# *Eating behaviours in care-experienced children: a mixed-methods UK comparative cohort study to examine mealtime challenges*

# Eating behaviours in care-experienced children: a mixed-methods UK comparative cohort study to examine mealtime challenges

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**Abstract**

Insufficient food provision and malnutrition are features of neglect and are reasons children are taken into care. Subsequent eating difficulties may have long-term negative physical and mental health impact. Literature from various countries indicates patterns of over- and under-consumption, hoarding and stealing food, and consumption of contaminated or non-food (pica) sources in care-experienced children, but no studies have examined these patterns in the UK.

This study recruited parents and carers of care-experienced children (CE, n=105, Age M=9.24 years, 62% male), comparing them with birth parents living with their child/ren (NCE, n=103, Age M=7.95 years, 43% male) on problematic eating measures. Participants were also asked open-ended questions about challenges and enjoyment of mealtimes.

The CE group reported higher levels of problematic eating, dietary concern and food maintenance in their children than the other group, with medium-large effect sizes. Number of Adverse Childhood Events experienced was positively associated with these factors. Through Template Analysis, the CE group identified *food consumption, disruptive behaviour, negative communication* and *food rejection/aversion* as challenges. The comparison group reported similar challenges, with lower levels of behavioural extremes. *Time together, creating a positive environment* and *exploring/enjoying new food* were identified as enjoyable mealtime aspects in both groups. The CE group placed more emphasis on creating a nurturing and calm atmosphere.

This is the first study in the UK to provide a comprehensive picture of eating and mealtime behaviours in care-experienced children. Insights into the specific challenges that parents and carers face in this context can assist intervention development.

**Keywords:** care experience, adoption, eating behaviours, problematic eating, family mealtimes

## 1. Introduction

Insufficient food provision and malnutrition in children have been reported as features of neglect and are often amongst reasons children are taken into care (Helton, 2016; National Society for the Prevention of Cruelty to Children (NSPCC), 2024; Radford, 2011). Subsequent concerns around eating and food consumption have been reported by adoptive, foster and kinship carers in a variety of settings and countries (Snuggs et al., 2024). These have included (but are not limited to) excessive eating (hyperphagia), gorging, restrictive eating, food neophobia, hoarding food, stealing food, hiding (not always with the intention to eat) food, food preoccupation, secret eating, eating and drinking from contaminated sources, pica (consumption of non-food items) and other disordered eating behaviours (Casey et al., 2012; Norrish et al., 2019; Tarren-Sweeney, 2006).

Very few studies have compared the prevalence of these behaviours to other cohorts but those which have, indicate higher rates of these challenging approaches to food and eating in out of home care (CE) settings than in children living with their birth parents. (Tarren-Sweeney, 2006) for example, identified higher levels of over-eating and pica-like behaviours in a large sample of court-ordered foster and kinship cared-for children compared to a sample of children living with their parents. (Kelly & Ogden, 2016) highlighted further discrepancies in their comparison of previously looked-after and non-looked-after young adults (16 – 25), with the looked-after group displaying higher levels of picky eating and food disgust. There are also some indications that frequency of disordered eating is higher in care-experienced young people than those who have never been in care (Hadfield & Preece, 2008; Holden, 1991; Savaglio et al., 2021). These latter findings indicate that difficulties around food and eating for care-experienced children might track into adulthood if left untreated. Nonetheless, there is no clear consensus in the literature about the precise nature of these patterns, nor of the mechanisms behind them. Inconsistencies in the literature are further exacerbated by heterogenous care systems across different countries, and the absence of up to date studies in many of these.

It stands to reason that care-experienced children, who have required state intervention to support their safety and wellbeing, are likely to have suffered a level of trauma and might have experienced specific food-related environmental challenges (e.g. unpredictable access to food, food insecurity, exposure to unhealthy diet). In turn, these children might develop their food preferences differently from other children (Vaughan & Burnell, 2021). The combination of different patterns of eating behaviour and diverse early life experiences also points towards the possibility of different underlying aetiology of food preferences and eating behaviour in this group.

Proposed mechanisms for challenging eating behaviours in care-experienced children have tended to focus on different aspects of the bio-psycho-social model (Engel, 1981). Some pragmatic explanations for pre-occupation with food and over-eating patterns include food insecurity – i.e. some children may have lived within a family which struggled to afford enough food to feed everyone - and early exposure to unhealthy diet. Research in different populations indicates that child food insecurity can emerge as a result of financial constraints (e.g. Harvey, 2016), other parental priorities (Bays, 1990), poor parental health literacy (Velardo & Drummond, 2013) or neglect (Block, 2005). These experiences may also account for some hoarding and hiding behaviours. Difficulties in recognising emotional and physiological feelings have also been reported in care-experienced children, and are plausible explanations for over and under-eating; interoception refers to the ability to sense, interpret and respond to internal signals from the body, often including hunger and satiety (Herbert, 2020). Vaughan and Burnell (2021) propose that interoceptive difficulties are common in children who are in or have been in the care system, offering another credible explanation for problematic eating behaviour in these children. Similarly, difficulties with emotional regulation are commonly reported in this cohort (Robinson et al., 2009), and have been associated with dysregulated eating patterns and emotional eating (Crockett et al., 2015; Meule et al., 2021). Insecure attachment and absence of trust have further been posited as explanations for challenging eating behaviours in foster and adopted children (Savaglio et al., 2021). Although there is less evidence associating these concepts directly to problematic eating behaviours, there is a growing evidence base indicating that healthy and happy familial relationships are associated with healthier nutritional outcomes (Snuggs & Harvey, 2023) which goes some way to supporting this suggestion.

Anecdotally, healthcare providers and adoptive/foster parents report that there is very little provision around how to support children in adoptive and foster settings with eating and mealtimes. Further emphasising the importance of food and mealtimes in care-experience, some qualitative research has indicated that carers often use food and mealtimes to welcome new children and to build a nurturing environment (see Warman, 2016, for an overview). Planning and implementing mealtimes can also help to involve children in decision making and to build safe routines (Rees et al., 2012). Conversely, the same authors found that mealtimes can also be a source of conflict and tension in these families. Collectively, for care-experienced children and their carers, food is likely to play a complex role in managing, expressing and containing emotions and feelings (Emond et al., 2014). There is an absence of united understanding around what support might be beneficial and parents also report competing priorities (Norrish et al., 2019).

Despite the growing evidence base around this topic, studies are heterogeneous, as are care and adoptive systems across the world. It is likely that some but not all of these explanations apply to

some but not all care-experienced families. In the UK, children are admitted to local authority care if they are perceived to be at significant risk of harm from their caregivers. When they are admitted to care, they reside with foster carers, kinship carers or in a residential care setting. Some children will then move to live with adoptive parents or permanent foster parents if the court determines that there is no viable way for the child to return to the care of their birth family. A recent review found no up to date studies from the UK examining the differences between eating behaviours in care-experienced children and those who have consistently lived with their birth parents (Snuggs et al., 2024). As such, this study aims to characterise patterns of eating behaviour in adoptive and foster care settings in the UK, to distinguish these as appropriate from non-care-experienced children, and to understand parents and carers' mealtime experiences (specifically, what they value about mealtimes, what they find challenging, and what strategies they find helpful to address those challenges).

## 2. Materials & Method

The study was provided ethical approval by the University of Reading Ethics Committee (2023-104-SS) and was designed in collaboration with specialist practitioners.

### 2.1. Design

The study used a mixed-methods design; quantitative methods were used to assess the frequency of problems at family mealtimes, the severity of these problems, children's eating habits, current food insecurity and Adverse Childhood Experiences (ACEs). Participants were also asked to provide open-ended feedback to assess the enjoyable and challenging aspects of mealtimes in their household and how these challenges are currently addressed.

### 2.2. Participants

Participants (N=208) were recruited using a snowballing technique through foster and adoption agencies across the United Kingdom, social media sites and web-based parenting forums between 05/07/2023 and 05/02/2024. Inclusion criteria for carers of care-experienced children were having provided foster, kinship or adoptive care to at least one child (either presently or in the past), in the United Kingdom, and for parents of non-care-experienced children that the child be continuously in the care of at least one biological (birth) parent. No further exclusion criteria were specified.

### 2.3. Procedure

Participants were presented with a brief description of the study and its aims (participant information sheet) before proceeding to an online consent form. If they provided informed consent,

they were taken to the next webpage which presented the main questionnaire. This took approximately 15 minutes to complete, after which participants were presented with a short debrief explaining the aims of the study. This included a reminder that responses were anonymous and signposted to relevant resources for support.

### 2.3.1 Measures

Participants were presented with demographic questions comprising age, gender, child age, child gender, ethnicity, child ethnicity and household income. Carers of children in CE group were also asked: length of time as a foster, kinship or adoptive carer; how many children they had provided foster, kinship or adoptive care for; length of time the child in question had spent with the carer; child's number of moves between carers. In addition, the following previously developed measures were administered:

*Meals in our Household Questionnaire (MIOH)* (Anderson et al., 2012): This questionnaire contains a number of subscales. From these, the problematic child eating behaviours and parental dietary concern subscales were administered. The problematic eating behaviour subscale can be broken down into frequency of behaviours (minimum score 0, maximum score 40, where higher scores reflect more problematic behaviour), parental concern about (the same) behaviours (minimum score 0, maximum score 30, where higher scores reflect more concern) and global problematic eating score (the sum of the two previous scores, minimum score 0, maximum score 70) Previous research has indicated a Cronbach's α value of 0.93 and 0.90 for the global problematic eating score and parental concern scores respectively.

*The Assessment Checklist for Children (ACC)* (Tarren-Sweeney, 2013): This questionnaire was developed specifically to measure food approaches in children from 'Out of home care', to be administered to parents. The Food Maintenance sub-scale and relevant self-injury items were extracted from the questionnaire (all items were on a 0-4 scale where higher scores reflected increased levels of the behaviour, resulting in an average score for each of the *Food Maintenance Subscale* and the *Self Injury Subscale* which could also range from 0-4). Previous research has indicated Cronbach's α values of 0.80 and 0.81 respectively.

*Household Food Insecurity Access Scale* (Coates, 2007). This questionnaire includes a number of items regarding concern about lack of access to sufficient food, with answer options *never, rarely, sometimes* and *often.* These were scored 0-3 respectively and an average Food Insecurity score was calculated, such that higher scores indicated higher levels of insecurity.

*Adjusted-Adult Adverse Childhood Events (ACEs) Scale* (AcesAware, 2020). This questionnaire comprises questions for parents as to whether their child has experienced specific ACES, with answer options *yes, no, I don't know* and *prefer not to say.* A total ACES score was calculated for each participant – where a participant did not know or preferred not to say, a score of 0 was given for that specific ACE. Two adjustments were made to this scale to ensure that the questions were suitable for the carers and their children; one author (PC) is a qualified social worker and researcher who works with families in adoptive and foster care and thus took the lead on these changes. The first change was semantic, such that participants were asked about their children's experiences instead of their own. The second change was that 'loss of a parent (through divorce, death, abandonment or other reason)' was removed from the questionnaire for the CE group as it can be assumed that children in foster or adoptive care have all been separated from their parents. The NCE group were still asked that question and the CE group were automatically ascribed a score of 1 for that specific ACE.

In addition to this, participants were asked the following three open-ended questions at the end of the questionnaire (no word limit was imposed for this):

1) *What do you enjoy the most about mealtimes with your child?*
2) *What aspects of your child's eating or mealtime behaviour do you find the most challenging?*
3) *Do you have any strategies to address or help with these challenges when they occur? What do you do?*

Please see Supplementary Information for the full questionnaire.

2.4. Data analysis

Caregivers were allocated either to the CE group (adoptive, foster or kinship carers) or the NCE group (birth parents). Chi-squared tests and t-tests were applied as appropriate to test for demographic differences between cohorts (see Tables 1 & 2 and 3.1 for reporting).

Cronbach's α values were calculated for each of the subscales outlined in 2.3.1. The problematic eating behaviour scales have not previously been administered to a CE sample, while the food maintenance scales were specifically designed with an CE sample in mind. Therefore, in each case, a value for the whole sample and for each group was calculated to verify whether the subscales were appropriate for both groups.

Analysis for each of the Research Questions was conducted as follows:

**RQ1: What patterns of eating behaviour do care-experienced children display? Are there differences between eating behaviours demonstrated by children in out of home care and those still living with birth parents?**

Descriptive statistics for the above measures are presented and independent sample t-tests were conducted to test for differences between groups on the *MIOH, ACC, Food Insecurity* and *ACES* measures outlined in 2.3.1. Bonferonni corrections were applied. Where equality of variance assumptions were violated according to Levene's test (Brown & Forsythe, 1974), equal variances were not assumed**.**

**RQ2: Are challenging eating behaviours associated with Adverse Childhood Events (ACES) or other historical experiences (e.g. number of moves between carers)?**

For the CE group, correlations were run between the mealtime-related measures described above, total ACEs, and time lived with parent. The NCE group was not included in these analyses because the majority had a score of 0 for ACES with a low cohort mean (Table 3) and the time lived with carer and number of moves are not applicable.

**RQ3: What do foster and adoptive parents enjoy the most about family mealtimes?**
**RQ4: Which children's eating behaviours do foster and adoptive parents find the most challenging?**
**RQ5: What strategies do foster parents employ to minimise mealtime stress and/or challenging mealtime behaviours?**

To address the subsequent three research questions, Template Analysis was applied to the open-ended questions. Template Analysis is a style of thematic analysis using a template created from a subset of the results which is then refined to code the whole set of data (Brooks et al., 2015). In keeping with guidance, some 'soft a priori themes' were conceptually considered and then adjusted and added to during the course of analysis. The analysis therefore took a realist, inductive approach. As the CE group was the sample principally of interest, templates for each question were developed in Microsoft Excel using these subsets of data. Two authors (SS & BJ) coded the data independently by assessing each answer line by line (some answers were therefore allocated several codes). They initially met to discuss these after completing codes for 40 lines of data for each question. They then met frequently throughout the process to discuss, agree and adapt themes. For research questions 3 and 4, data from the NCE group was subsequently assigned to the codes developed with the CE data for comparative purposes and for these two questions, a comparative content analysis is also

presented. We did not implement this content analysis for the third research question due to heterogeneity of responses and the fact that the CE group is the cohort of interest.

## 3. Results

### 3.1 Participant Characteristics

There were 105 foster, kinship or adoptive carers recruited (Care-experienced, CE group) and 103 parents of non-care-experienced children (NCE group).Chi-squared tests showed that there was a difference between cohorts on gender such that more participants (i.e. carers) were female in the NCE group than the CE group. The same was true of the children. There was also a difference in income between the two groups such that the NCE group included significantly more 'high income families' than the CE cohort. There was no significant difference in participants' ethnicity and the same was true of the children. A t-test showed that age was higher for carers in the CE group but there was no significant difference between the two groups for child age (See Tables 1 & 2).

**Table 1**

Participant & family demographics & descriptives

| | | CE group | | NCE group | | |
|---|---|---|---|---|---|---|
| | | M | SD | M | SD | *t* |
| Age | | 46.3 | 8.38 | 42.42 | 5.16 | 4.009* |
| Time Child Lived With (Yrs) | | 6.05 | 4.23 | n/a | | |
| Duration being a carer (Yrs) | | 6.39 | 4.46 | n/a | | |
| | | n | | n | | $\chi^2$ |
| Gender | Male | 18 | | 7 | | 5.149* |
| | Female | 87 | | 95 | | |
| Ethnicity | Asian, Asian British, or Asian Welsh | 0 | - | 3 | | 7.645 |
| | Black, Black British, Black Welsh, Carribean, or African | 0 | | 3 | | |
| | Mixed or Multiple Ethnic Groups | 2 | | 1 | | |
| | White | 101 | | 93 | | |
| | Other Ethnic Group | 2 | | 1 | | |
| | Prefer not to say | 0 | | 2 | | |
| Household Income | Under £10,000 | 2 | | 0 | | 31.768* |
| | £10,000 - £25,000 | 11 | | 0 | | |
| | £25,000 - £50,000 | 25 | | 10 | | |
| | £50,000 - £100,000 | 37 | | 34 | | |
| | Over £100,000 | 22 | | 52 | | |
| | Prefer not to say | 8 | | 7 | | |

* Significant at $p < .05$

CE = Care-experienced, NCE = Non-care-experienced

Where totals do not add up to sample size, this is due to missing data.

**Table 2**

Child demographics & descriptives

| | | CE group | | NCE group | | |
|---|---|---|---|---|---|---|
| | | M | SD | M | SD | *t* |
| Age | | 9.24 | 4.47 | 7.95 | 3.62 | 2.271 |
| N of moves between homes | | 2.98 | 2.24 | | | |
| | | n | | n | | $\chi^2$ |
| Gender | Male | 62 | | 43 | | 7.993* |
| | Female | 42 | | 58 | | |
| | Prefer Not to Say | 1 | | 2 | | |
| Ethnicity | Asian, Asian British, or Asian Welsh | 0 | | 2 | | 3.294 |
| | Black, Black British, Black Welsh, Carribean, or African | 1 | | 1 | | |
| | Mixed or Multiple Ethnic Groups | 7 | | 7 | | |
| | White | 94 | | 89 | | |
| | Other Ethnic Group | 3 | | 1 | | |
| | Prefer not to say | 0 | | 2 | | |
| Setting | Adoption | 81 | | 0 | | |
| | Foster Care | 3 | | 0 | | |
| | Kinship Care | 21 | | 0 | | |
| | Living with biological parent | 0 | | 103 | | |

* Significant at $p < .05$

CE = Care-experienced, NCE = Non-care-experienced

Where totals do not add up to sample size, this is due to missing data.

Further descriptive data for participants are presented in Table 3; two-sided t-tests revealed differences between groups on Food Insecurity and ACES; the CE group had significantly higher scores in both cases, suggesting that care experienced children have more traumatic events and higher levels of food insecurity than non-care-experienced children. For food insecurity, the effect size of this difference was medium, and for ACEs, the effect size was notably large (See Table 3).

**Table 3**

*T-test results for Food Insecurity and ACES across Cohorts*

| Scale | CE | | NCE | | | | | |
|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | *t* | df | *p* | Cohen's d |
| Food Insecurity | 1.146 | 0.439 | 1.02 | 0.066 | 3.014 | 108.807 | .003* | 0.41 |
| n of ACES | 5.762 | 2.509 | 0.408 | 1.458 | 18.856 | 167.651 | < .001* | 2.60 |

* Bonferonni correction applied, significant at $p < .00625$

CE = Care-experienced, NCE = Non-care-experienced

3.2 Reliability

Cronbach's α values for each subscale are presented in Table S1 (supplementary information). All values were medium – high (the majority high), with the exception of the Food Maintenance Scale (self injury) in the NCE group which was very low (0.217).

3.3 Quantitative results

**RQ1: What patterns of eating behaviour do care-experienced children display? Are there differences between eating behaviours demonstrated by children in out of home care and those still living with birth parents?**

T-tests revealed significant differences between groups on Problematic Eating Behaviour Frequency scores, Global Problematic Eating Behaviour scores and Dietary Concern scores. There was no difference between groups on how much of a problem carers reported these behaviours to be (i.e. participants in the CE group reported more problematic behaviour but no more concern about this behaviour than the NCE group). For all significant differences, effect sizes were medium.

**Table 4**

*T-test results for Meals in Our Household (MIOH) subscales*

| | CE | | NCE | | | | | |
|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | *t* | df | *p* | Cohen's d |
| Problematic EB frequency | 27.67 | 8.83 | 23.31 | 7.53 | 3.826 | 206 | < .001* | 0.53 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Concern over problematic EB | 19.46 | 6.48 | 17.87 | 6.12 | 1.805 | 203 | .073 | 0.25 |
| Problematic EB global | 46.94 | 14.83 | 40.84 | 12.33 | 3.226 | 206 | .001* | 0.45 |
| Dietary Concern | 35.57 | 18.14 | 28.69 | 13.4 | 3.117 | 191.446 | .002* | 0.43 |

* Bonferonni correction applied, significant at $p < .00625$, EB = Eating Behaviour

CE = Care-experienced, NCE = Non-care-experienced

Similarly, t-tests revealed differences between groups on Food Maintenance and Food Maintenance Self Injury such that the CE group had significantly higher scores (Table 4). Effect sizes were large.

**Table 5**

*T-test results for Food Maintenance Scale (FMS) subscales*

| | CE | | NCE | | | | | |
|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | *t* | df | *p* | Cohen's d |
| FMS | 2.102 | 0.953 | 1.34 | 0.539 | 7.121 | 164.95 | < .001* | 0.983 |
| FMS (Self Injury) | 1.36 | 0.506 | 1.08 | 0.195 | 5.333 | 134.615 | < .001* | 0.734 |

* Bonferonni correction applied, significant at $p < .00625$

CE = Care-experienced, NCE = Non-care-experienced

**RQ2: Are challenging eating behaviours associated with Adverse Childhood Events (ACES) or other historical experiences (e.g. number of moves between carers***)?*

For the CE group, ACES were significantly positively correlated with all problematic eating scales, dietary concern, food maintenance and food maintenance (self injury) scores. In all cases, higher frequency of ACES was associated with higher scores on the subscales (e.g. more ACES associated with higher levels of problematic eating behaviour).

Time lived with carer was positively associated with dietary concern, and the FMS subscale (not the self injury scale) (see Table 6).

**Table 6**

*Spearman's Rho correlations between eating behaviour subscales, ACES, time spent living with carer and number of moves of care settings the child has had (CE only)*

| | Problematic EB frequency | Concern over problematic EB | Problematic EB global | Dietary concern | FMS | FMS Self Injury |
|---|---|---|---|---|---|---|
| ACES | 0.253** | 0.14* | 0.222* | 0.189* | 0.435** | 0.415** |
| Time lived with current carer | 0.005 | 0.029 | -0.005 | 0.242* | 0.284* | 0.152 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total n of moves | 0.137 | -0.071 | -0.106 | 0.033 | 0.141 | -0.061 |

* Correlation is significant at $p < .05$, ** Correlation is significant at $p < .01$
EB = Eating behaviour

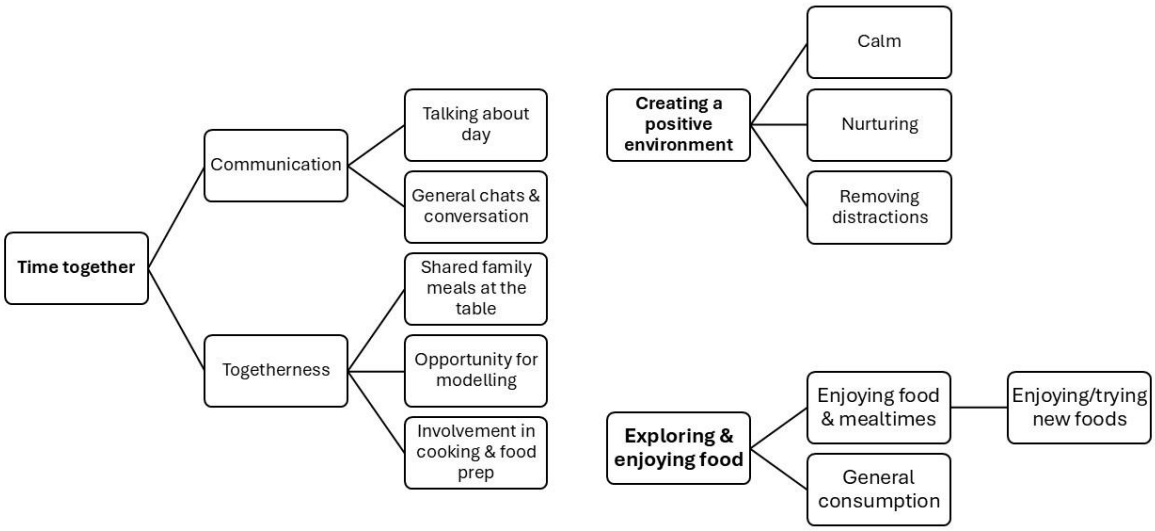
3.4: Template Analysis findings

**RQ 3: What do foster and adoptive parents enjoy the most about family mealtimes?**

Three principle themes were generated through Template Analysis of responses to this open-ended question when analysing the CE group data; parents identified *Time Together, Creating a Positive Environment* and *Exploring and Enjoying Food* as key elements of mealtimes which were enjoyable (see Figure 1). *Time together* was identified most frequently and captured both communication (general family chats and in particular catching up about everyone's day) and also time spent together; participants often mentioned sitting at the table together and also the opportunities this provides for positive feeding practices such as modelling and involvement of the child in conversation and decisions about family meals. *Creating a positive environment* tended to focus on using mealtimes to create a safe, nurturing or calm environment. Some participants also mentioned that it was a useful opportunity to remove distractions such as children's electronic devices and their own work. Finally, *Enjoying & Exploring food* captured both the enjoyment of meals and mealtime food broadly, and also the enjoyment that both the parent or carer and the child gained from trying and exploring new foods. Some parents additionally reported that they enjoyed knowing that their child had consumed a healthy meal and in a small number of cases, that their child had successfully consumed any food at all.

**Figure 1**

*Template analysis of responses to the question 'what do you enjoy the most about mealtimes with your child?' (CE group only)*




309

310 *Inter-group comparisons*

311 Participants in the NCE group showed similar patterns; like the EC group, they placed the most
312 emphasis on time together, followed by enjoyment of food, although very few participants reported
313 *Creating a positive environment* as an enjoyable element of their mealtimes (see Table 7 for a
314 Content Analysis between-groups comparison).

315 **Table 7**

316 *Content analysis for the question, 'what do you enjoy the most about mealtimes with your child?':*
317 *absolute numbers and percentages of responses from each group*

| | Time together n (%) | Creating a positive environment n (%) | Exploring & enjoying food n (%) |
|---|---|---|---|
| CE | 80 (76) | 16 (15) | 26 (25) |
| NCE | 95 (92) | 3 (3) | 22 (21) |

318 CE = Care-experienced, NCE = Non-care-experienced

319 **RQ4: Which children's eating behaviours do foster and adoptive parents find the most challenging?**

320 Participants in the CE group reported many more specific challenges than they did elements of
321 enjoyment. These generated four main themes (see Figure 2). *Food consumption* refers to areas that
322 participants expressed frustration over specifically relating to the food that the child consumed
323 (note, this is different to food rejection, see below). Three sub-themes were generated from this;
324 *Amount* considers under- and over-eating (with specific references to gorging as well as inability to
325 recognise feeling full and taking more food than necessary) and over-drinking. *Food type* is

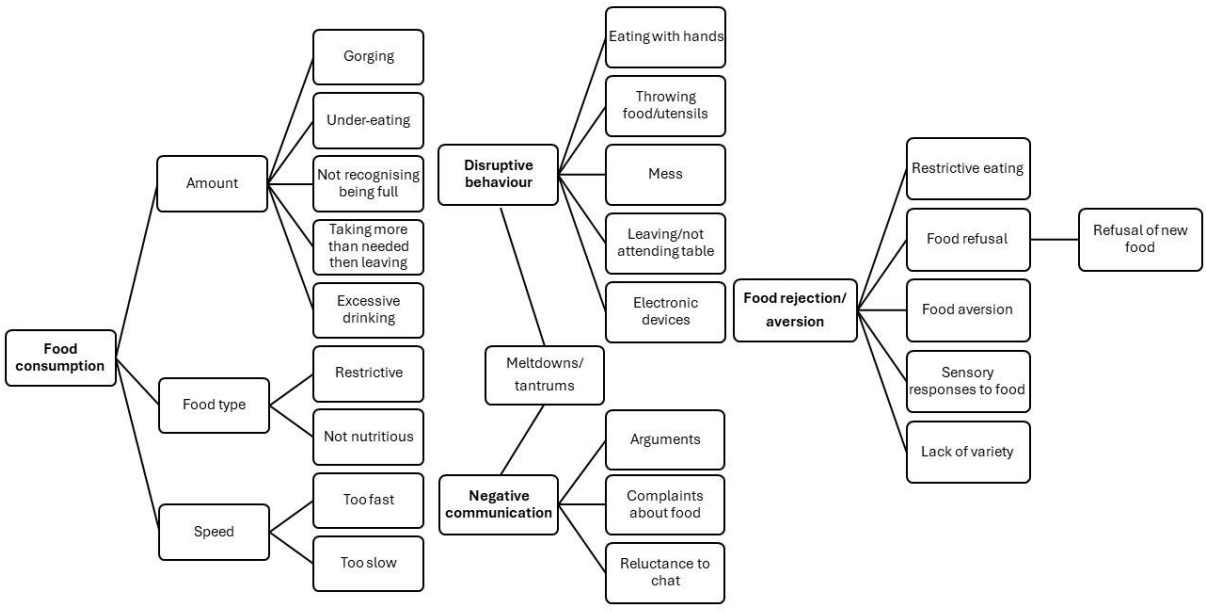
concerned with how unhealthy the food is, and restricted variety. Parents also complained about the *Speed* of their child's consumption with participants reporting both too fast and too slow.

*Disruptive behaviour* covers a range of behaviours including inability to use cutlery (*eating with hands)*, *throwing food and utensils*, inability to stay at (or attend) the table, extreme *mess*, and disruption from *electronic devices*. This theme also relates to meltdowns and tantrums described by parents which in turn also relates to our third main theme, *Negative communication.* Further examples of negative communication included general *complaints about food* that was served, *arguments* at the table and, for some, the child's reluctance to engage in 'conventional' mealtime chats (e.g. about their day).

Finally, *Food rejection/aversion* refers to *restrictive eating* (i.e. very limited repertoire of food they are willing to consume), *food refusal* (for some this is a refusal of new food, while for others the term represents a more extreme refusal to eat at all), broader *food aversion* and aversion due to *sensory responses* (e.g. some children found it very challenging to tolerate the smells created from cooking). The final sub-theme in this area was *lack of variety;* distinct from restrictive eating, this tended to focus more on absence of healthy foods, often vegetables.

**Figure 2**

*Template analysis of responses to the question 'What aspects of your child's eating or mealtime behaviour do you find the most challenging?' (EC group only)*



*Inter-group comparisons*

Comments from the NCE participants could be categorised into the same main themes, but there were some notable differences in the severity of their challenges. For the NCE group, *Disruptive Behaviour* typically focussed on poor table manners, refusal to lay the table, and getting up from the table before the end of a meal. This was in contrast to the more extreme 'meltdowns', throwing of items, refusal to even attend a meal at the table and reliance on electronic devices (e.g. tablets) to get through a meal, all reported by the CE group. Similarly, the groups seemed to differ on what they meant by 'restrictive eating'; while the CE group spoke of extremely restricted diets (e.g. only having four food-stuffs their child was willing to consume) and complete food refusal, the NCE group typically considered 'restricted eating' to equate to a lack of variety (e.g. insufficient fruit and vegetables consumed). A final difference observed was that parents in the NCE group who expressed challenges relating to consumption almost exclusively referred to concerns over nutrition or consumption not being suitably healthy. This was in contrast to some of the behaviours described in the CE group such as uncontrollable gorging and inability to recognise satiety (i.e. absence of interoception).

A content analysis between groups comparison is presented for the main themes in Table 8, highlighting that concerns around consumption were notably more frequent in the CE group.

**Table 8**

*Content analysis for the question, 'What aspects of your child's eating or mealtime behaviour do you find the most challenging?': absolute numbers and percentages of responses from each group*

| | Negative communication n (%) | Disruptive behaviour n (%) | Food rejection & aversion n (%) | Food consumption n (%) |
|---|---|---|---|---|
| CE | 17(16) | 39 (37) | 39 (37) | 34 (32) |
| NCE | 17 (17) | 43 (42) | 47 (46) | 18 (17) |

CE = Care-experienced, NCE = Non-care-experienced

**RQ5: What strategies do adoptive and foster parents employ to minimise mealtime stress and/or challenges?**

Our final research question focussed on the strategies and approaches that participants in the CE group used to try and address the challenges identified in RQ4. Many of these focussed on specific *approaches to food* and food consumption and these approaches were in turn inter-related with broader *feeding practices* that participants described. Common attempts to encourage children to consume food (whether that be broad consumption or consumption of specific foods, such as vegetables or new foods) included offering a choice (either presenting options, or letting the child

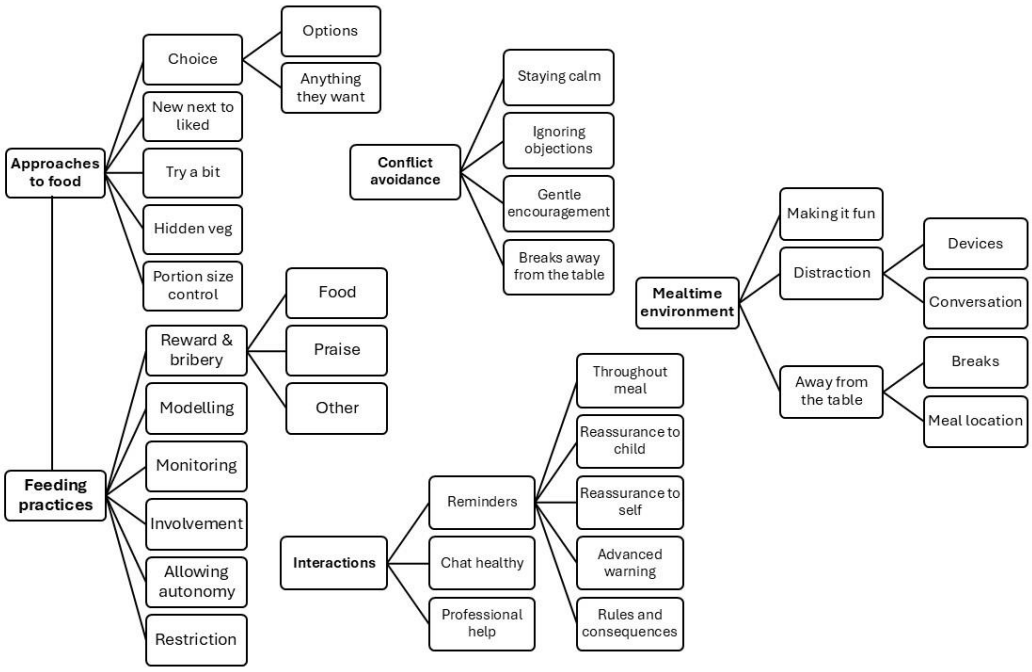
choose anything they would like), presenting small amounts of new foods next to those which were already familiar and enjoyed, encouraging to 'just try a bit', hiding vegetables in other food (e.g. blending into a sauce) and attempting to limit portion sizes served. More broadly, participants tried to model healthy eating, monitor what their child ate, involve children in the cooking, preparation or decision-making, allow some autonomy in decision making (particularly with older children) or, conversely, to apply restriction and offer little or no choice.

To address difficulties around conflict *(conflict avoidance)*, arguments and complaints, parents often reported trying to ignore objections or 'difficult' behaviour. They also tried to stay calm, to offer gentle encouragement and to implement regular breaks from the table. They used various elements of their *interactions* to support this; regular reminders were often cited. These sometimes took place frequently across the meal (e.g. reminder to use cutlery), and sometimes took the form of reminding the child about the rules (and potentially consequences to breaking such rules, e.g. no pudding). Participants also offered advanced warning, both about what these rules were, and about the details of an upcoming meal (i.e. what food would be involved, when the meal will occur, expectations etc.). A final channel for reminders was one of reassurance both to the child and to oneself – in the latter case, parents reported reminding and reassuring themselves that they were coping, that their child was eating and/or that their mealtimes were improving. Participants often reported talking to their children about healthy food, the benefits of good nutrition and ways to cook healthy food. A smaller number reported seeking professional advice – in these cases the reasons were both concerns about disordered eating and extreme restrictive eating.

Finally, parents and carers reported their efforts to ensure that the mealtime environment supported their families. Some explained that they tried to make mealtimes fun (e.g. adding a game to the event) while others relied on distraction to address some of the disruptions (either through electronic devices, or distraction through conversation). Some participants changed their meal location altogether, either eating in front of the television as a family or allowing their child to consume their meal in their own rooms, whilst others implemented breaks in a similar fashion (see Figure 3 for a visual summary of these findings).

**Figure 3**

*Template analysis of responses to the question 'Do you have any strategies to address or help with these challenges when they occur? What do you do?' (CE group only)*


Approaches to food
Choice
Options
Anything they want
New next to liked
Try a bit
Hidden veg
Portion size control
Feeding practices
Reward & bribery
Food
Praise
Other
Modelling
Monitoring
Involvement
Allowing autonomy
Restriction
Conflict avoidance
Staying calm
Ignoring objections
Gentle encouragement
Breaks away from the table
Interactions
Reminders
Throughout meal
Reassurance to child
Reassurance to self
Advanced warning
Rules and consequences
Chat healthy
Professional help
Mealtime environment
Making it fun
Distraction
Devices
Conversation
Away from the table
Breaks
Meal location

405

406

407

## 4. Discussion

This cohort study showed significant and substantial differences between care-experienced children's eating behaviours and those of non-care-experienced children such that the former demonstrated notably higher levels of 'problematic' mealtime behaviours, aberrant/disordered eating (e.g. eating from the bin, stealing and gorging food), and food-related self-injury (i.e. intentionally consuming harmful substances). This supports previous literature (Snuggs et al., 2024) and provides up to date insights into the eating behaviours of care-experienced children in the UK. Interestingly, the parent-participants showed no between-group differences in terms of their concern about problematic mealtime behaviours, but the parents and carers of care-experienced children did express more concern about their child's dietary intake than the birth parent group. This supports Norrish et al's (2019) findings that, despite a certain level of worry, foster and adoptive parents cite more pressing demands and concerns which take priority over the mealtime environment, such as mental health concerns and violent behaviour. Extreme levels of the eating behaviours described have been associated with increased risk of eating disorders, mental and physical health difficulties and lower educational attainment (Jacka et al., 2011; Langdon-Daly & Serpell, 2017; Snuggs & Harvey, 2023). As such, the first, quantitative, stage of this study presents a clear argument for intervention; care-experienced children and their families would benefit from support around food, eating and mealtimes.

It is unsurprising that participants in the CE group reported significantly more Adverse Childhood Events (ACEs) for their children, but striking how substantial that difference was; for non-care-experienced children, the mean number of ACEs experienced was close to zero, whilst care-experienced children were reported to have endured an average of almost six ACEs per child. Further analyses revealed that number of ACEs was significantly positively associated with all the Problematic Eating scales, parental dietary concern and the Food Maintenance scales, indicating that children who have experienced Adverse Childhood Events are more likely to struggle with their eating behaviours and parents are more likely to find these behaviours challenging. A number of researchers in the field have posited that behavioural eating challenges in care-experienced children may partly result from traumatic experiences (e.g. Norrish et al., 2019; Savaglio et al., 2021). This area is in its infancy and the link between childhood trauma and eating is far from well understood but the collective evidence from this study does go some way towards supporting the suggestion that there is indeed a relationship between the two.

The second stage of our research addressed parental perspectives of mealtimes. Namely, what they found enjoyable and challenging about mealtimes and what strategies they implemented to address the identified challenges. We used an innovative approach of Template Analysis to explore

specifically the perspectives of participants whose children are care-experienced whilst also allowing for comparisons to the birth parent cohort. The groups were similar in terms of what they enjoyed about mealtimes with participants focussing on *Time together, Creating a positive environment* and *Enjoying and exploring food.* Notably, the CE cohort mentioned creating a positive environment more frequently than their comparison group, which may reflect a wider priority for these parents to ensure that they are providing a nurturing environment. With regards to the challenges that participants faced around mealtimes, broad themes were similar again, with parents citing *Food consumption, Disruptive behaviour, Negative communication* and *Food rejection/aversion* as challenges in both groups. However, closer inspection of the answers provided indicated a consistent trend that parents in the CE group were reporting much more severe examples of these difficulties. For example, in the NCE group, when participants referred to disruptive behaviour, they often referred to poor table manners and frequent departures from the table, while the CE group were more likely to refer to the throwing of food and utensils or refusal to attend the family meal at all. Similarly, concerns around under- or over-eating, and excessively slow or fast consumption were more exacerbated in the CE group. This supports previous, similar findings, although studies of non-clinical care-experienced populations have tended to focus on over- rather than under-eating in the past (Hadfield & Preece, 2008, Tarren-Sweeney, 2006, Norrish et al., 2019).

This research focuses on care-experienced children, with an aim to informing future design of effective support systems, so we did not conduct comparative analysis for the final question, which asked parents about strategies to address eating and mealtime challenges. Parents overwhelmingly reported striving to maintain a calm, nurturing environment with consistent reminders, boundaries, and rules, though these varied between families; some offered meal choices, others didn't, and some used rewards or punishments to influence eating habits.

Parents also mentioned positive feeding practices such as modelling, monitoring, and involving children in food decisions (Musher-Eizenman & Holub, 2007). Notably, some parents who were concerned about overeating used restrictive techniques, while others encouraged autonomy and independent decision-making. Practical solutions included regular breaks and distractions. This data reveals what parents of care-experienced children are already doing to manage food-related behavioural challenges and highlights approaches they find acceptable, forming the foundation for future support systems for adoptive and foster parents.

Previous anecdotal evidence and small studies suggest that adoptive and foster parents use mealtimes to build relationships, foster positive identities, and prepare children for independence (Warman, 2016). Our research, with a large dataset of open-ended responses and corresponding

themes, reinforces this. It also aligns with suggestions that interoception difficulties and emotional dysregulation may impact food consumption, with parents reporting overeating, undereating, and difficulties recognizing hunger or satiety (Vaughan, 2021). While the data is still preliminary, these areas present promising directions for future research.

The current study has presented a clear need for support around food, eating and mealtimes for carers and parents of care-experienced children which is tailored to the specific challenges identified. Given the (in some cases substantial) differences detected, it is not reasonable to assume that existing interventions or support packages designed to support families' diet and mealtimes would be appropriate for this cohort. It would be beneficial to embark on co-creative work to expand on the current findings and allow parents of care-experienced children a voice with which to shape the future design of any such intervention. In particular, it seems that it would be helpful to explore ways to create the nurturing environment that parents and carers often placed importance on whilst also teaching parents about positive feeding practices. This supports Savaglio et al. (2021) in their assertion that eating related interventions for children in out of home care should be trauma-informed.

The study provided a unique opportunity to explore differences and similarities in eating behaviours between care-experienced and non-care-experienced children in more detail than has been achieved before in such a large sample. It offered insight into potential mechanisms and aetiology of eating behaviour in care-experienced children which can inform future research in this field, with important clinical implications. Nonetheless, the study had a number of limitations; although our sample was larger than most similar studies with the same population of interest and was sufficiently powered, it was not large-scale or representative. There were also some between-group demographic differences which could plausibly account for some of the behavioural differences revealed. On the other hand, effect sizes were, on the whole, noticeably large indicating that group characteristics are unlikely to entirely explain the differences.

## 5. Conclusion

To summarise, the current study indicated that care-experienced children in the UK demonstrate higher levels of problematic eating than other children, which is associated with poorer health outcomes and higher levels of family stress. Parents in this group also reported higher levels of dietary concern, food insecurity and historical adverse childhood events for their child. Parental responses to the questionnaire pointed towards several unique mealtime challenges and approaches for these families which supported previous mechanistic explanations for specific atypical eating behaviours, including historical experience with food (e.g. lack of regular access), emotional and

physical regulatory difficulties and experience of trauma. Future work should build on these findings to start to create authentic, feasible and accessible support packages for parents and carers of care-experienced children who are struggling with food, eating behaviour and mealtimes.

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