Cogent Psychology

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/oaps20

What do we know about hoarding behaviours among care-experienced children (CEC)? A systematic review

Helen Close, Sharon Vincent, Hayley Alderson, Carrie Wilson-Harrop, Sarah Allen, Gillian M. Waters, Sarah Hanson, Gillian V. Pepper & Nick Neave

To cite this article: Helen Close, Sharon Vincent, Hayley Alderson, Carrie Wilson-Harrop, Sarah Allen, Gillian M. Waters, Sarah Hanson, Gillian V. Pepper & Nick Neave (2024) What do we know about hoarding behaviours among care-experienced children (CEC)? A systematic review, Cogent Psychology, 11:1, 2416757, DOI: 10.1080/23311908.2024.2416757

To link to this article: https://doi.org/10.1080/23311908.2024.2416757

COGENT PSYCHOLOGY
2024, VOL. 11, NO. 1, 2416757
https://doi.org/10.1080/23311908.2024.2416757

DEVELOPMENTAL PSYCHOLOGY | RESEARCH ARTICLE

OPEN ACCESS Check for updates

What do we know about hoarding behaviours among care-experienced children (CEC)? A systematic review

Helen Close[a], Sharon Vincent[b], Hayley Alderson[a], Carrie Wilson-Harrop[c], Sarah Allen[d], Gillian M. Waters[e], Sarah Hanson[f], Gillian V. Pepper[d] and Nick Neave[d]

[a]Population Health Sciences Institute, Newcastle University, Newcastle upon Tyne, UK; [b]School of Health, Leeds Beckett University, Leeds, UK; [c]The Care Leavers' Association, Manchester, UK; [d]Department of Psychology, Northumbria University, Newcastle upon Tyne, UK; [e]Department of Psychology, University of Bradford, Bradford, UK; [f]School of Health Sciences, University of East Anglia, Norwich, UK

ABSTRACT

Objectives and methods: Anecdotal evidence suggests a high prevalence of hoarding behaviours among care-experienced children (those in foster, residential, adoptive, or kinship care). This systematic review, aimed to examine the prevalence of hoarding among care-experienced children, their lived experience, and the effectiveness of any hoarding interventions for this population. Primary research articles were included on hoarding behaviours in care-experienced children, published in English in indexed journals from ever to September 2024.

Results: Three eligible uncontrolled, observational studies, including 374 children and 23 carers, were identified. While hoarding was not clearly defined, there were high levels of hoarding behaviours specific to storing food (26%), associated with confirmed maltreatment in care (Odds Ratio = 17.4). Empirical lived experience perspectives were few and polarised between views that food hoarding was punishment towards caregivers or a trauma-survival mechanism. We identified no interventions involving assessment or management of hoarding behaviours in this population.

Conclusions: There is a paucity of evidence about hoarding behaviours among care-experienced children and a small amount of poor-quality evidence suggesting a high prevalence of food-related hoarding. In contrast, stakeholder consultation suggests hoarding may be common, long-lasting, and involve not just food but many other objects. Further research is required to understand the extent and type of hoarding behaviours, and effective interventions. Care-experienced children experience health, educational, and well-being outcomes across the life course, which are much poorer than their non-care peers, and this research offers a new avenue of enquiry to understand and improve their experiences and lives.

ARTICLE HISTORY
Received 23 May 2024
Revised 1 October 2024
Accepted 4 October 2024

KEYWORDS
Care-experience; hoarding; children in care; adoption; fostering

SUBJECTS
Allied Health; Health and Society; Public Health Policy and Practice

Introduction

Care-experienced children (CeC) are children who have experienced living in foster, residential, kinship (extended birth family) care or are adopted during their childhood (Education Services, 2019). Of the 12 million children in England, around 84,000 (0.7%) lived in care in 2022/2023 (including adoption), while around 400,000 children are in the social care system at any one time (Department for Education, 2023). Any care experience before the age of 18 is associated with higher adult all-cause mortality (mainly attributed to self-harm, accidents, and mental and behavioural causes) (Harrison et al., 2023; Murray et al., 2020; Sacker et al., 2021) and research consistently demonstrates that CeC are more likely to experience multiple adverse childhood experiences (ACEs), and significantly poorer mental health and higher levels of physical and neuro-disability than peers (Anthony et al., 2019; Asmussen et al., 2020; Behle & Pinquart, 2016; PAC-UK, 2023; Selwyn & Briheim-Crookall, 2022). These experiences can negatively influence health, social, and educational outcomes across the life course for CeC (Harrison et al., 2023; Murray et al., 2020; Sacker et al., 2021). Overall, CeC are more likely to have experienced trauma and

CONTACT Helen Close helen.close@newcastle.ac.uk Population Health Sciences Institute, Newcastle University, Newcastle upon Tyne, UK
Supplemental data for this article is available online at https://doi.org/10.1080/23311908.2024.2416757

uncertainty both in their birth families and in care, with 15% experiencing five or more placements during their time in care (Selwyn & Briheim-Crookall, 2022). Care leavers are less likely than peers to have support to develop life-skills including managing money, housing, education, and finding work (Mendes & Snow, 2014). There is growing anecdotal evidence to suggest that care-experienced people are more likely to develop hoarding behaviours in childhood in comparison to peers, which may continue into and be exacerbated in adulthood.

Hoarding Disorder (HD) is characterised by (a) the excessive accumulation of items, (b) difficulty in discarding those items, (c) severe cluttering of living spaces which precludes their intended use, and (d) clinically significant distress or impairment in normal functioning (APA, 2013). HD is a chronic condition, often emerging in adolescence (Grisham et al., 2006) and becoming increasingly problematic with age, as possessions are accumulated to the point of severe clutter (Samuels et al., 2002). The prevalence of HD is around 2.5%, making it similar to disorders, such as schizophrenia and obsessive-compulsive disorder (OCD) (Postlethwaite et al., 2019). However, the clinical and prevalence picture is complicated by the fact that a diagnosis of OCD includes hoarding behaviours, but hoarding is now classed as a distinct disorder under the DSM-5 manual in its own right (APA, 2013); thus the prevalence of hoarding with or without OCD is likely to be significantly higher than OCD itself. A US case study and review (Storch et al., 2010) showed that young people with OCD who hoard, relative to those with OCD who do not hoard, experience less insight and less ability to link cause and effect, and higher rates of anxiety, aggression, physical health problems, and panic disorder. While hoarding may present as an eccentric but harmless lifestyle choice, it is becoming increasingly associated with poor social and economic outcomes, marginalisation, deprivation, increasing health problems, and accident-related injuries (Davidson et al., 2020; Ong et al., 2015; Saxena et al., 2011).

Research on HD focuses predominantly on the experiences of adults (Ayers et al., 2014; Haighton et al., 2023; Neave et al., 2017). Adults who hoard report more traumatic childhood experiences, and it is assumed that these influence the development of their hoarding behaviours. For example, several studies note a high proportion of adult hoarders experienced being physically abused, having possessions taken by force, and being sexually abused (Hartl et al., 2005; Samuels et al., 2008). A large US survey found that 69% of adult hoarders ($n = 180$) reported having at least one traumatic life experience (TLE), with the total number of TLEs correlating with hoarding severity (Cromer et al., 2007). Other researchers have reported that interpersonal traumas—such as assault, accidental death of a loved one, or neglect are more closely associated with hoarding behaviours (Tolin et al., 2010). Przeworski et al. (2014) showed that hoarding severity was positively associated with the number of traumatic events before hoarding symptoms developing, while the number of traumas experienced after symptom onset was not associated with hoarding severity.

Despite the potential for HD to originate in childhood, research on HD that shows itself in childhood appears to be limited to case studies (Ale et al., 2014; Gallo et al., 2013) and a Turkish prevalence study (Akıncı et al., 2022). This study of 3249 children aged between 10 and 14 years, demonstrated a HD prevalence of 0.98%, with over half of the children also having a comorbid psychiatric disorder. Evidence about the onset and typology of hoarding among children is limited. An American review (Casey et al., 2012) identified food hoarding within the scope of eating and food-related difficulties among foster children, with little evidence for prevalence or supportive interventions other than telling the child that 'stealing and hoarding are not acceptable behaviours' (Casey et al., 2012, p. 318). A recent large US cohort study examined the potential link between parental bonding and hoarding among adults with OCD ($n = 894$) (Chen et al., 2017). They identified a statistically significant association between poor maternal bonding and maternal overcontrol with hoarding among adult women with OCD but could find no such association with men. Although the study did not explicitly address care experience, the authors concluded that the relationship between parental attachment (a key issue among CeC) and hoarding warrants prospective investigation. Other studies have confirmed that adults with hoarding behaviours have experienced attachment problems in childhood, with positive correlations being found for example between anxious and fearful attachment styles and hoarding severity (Liu et al., 2023; Mathes et al., 2020). In a review of research on attachment and hoarding, Mathes et al. (2020) concluded that dysfunctional attachments to people and possessions jointly underlie hoarding behaviours.

There are very few studies on hoarding among children in general, and those that exist focus largely on the associations between hoarding and cognitive, neurodiversity, or psychopathology, such as autism, Attention Deficit Hyperactivity Disorder (ADHD), or

OCD (Nutley et al., 2022; Samuels et al., 2007). The prevalence of both neurodiversity, disability, and mental ill health are higher in the care-experienced population than in the general population (Selwyn & Briheim-Crookall, 2022) and hoarding is associated with levels of disability equivalent to major depressive disorder and diabetes (Samuels et al., 2007), but little is known about the interplay between care-experience, mental health diagnoses, and hoarding behaviours.

Anecdotal and experiential evidence suggests that the prevalence of hoarding behaviours among CeC is high, problematic, and largely hidden from health and social care practitioners, possibly because of the shame and/or stigma associated with such behaviours experienced by both the child and the caregivers. Soft intelligence from websites and online forums (e.g. Creating a Family, 2024) suggests that issues of stealing and hoarding among CeC are often conflated, and approaches to managing these issues focus on understanding the reasons behind the behaviours and building attachment to allow the child to feel safe and secure. However, the effectiveness of these approaches has yet to be evaluated, and the prevalence and lived experience of hoarding behaviours is currently unknown. This study seeks to synthesise current evidence and make recommendations for future research.

The research question for this systematic review is:

> 'What is known about the prevalence, lived experience of hoarding behaviours among CeC, and the effectiveness of management strategies?'

Aims and objectives

- To examine the prevalence of hoarding behaviours among CeC.
- To examine the evidence on the lived experience of hoarding, differentiating by setting and care-giver context.
- To identify hoarding management strategies and quantify their effectiveness.
- To examine short and long-term outcomes of hoarding behaviours of CeC.

Methods

Eligibility criteria

The inclusion and exclusion criteria are as follows; individuals were defined as children under the age of 18 years currently or previously in care (foster, residential, kinship (extended birth family with supervision from children's social care) care or adopted). The outcomes of interest were the prevalence and type(s) of hoarding behaviours, hoarding management strategies and their effectiveness, short and long-term outcomes of hoarding behaviours; studies focused on children not in care were not eligible for inclusion. Primary research articles and systematic reviews published in English in indexed journals from ever to September 2024 were eligible for inclusion. Conference abstracts, audits, letters, commentaries, opinion pieces, and study protocols were excluded. Studies were not selected based on quality, but quality was assessed using the Critical Appraisal Skills Programme (CASP) tool (CASP, 2018). The review was not registered. The study protocol can be accessed by contacting the lead author. Template data collection forms and data extracted from included studies will be made available at the data depository at Newcastle University (data.ncl).

Search strategy

Databases searched were Child Development & Adolescent Studies (EBSCO), Scopus, Web of Science, ProQuest Social Sciences Premium Collection, PsycINFO, Medline (OVID), CINAHL (EBSCO), Social Work Abstracts (EBSCOhost) (1965+), ASSIA, Social Care Online, Social Policy and Practice. Anecdotal reports also suggested the importance of screening grey literature, thus websites searched were eThOS, Google Scholar, and OpenGrey (System for Information on Grey Literature in Europe). Exact search terms and inclusion criteria were developed in consultation with the research team which includes academics, social care practitioners, adoptive parents, and care-experienced people. They incorporated the following (searched in 'all fields'): (('hoarding' OR 'hoard' OR 'collecting behaviour') AND ('child' OR 'young person' OR 'adolescent' OR 'adolescence') AND ('residential care' OR 'foster care' OR 'fostered' OR 'adoption' OR 'adopted' OR 'care experienced' OR 'kinship' OR 'looked after child' OR 'looked-after child' OR 'previously looked after child' OR 'previously looked-after child' OR 'care leaver' OR 'care-leaver')) AND NOT AUTH (Hoard). The Boolean Operators 'AND' and 'OR' were used to combine these terms appropriately and refine the search.

Study inclusion

All abstracts and titles were independently reviewed by HC, SA, and SV against the eligibility criteria, and potentially relevant articles were retrieved as full

texts. Discrepancies at each stage were resolved by discussion or by consulting a third researcher if consensus could not be reached. Articles ($n = 3$) fulfilling the eligibility criteria were included in the review. Reference lists of the included articles were searched to identify potentially relevant articles missed by the original database search.

Data extraction

Data was extracted from eligible studies ($n = 3$) using standardised data collection forms. Data items included study methodology (including follow-up period), sample information (including demographic details), definition of 'hoarding' if included, primary and secondary outcome data.

Data analysis

Thematic descriptive analysis (Smith et al., 2009) of study characteristics was conducted to understand the aims, methods, number of participants, and results. Findings were synthesised according to prevalence of hoarding, lived-experience, service provision, and outcomes. Medians and interquartile ranges (IQR) of incidence, prevalence of need, and the different categories of service, location, provider of care, primary outcome, and effect size were planned to be calculated using Excel although this was not required as this data was unavailable. Meta-analysis of quantitative findings was also planned but was not appropriate due to the paucity of data. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist (Page et al., 2021) was used to ensure that all relevant information was captured in data extraction and in the final analysis. Additionally, the CASP (Critical Appraisal Skills Programme) checklist for cohort studies (CASP, 2018) was used to assess the quality of each of the three included papers. Evidence quality was uniformly low (Supplementary Appendices 1–3).

Results

Study characteristics

Of 288 abstracts and titles reviewed, 26 full-text articles were retrieved (Figure 1). The majority of studies were excluded at the initial screening stage as they were not directly relevant to hoarding ($n = 116$), care-experience ($n = 83$), or were not primary research (39). Of the 26 remaining studies, all full texts were retrieved and assessed for eligibility by two team members and four were included. One study (Mendes & Snow, 2014), a small qualitative study exploring the needs and experiences of young people with a disability transitioning from out-of-home care initially appeared to meet inclusion criteria but was subsequently excluded because it reported retrospective recall from practitioners about adults over the age of 18 who had already transitioned from care. Therefore, a final total of three studies were suitable to be included in the review (DuRousseau et al., 1991; Helton et al., 2017; Tarren-Sweeney, 2006) (Figure 1). All three of the studies were observational studies identifying hoarding as a primary or secondary outcome; none of the studies addressed hoarding interventions or outcomes. One was a prospective mixed-methods cohort study (DuRousseau et al., 1991), one combined a cross-sectional survey with qualitative interviews (Helton et al., 2017) and the remaining study was a cross-sectional survey (Tarren-Sweeney, 2006). Two studies were in the USA (DuRousseau et al., 1991; Helton et al., 2017) and one study was based in New South Wales, Australia (Tarren-Sweeney, 2006). In each study, the case mix included children in foster care (unspecified) (DuRousseau et al., 1991), children in foster care under the care of a private agency (Helton et al., 2017), and children in either foster care or kinship care (Tarren-Sweeney, 2006). No study involved follow-up of children and one study assessed parental recall of dietary behaviours over the past three months (DuRousseau et al., 1991). The studies were relatively small with a mean number of children/families per study of 199 (range 23–547) (Table 1).

Of the three papers, none were deemed to be of high quality according to the CASP tool; all were low quality with high sources of bias.

Definition and prevalence of hoarding

None of the studies identified hoarding as a primary or secondary aim; their focus was on nutritional risk (DuRousseau et al., 1991); nutritional strategies used by foster carers (Helton et al., 2017); and behavioural difficulties experienced by foster children (Tarren-Sweeney, 2007). Hoarding was described in all cases as an incidental finding related to hiding or storing food, with no studies identifying or describing any other forms of hoarding. Two studies conflated hiding or stealing food with 'disturbed eating behaviours' defined as including 'gorging food to the point of vomiting, stealing and hiding food, self-induced vomiting, and frequent refusal of food' (DuRousseau et al., 1991, p. 83) and 'eats too much,

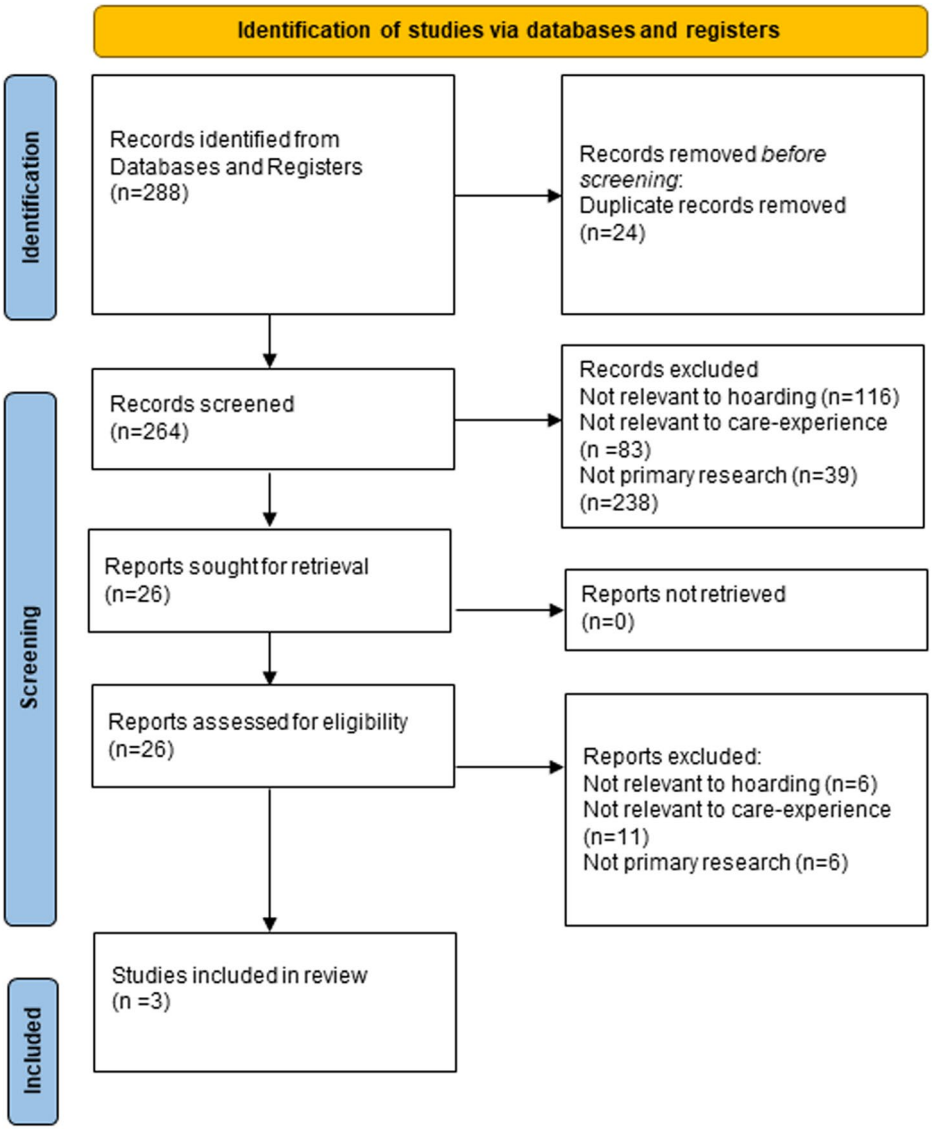

Figure 1. PRISMA flowchart.

gorges food, hides or stores food, steals food', respectively (The Assessment Checklist for Children (ACC)) 'food maintenance' scale (Tarren-Sweeney, 2006, 2007, p. 627). The third study identified 'food hoarding' but did not provide a definition or description of this (Helton et al., 2017).

The oldest study in the review (DuRousseau et al., 1991) examined the nutritional risks associated with children currently living in foster care in the USA. From a cohort of 27 children aged between 1 and 10 years old, they reported a prevalence of 29.6% of 'disturbed eating behaviours' but it is not possible from the data provided to disaggregate this into individual hoarding behaviours. Not surprisingly, for a cohort drawn from a paediatric clinic, 36% had physical illnesses and 71% had learning disabilities or developmental delays. Of those included in the study, it is notable that around a third had experienced neglect (29%), 21% sexual abuse, 14% abandonment, and 7% severe physical abuse, again it was not possible to interrogate the data to understand the proportions of those who had experienced abuse, who went on to experience hoarding behaviours.

The second study in this review (Helton et al., 2017) was a mixed-methods study using surveys ($n = 23$) and qualitative interviews ($n = 9/23$) to explore foster parents' nutritional strategies and the impact of these strategies on the well-being of children living in foster care. A total of three (33%) foster families reported having children in their care who hoarded food; aged 5, 9, and 10, all of whom were black. One parent was related to the child (with an unknown time-period in kinship care) while the others were experienced foster parents (for six years or more). All three had other children in the home but

Table 1. Inclusions and data extraction.

References	Study location	Design	Outcomes	Follow-up	Intervention	Participant numbers	Demographics	Findings
DuRousseau et al. (1991)	USA	Prospective mixed-methods cohort study; medical note review, interviews with children and foster carers, and nutrition diaries.	Assessment data on reasons for foster care, anthropometric and biochemical data, and foster carer-reported health and behavioral problems.	3 months of foster care completed dietary diaries.	Nil	$N = 27$ children in foster care	Sample included note review for $n = 14$ children aged between 1 and 10 years, all of whom were Black apart from one Hispanic child. The demographics of the remaining sample was not described.	Of the 27 included in the broader sample, a total of 8 (30%) had 'disturbed eating behaviours' defined as including 'gorging food to the point of vomiting, stealing and hiding food, self-induced vomiting, and frequent refusal of food'. The incidence of hiding or hoarding food was not further described.
Helton et al. (2017)	USA	Exploratory mixed-methods study; interviews and surveys with foster parents of children (aged 3–16) recruited from a private child welfare agency.	Assessment of nutritional strategies used by foster parents *via*: Food and beverage intake measured by 'Early Childhood Longitudinal Study' food consumption questionnaire Food insecurity measured by the 'U.S. Household Food Security Survey Module' Semi-structured interview about nutrition, child eating behaviours, and family mealtimes.	No follow-up	Nil	Foster parents of children (ages 3–16) recruited from a private child welfare agency; interviews $n = 9$ foster parents, surveys $n = 23$ foster parents.	Of the 9 interview participants, 67% were black, 33% were related to the foster child, 67% had more than 1 child in the home, 33% experienced food insecurity in the past year.	A total of 3 (33%) of foster parents reported caring for children who hoarded food, and of those, one child also over-ate. Two parents attributed the behaviours to a rejection of parental authority. The other parent had experienced abusive behaviour around food themselves as a child, and was more understanding of the link between trauma and food hoarding. One parent was related to the child while the others were experienced foster parents (for 6 years). All three had other children in the home, and one parent experienced food insecurity. It was not possible from the data to link the qualitative reports of hoarding with the quantitative measures of behaviour.
Tarren-Sweeney (2006)	Australia	Prospective cross-sectional survey design	The Child Behavior Checklist (CBCL) and The Assessment Checklist for Children (ACC)	No follow-up; states follow up planned in 2006 but no citation match this.	Nil	347 children in foster or kinship care.	The gender of participants was evenly distributed (276 boys, 271 girls) aged 4–11 years (>60% were 6–8 years old, with a mean age of 7.8 years. The proportions of children residing in Sydney, other metropolitan NSW (Wollongong, Central Coast, Newcastle), and regional NSW were 35.5, 16.5, and 48%, respectively. Children living in foster and kinship care were 297 (86%) and 50 (14%), respectively. Less than 6% ($n = 20$) of children entered care without known exposure to maltreatment, 80% experienced one or more forms of abuse, and 78% experienced neglect. The median number of maltreatment notifications was three, and the mean age of entry into care was 3.5 years.	The ACC includes an ACC 'food maintenance' scale which contains four items: eats too much, gorges food, hides or stores food, steals food. Results show that 14% of children hid or stored food (Item-rest correlation 0.57). The statistical modelling did not differentiate between each sub-category thus it is impossible to summarise statement of findings that relate solely to hiding or storing food. Taking the category as a whole, 'food maintenance caseness' was not associated with age at entry into care, placement stability, or prior exposure to sexual or physical abuse. However, food maintenance behavior was associated with confirmed maltreatment in care (Odds Ratio = 17.4), and maltreatment in the child's current placement independently predicted food maintenance.

did not report their experiences of hoarding (if any), and one parent experienced food insecurity. It was not possible from the data to link the qualitative reports of hoarding with the quantitative measures of behaviour.

The final study (Tarren-Sweeney, 2006) was an Australian prospective cross-sectional survey of 347 children in foster or kinship care. The survey instrument was The Child Behavior Checklist (CBCL) and The Assessment Checklist for Children (ACC). The ACC includes an ACC 'food maintenance' scale, which contains four items: eats too much, gorges food, hides or stores food, steals food. Results show that 14% of children hid or stored food (Item-rest correlation 0.57). The statistical modelling did not differentiate between each of these sub-categories. Hence, it is not possible to make a summary statement of findings that relate solely to hiding or storing food. Taking the category as a whole, 'food maintenance caseness' was not associated with age at entry into care, placement stability, or prior exposure to sexual or physical abuse. However, it was closely associated with confirmed maltreatment in care (Odds Ratio = 17.4) to the extent that maltreatment in care and maltreatment in the child's present placement independently predicted food maintenance. It is not possible to disaggregate this finding with food hoarding per se.

The lived experience of hoarding

Only one study (Helton et al., 2017) described the qualitative experience of hoarding from the viewpoint of the foster parent. No studies elucidated the lived experience from the perspective of the child. Of the three parents in the Helton study (2017) who reported hoarding food, two described a phenomenon in which the children would steal and hoard food during the night, but then not eat this food, 'He would steal food, and then you would find it in their beds the next day.' (Helton et al., 2017, p. 165). The three parents were unsure what caused the behaviour, however, two parents attributed food hoarding to a rejection of parental authority: 'I'll show you I can get back at you' (Helton et al., 2017, p. 165), while the remaining parent reported an understanding of a perceived link between trauma and food hoarding, stating hoarding may come from 'the need to make sure that you're taken care of, if you don't know if you're gonna get the next meal' (Helton et al., 2017, p. 165).

Outcomes of hoarding behaviours and hoarding management strategies

We did not identify any studies that quantified any outcomes of hoarding, and no interventional studies were identified.

Discussion

This is the first known review to systematically scope international literature on hoarding behaviours among CeC. No studies could clearly define the extent of hoarding in this population, and no studies could fully describe either the lived experience of hoarding from the viewpoint of the child or the family or any short or long-term outcomes. We took a broad and iterative definition of hoarding to incorporate as many different terms as possible, and studies were included in the initial screen where there was any indication of possessions being 'stored'. It is notable that all three identified studies focused on food hoarding, which mirrors other reports from experts in the field; a recent report includes a qualitative analysis of the perspectives of care leavers' (individuals with care experience who have transitioned into independent living) and looked after children's nurses' who identified food hoarding as a problem that is often established by the time young people entered care and is resistant to change (Morgan-Trimmer et al., 2015). Bruce Perry, a world-leading expert on attachment-based trauma treatment for CeC states 'Odd eating behaviours are common, especially in children with severe neglect and attachment problems. They will hoard food, hide food in their rooms, eat as if there will be no more meals even if they have had years of consistent available foods' (Perry, 2001). None of the studies identified any other form of hoarding. The only mention of non-food related hoarding that we found in current literature was a qualitative Australian study of disabled care leavers (excluded from the review because it focused on care leavers over 18), in which a practitioner described a young person's experience thus '*We had a kid go into a flat (housing service) … but because very traumatized, not intellectual disability, but a lot of mental illness, and because of that whole thing of the trauma and attachment issues, she was a hoarder, she had to have stuff, and that flat got into rubbish up to the roof. And nobody was helping her deal with all of that stuff. And then they kicked her out because of the level of trash*' (Mendes & Snow, 2014, p. 122).

This quote mirrors soft intelligence from a variety of sources (including members of the current research team, patient and public involvement (PPI) work, and social media analysis) which suggests that the experience of hoarding among CeC may be common, long-lasting, and involves not just food, but many other objects and substances, as varied and complex as discarded and broken toys and possessions, items taken from school and shops and stored or displayed in high quantities, and urine and faeces stored in bed posts and boxes, with a high-anxiety resistance to parting with the objects.

The available literature tells us nothing useful about which sub-groups of care categories (e.g. foster, residential, kinship, adopter) or individual characteristics (e.g. co-occurring OCD or mental health diagnoses) may be associated with the risk of developing hoarding behaviours. The most used assessment in the UK to assess and monitor mental health in relation to social care intervention among CeC is the Strengths and Difficulties Questionnaire (Goodman, 2001) which does not contain any items related to hoarding or eating-related practices. It seems sensible to assume that children who hoard food may be at increased risk of obesity, and indeed research demonstrates that obesity levels are higher in CeC (Hadfield & Preece, 2008; Schneiderman et al., 2012; Steele & Buchi, 2008). However, the link seems more complex than this given that many CeC who experience disordered eating and hoarding are of average Body Mass Index (BMI) (Tarren-Sweeney, 2006). There is anecdotal evidence from PPI work carried out by members of the current team that hoarded food is often not consumed but is left to rot which seems possibly to be a survival mechanism in children who have experienced neglect and starvation. This can have negative outcomes on relationships with other family members and professionals, such as residential home workers, but the extent of this needs careful and compassionate investigation.

There are theoretical reasons to expect links between the uncertainty and insecurity regarding food supply that is often experienced in care, and behaviours, such as finding and hoarding food as a survival strategy (Anselme & Güntürkün, 2018). Similarly, the insurance hypothesis (Nettle et al., 2017) links food insecurity to obesity, arguing that it is advantageous to store fat (despite the associated health costs of doing so) under food insecurity as a buffer against the risk of starvation—a prediction supported by a meta-analysis of the empirical literature (Akbari et al., 2022). In addition, adults with hoarding symptoms present with higher co-morbidity with social phobia, personality disorders, and pathological grooming behaviors (e.g. nail biting, skin picking, and trichotillomania) (Samuels et al., 2002), all of which may be higher in those who have experienced uncertainty in childhood. Adding to this complexity, objects are often associated with emotional well-being; torn blankets and worn teddy bears can provide feelings of security to infants when they start becoming more independent from their caregivers, suggesting a 'transitional' role (Winnicott, 1953). Possession of these transitional objects also seems to be related to relationships with objects in later life. For example, adults who had a transitional object in infancy seem to have more sentimental feelings about personal or family artefacts (Frazier et al., 2009). Most children outgrow their transitional objects by the time they reach puberty; however, continued or obsessive ownership is often seen in those who suffer from mental health difficulties, such as borderline personality disorder (BPD) (Arkema, 1981). As the majority of BPD sufferers also experienced trauma and/or attachment difficulties in infancy, the transitional object could provide feelings of emotional comfort and stability (Hooley & Wilson-Murphy, 2012). Extended possession of transitional objects is also common in cases of depression where the relationship with the object seems to provide some sort of defence against feelings of anxiety (Erkolahti & Nyström, 2009). While no research (to our knowledge) has investigated any link between ownership of transitional objects and hoarding behaviour, it seems possible that hoarding of objects could provide some sort of positive emotions for CeC.

Notably, one parent in one study made a perceived link between trauma and hoarding behaviour (Helton et al., 2017). This seems a sensible link, supported by tangentially related literature. For example, there appear to be complex differential effects of abuse *vs.* neglect on brain development in adolescence (Kim-Spoon et al., 2021); this is supported by Tarren-Sweeney's findings of a stronger association between emotional abuse *vs.* physical assault and food maintenance syndrome (OR 2.3 *vs.* 0.7; Tarren-Sweeney, 2006). It seems important for future research to clearly differentiate between types of abuse or neglect and their potential associations with hoarding. In considering the aetiology of hoarding, it is also possible that there is a relationship between trauma related to the way possessions are treated during moves between care. A recent UK survey (Downie & Twomey, 2021) of 97 care experienced children and professionals showed that 80% of children and young people had belongings moved in

bin bags at least once during their time in care; 3 in 5 had personal belongings lost or damaged during a move in care, while only 1 in 3 local authorities provide formal, written guidance for staff and carers when a child is moving home in care. This uncontrollable loss of personal items and mistreatment of personal items could lead to feelings and need to hold on to the items they are able to, as it may be the only thing they are able to control, even if they may not seem important to others. CeC are already starting from a deficit and place of loss when they are taken into the care system, as they are likely to have gone into the care system without most, if not all personal items. There may also be an expectation by the CeC that a move and loss may (and likely will) happen again, without their prior knowledge, with the potential that they will lose everything all over again without any notice or warning. Similarly, we know that young people may leave statutory care lacking organisational skills, confidence, financial skills, knowledge, and crucially, support, to maintain a good standard of health and well-being (Morgan-Trimmer et al., 2015). The same may be true of having the skills to maintain their home environment, and it is possible to suggest, supported by our PPI findings, that all these factors may contribute to care leavers becoming hoarders in their adult lives. This also relates to recent grounded theory research advocating for better support for young people (not specific to the care-leaving population) in the transition from the family home to University or other residence where hoarding behaviours are present, as part of the category 'managing possessions' (p. 1283; Ruby-Granger et al., 2023). The authors suggest that young people with hoarding behaviours may not learn to manage (sort, store, and discard) their possessions, thus presenting an important potential avenue of intervention.

A second theme worthy of the investigation comes from a recent systematic review and meta-analysis (Akbari et al., 2022) which demonstrates a moderate association between emotional dysregulation and hoarding, and incorporates a notable qualitative study which includes narratives from care-leavers citing childhood domestic violence and neglect as precursors to adult hoarding behaviours (Taylor et al., 2019). All identified studies ($n = 9$) involved adults ($n = 1595$), but this presents an interesting avenue of enquiry for hoarding behaviours in CeC, given the high prevalence of emotional dysregulation associated with care-experience. There is also a high prevalence among CeC of foetal alcohol spectrum disorder (FASD), drug exposure *In utero*, and neurodiversity whose profiles can include severe emotional dysregulation, alongside the uncertainty and lack of continuity and stability in care which can also lead to emotional dysregulation (Heady et al., 2022). It will be important in future research to conduct sub-group analyses to understand the potential explanatory role of these diagnoses in hoarding behaviours and tailor any potential interventions accordingly. We need much more research to uncover what is likely to be a complex causal mechanism, so we understand how issues interrelate and know how to prevent this from happening in childhood, in the important and under-resourced transition from care, and into adulthood, for a population who experience more negative health and wellbeing outcomes across the board compared with their peers. In addition, due to the prevalence of traumatic experiences for CeC, there is a substantial need to further investigate the potential link between CeC trauma experiences and hoarding.

In addition to a lack of evidence about prevalence and lived experience, no interventional studies were found that provide evidence about how best to manage hoarding in this vulnerable and under-resourced population. If we accept that the absence of evidence about hoarding behaviours does not equal evidence of absence, we must conclude that there is an urgent need to develop appropriate trauma-informed interventions. In a recent review, Ong et al. (2021) postulate that earlier diagnosis and treatment in paediatric populations have the potential to improve child and family well-being and reduce the long-term burden on the state, while another two reviews call for more research on hoarding in children who do not have concurrent OCD (Burton et al., 2015; Morris et al., 2016). Emerging evidence of interventions to support other challenging behaviours that result from trauma, such as child-to-caregiver violence in CeC, suggests that relationship-based therapies, such as dyadic developmental psychotherapy (DDP) may be effective and cost-effective. At present, these therapies do not explicitly focus on hoarding behaviours but again, our scoping work suggests that DDP research may be an essential avenue for interventional work on hoarding among CeC. It is notable that a recent UK handbook for children suggests the effectiveness of cognitive behavioural therapy (CBT) and recommends exposure to discarding and refraining from collecting new items, using contingency management for exposure and oppositional behaviour, cognitive training, and parents training to assist with exposures in the home (Højgaard & Skarphedinsson, 2023). This is concerning since these measures may not be fit for

purpose in CeC, particularly for those with trauma. Similarly, the pejorative, deficit-focused views shared by foster parents in Helton et al. (2017) that food hoarding was a way to manipulate or punish the caregiver are unlikely to lead to therapeutic change for CeC. It is notable that the majority of children in this study were black and there may be important differences in how these food-related behaviours are interpreted based on the ethnicity of the children involved. Ethnicity should be taken into account in future research. Our stakeholder consultation suggests a desire among families for a more strengths-based, trauma-informed approach and training, to ensure that CeC hoarding behaviour is better understood by carers as a trauma response rather than internalised as a negative behaviour against the carers. It is our assertion, supported by other work on trauma-informed practice in social care more generally, that this potential link is worthy of enquiry to prevent our most vulnerable children from becoming the hoarders of the future.

Strengths and weaknesses/limitations of the study

A key strength of the study is that this is the first review to systematically evaluate the extent and type of research on hoarding behaviours among care-experienced children. It was conducted by an interdisciplinary research team of hoarding experts, psychologists, academics with expertise in care-experience, people with lived experience of care-experience and/or hoarding, and methodologists. Further, its interpretation was informed by consultation work with adoptive parents, foster carers, social workers, psychotherapists, and social media analysis of publicly available websites and forums. This allowed us to fully explore and debate the lack of shared discourse or definitions of the term 'hoarding', which was not recognised or well understood by families, and to iteratively explore the literature to ensure we were not missing important papers. The development of search terms was challenging because of the interdisciplinary nature of the work, the lack of shared terminology, and the fact that hoarding may involve behaviours not captured by the current search terms. We did, however, interrogate the literature in a systematic, inter-disciplinary manner. This presents a foundation on which to build a programme of work addressing hoarding behaviours that may become life-long and costly to individuals and the state, but which may be entirely preventable with appropriate trauma-informed relationship-based interventions.

The lack of shared discourse about hoarding across the paradigms of fostering and adoption and the failure of studies to define hoarding behaviours means that we may have incorrectly excluded relevant studies. We retrieved as many full papers as possible and had regular email exchanges to discuss inclusion and exclusion criteria, but we may have missed important papers. Equally, we did not restrict our study timelines (Ever-September 2024), so it is unlikely that we have missed anything of direct importance. All studies reviewed had methodological weaknesses, heterogeneous populations, observational designs, and small sample sizes, which, of course, limits the utility of comparison between studies, but this highlights the dearth of work in this area and the need to focus attention on addressing this knowledge gap. In addition, each study found incidental food hoarding as part of a broader study. Because of this, the true prevalence may be much higher and may include non-food-related hoarding behaviours. It is possible that data from CeC may have been included in studies which did not provide information about inclusion/exclusion criteria. We found only one study which explicitly excluded adopted children (65] which means that CeC data may be conflated in other studies which did not explicitly exclude CeC. If this were the case, our recommendations would still stand.

The lack of evidence meant that we could not fully achieve our aims. Although we found that a third of the population in one study were food hoarding, the individual study design rendered it impossible to assess its true prevalence, outcomes, or lived experience. The lack of explicit information about the existence or effectiveness of hoarding interventions similarly made it impossible to assess their effects on quality of life or their overall cost-effectiveness. What this systematic review has achieved, however, is to carefully define the very low numbers of studies on hoarding. This highlights the need for high quality studies to assess the extent of hoarding behaviours in CeC, and the reasons for hoarding as experienced by CeC themselves, differentiating between different care experience (foster, kinship, residential, adoption) populations, to develop interventions which explicitly evaluate the effectiveness and cost-effectiveness of hoarding prevention and support.

Conclusions

Overall, this review demonstrates the lack of evidence about the prevalence of hoarding behaviours among

care-experienced children. The lack of explicit information about the existence or effectiveness of hoarding interventions for this population makes it impossible to assess their effects on quality of life or their overall cost-effectiveness and further research is urgently required to understand the extent of hoarding practice, and the best model of practice to meet those needs. Findings from this systematic review will inform future work to co-produce a trauma-informed intervention to improve the lives of CeC and their families and to develop a trauma-informed research toolkit to ensure that the study is conducted in a way that is safe, relational, and respectful.

Acknowledgements

With grateful thanks to families, caregivers, and stakeholders for sharing insights, and the NIHR Research Design Service North East North Cumbria for support in developing the concept for this work.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This study was unfunded.

About the authors

Helen Close (PhD, RGN) is a senior research methodologist with a background in qualitative research. Her current research interests are in adoption and fostering.

Sharon Vincent is Professor of Social Work in the Social and Community Studies group within the School of Health. She has been undertaking research in the area of child welfare and protection for over 20 years.

Hayley Alderson is a Senior Research Fellow, NIHR ARC North East North Cumbria (NENC) Embedded Children and Families Social Care LCRN based within the Population Health Sciences Institute at Newcastle University.

Carrie Wilson-Harrop (BA MA) is a leading international voice on the issues affecting those with Care Experience and working with this cohort at a strategic level through professional, academic and personal experience.

Sarah Allen is Assistant Professor in Psychology at Northumbria University. Her research interests broadly fit into the areas of Health Psychology, Psychobiology and Applied Mental Health research.

Gillian M. Waters is an Associate Professor and Head of the Department of Psychology. She is a Chartered Psychologist and her main area of research is young children's metacognition (how they think about what they know).

Sarah Hanson is Associate Professor in Community Health whose primary research focus is preventative health and poverty, working closely with community partners.

Gillian V. Pepper is an Assistant Professor in the Psychology Department at Northumbria University. She is the Programme Director for the MSc in Health Psychology and the Health & Wellbeing Lead for the Urban Futures Interdisciplinary Research Theme. She is a member of the Healthy Living Lab, the Psychobiology of Stress and Wellbeing Group, the Hoarding Research Group and the Perception Evolution & Behaviour Lab (PEBL).

Dr Nick Neave is a Professor within the Department of Psychology. He is Director of the Hoarding Research Group and Chair of the UK Hoarding Partnership.

ORCID

Helen Close http://orcid.org/0000-0001-5024-4386

References

Akbari, M., Seydavi, M., Mohammadkhani, S., Turchmanovych, N., Chasson, G. S., Majlesi, N., Hajialiani, V., & Askari, T. (2022). Emotion dysregulation and hoarding symptoms: A systematic review and meta-analysis. *Journal of Clinical Psychology*, *78*(7), 1341–1353. https://doi.org/10.1002/jclp.23318

Akıncı, M. A., Turan, B., Esin, İ. S., & Dursun, O. B. (2022). Prevalence and correlates of hoarding behavior and hoarding disorder in children and adolescents. *European Child & Adolescent Psychiatry*, *31*(10), 1623–1634. https://doi.org/10.1007/s00787-021-01847-x

Ale, C. M., Arnold, E. B., Whiteside, S. P., & Storch, E. A. (2014). Family-based behavioral treatment of pediatric compulsive hoarding: A case example. *Clinical Case Studies*, *13*(1), 9–21. https://doi.org/10.1177/1534650113504487

Alvarenga, P. G., Cesar, R. C., Leckman, J. F., Moriyama, T. S., Torres, A. R., Bloch, M. H., Coughlin, C. G., Hoexter, M. Q., Manfro, G. G., Polanczyk, G. V., Miguel, E. C., & do Rosario, M. C. (2015). Obsessive-compulsive symptom dimensions in a population-based, cross-sectional sample of school-aged children. *Journal of Psychiatric Research*, *62*, 108–114. https://doi.org/10.1016/j.jpsychires.2015.01.018

American Psychiatric Association (2013). Anxiety disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed.). Author. https://doi.org/10.1176/appi.books.9780890425596.dsm05

Anselme, P., & Güntürkün, O. (2018). How foraging works: Uncertainty magnifies food-seeking motivation. *The Behavioral and Brain Sciences*, *42*, e35. https://doi.org/10.1017/S0140525X18000948

Anthony, R. E., Paine, A. L., & Shelton, K. H. (2019). Depression and anxiety symptoms of British adoptive parents: A prospective four-wave longitudinal study. *International Journal of Environmental Research and Public Health*, *16*(24), 5153. https://doi.org/10.3390/ijerph16245153

Arkema, P. H. (1981). The borderline personality and transitional relatedness. *The American Journal of Psychiatry*, *138*(2), 172–177. https://doi.org/10.1176/ajp.138.2.172

Asmussen, K., Fischer, F., Drayton, E., & McBride, T. (2020). *Adverse childhood experiences: What we know, what we don't know, and what should happen next*. Early Intervention Foundation.

Ayers, C. R., Saxena, S., Espejo, E., Twamley, E. W., Granholm, E., & Wetherell, E. L. (2014). Novel treatment for geriatric hoarding disorder: An open trial of cognitive rehabilitation paired with behavior therapy. *The American Journal of Geriatric Psychiatry*, *22*(3), 248–252. https://doi.org/10.1016/j.jagp.2013.02.010

Behle, A. E., & Pinquart, M. (2016). Psychiatric disorders and treatment in adoptees: A meta-analytic comparison with non-adoptees. *Adoption Quarterly*, *19*(4), 284–306. https://doi.org/10.1080/10926755.2016.1201708

Burton, C. L., Arnold, P. D., & Soreni, N. (2015). Three reasons why studying hoarding in children and adolescents is important. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, *24*(2), 128–130. PMID: 26379725 PMCID: PMC4558984

Casey, C., Cook-Cottone, C., & Beck-Joslyn, M. (2012). An overview of problematic eating and food-related behavior among foster children: Definitions, etiology, and intervention. *Child and Adolescent Social Work Journal*, *29*(4), 307–322. https://doi.org/10.1007/s10560-012-0262-4

Chen, D., Bienvenu, O. J., Krasnow, J., Wang, Y., Grados, M. A., Cullen, B., Goes, F. S., Maher, B., Greenberg, B. D., McLaughlin, N. C., Rasmussen, S. A., Fyer, A. J., Knowles, J. A., McCracken, J. T., Piacentini, J., Geller, D., Pauls, D. L., Stewart, S. E., Murphy, D. L., … Samuels, J. (2017). Parental bonding and hoarding in obsessive-compulsive disorder. *Comprehensive Psychiatry*, *73*, 43–52. https://doi.org/10.1016/j.comppsych.2016.11.004

Creating a Family (2024). *Hoarding, overeating, & food obsessions in adopted & foster kids*. Retrieved from creatingafamily.org

Critical Appraisal Skills Programme (2018). CASP Cohort Studies Checklist 2018. Retrieved from casp-uk.net

Cromer, K., Schmidt, N. B., & Murphy, D. L. (2007). Do traumatic events influence the clinical expression of compulsive hoarding? *Behaviour Research and Therapy*, *45*(11), 2581–2592. https://doi.org/10.1016/j.brat.2007.06.005

Davidson, E. J., Dozier, M. E., Mayes, T. L., Baer, K. A., & Ayers, C. R. (2020). Family and social functioning in adults with hoarding disorder. *Children Australia*, *45*(3), 159–163. https://doi.org/10.1017/cha.2020.20

Department for Education (2023). *Children looked after in England including adoption: 2022 to 2023*. GOV.UK. Retrieved from explore-education-statistics.service.gov.uk

Downie, J., & Twomey, B. (2021). *Support and respect care-experienced children and their belongings when they move*. National Youth Advocacy Service.

DuRousseau, P., Moquette-Magee, C., & Disbro, E. (1991). Children in foster care: Are they at nutritional risk? *Journal of the American Dietetic Association*, *91*(1), 83–85. https://doi.org/10.1016/S0002-8223(21)01068-3

Education Services (2019). *Care experienced children and young people/definitions document*. Glasgow City Council. Retrieved from childrenyoungpeopledefinitionsdoc.pdf; education.gov.scot

Erkolahti, R., & Nyström, M. (2009). The prevalence of transitional object use in adolescence: Is there a connection between the existence of a transitional object and depressive symptoms? *European Child & Adolescent Psychiatry*, *18*(7), 400–406. https://doi.org/10.1007/s00787-009-0747-7

Frazier, B. N., Gelman, S. A., Wilson, A., & Hood, B. (2009). Picasso paintings, moon rocks, and hand-written Beatles lyrics: Adults' evaluations of authentic objects. *Journal of Cognition and Culture*, *9*(1–2), 1–14. https://doi.org/10.1163/156853709X414601

Gallo, K. P., Wilson, L. A., & Comer, J. S. (2013). Treating hoarding disorder in childhood: A case study. *Journal of Obsessive-Compulsive and Related Disorders*, *2*(1), 62–69. https://doi.org/10.1016/j.jocrd.2012.11.001

Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*(11), 1337–1345. https://doi.org/10.1097/00004583-200111000-00015

Grisham, J. R., Frost, R. O., Steketee, G., Kim, H. J., & Hood, S. (2006). Age of onset of compulsive hoarding. *Journal of Anxiety Disorders*, *20*(5), 675–686. https://doi.org/10.1016/j.janxdis.2005.07.004

Hadfield, S. C., & Preece, P. M. (2008). Obesity in looked after children: Is foster care protective from the dangers of obesity? *Child: Care, Health and Development*, *34*(6), 710–712. https://doi.org/10.1111/j.1365-2214.2008.00874.x

Haighton, C., Caiazza, R., & Neave, N. (2023). "In an ideal world that would be a multiagency service because you need everybody's expertise." Managing hoarding disorder: A qualitative investigation of existing procedures and practices. *PLOS One*, *18*(3), e0282365. https://doi.org/10.1371/journal.pone.0282365

Harrison, N., Dixon, J., Sanders-Ellis, D., Ward, J., & Asker, P. (2023). *Care leavers' transition into the labour market in England*. Rees Centre. Retrieved from ox.ac.uk

Hartl, T. L., Duffany, S. R., Allen, G. J., Steketee, G., & Frost, R. O. (2005). Relationships among compulsive hoarding, trauma, and attention-deficit/hyperactivity disorder. *Behaviour Research and Therapy*, *43*(2), 269–276. https://doi.org/10.1016/j.brat.2004.02.002

Heady, N., Watkins, A., John, A., & Hutchings, H. (2022). The challenges that social care services face in relation to looked after children with neurodevelopmental disorders: A unique insight from a social worker perspective. *Adoption & Fostering*, *46*(2), 184–204. https://doi.org/10.1177/03085759221100585

Helton, J. J., Schreiber, J. C., & Fiese, B. H. (2017). Foster parents' nutritional strategies and children's well-being. *Child and Adolescent Social Work Journal*, *34*(2), 159–169. https://doi.org/10.1007/s10560-016-0454-4

Højgaard, D., & Skarphedinsson, G. (2023). Chapter 10: Cognitive behavioral therapy for child and adolescent hoarding disorder. In C. Martin, V. Patel, & V. Preedy (Eds.), *Handbook of lifespan cognitive behavioral therapy: Childhood, adolescence, pregnancy, adulthood, and aging* (pp. 109–121). Academic Press. https://doi.org/10.1016/B978-0-323-85757-4.00037-7

Hooley, J. M., & Wilson-Murphy, M. (2012). Adult attachment to transitional objects in borderline personality disorder. *Journal of Personality Disorders*, *26*(2), 179–191. https://doi.org/10.1521/pedi.2012.26.2.179

Kim-Spoon, J., Herd, T., Brieant, A., Peviani, K., Deater-Deckard, K., Lauharatanahirun, N., Lee, J., & King-Casas, B. (2021).

Maltreatment and brain development: The effects of abuse and neglect on longitudinal trajectories of neural activation during risk processing and cognitive control. *Developmental Cognitive Neuroscience*, *48*, 100939. https://doi.org/10.1016/j.dcn.2021.100939

Liu, X., Cai, Y., Tao, Y., Hou, W., Niu, H., Liu, X., Xie, T., & Li, Y. (2023). Association between attachment and hoarding behavior: Mediation of anthropomorphism and moderation of hoarding beliefs among Chinese adolescents. *PsyCh Journal*, *12*(1), 128–136. https://doi.org/10.1002/pchj.610

Mathes, B. M., Timpano, K. R., Raines, A. M., & Schmidt, N. B. (2020). Attachment theory and hoarding disorder: A review and theoretical integration. *Behaviour Research and Therapy*, *125*, 103549. https://doi.org/10.1016/j.brat.2019

Mendes, P., & Snow, P. (2014). The needs and experiences of young people with a disability transitioning from out-of-home care: The views of practitioners in Victoria, Australia. *Children and Youth Services Review*, *36*, 115–123. https://doi.org/10.1016/j.childyouth.2013.11.019

Morgan-Trimmer, S. A., Spooner, S., & Audrey, S. (2015). *Health, health behaviours and health promoting services for care leavers: Perspectives of young people and LAC nurses* 2015. Retrieved from exeter.ac.uk

Morris, S. H., Jaffee, S. R., Goodwin, G. P., & Franklin, M. (2016). Hoarding in children and adolescents: A review. *Child Psychiatry & Human Development*, *47*(5), 740–750. https://doi.org/10.1007/s10578-015-0607-2

Murray, E., Lacey, R., Maughan, B., & Sacker, A. (2020). Association of childhood out-of-home care status with all-cause mortality up to 42- years later: Office of National Statistics Longitudinal Study. *BMC Public Health*, *20*(1), 735. https://doi.org/10.1186/s12889-020-08867-3

Neave, N., Caiazza, R., Hamilton, C., McInnes, L., Saxton, T. K., Deary, V., & Wood, M. (2017). The economic costs of hoarding behaviours in local authority/housing association tenants and private home owners in the north-east of England. *Public Health*, *148*, 137–139. https://doi.org/10.1016/j.puhe.2017.04.010

Nettle, D., Andrews, C., & Bateson, M. (2017). Food insecurity as a driver of obesity in humans: The insurance hypothesis. *The Behavioral and Brain Sciences*, *40*, e105. https://doi.org/10.1017/S0140525X16000947

Nutley, S. K., Read, M., Martinez, S., Eichenbaum, J., Nosheny, R. L., Weiner, M., Mackin, R. S., & Mathews, C. A. (2022). Hoarding symptoms are associated with higher rates of disability than other medical and psychiatric disorders across multiple domains of functioning. *BMC Psychiatry*, *22*(1), 647. https://doi.org/10.1186/s12888-022-04287-2

Ong, C., Krafft, J., Levin, M. E., & Twohig, M. P. (2021). A systematic review and psychometric evaluation of self-report measures for hoarding disorder. *Journal of Affective Disorders*, *290*, 136–148. https://doi.org/10.1016/j.jad.2021.04.082

Ong, C., Pang, S., Sagayadevan, V., Chong, S. A., & Subramaniam, M. (2015). Functioning and quality of life in hoarding: A systematic review. *Journal of Anxiety Disorders*, *32*, 17–30. https://doi.org/10.1016/j.janxdis.2014.12.003

PAC-UK (2023). *Big consult of adopted people*. National Adoption Strategy Team.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, *372*, n71. https://doi.org/10.1136/bmj.n71

Perry, B. (2001). *Bonding and attachment in maltreated children consequences of emotional neglect in childhood*. The Child Trauma Academy. Retrieved from https://fosteringandadoption.rip.org.uk/wp-content/uploads/2016/01/bonding-and-attachment-in-maltreated-children.pdf

Postlethwaite, A., Kellett, S., & Mataix-Cols, D. (2019). Prevalence of hoarding disorder: A systematic review and meta-analysis. *Journal of Affective Disorders*, *256*, 309–316. https://doi.org/10.1016/j.jad.2019.06.004

Przeworski, A., Cain, N., & Dunbeck, K. (2014). Traumatic life events in individuals with hoarding symptoms, obsessive-compulsive symptoms, and comorbid obsessive-compulsive and hoarding symptoms. *Journal of Obsessive-Compulsive and Related Disorders*, *3*(1), 52–59. https://doi.org/10.1016/j.jocrd.2013.12.002

Ruby-Granger, V., Wilde, D., Seymour-Smith, S., & Zysk, E. (2023). Struggling to manage: A constructivist grounded theory of hoarding behaviours. *Journal of Community & Applied Social Psychology*, *33*(5), 1280–1296. https://doi.org/10.1002/casp.2721

Sacker, A., Murray, E., Lacey, R., & Maughan, B. (2021). *The lifelong health and wellbeing trajectories of people who have been in care; Findings from the Looked-after Children Grown up Project*. Nuffield Foundation. Retrieved from nuffieldfoundation.org

Samuels, J. F., Bienvenu, O. J.III, Pinto, A., Fyer, A. J., McCracken, J. T., Rauch, S. L., Murphy, D. L., Grados, M. A., Greenberg, B. D., Knowles, J. A., Piacentini, J., Cannistraro, P. A., Cullen, B., Riddle, M. A., Rasmussen, S. A., Pauls, D. L., Willour, V. L., Shugart, Y. Y., Liang, K. Y., Hoehn-Saric, R., … Nestadt, G. (2007). Hoarding in obsessive-compulsive disorder: Results from the OCD Collaborative Genetics Study. *Behaviour Research and Therapy*, *45*(4), 673–686. https://doi.org/10.1016/j.brat.2006.05.008

Samuels, J. F., Bienvenu, O. J., Grados, M. A., Cullen, B., Riddle, M. A., Liang, K.-Y., Eaton, W. W., & Nestadt, G. (2008). Prevalence and correlates of hoarding behaviour in a community-based sample. *Behaviour Research and Therapy*, *46*(7), 836–844. https://doi.org/10.1016/j.brat.2008.04.004

Samuels, J., Bienvenu, O. J., Riddle, M. A., Cullen, B. A. M., Grados, M. A., Liang, K. Y., Hoehn-Saric, R., & Nestadt, G. (2002). Hoarding in obsessive compulsive disorder: Results from a case-control study. *Behaviour Research and Therapy*, *40*(5), 517–528. https://doi.org/10.1016/s0005-7967(01)00026-2

Saxena, S., Ayers, C. R., Maidment, K. M., Vapnik, T., Wetherell, J. L., & Bystritsky, A. (2011). Quality of life and functional impairment in compulsive hoarding. *Journal of Psychiatric Research*, *45*(4), 475–480. https://doi.org/10.1016/j.jpsychires.2010.08.007

Schneiderman, J. U., Mennen, F. E., Negriff, S., & Trickett, P. K. (2012). Overweight and obesity among maltreated young adolescents. *Child Abuse & Neglect*, *36*(4), 370–378. https://doi.org/10.1016/j.chiabu.2012.03.001

Selwyn, J., & Briheim-Crookall, L. (2022). *Coram Voice 10,000 Voices: The views of children in care on their well-being*. Coram Voice. Retrieved from bris.ac.uk

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory method and research*. Sage.

Steele, J. S., & Buchi, K. F. (2008). Medical and mental health of children entering the Utah foster care system. *Pediatrics*, *122*(3), E703–E709. https://doi.org/10.1542/peds.2008-0360

Storch, E. A., Lehmkuhl, H. D., Ricketts, E., Geffken, G. R., Marien, W., & Murphy, T. K. (2010). An open trial of intensive family based cognitive-behavioral therapy in youth with obsessive-compulsive disorder who are medication partial responders or nonresponders. *Journal of Clinical Child and Adolescent Psychology*, *39*(2), 260–268. https://doi.org/10.1080/15374410903532676

Tarren-Sweeney, M. (2006). Patterns of aberrant eating among pre-adolescent children in foster care. *Journal of Abnormal Child Psychology*, *34*(5), 623–634. https://doi.org/10.1007/s10802-006-9045-8

Tarren-Sweeney, M. (2007). The assessment checklist for children—ACC: A behavioral rating scale for children in foster, kinship and residential care. *Children and Youth Services Review*, *29*(5), 672–691. https://doi.org/10.1016/j.childyouth.2007.01.008

Taylor, J. K., Theiler, S., Nedeljkovic, M., & Moulding, R. (2019). A qualitative analysis of emotion and emotion regulation in hoarding disorder. *Journal of Clinical Psychology*, *75*, 520–545. https://doi.org/10.1002/jclp.22715

Tolin, D. F., Meunier, S. A., Frost, R. O., & Steketee, G. (2010). Course of compulsive hoarding and its relationship to life events. *Depression and Anxiety*, *27*(9), 829–838. https://doi.org/10.1002/da.20684

Winnicott, D. W. (1953). Transitional objects and transitional relatedness: A study of the first not-me possession. *The International Journal of Psychoanalysis*, *1953*(34), 89–97. Retrieved from apa.org