be well-matched in terms of their current age and welfare histories and there was also little difference between them on measures of parenting style. However, children in the *care group* were significantly more likely to have experienced severe maltreatment. They had also experienced a significantly higher total number of risk factors, including more types of abuse and neglect and more parental problems. The *care group* were also more likely to be disabled and to have SEN, although these differences did not quite reach statistical significance. Their parents were nearly twice as likely to have problems of drug or alcohol misuse, were more likely to be involved in offending and to have a disability or chronic health problem. More serious histories of adversity may increase both the risk of admission to care and the risk of poor educational outcomes, thus potentially operating as a confounding factor which may help to explain differences in attainment between children in care and those in the wider population.

Both the children currently in care and those in the *home group* were less likely to meet age-related expectations for receptive vocabulary, literacy and communication than children in the general population. Children in the *care group* did no worse in relation to the development of their receptive vocabulary and literacy than other children with histories of child welfare involvement living at home. Indeed, they appeared slightly more likely to meet the standard age-related expectations for receptive vocabulary than the *home group*, although this difference did not quite reach significance. In teacher assessments of

communication (listening, speaking and understanding) however, the *care group* were significantly less likely to meet expectations than the *home group*. Nevertheless, on two of our three measures of educational attainment the difference between children in care and other children with histories of child welfare involvement was not statistically significant, reflecting findings elsewhere (Berger et al., 2015; Sebba et al., 2015). This suggests that attainment on these measures is unlikely to be caused directly, or solely, by exposure to placement in care.

Our multivariate analyses similarly indicated that, when compared to children with histories of child welfare involvement living at home, being in care did not increase the odds of poor educational attainment. Instead, the key predictors of poor educational outcomes were having behaviour problems at school (receptive vocabulary and literacy) and receiving support for SEN (literacy and communication). National statistics show that 56% of children in care have SEN compared to just 14% of the overall school population (DfE 2018b). Reflecting this national pattern, the *care group* were more likely to have SEN than the home group and both groups were more likely to have SEN than the general child population. A national study of education outcomes for 16-year olds in England reported a similar pattern, commenting that children in care are 'over-represented in all categories of special educational needs and we would expect this to relate to poorer (educational) outcomes' (Sebba et al., 2015). Having SEN may therefore be a confounding factor, as it is associated both with exposure to care and with educational outcomes.

In conclusion, this study found that once other factors were taken into account, there was little evidence the educational attainment of children in care was significantly worse than

that of other children with histories of child welfare involvement. Our findings suggest that being in care is unlikely to be the sole, or principal, cause of poor educational achievement among the population of children in care relative to children in the wider population. Children's pre-care experiences, including abuse, neglect and other adversities, the emotional and behavioural problems they may develop as a consequence of these experiences and the higher likelihood that they would have a disability or SEN are all likely to play a part in driving educational outcomes for these children.

This study has important implications for the ways in which schools and other services work with children both in care and on the margins of care. Current arrangements in England to support children in care include the local authority Virtual School system, which has a duty to promote the educational achievement of all children looked after or previously looked after. Pupil Premium Plus payments (currently £2,300 per annum) are also made to schools to provide additional support needed by such children. Given that our findings suggest that children with experience of maltreatment who were living at home were equally likely to have poor education outcomes, there would be significant benefits to extending both schemes to children on a child protection plan. Increasing awareness and support for the needs, including attachment issues and special educational needs, of children who have experienced maltreatment or other adversities, within schools and in initial teacher training, would go some way to enabling these children to reach their full potential. Future research would be useful to identify existing good practice in schools, in supporting children in care and those with maltreatment histories living at home, and their caregivers.

5 Strengths and limitations of the study

There are limitations to this study. Many of the measures were self-report and based within a single local authority. As not all the children in the study had been in care, it was not possible to investigate the impact of placement stability and returns on educational outcomes, although both are important factors for children in care. In addition, given the difficulties of researching this population it was a non-experimental design, and therefore largely descriptive and correlational. However, a good sample size was achieved for a study of this type and the data was drawn from multiple sources. Consequently, whilst we are tentative in drawing conclusions, we feel that this provides valuable new evidence in an under-researched area, and is of relevance both in the UK context and internationally.

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Figure 1: Procedure for sample selection and data collection

Table 1: Demographic and observed factors by group (n=234)

Factor	Care group (n=68)		Home group (n=166)		*p*
	Median (IQR)	*n (%)*	*Median (IQR)*	*n (%)*	
Child characteristics					
Gender					0.912
Male		37 (54.4)		89 (53.6)	
Female		31 (45.6)		77 (46.4)	
Child ethnicity (n=230[1])					0.014
White		49 (72.1)		104 (64.2)	
Asian		5 (7.4)		37 (22.8)	
Mixed		14 (20.6)		21 (13.0)	
Child age at caregiver interview (months)	80.5 (26)		74.5 (22)		0.054
Child has a disability/chronic illness		28 (41.2)		44 (26.5)	0.027
Parenting					
Caregiver warmth	4.5 (1)		4.8 (1)		0.001
Inductive reasoning	4.6 (1)		4.6 (1)		0.798
Positive engagement in activities		43 (63.2)		85 (51.2)	0.093
Confident in supporting child's learning		25 (42.4)		42 (29.6)	0.080
Educational experiences					
Child has behaviour problems at school		31 (50.8)		40 (26.5)	0.001
Child gets extra help from teachers or other school staff		46 (67.6)		58 (35.4)	<0.001
Child has any SEN support in school (n=213[2])		30 (48.4)		52 (34.4)	0.057
Child mental health problems					
Emotional and behavioural problems likely (SDQ)		37 (54.4)		60 (36.1)	0.010
Attachment and relationship problems likely (RPQ)		23 (35.4)		28 (17.7)	0.004
Child welfare history					
Child age at first referral (months)	5.5 (26)		12 (33)		0.092
Child age at first CPP or care entry (months)	16 (35)		24 (41)		0.180
Total time in care (n=119[3])	42 (37)		12 (22)		<0.001
Child maltreatment					
Child has experienced maltreatment		61 (89.7)		136 (81.9)	0.139
Child has experienced higher severity maltreatment (level 3-5)		57 (83.8)		100 (60.2)	<0.001
Parent problems					
Concerns about parental physical illness/disability		20 (29.4)		21 (12.7)	0.002
Concerns about parental drug misuse		41 (60.3)		55 (33.1)	<0.001
Concerns about parental alcohol misuse		40 (58.8)		53 (31.9)	<0.001
Concerns about domestic violence		42 (61.8)		95 (57.2)	0.523
Concerns about parental offending		20 (29.4)		29 (17.5)	0.042
Cumulative risk					
'Cumulative risk' score: Total number of maltreatment types and family problems	7 (5)		5 (4)		<0.001

[1] Information on ethnicity was missing for 4 children.

[2] This was computed using information from both caregivers and the NPD on whether the child received support with SEN in school.

[3] This was calculated just for those children who had ever been in care.

Table 2: Multivariate logistic regression - receptive vocabulary (BPVS-II) (n=110)

Factor	AOR (95% CI)	*p*
Child status		0.327
Care group	1.703 (0.588, 4.937)	
Home group	1.00	
Positive engagement in activities with child	1.727 (0.683, 4.368)	0.248
Child does not have behaviour problems at school	3.288 (1.043, 10.361)	0.042
Child does not get extra help from teachers or other school staff	1.397 (0.505, 3.865)	0.520
Constant	0.071	0.001

Table 3: Multivariate logistic regression - meeting expected levels of literacy (n=106)

Factor	AOR (95% CI)	*p*
Child status		0.512
Care group	1.407 (0.507, 3.905)	
Home group	1.00	
Child does not have SEN support in school	3.957 (1.656, 9.456)	0.002
Child does not have behaviour problems at school	2.879 (1.101, 7.527)	0.031
Constant	0.384	0.060

The child having a disability/chronic illness and receiving extra help from teachers or other school staff were not entered due to multicollinearity.

Table 4: Multivariate logistic regression - meeting expected levels of communication (n=106)

Factor	AOR (95% CI)	*p*
Child status		0.326
Care group	0.588 (0.204, 1.696)	
Home group	1.00	
Child does not have SEN support in school	5.750 (2.268, 14.578)	<0.001
Child does not have behaviour problems at school	1.709 (0.614, 4.753)	0.305
Positive engagement in activities with child	2.384 (0.929, 6.120)	0.071
Constant	0.387	0.088

The child having a disability/chronic illness and receiving extra help from teachers or other school staff were not entered due to multicollinearity.

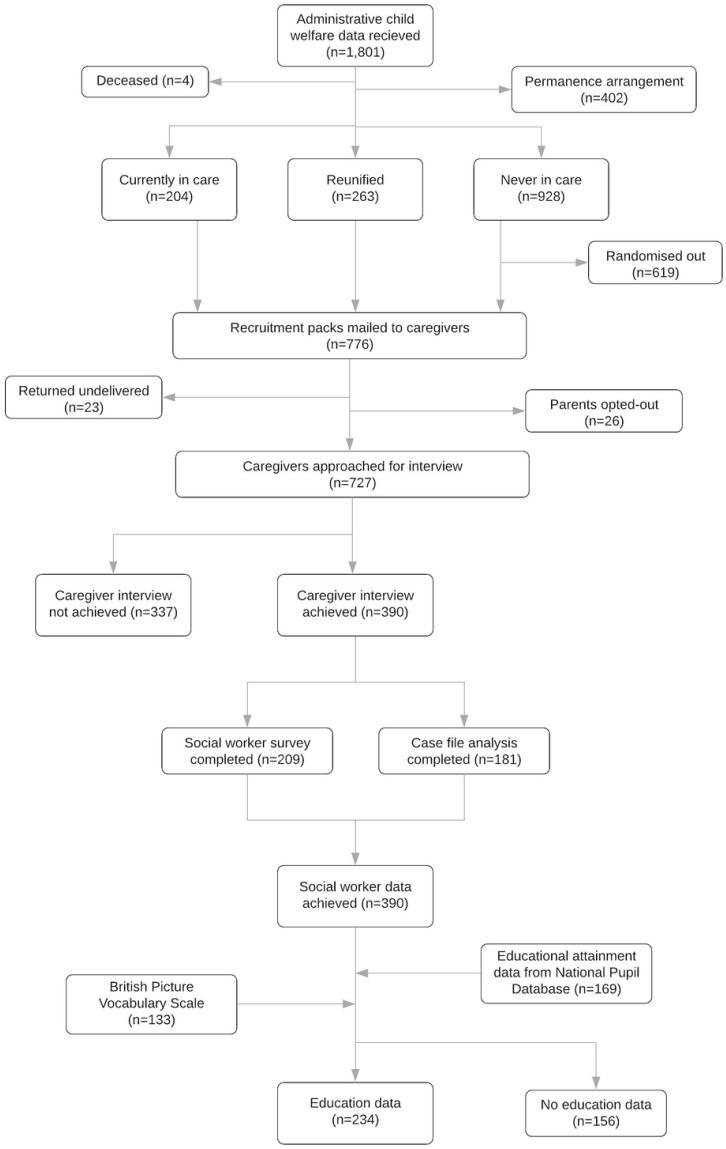

Figure 1: Procedure for sample selection and data collection

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