



ELSEVIER

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

Child welfare involvement and adjustment among care alumni and their children: A systematic review of risk and protective factors

Lena Jäggi^{a,b,*}, Jamie Jaramillo^c, Tess K. Drazdowski^c, Süheyla Seker^{a,d}

^a University of Basel, Switzerland

^b Department of Epidemiology and Public Health, Swiss Tropical and Public Health Institute, Swiss TPH, Switzerland

^c Oregon Social Learning Center, 10 Shelton McMurphey Blvd., Eugene, OR 97404, United States of America

^d Department of Child and Adolescent Psychiatry Research, Psychiatric University Clinics, University of Basel, Switzerland

ARTICLE INFO

Keywords:

Parenting
Out-of-home care
Care alumni
Care leaver
Risk factor
Protective factors

ABSTRACT

Background: Recent research and policy recognize care alumni (i.e., adults formerly in out-of-home care [OHC]) as a population with a high accumulation of disadvantages well into adulthood, often in combination with early parenthood compared to the general population.

Objective: The aim of this systematic review is to provide an overview on the impact of parental OHC on outcomes for both parents (i.e. parental adjustment, parenting) and their children (i.e. prevalence rates of OHC or child welfare system (CWS) involvement, adjustment, development), as well as protective and risk factors associated with those outcomes.

Methods: Relevant articles were searched in four electronic databases from conception to 16 February 2022 according to PRISMA guidelines for systematic reviews; supplemented with hand-searched citations from relevant references. Evidence was synthesized via a qualitative summary.

Results: A total of 38 studies were included (19 quantitative, 14 qualitative, and 5 mixed-methods studies). Studies confirm increased rates of early parenthood among care alumni and an elevated risk of OHC among their children. However, most children remain with their care alumni parents, and some parents were met with the needed support to cope with challenging circumstances. Qualitative studies point to a great need for specialized services, including parenting programs that address past trauma and attachment issues. They also highlight potential protective factors.

Conclusions: Findings suggest that care alumni parents experience compounding disadvantage, which may increase their children's risk of OHC. More research is needed on child adjustment, and on protective factors that can be leveraged to design effective interventions that decrease transgenerational CWS involvement.

1. Introduction

Care alumni (i.e., young adults formerly in foster or residential out-of-home care [OHC]) are a population marked by many disadvantages such as mental health problems, homelessness, low educational achievement, poverty, unemployment, and long-term consequences of childhood abuse and neglect (Kääriälä & Hiilamo, 2017; Stein, 2006; Foster, Beadnell, and Pecora, 2015; Foster, Phillips, et al., 2015). Care alumni also evidence high rates of early and unplanned parenthood (Mendes, 2009; Stein, 2006), and there is some evidence that their children have an increased risk of OHC placement (Foster, Beadnell, & Pecora, 2015; Wall-Wieler et al.,

* Corresponding author at: Department of Epidemiology and Public Health, Swiss Tropical and Public Health Institute, Swiss TPH, Switzerland.
E-mail address: lena.jaeggi@unibas.ch (L. Jäggi).

<https://doi.org/10.1016/j.chiabu.2022.105776>

Received 8 October 2021; Received in revised form 29 April 2022; Accepted 26 June 2022

Available online 1 July 2022

0145-2134/© 2022 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

2018a). Young age and high levels of disadvantage combined with increased surveillance by statutory authorities might further elevate those rates (Purtell et al., 2021). To date, however, prevalence and specific risk or protective factors associated with OHC placement or child welfare system (CWS) involvement of care alumni's children remains unclear. Thus, the aim of our systematic review is to provide an overview of the extant knowledge on how parental history of OHC impacts parental adjustment, parenting, and prevalence rates of OHC or CWS involvement of their children, as well as protective and risk factors for those negative outcomes. We also review extant evidence on adjustment and development of the children of care alumni. These findings will inform researchers and professionals alike on the impact of early parenthood and intergenerational involvement in the CWS in this highly vulnerable population.

Existing evidence shows that care alumni are a population marked by a high concentration of disadvantage across multiple social domains (Pecora et al., 2009; Stein, 2006; Vinnerljung & Sallnäs, 2008). Compared to same-aged peers, care alumni must grow up faster with less support: Their institutional support often ends with their legal majority, meaning they have to navigate the transition to financial independence earlier while simultaneously having less familial social support (Courtney et al., 2011). Several international studies thus show that care alumni are disproportionately burdened by homelessness, low educational achievement, poverty, unemployment, mental health problems and substance use problems, (Geiger & Beltran, 2017; Kääriälä & Hiilamo, 2017; Pecora et al., 2009; Stein, 2006). Additionally, studies highlight that the impact of previous abuse and neglect and subsequent mental health issues may lead to difficulties in navigating and negotiating sexual relationships (Mendes, 2009). This may in part explain elevated rates of teenage and unplanned parenthood among young people in OHC (Mendes, 2009; Stein, 2006; Vinnerljung et al., 2007) – especially among those who experienced more severe abuse and neglect, high placement instability, criminal offending, substance use problems, and disengaged from education (Purtell et al., 2020). Connolly et al. (2012) in their synthesis of qualitative studies concluded that wanting to fill emotional voids, lack of consistent education, mistrust of others and wanting to do better than one's own parents were all additional relevant factors associated with teenage pregnancies and motherhood while girls were in foster or residential care. Similarly, a recent narrative review explored how removal from families of origin and placement experiences may affect young people and lead to pregnancies, and how the fear of removal of one's own children may affect seeking or accepting help (Purtell et al., 2020).

Unsurprisingly, studies with children born to teenage mothers in care show overall high rates of CWS involvement (39–53 %) and child removal (11–19 %; Dworsky, 2015; Eastman & Putnam-Hornstein, 2019). Within this group, that risk is unevenly distributed and markedly increased for children of younger mothers with more placement instability, more mental health conditions, history of running away from care, and history of sexual abuse (Eastman & Putnam-Hornstein, 2019). However, a systematic overview of prevalence and specific protective and risk factors associated with care alumni's parenting, adjustment and child protection involvement into adulthood is still missing.

In summary, literature on the population of care alumni parents highlighted that children of care alumni are a unique high-risk population for negative outcomes, especially if the parents are adolescents (Mendes, 2009; Purtell et al., 2020; Svoboda et al., 2012). However, to the best of our knowledge, no systematic review has investigated the impact of parental OHC on adjustment and parenting in adulthood. Nor exists an extensive overview of prevalence rates for OHC among children of care alumni and associated risk and protective factors. In order to design both effective interventions and an effective research agenda for these vulnerable families, it is necessary to review existing literature on how this risk is transmitted and how parental history of OHC impacts the children.

The aim of our systematic review is thus to provide an overview of studies with care alumni parents, as they pertain to two questions: 1) How does OHC impact parenting and adjustment in adulthood and intergenerational involvement with CWS of care alumni parents? 2) What are risk and protective factors that influence the likelihood of intergenerational OHC and CWS involvement? 3) How does parental OHC impact child development and psychosocial adjustment in the children of care alumni parents?

2. Methods

2.1. Study search

The present systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for systematic reviews (Moher et al., 2009). The advice of a research librarian was obtained for the literature search. The literature searches were conducted in three electronic databases: PsycInfo, Scopus, Web of Science and ERIC on 08 November 2019 and updated on 16 February 2022; additionally, we hand-searched citations from relevant articles. We used keywords and Medical Subject Headings (MeSH) terms to identify articles reporting parenthood and children of care alumni adults. The full search string for PsycInfo on Ovid can be found in Appendix 1. We did not set any time limitation for articles. We used the deduplicator on the systematic review accelerator (Clark et al., 2020), setting balanced, to remove duplicates and the Rayyan web app for screening articles (Ouzzani et al., 2016).

2.2. Study inclusion and exclusion criteria

Our inclusion criteria for articles were that they be English-language peer-reviewed qualitative and quantitative studies. We also included the most recent high quality reports of three longitudinal studies of care alumni, the Wards Leaving Care study (Cashmore & Paxman, 2007), the Midwest Evaluation of the Adult Functioning of Former Foster Youth (Midwest Study; (Courtney et al., 2011), and the CalYOUTH study (Courtney et al., 2018) which have not yet published peer-reviewed articles on their results concerning parenthood. Included studies had to report on samples of care alumni parents or children currently in CWS whose parents are care alumni, and provide information on at least one of the following: 1) information on parental adjustment or parenting after parents left

care, 2) ongoing CWS involvement of the families, or 3) information on the children of care alumni.

We excluded studies sampling adolescents who become parents and their adjustment while in state care, such as interventions directed at preventing teenage pregnancy or supporting young mothers to keep their children with them while in care (for a review on this population see Svoboda et al., 2012). We also excluded studies that only provided prevalence rates of parenthood among care alumni without any additional information. Finally, we excluded intervention studies and reviews.

2.3. Outcomes measures and data extraction

Extracted data included basic demographic information about the sample (i.e., sample size, gender, and age), study design (i.e., quantitative or qualitative), country, information on child OHC, child characteristics, and additional sample characteristics, if appropriate as well as risk and protective factors for young parenthood or child OHC. The screening and data extraction was conducted independently by three authors (L.J., J.J., and S.S.). Discrepancies in author coding were discussed and resolved by consensus.

3. Results

3.1. Study characteristics

In total, the systematic search of electronic databases and manual searches of relevant references revealed 4475 potentially relevant studies (see Fig. 1). The abstract and full-text screening resulted in 38 included articles with 19 quantitative, 14 qualitative, and 5 mixed-methods studies. Across our included studies, the age range of the samples was 15–66 years, and 16 studies were conducted in the US, 11 in the UK, 4 in Sweden, 2 in Canada, and 1 in Australia, Argentina, Denmark, France, and South Africa, respectively. Studies consisted of three different types of samples: 1) care alumni parents, including comparisons with non-parenting care alumni (see Tables 1a and 1b), 2) parents with and without OHC backgrounds among children currently involved in CWS or placed for adoption (see Table 2), and 3) population and case-control studies of relative risk for OHC placement or other parenting or child outcomes by parental history of OHC (see Table 3).

3.2. Challenges of young parenthood

Many studies have documented high rates of young parenthood among care alumni. In our reviewed studies (see Table 1b),

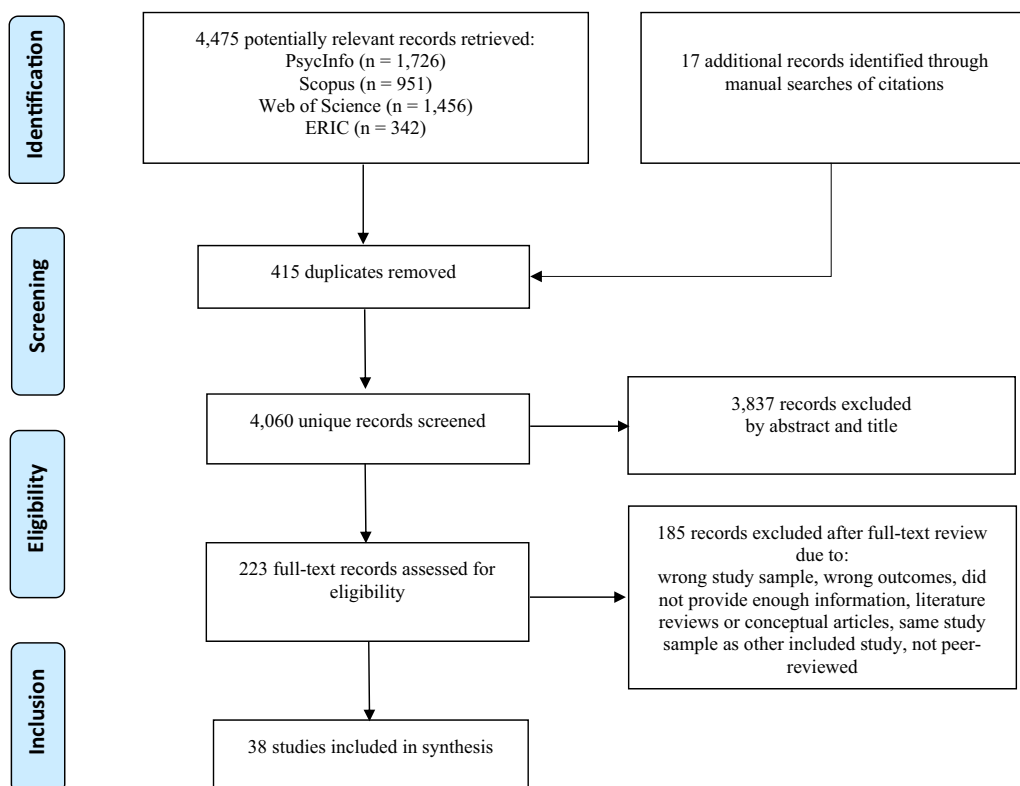


Fig. 1. PRISMA flowchart of study inclusion.

Table 1a
Overview of studies of care alumni parents (k = 18).

Author(s)	Year	Country	Study design	Sample description			Child OHC or CWS involvement	Child characteristics
				Sample size	Female (%)	Age (years)		
Aparicio	2017	US	Qualitative	N = 6	100.0 %	Mean age = 21 (age range 19–22)	N/R	N/R
Barn & Mantovani	2006	UK	Mixed-methods	N = 55 (quantitative arm), N = 9 (qualitative arm)	100.0 %	N/R	N/R	N/R
Chase et al.	2006	UK	Qualitative	N = 63 (n = 6 still in care)	74.6 %	Age range 15–23	N/R	N/R
Coler	2018	Argentina	Qualitative	N = 4	100.0 %	Age range 22–29	None (inclusion criteria for study)	N/R
Couvrette & Lanctot	2017	Canada	Quantitative	N = 29	100.0 %	Mean age = 20.1 (age range 18–22)	n = 1 of 34 (2.9 %) child of n = 1 (3.4 %) mother in foster family (regular contact with child inclusion criteria)	N/R
Dworsky & Gitlow	2017	US	Quantitative (longitudinal)	N = 1943	81.8 %	Mean age = 20.9 at exit from care; followed for 12 months after	N/R	N/R
Hook & Courtney ^a	2013	US	Quantitative (longitudinal)	N = 150	0.0 %	Mean age = 26	N/R	N/R
Lanctot & Turcotte	2018	Canada	Qualitative	N = 13	100.0 %	Age range 28–33	n = 2 (15 %) lost custody of children	Mean age = 7.7 years (SD = 3.48)
Maxwell et al.	2011	UK	Qualitative	N = 6	100.0 %	Age range 18–20	None (inclusion criteria for study)	Age range 1–3 years
Miranda	2020	US	Quantitative	N = 6	100.0 %	Mean age = 31.7 (age range 26–36)	N/R	N/R
Narendorf et al.	2013	US	Qualitative	N = 28 (n = 17 with CWS history)	71.0 %	Mean age = 20.9 (age range 18–25)	N/R	N/R
Pryce & Samuels	2010	US	Qualitative	N = 15 (n = 2 expectant)	100.0 %	Mean age = 20.0	All but one mother custodial parents of all children	Age range 1–2 years
Radey et al.	2016	US	Qualitative	N = 15 (n = 2 expectant; n = 5 still in care)	86.7 %	Mean age = 22.0 (age range 18–26)	N/R	Age range 2 months to 5 years
Roberts	2017	UK	Qualitative	N = 8	87.5 %	Age range 20–32 years	n = 12 of 16 (75 %) children of n = 6 (75 %) parents were in OHC or adopted	N/R
Roberts et al.	2019	UK	Quantitative	N = 258	79.9 %	Mean age = 19.8 (age range 16–21)	Of N = 242 children, n = 24 (10 %) in OHC, n = 21 (9 %) adopted, n = 23 (10 %) with study parent but under CWS investigation or plan	Age range few weeks to 5 years; with most (n = 157; 65 %) up to 12 months old
Rouse et al.	2021	US	Mixed-methods	N = 81, n = 23 expectant (quantitative arm), N = 9 (qualitative arm)	75.3 %	Mean age = 19.9 (age range 18–25)	Parents with no custody for all or some children: 8 % for mothers; 18 % for fathers	Age range 3 months to 2 years in qualitative arm; 12.1 % of parents reported child with special medical needs in quantitative arm
Schelbe & Geiger	2017	US	Qualitative	N = 33	63.6 %	Age range 17–23	Some children removed, prevalence	N/R
Tyrer et al. ^b	2005	UK	Qualitative	N = 16 (n = 3 expectant)	0.0 %	Age range 15–24	N/R	N/R

Note. OHC = Out-of-home care, CWS = Child Welfare System, US = United States, UK = United Kingdom, N/R = Not reported, SD = Standard deviation.

^a Father subsample of the Midwest study (Courtney et al., 2011).

^b Father subsample of Chase et al., 2006.

Table 1b
Overview of studies comparing care alumni with and without children (k = 9).

Author(s)	Year	Country	Study design	Sample description				Child OHC or CWS involvement	Child characteristics
				Sample Size	Female (%)	Age (years)	Parents (%)		
Biehal & Wade	1996	UK	Qualitative (longitudinal)	N = 74	61.0 %	Age range 16–19	32.5 % (46.5 % for women; 10 % for men)	N/R	Age range 1 week to 5 years
Cashmore & Paxman	2007	Australia	Mixed-methods (longitudinal)	N = 41	68.3 %	Age range 23–24	43.9 (57.1 % for women, 15.4 % for men)	N = 16 mothers: n = 2 (12.5 %) child OHC, n = 4 (25.0 %) CWS involvement	N/A
Combs et al.	2018	US	Quantitative (longitudinal)	N = 209	47.8 %	Mean age = 19.8 (age range 18–22)	26.3 % (32.0 % for women, 21.1 % for men)	N = 74 children, 9.5 % (n = 7) ever removed, 5.4 % (n = 4) in foster care	N/A
Courtney et al.	2011	US	Quantitative (longitudinal)	N = 596	55.7 %	Mean age = 26.1 (age range 25–27)	63.3 % (71.7 % for women; 52.7 % for men)	N = 759 children, 2.6 % (n = 20) adopted 3.7 % (n = 28) in foster care; for n = 500 children of mothers: 8.4 % (n = 42) adopted or fostered	3.5 % (n = 26) child in fair or poor health, 7.3 % (n = 54) learning disability, 6.4 % (n = 48) disability that impacts activities
Courtney et al.	2018	US	Quantitative (longitudinal)	N = 616	62.2 %	Mean age = 21	32.2 % (41.3 % for women; 17.1 % for men)	N = 261 children, 1.9 % (n = 5) of children adopted, 2.3 % (n = 6) in foster care, 4.6 % (n = 11) with friends and family (not biological parent)	Age range up to 5 years, 60 % 2 years and under; 2.7 % (n = 7) child in fair or poor health, 2.7 % (n = 7) learning disability, 3.4 % (n = 9) disability that impacts activities
Dumaret et al.	1997	France	Mixed-methods (longitudinal)	N = 59 n = 43 with interview at follow-up	47.6 %	Mean age of interviewees = 27.8 (age range 23–39)	57.6 %	No children in foster care, one child given up for adoption	N/R
Hlungwani et al.	2020	South Africa	Qualitative	N = 9	100.0 %	Mean age = 24 (age range 21–27)	55.6 %	N/R	Age range 1–9 years
Leve et al.	2015	US	Quantitative (longitudinal)	N = 166	100.0 %	Mean age = 25.4 (age range 19–32)	N/R	30 % (n = 50) substantiated CWS report; 32 % (n = 53) self-reported CWS contact; 42 % combined CWS involvement	N/R
Wade	2008	UK	Qualitative (longitudinal)	N = 101	53.0 %	Age range 16–18 at baseline, followed-up 11–13 months after leaving care	26 % (35 % for women; 15 % for men)	N/R	N/R

Note. OHC = Out-of-home care, CWS = Child Welfare System, UK = United Kingdom, US = United States, N/R = Not reported.

Table 2

Overview of studies of parents with children in the child welfare system or placed for adoption with information on care background of parents (k = 3).

Author(s)	Year	Country	Study design	Parent sample description				Type of child OHC or CWS involvement	Child characteristics
				Sample size	Female (%)	Age (years)	Care alumni (%)		
Fusco	2015	US	Quantitative	N = 336	100.0 %	Mean age = 27.9	42.0 % CWS involvement (23.0 % in foster care)	100 % in CWS receiving in-home services	Children <5 years (inclusion criteria)
Marshall et al.	2011	US	Quantitative	N = 1196	88.0 %	Mean age = 33 (age range 17–66)	16.0 % CWS involvement	100 % in foster care	N = 2143; Mean age 4.02 years (age range = 0 to 17.46 years, 9 % (n = 204) had parent with childhood CWS involvement
Roberts et al.	2017	UK	Mixed-methods	N = 596	60.7 %	N/R	27 % (n = 96) of birth mothers, 19 % (n = 45) of birth fathers	100 % placed for adoption	N = 374; 33 % (n = 122) entered adoption as part of a sibling group, 6 % (n = 23) both birth parents care alumni. Mean age of children at entry into care = 14 months (age range birth to 6.5 years), 41 % (n = 153) entered care within four weeks since birth,

Note. OHC = Out-of-home care, CWS = Child Welfare System, N/R = Not reported, US = United States, UK = United Kingdom.

between 32 and 46 % of female care alumni and between 10 and 21 % of male care alumni were parenting by the age of 19–21 (Biehal & Wade, 1996; Combs et al., 2018; Courtney et al., 2018). In samples of care alumni parents (see Table 1a), 32 % to 71 % of mothers gave birth before the age of 18 years (Chase et al., 2006; Courtney et al., 2011) and up to 85 % had their first child between the ages of 16 to 19 years old (Barn & Mantovani, 2006). By comparison, the average age at first birth in US women is currently 27 years (Martin et al., 2021).

There were many reported challenges associated with young parenthood across studies. In the Millennium Cohort population sample from the UK, mothers with care background were younger, more likely to be single and had lower education and income levels compared to other mothers (Botchway et al., 2014). Care alumni mothers were also more disadvantaged on educational attainment, mental health, social support, financial resources, employment, and homelessness compared to non-parenting care alumni (Cashmore & Paxman, 2007; Combs et al., 2018). Many mothers were single when they became parents and only about half reported living with a partner (Barn & Mantovani, 2006; Chase et al., 2006; Couvrette & Lanctot, 2017; Rouse et al., 2021). Similarly, 56 % of fathers lived with their children, while 25 % had no contact (Tyrer et al., 2005). In one study, only 30 % of mothers not currently living with the fathers of their children received child support (Rouse et al., 2021).

Low educational achievement, lack of adequate qualifications, high rates of unemployment, dependency on state benefits, and poverty as grave as lacking enough food and basic necessities, was pervasive across studies (Barn & Mantovani, 2006; Biehal & Wade, 1996; Chase et al., 2006; Radey et al., 2016; Schelbe & Geiger, 2017). One study with parenting care alumni showed that only 52 % of mothers and 43 % of fathers were employed in their first year after exiting care (Dworsky & Gitlow, 2017). Furthermore, even among those who worked earnings were very low, especially for parents who had more children, were younger at birth of first child, had spent more total time in care and were dually involved in both juvenile justice and CWS (Dworsky & Gitlow, 2017). Lack of reliable transportation and childcare further impacted young mothers' employment and education and many parents reported lack of appropriate and safe housing (Radey et al., 2016; Schelbe & Geiger, 2017). Young fathers also reported that caseworkers often failed to recognize that they were indeed parenting, actively discouraged fathers' involvement, or deemed the housing they were assigned as unsuitable family housing for their children (Chase et al., 2006). Finally, being a new parent while transitioning to independent living often led to feeling overwhelmed by responsibility and new demands (Barn & Mantovani, 2006; Radey et al., 2016), and was associated with post-natal depression for some mothers (Chase et al., 2006).

Criminal convictions and unemployment were common even among involved fathers (63 % and 59 % respectively; Hook & Courtney, 2013), and inability to provide for their children financially was stressful for many fathers (Tyrer et al., 2005). However, despite these concerns one study found that fathers were more likely to have a job compared to non-parenting care alumni and almost all were providing financial support for their children (Combs et al., 2018). Notably, remaining in extended care until age 21 increased the fathers' likelihood for cohabitation with their children's mother, employment, and father-child contact five years later (Hook & Courtney, 2013).

3.3. Influence of parental OHC on becoming young parents

Several studies explored factors that make care alumni vulnerable to early parenthood. Disrupted family background has been linked with early pregnancy, and many women discussed how feelings of abandonment and rejection were the rationale for wanting to

Table 3
Overview of population-based and comparison studies of parents with and without care background (k = 8).

Author(s)	Year	Country	Study design	Parent sample description				Child OHC or CWS involvement for care alumni parents	Child characteristics
				Sample size	Female (%)	Age	Care alumni (%)		
Botchway et al.	2014	UK	Quantitative	N = 18,492 (biological mothers of child cohort)	100.0 %	Birth year: 42 % between 1970 and 1980, 50 % between 1960 and 1970	1.6 % (n = 291)	None (Children in care exclusion criteria)	Cohort of infants born between 2000 and 2002, no difference in low birthweight, gestational age or breastfeeding initiation in adj. Models
Brännström et al.	2022	Sweden	Quantitative (longitudinal)	N = 11,338	51.1 %	Cohort born in 1953	8.3 % (n = 936)	OR child OHC = 6.7 (95 % CI = 5.28–8.06)	N/R
Font et al.	2020	US	Quantitative (longitudinal)	N = 36,475 (parents and non-parents)	51.9 %	Born 1990–1991, records up to age 25	8.8 % (n = 3203)	Any CWS involvement 33 % for women, 25 % for men; parents only: any CWS involvement 47 % for mothers, 46 % for fathers; as parent perpetrator 39 % for mothers, 12 % for fathers	N/R
Mertz & Andersen	2017	Denmark	Quantitative (longitudinal)	N = 30,379 full cohort reduced to n = 15,213 child-mother dyads plus resp. fathers	100.0 %	Born in 1977, maximum 27 years old at childbirth	5.2 % (n = 1569) of full female cohort, 7.2 % among mothers with children over 6	Prevalence child OHC through preschool years (0–5): 15 % if both parents care alumni; 7 % of mothers; 5 % of fathers	All children born before 2005 to female birth cohort of 1977
Quinton et al.	1984	UK	Quantitative (longitudinal)	N = 122 (n = 75 parents)	100.0 %	Age range = 21–27	66.4 % (n = 81)	13 % (n = 8) children fostered or in care	N/R
Straatmann et al.	2021	Sweden	Quantitative (longitudinal)	N = 11,333	51.0 %	Cohort born in 1953	8.6 % (n = 971)	adj. OR for child OHC = 4.01 (95 % CI = 3.40–4.73)	N = 24,905 children born to birth cohort parents, 3.6 % (n = 901) in OHC
Wall-Wieler et al.	2018a	Sweden	Quantitative (longitudinal)	N = 292/831	53.0 %	N/R	2.7 % (n = 7396) children with care alumni mother, 2.4 % (n = 6590) with father	Both parents care alumni adj. HR = 3.04 (95 % CI = 2.54–3.64); mothers care alumni adj. HR = 2.37 (95 % CI = 2.08–2.70); fathers care alumni adj. HR = 1.33 (95 % CI = 1.13–1.55)	N = 278,327 Children born between 1990 and 2012 followed at most up to age 13
Wall-Wieler et al.	2018b	Sweden	Quantitative (longitudinal)	N = 487,984	53.1 %	Birth cohort between 1973 and 1980, age range 33–40	2.9 % (n = 7428) mothers, 2.6 % (n = 5936) fathers	Prevalence child OHC 14.1 % either parent care alumni, 16.6 % of mothers, 11.1 % of fathers.	N/R

Note. OHC = Out-of-home care, CWS = Child Welfare System, UK = United Kingdom, US = United States, N/R = Not reported, adj. = adjusted, OR = Odds ratio, HR = Hazard Ratio, CI = 95 % Confidence Interval.

plan a family (Chase et al., 2006; Maxwell et al., 2011; Roberts, 2017; Rouse et al., 2021). This was compounded by accounts of disrupted relationships while in care and higher placement instability in comparison with non-parenting care alumni (Cashmore & Paxman, 2007; Combs et al., 2018; Wade, 2008). Young parents were also more likely to have run away while in care and to have been involved in offending and substance misuse (Wade, 2008). This in turn was associated with poor educational access, lack of information on sexual health or contraceptive use, difficulties accessing continuous contraception, and combined with little or no input from professionals or foster parents about sex, despite accounts of early sexual activity (Barn & Mantovani, 2006; Chase et al., 2006; Rouse et al., 2021). Thus, up to 90 % of parents reported none or only sporadic use of contraception during OHC, and between 50 %–75 % reported an unplanned pregnancy (Biehal & Wade, 1996; Chase et al., 2006; Couvrette & Lanctot, 2017).

3.4. Consequences of childhood trauma

Parents' often traumatic childhood experiences influenced their parenting in powerful ways. Across qualitative studies, care alumni parents were adamant about wanting to give their children a better childhood than they had and to avoid OHC for their children (Hlungwani & van Breda, 2020; Radey et al., 2016; Radey et al., 2017; Schelbe & Geiger, 2017). Parents reported a desire to break the cycle of maltreatment and many were against using physical discipline (Aparicio, 2017; Coler, 2018). In the quantitative Midwest study, parents were most likely to report using nonviolent modes of discipline, followed by psychological aggression (Courtney et al., 2011). However, about half of all parents reported spanking their child or using another form of mild physical aggression in the last year. Very few parents used more severe forms of physical discipline and none of the five indicators of neglect that were assessed was reported by >7 % of parents, and only 10 % of mothers and 8 % of fathers reported any (Courtney et al., 2011).

Unsurprisingly, care alumni described "good parenting" mainly in terms of what not to do, since many only had their own parents as negative role models (Barn & Mantovani, 2006; Hlungwani & van Breda, 2020; Pryce & Samuels, 2010). Mothers tended to put themselves under considerable strain by pursuing idealized images of a good mother (Hlungwani & van Breda, 2020; Lanctot & Turcotte, 2018; Maxwell et al., 2011) which often included sacrificing one's needs and educational/professional goals (Coler, 2018; Pryce & Samuels, 2010). For some, parenthood prompted them to reconnect with biological families, which sometimes led to renewed rejection and disappointment (Biehal & Wade, 1996; Maxwell et al., 2011; Roberts, 2017; Schelbe & Geiger, 2017). Fear of being judged negatively meant many care alumni parents were reluctant to ask anybody for help despite needing it (Lanctot & Turcotte, 2018). Despite the many challenges faced by them, care alumni parents reported relatively low levels of parenting stress (Courtney et al., 2011; Couvrette & Lanctot, 2017), and were mostly very confident in their ability to parent their children (Courtney et al., 2018; Rouse et al., 2021).

In qualitative studies, parents were more often also aware of limitations in their parenting skills and discussed insecurities about their parenting which, for some, increased as their children got older (Barn & Mantovani, 2006; Lanctot & Turcotte, 2018). Lack of reliable social support was a predominant issue across studies and parents expressed the desire for mentorship and to learn effective parenting skills, including how to bond with their children (Chase et al., 2006; Radey et al., 2016). If offered, parents reported that they valued the input from specialized parenting classes (Schelbe & Geiger, 2017), and in one study 35 % of parents reported participating in home visiting and 36 % reported participating in other parenting programs (Rouse et al., 2021).

Many care alumni parents connected their childhood trauma to current trust issues and insecure attachment patterns, even if they were in long-term, stable relationships (Chase et al., 2006; Miranda et al., 2020). Similarly, in a quantitative study by Couvrette and Lanctot (2017), mothers scored highly on the belief that others are unreliable and on fear of abandonment. Furthermore, some mothers in another study were apprehensive about their children growing up and no longer needing them (Maxwell et al., 2011). In one study, all mothers reported separation anxiety regarding their children, which translated into overprotective parenting (Miranda et al., 2020). Parenting often forced parents to confront difficult memories of their own childhoods (Maxwell et al., 2011). This was especially painful when they were reminded of their own parents' behaviors in themselves (Pryce & Samuels, 2010).

Finally, loneliness and little knowledge on supportive versus abusive relationships meant that some care alumni mothers were vulnerable to intimate partner violence (IPV; Font et al., 2020; Miranda et al., 2020; Roberts, 2017). Namely, compared to non-parenting female care alumni, mothers were more likely to have a history and be currently experiencing IPV in one study (Cashmore & Paxman, 2007). In another study, a staggering 57 % of pregnant or parenting care alumni women reported they were ever forced to have sex (Rouse et al., 2021). In a recent register-based study, mothers' history of OHC was associated with a 2.5 times increased risk of being involved in current CWS investigations as a non-perpetrating resident parent, compared to mothers with history of poverty only (Font et al., 2020). Similarly, there were elevated rates of IPV among second-generation compared to first-generation mothers in CWS (Fusco, 2015). Together these findings show that care alumni mothers might not be perpetrators of abuse themselves but are vulnerable to abusive partners who then pose a risk to their children.

3.5. Interaction with CWS

Across qualitative studies, distrust and fear of child-removal meant that overall care alumni parents were very reluctant to work with any type of social services (Fusco, 2015; Lanctot & Turcotte, 2018; Marshall et al., 2011; Roberts, 2017; Roberts et al., 2019). Parents described how becoming a parent changed their perception of social workers' behaviors from providing assistance, to controlling and scrutinizing (Aparicio, 2017). Routine child protection assessments were reported to generate much fear and confusion and were generally perceived negatively (e.g., unsupportive, biased, punitive), especially by fathers trying to be engaged (Chase et al., 2006; Roberts, 2017). Parents reported feeling stigmatized by their historical records, to which current caseworkers often had access, and care alumni mothers with current CWS involvement reported lower buy-in and less receptivity than first-generation mothers

(Fusco, 2015; Roberts, 2017).

3.6. Prevalence of child OHC, CWS involvement and other parenting risks

Reviewed quantitative studies showed 8–19 % of children of care alumni were placed in OHC or adopted, compared to around 1 % found in the general population (Brännström et al., 2022; Courtney et al., 2011; Foster, Beadnell, & Pecora, 2015; Mertz & Andersen, 2017; Quinton et al., 1984; Roberts et al., 2019; Wall-Wieler et al., 2018a). When reported separately, rates were lower for care alumni fathers, ranging from 2 to 11 % (Courtney et al., 2011; Hook & Courtney, 2013; Mertz & Andersen, 2017; Wall-Wieler et al., 2018a). The exception was one longitudinal study of care alumni from France, where no children of the 34 parenting care alumni were placed in OHC (Dumaret et al., 1997). In the grandparent generation of this study however, 34 % of the parenting care alumni had parents with a history of care themselves. Another quantitative study showed that 57 % of care alumni children currently lived with their parent full-time, and the rest either lived with their other parent (22.2 %) or were placed in kinship or foster care (5.6 %; Combs et al., 2018).

Two population-based studies showed that children of at least one care alumni parent were three to five times more likely than other children to experience OHC, even after adjusting for parental social resources and behavioral covariates (Mertz & Andersen, 2017; Wall-Wieler et al., 2018a). One quantitative study with care alumni women who had been involved with the juvenile justice system showed that 30 % had a substantiated CWS record in young adulthood (Leve, Khurana, & Reich, 2015). In another study, in addition to 10 % of children in OHC, 9 % of care alumni children were adopted, 15 % were involved with CWS, and another 19 % received voluntary parenting support, illustrating the high levels of CWS involvement before reaching the last resort of child removal (Roberts et al., 2019). In an overall assessment of parenting quality of 48 care alumni mothers with children over 2 years old, Quinton et al. (1984) showed that 38 % (versus 11 % in the 27 comparison mothers, $n = 13$ of similar SES during childhood, and $n = 14$ spouses of care alumni fathers without own care history) demonstrated poor parenting, defined as lack of warmth or low sensitivity, as well as difficulties in 2 out of 3 areas of disciplinary control. This was in addition to 13 % of children placed currently in care (none in the comparison group). Thirty eight percent of care alumni mothers had ever had their children in care or looked after by someone else for at least 6 months (none in comparison sample), and in a direct observational measure of mother-child interaction in the home of a subsample of 23 care alumni mothers, 35 % ($n = 8$) scored in the lowest quartile on at least 4 out of 7 indicators (none in the comparison sample of 21).

Similarly, Font et al. (2020) compared risk of CWS-involvement among parents with different childhood disadvantage and found that 46 % of fathers and 47 % of mothers who experienced OHC during their adolescence had experienced CWS intervention with their own or resident children when they were 25 years old, compared to 25 % of fathers and 20 % of mothers with history of poverty and 34 % of fathers and 32 % of mothers with CWS involvement as an adolescent but without placement. Importantly, in the larger sample, 12 % of males with history of OHC were involved in CWS investigations as non-parent perpetrators, compared to 3 % of those with history of poverty and 7 % among those with history of CWS involvement without OHC, highlighting an often-overlooked risk of intergenerational CWS involvement for males (Font et al., 2020). Care alumni parents are also highly overrepresented among current CWS families or biological parents of adopted children (Marshall et al., 2011; Roberts et al., 2017). In one study among families with CWS involvement at home, 48 % of mothers had childhood CWS experience and 23 % were care alumni (Fusco, 2015).

3.7. Risk factors for child OHC

Population-based studies showed that about half of the increased risk of care alumni offspring OHC can be attributed to an increased prevalence of socio-economic and behavioral risk factors, such as poverty, unemployment, single parent household, younger age at birth of the first child, criminal conviction (Mertz & Andersen, 2017; Wall-Wieler et al., 2018a), lower education (Brännström et al., 2022; Mertz & Andersen, 2017; Wall-Wieler et al., 2018a), psychiatric disorders and substance use problems (Wall-Wieler et al., 2018a). Children were at higher risk for OHC placement if both versus one parents were care alumni, when one of their parents had been placed in early childhood versus in adolescence, and if the mother versus the father was care alumni *and* had low socioeconomic status (Mertz & Andersen, 2017; Wall-Wieler et al., 2018a).

Mental health problems repeatedly emerged as a risk factor for child OHC. In a prospective cohort study of three Swedish generations, intergenerational OHC and intergenerational mental health problems (excluding substance use) were more prevalent among families from lower socioeconomic class (Straatman, Jackisch, Brännström, & Almquist, 2021). Further, in that study there was also evidence that parental mental health problems are one underlying mechanism of OHC transmission. In a population based sample of mothers with resident children, care alumni mothers were more likely to have symptoms of depression (Botchway et al., 2014). Among CWS involved families, mental health diagnosis explained differences in chance of reunification between first- and second-generation families (Marshall et al., 2011), mental health problems were connected to lower client engagement (Fusco, 2015), and care alumni mothers of children placed for adoption were more likely to have mental health diagnoses than their non-care alumni counterparts (Roberts et al., 2017). Similarly, Quinton et al. (1984) found that in the care alumni mother group, there was a significant overlap between psychosocial adjustment problems in adulthood and poor parenting as well as child OHC, while these associations were non-significant in the comparison sample. In the only investigation of adolescent precursors of parenting difficulties, the same study found that women with evidence of emotional or behavioral problems in adolescence were much more likely to show poor parenting as adults (71 % versus 37 %; Quinton et al., 1984).

In a transgenerational study, poorer grandfather's functioning was associated with greater alumni parent depression, which was connected with less social support and a greater likelihood of grandchild OHC (Foster, Beadnell, & Pecora, 2015). In a qualitative study

with care alumni parents who had childhood-diagnosed mood disorders, parents described how struggling to overcome their mental health symptoms impacted their ability to be the parents they wanted to be (Narendorf et al., 2013). Finally, a population cohort study in Sweden found that compared to mothers with no OHC, care alumni mothers who also had a child placed in OHC were over 5 times more likely to die by suicide, though reasons for child OHC were not examined (Wall-Wieler et al., 2018a, 2018b).

While some studies show that substance use was a prevalent problem, there were no differences in substance use or criminal involvement between care alumni and other parents with children placed for adoption (Roberts et al., 2017), or between first- and second-generation mothers involved with CWS (Fusco, 2015; Marshall et al., 2011). In another study of care alumni mothers who were also involved with the justice system, severity of adolescent delinquency and involvement with a partner with history of arrest or who used illicit drugs were both risk factors for substantiated CWS maltreatment reports (Leve et al., 2015).

3.8. Protective factors

Despite a high accumulation of risk, most of care alumni's children live with their parents. Investigating protective factors that result in positive parenting and reduced risk of OHC is imperative to develop appropriate interventions, though only one quantitative study explored such factors (Brännström et al., 2022). In their population-based study, the authors showed that combined mediation and interaction effects of low educational attainment accounted for 53 % of intergenerational transmission of OHC, and that care alumni parents who completed upper secondary school greatly mitigated the risk of OHC for their children.

Across all qualitative studies, even disadvantaged and unplanned parents expressed strong positive feelings toward their children and felt that parenthood gave them purpose and a positive way to develop responsibility (Barn & Mantovani, 2006; Biehal & Wade, 1996; Maxwell et al., 2011; Wade, 2008). For example, in one quantitative study of 61 parenting care alumni, over 95 % of parents reported that their children made them want to be better persons, that parenting was rewarding, and that they felt they were better parents than their parents (Rouse et al., 2021). Similarly, other studies report that parenthood was seen as a reason to move away from disruptive friends, search for work opportunities, finish education and for some fathers, to commit to childcare (Cashmore & Paxman, 2007; Hlungwani & van Breda, 2020; Radey et al., 2016; Schelbe & Geiger, 2017; Tyrer et al., 2005). Furthermore, for some mothers, having children offered healing from their own traumatic childhood experiences by building a family different from the one they experienced (Aparicio, 2017; Pryce & Samuels, 2010; Schelbe & Geiger, 2017). One study found that most care alumni parents (88 %, $n = 88$) felt that they were coping well with parenthood (Wade, 2008), and another found that most (58 %, $n = 44$) felt very confident in their ability to parent (Rouse et al., 2021).

Throughout studies, the most important factor for positive adjustment, and potentially against CWS involvement, was social support. The support of a stable romantic partner emerged as key for coping and adjustment (Chase et al., 2006; Coler, 2018; Miranda et al., 2020; Quinton et al., 1984; Radey et al., 2016). In their prospective longitudinal study on parenting outcomes between care alumni mothers and a comparison sample, Quinton et al. (1984) found that the quality of parenting was significantly increased if the mother had a supportive spouse (if the women rated their relationship as harmonious, spoke warmly about their partner and confided in him) and, separately, if that spouse did not have psychosocial problems of their own. This protective effect was enhanced when this relationship also gave access to financial, practical and emotional support of in-laws (Chase et al., 2006; Radey et al., 2016).

Similarly, care alumni parents relied heavily on familial support if available, and successful reconnection with birth families in adulthood sometimes led to emotional, practical or even financial support (Biehal & Wade, 1996; Chase et al., 2006; Rouse et al., 2021; Wade, 2008). For those care alumni parents lacking familial resources, peer networks became crucial. In Coler's (2018) study, mothers intentionally maintained networks with OHC peers as well as new friendships that helped them raising their children, completing studies or in their professional lives, while in Hlungwani and van Breda's (2020) study, some young women took pride in helping and being role models for younger peers. Many parents emphasized the importance of reaching out and getting support from trusted professionals, community networks, churches, or friends (Cashmore & Paxman, 2007; Chase et al., 2006; Rouse et al., 2021). Parents also stated how social support was integral in breaking the cycle of maltreatment because it helped them to work through their past and get advice on coping with parenting stress (Aparicio, 2017; Pryce & Samuels, 2010).

For some parents, former foster caregivers fulfilled this role (Cashmore & Paxman, 2007). Wade (2008) found that care alumni parents had significantly more contact with foster parents compared to non-parents. However, in Courtney et al.' (2011) Midwest study only 10 %–15 % of care alumni cited their foster mother as a source of parenting information or as someone who taught them about being a good parent. Most (40 %) cited grandparents, other relatives or friends, and 25 % their biological mothers, as resources; only 1 % mentioned their case workers. Care alumni parents report appreciation for caseworkers who were helpful by linking them to childcare and other service providers and providing advice (Wade, 2008), and there were some cases where caseworkers addressed family issues in a mediating or counselling role (Biehal & Wade, 1996). Other potential protective factors were mental health and parenting services. Sometimes children gave care alumni parents' access to additional mental health resources, and parenting classes helped by enhancing skills and reducing isolation (Chase et al., 2006; Narendorf et al., 2013; Radey et al., 2016). Though there was much hesitancy around seeking mental health treatment, children motivated parents to engage and many admitted that treatment would be helpful (Aparicio, 2017). For those who did seek treatment, this was seen as especially helpful when clinicians were not trying to push parents and when it also included parenting supports (Miranda et al., 2020; Narendorf et al., 2013).

3.9. Child characteristics and adjustment

Only a limited number of studies included in our systematic review provided some descriptive information about care alumni's children. The Midwest (Courtney et al., 2011) and the CalYOUTH (Courtney et al., 2018) studies provided descriptive information

about the health status of children of care alumni parents ($N = 997$ children and $N = 261$ children, respectively). While the rates were similar in both care alumni samples, the Midwest study compared them with the resident children of same aged parents in another nationally representative study, the Add Health cohort, and showed that children of care alumni were more likely to be in fair or poor health and to have a learning disability (Courtney et al., 2011). Prevalence rates of having a disability that limits their activities did not differ compared to children in the Add Health comparison cohort. In a population based sample from the UK, care alumni mothers were more likely to smoke during pregnancy, but differences in likelihood of low birthweight and breastfeeding initiation disappeared after adjusting for SES (Botchway et al., 2014). Similarly, a comparison of records of children placed for adoption revealed no differences in likelihood of low birth weight, learning difficulties, developmental concerns, or attachment difficulties between children of care alumni and other parents (Roberts et al., 2017). Besides this limited information, no further information on development of children of care alumni was reported.

4. Discussion

The aim of our systematic review was to summarize the available evidence on how parental OHC impacts parenting, adjustment and intergenerational involvement with CWS, and risk and protective factors that influence the likelihood of intergenerational CWS involvement for care alumni families. Many studies have documented high rates of young parenthood among care alumni, with between almost one third up to two thirds having their first child during their adolescent years (Barn & Mantovani, 2006; Chase et al., 2006; Courtney et al., 2011) compared with 27 years of average age at first birth in US women (Martin et al., 2021). Our findings are in line with previous reviews and literature that care alumni are at an elevated risk for early parenthood, which is connected to childhood abuse and neglect and other disadvantages experienced during OHC (Connolly et al., 2012; Purtell et al., 2020). Previous research examined possible targets of early interventions for youth in OHC to prevent teenage pregnancies: For example, a longitudinal study with register data among Swedish females in CWS showed that reducing the rate of school failure could yield a profound reduction in teenage pregnancies and suggested to promote school performance as a viable intervention path (Brännström et al., 2015; Brännström et al., 2016). In the only study that quantitatively looked at protective factors against child OHC for care alumni parents, the same authors showed that completing secondary education had a protective effect on child OHC, further underlining the importance of education as a possible avenue for intervention (Brännström et al., 2022).

Another study in the US of foster youth suggesting that extending foster care beyond the age of 18 years may be another way to reduce teenage pregnancies among this population (Dworsky, 2015). Furthermore, providing services that fit the need of mother-child dyads in foster care are important intervention targets (Eastman and Putnam-Hornstein, 2019).

The transition to adulthood in general, and the transition to parenthood specifically, emerged as key periods to understand social participation and adjustment of care alumni in adulthood. These normative transitions were complicated by care alumni's own transitions from OHC, at times leaving them without institutional or familial support. Evidence suggests that some care alumni parents did have supports during these times which helped them to meet their needs and goals, cope with challenges, learn parenting skills, and potentially protected against OHC. Others had unreliable or detrimental social connections, such as those experiencing intimate partner violence or strained relationships with biological families. The protective potential of more formalized social supports during transition points has long been suggested by researchers (Chase et al., 2006). While Independent Living Programs (ILP) have been developed in the US to support youth in or formerly in foster care as they transition to adulthood, these programs do not focus on parenthood (Courtney et al., 2011; Maxwell et al., 2011). Studies reviewed herein point to a great need for parenting programs to be adapted for the unique challenges of care alumni parents, including attention to past trauma and attachment issues (e.g., Maxwell et al., 2011).

The mechanisms by which intergenerational CWS involvement occurs have yet to be rigorously studied. Although some care alumni reported limited parenting skills or mental health challenges that impacted their parenting, only one of the currently reviewed studies with a comparatively small sample directly compared parenting skills or rates of child maltreatment with a comparison population (Quinton et al., 1984). Only one study provided evidence of mental health challenges as an underlying mechanism of intergenerational OHC (Straatman et al., 2021). Further, no studies detailed common reasons for child placement in OHC within this population. What is clear, is that many of these parents experienced structural disadvantages known to increase risk of offspring OHC, including material hardships. However, the link between material hardships and CWS involvement has not been fully explained by parent mental health or parenting stress in other studies (e.g., Yang, 2015). This suggests a need to examine additional contextual factors.

Care alumni experiences with the CWS and other services, both as children and as parents, may be fruitful areas of research with implications for practice and policy. Placement stability in relation to sex education and contraception access deserves further study given qualitative findings (Barn & Mantovani, 2006; Chase et al., 2006). Placement type (e.g., group care vs. home settings) may also be relevant to these outcomes, and to parental role modelling exposure. Regarding the need for consistent and comprehensive social support for care alumni, research should examine the circumstances under which continued connections to biological families are safe and positive. Further, the role of the CWS in maintaining these positive family connections is important. Similarly, support from caseworkers during and after OHC sometimes went above and beyond what is typical, and this relationship could be formally structured to benefit more care alumni parents who lack social support from families or peers (Coler, 2018).

Care alumni trust and engagement with CWS as parents emerged as a significant challenge. In other research, distrust, disempowerment, and disengagement have been well documented, even within CWS interventions that aim to comprehensively meet family needs and prevent child OHC (Van Dongen et al., 2020; Wright et al., 2017). Similarly, Purtell et al. (2020) conclude in their narrative review that part of care alumni's increased rates of transgenerational CWS-involvement might be associated with a double

surveillance bias: first, already being in contact with CWS systems themselves might increase scrutiny or invoke stigma, and second, care alumni parents' increased fear of child removal, substantiated or not, might make them reluctant to seek or accept support, worsening their situation. Supporting this notion, in a recent qualitative study, service providers working with care alumni parents confirmed that those parents are under greater scrutiny by authorities, that for example parents' childhood files were consulted in current investigations, and that parents' negative feelings toward care and CWS could lead to isolation from positive community networks (Purtell et al., 2021). Yet, some care alumni parents who participated in parenting classes and mental health services found it helpful (Aparicio, 2017; Chase et al., 2006; Narendorf et al., 2013; Schelbe & Geiger, 2017). In order to better serve parents involved with CWS, care alumni included, CWS practices must increase engagement in prevention and intervention services. Some researchers have suggested educating parents about the purpose of child protection assessments by caseworkers and having a separate advocate to provide support to parents during the process (Chase et al., 2006; Gill et al., 2020). Additionally, care alumni parent's feelings of stigmatization and disempowerment should be taken into consideration. Further examination of potential bias in CWS investigations of these families would be beneficial.

The final aim of our study was to summarize evidence on the impact of parental OHC on children's general development and adjustment. Our review showed however, that investigations of risk and protective factors for cognitive and socioemotional development or psychological adjustment of care alumni's children is completely absent from the existing literature.

Given the variability of CWS involvement among children of care alumni, and the significant challenges these families experience, further research is warranted. Several limitations could be addressed in future research: 1) Almost no information has been gathered on the development of care alumni's children, impeding our understanding of unique needs and potential strengths, 2) Existing studies were foremost qualitative or mixed methods without standardized study designs or reports, preventing cross study comparisons, and 3) Most studies were cross-sectional and exploratory, which increases recall bias and limits conclusions about temporality. Still, existing evidence provides promising directions.

5. Conclusion

Our systematic review shows that care alumni parents experience compounding disadvantage across multiple domains and life stages, which may increase their children's risk of CWS involvement. Fear of negative bias by child protection authorities may impact care alumni's help seeking behaviors, which may deter care alumni from accessing supportive services. These services could be particularly helpful to parents who have suffered trauma, but they need to be easily and safely accessed and perceived as a positive support, especially to disadvantaged but caring parents. Nonetheless, most children remain with their care alumni parents, and these parents demonstrate strong motivation to support their children's development. Further, some parents were met with the support they needed to cope with their challenging circumstances. In conclusion, more research is needed, especially on protective environmental and social factors that mitigate risks and can be leveraged to design effective practice and policy interventions targeted to decrease transgenerational child protection involvement.

CRedit authorship contribution statement

LJ conceived the research review questions. LJ and SS conducted the screening and data extraction processes. LJ and SS wrote the first draft of the manuscript. TD and JJ reviewed and revised the manuscript. All authors approved the final version of the manuscript.

Declaration of competing interest

The authors declare no potential conflicts of interest.

Acknowledgements

The authors thank Dr. Andreas Ledl for his support in conducting the electronic search for the systematic review. Research reported in this publication was supported by the National Institute on Drug Abuse of the National Institutes of Health under award numbers K23DA048161, R01DA050669-02S1, and R24DA051950. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Appendix. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.chiabu.2022.105776>.

References

- Aparicio, E. M. (2017). "I want to be better than you:" Lived experiences of intergenerational child maltreatment prevention among teenage mothers in and beyond foster care. *Child & Family Social Work*, 22(2), 607–616. <https://doi.org/10.1111/cfs.12274>

- Barn, R., & Mantovani, N. (2006). Young mothers and the care system: Contextualizing risk and vulnerability. *British Journal of Social Work*, 37(2), 225–243. <https://doi.org/10.1093/bjsw/bcl002>
- Biehal, N., & Wade, J. (1996). Looking back, looking forward: Care leavers, families and change. *Children and Youth Services Review*, 18(4–5), 425–445. [https://doi.org/10.1016/0190-7409\(96\)00013-8](https://doi.org/10.1016/0190-7409(96)00013-8)
- Botchway, S. K., Quigley, M. A., & Gray, R. (2014). Pregnancy-associated outcomes in women who spent some of their childhood looked after by local authorities: Findings from the UK Millennium Cohort Study. *BMJ Open*, 4(12), Article e005468. <https://doi.org/10.1136/bmjopen-2014-005468>
- Brännström, L., Vinnerljung, B., & Almqvist, Y. B. (2022). Intergenerational transmission of placement in out-of-home care: Mediation and interaction by educational attainment. *Child Abuse and Neglect*, 123, Article 105436. <https://doi.org/10.1016/j.chiabu.2021.105436>
- Brännström, L., Vinnerljung, B., & Hjern, A. (2015). Risk factors for teenage childbirths among child welfare clients: Findings from Sweden. *Children and Youth Services Review*, 53, 44–51. <https://doi.org/10.1016/j.childyouth.2015.03.018>
- Brännström, L., Vinnerljung, B., & Hjern, A. (2016). Child welfare clients have higher risks for teenage childbirths: Which are the major confounders? *The European Journal of Public Health*, 26(4), 592–597. <https://doi.org/10.1093/eurpub/ckw057>
- Cashmore, J., & Paxman, M. (2007). *Wards leaving care four to five years on: A longitudinal study*. Sydney, NSW: University of New South Wales.
- Chase, E., Maxwell, C., Knight, A., & Aggleton, P. (2006). Pregnancy and parenthood among young people in and leaving care: What are the influencing factors, and what makes a difference in providing support? *Journal of Adolescence*, 29(3), 437–451. <https://doi.org/10.1016/j.adolescence.2006.01.003>
- Clark, J., Glasziou, P., Del Mar, C., Bannach-Brown, A., Stehlik, P., & Scott, A. M. (2020). A full systematic review was completed in 2 weeks using automation tools: A case study. *Journal of Clinical Epidemiology*, 121, 81–90. <https://doi.org/10.1016/j.jclinepi.2020.01.008>
- Coler, L. (2018). “I need my children to know that I will always be here for them”: Young care leavers’ experiences with their own motherhood in Buenos Aires, Argentina. *SAGE Open*, 8(4), 1–8. <https://doi.org/10.1177/2158244018819911>
- Combs, K. M., Begun, S., Rinehart, D. J., & Taussig, H. (2018). Pregnancy and childbearing among young adults who experienced foster care. *Child Maltreatment*, 23(2), 166–174. <https://doi.org/10.1177/1077559517733816>
- Connolly, J., Heifetz, M., & Bohr, Y. (2012). Pregnancy and motherhood among adolescent girls in child protective services: A meta-synthesis of qualitative research. *Journal of Public Child Welfare*, 6(5), 614–635. <https://doi.org/10.1080/15548732.2012.723970>
- Courtney, M. E., Dworsky, A. L., Brown, A., Cary, C., Love, K., & Vorhies, V. (2011). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at ages 26*. Chapin Hall at the University of Chicago Chicago.
- Courtney, M. E., Okpych, N. J., Park, K., Hart, J., Feng, H., Torres-Garcia, A., & Sayed, S. (2018). *Findings from the California youth transitions to adulthood study (CalYOUTH): Conditions of youth at age 21*. Chapin Hall at the University of Chicago Chicago.
- Couvrette, A., & Lancot, N. (2017). Between parental efficacy and parental distress: How early maladaptive schemas contribute to the motherhood experience of young mothers who have aged out of care. *Adoption and Fostering*, 41(2), 170–187. <https://doi.org/10.1177/0308575916662162>
- Dumaret, A. C., Coppel-Batsch, M., & Couraud, S. (1997). Adult outcome of children reared for long-term periods in foster families. *Child Abuse and Neglect*, 21(10), 911–927. [https://doi.org/10.1016/S0145-2134\(97\)00053-7](https://doi.org/10.1016/S0145-2134(97)00053-7)
- Dworsky, A. (2015). Child welfare services involvement among the children of young parents in foster care. *Child Abuse & Neglect*, 45, 68–79. <https://doi.org/10.1016/j.chiabu.2015.04.005>
- Dworsky, A., & Gitlow, E. (2017). Employment outcomes of young parents who age out of foster care. *Children and Youth Services Review*, 72, 133–140. <https://doi.org/10.1016/j.childyouth.2016.09.032>
- Eastman, A. L., & Putnam-Hornstein, E. (2019). An examination of child protective service involvement among children born to mothers in foster care. *Child Abuse & Neglect*, 88, 317–325. <https://doi.org/10.1016/j.chiabu.2018.11.002>
- Foster, L. J. J., Beadnell, B., & Pecora, P. J. (2015). Intergenerational pathways leading to foster care placement of foster care alumni’s children. *Child & Family Social Work*, 20(1), 72–82. <https://doi.org/10.1111/cfs.12057>
- Foster, L. J. J., Phillips, C. M., Yabes, J., Breslau, J., O’Brien, K., Miller, E., & Pecora, P. J. (2015). Childhood behavioral disorders and trauma: Predictors of comorbid mental disorders among adult foster care alumni. *Traumatology*, 21(3), 119–127. <https://doi.org/10.1037/trm0000036>
- Font, S., Cancian, M., Berger, L. M., & DiGiovanni, A. (2020). Patterns of intergenerational child protective services involvement. *Child Abuse & Neglect*, 99, Article 104247. <https://doi.org/10.1016/j.chiabu.2019.104247>
- Fusco, R. A. (2015). Second generation mothers in the child welfare system: Factors that predict engagement. *Child and Adolescent Social Work Journal*, 32(6), 545–554. <https://doi.org/10.1007/s10560-015-0394-4>
- Geiger, J. M., & Beltran, S. J. (2017). Outcomes and experiences of foster care alumni in postsecondary education: A review of the literature. *Children and Youth Services Review*, 79, 186–197.
- Gill, A., Grace, R., Waniganayake, M., & Hadley, F. (2020). Practitioner and foster carer perceptions of the support needs of young parents in and exiting out-of-home care: A systematic review. *Children and Youth Services Review*, 108, Article 104512.
- Hlungwani, J., & van Breda, A. D. (2020). Female care leavers’ journey to young adulthood from residential care in South Africa: Gender-specific psychosocial processes of resilience. *Child & Family Social Work*, 25(4), 915–923.
- Hook, J. L., & Courtney, M. E. (2013). Former Foster youth as fathers: Risk and protective factors predicting father-child contact. *Family Relations*, 62(4), 571–583. <https://doi.org/10.1111/fare.12031>
- Kääriälä, A., & Hiilamo, H. (2017). Children in out-of-home care as young adults: A systematic review of outcomes in the nordic countries. *Children and Youth Services Review*, 79, 107–114. <https://doi.org/10.1016/j.childyouth.2017.05.030>
- Lancot, N., & Turcotte, M. (2018). The “good mother” struggles: Obstacles to the attainment of motherhood ideals among adult women formerly placed in residential care. *Child & Family Social Work*, 23(1), 80–87. <https://doi.org/10.1111/cfs.12386>
- Leve, L., Khurana, A., & Reich, E. (2015). Intergenerational transmission of maltreatment: A multilevel examination. *Development and Psychopathology*, 27(4pt2), 1429–1442. <https://doi.org/10.1017/S0954579415000851>
- Marshall, J. M., Huang, H., & Ryan, J. P. (2011). Intergenerational families in child welfare: Assessing needs and estimating permanency. *Children and Youth Services Review*, 33(6), 1024–1030.
- Martin, J. A., Hamilton, B. E., Osterman, M. J. K., & Driskoll, A. K. (2021). *Births: Final data for 2019*. No 2. 70. National Center for Health Statistics. <https://doi.org/10.15620/cdc:100472>. National Vital Statistics reports.
- Maxwell, A., Proctor, J., & Hammond, L. (2011). ‘Me and my Child’: Parenting experiences of young mothers leaving care. *Adoption and Fostering*, 35(4), 29–40. <https://doi.org/10.1177/030857591103500404>
- Mendes, P. (2009). Improving outcomes for teenage pregnancy and early parenthood for young people in out-of-home care: A review of the literature. *Youth Studies Australia*, 28(4), 11–18.
- Mertz, M., & Andersen, S. H. (2017). The hidden cost of foster-care: New evidence on the inter-generational transmission of foster-care experiences. *British Journal of Social Work*, 47(5), 1377–1393.
- Miranda, M., Tadros, E., & Molla, E. (2020). The experience of foster care and long-term attachment. *The American Journal of Family Therapy*, 48(1), 87–106. <https://doi.org/10.1080/01926187.2019.1679053>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), Article e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- Narendorf, S. C., Munson, M. R., & Levingston, F. (2013). Managing moods and parenting: Perspectives of former system youth who struggle with emotional challenges. *Children and Youth Services Review*, 35(12), 1979–1987. <https://doi.org/10.1016/j.childyouth.2013.09.023>
- Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—A web and mobile app for systematic reviews. *Systematic Reviews*, 5(1), 1–10. <https://doi.org/10.1186/s13643-016-0384-4>
- Pecora, P. J., White, C. R., Jackson, L. J., & Wiggins, T. (2009). Mental health of current and former recipients of foster care: A review of recent studies in the USA. *Child & Family Social Work*, 14(2), 132–146. <https://doi.org/10.1111/j.1365-2206.2009.00618.x>

- Pryce, J. M., & Samuels, G. M. (2010). Renewal and risk: The dual experience of young motherhood and aging out of the child welfare system. *Journal of Adolescent Research*, 25(2), 205–230. <https://doi.org/10.1177/0743558409350500>
- Purtell, J., Mendes, P., & Saunders, B. J. (2020). Care leavers, ambiguous loss and early parenting: Explaining high rates of pregnancy and parenting amongst young people transitioning from out-of-home care. *Children Australia*, 45(4), 241–248. <https://doi.org/10.1017/cha.2020.58>
- Purtell, J., Mendes, P., & Saunders, B. J. (2021). Where is the village? Care leaver early parenting, social isolation and surveillance bias. *International Journal on Child Maltreatment: Research, Policy and Practice*. <https://doi.org/10.1007/s42448-021-00084-8>
- Quinton, D., Rutter, M., & Liddle, C. (1984). Institutional rearing, parenting difficulties and marital support. *Psychological Medicine*, 14(1), 107–124. <https://doi.org/10.1017/S0033291700003111>
- Radey, M., Schelbe, L., McWey, L. M., & Holtrop, K. (2017). Me, myself and I: Perceptions of social capital for mothers ageing out of the child welfare system. *Child & Family Social Work*, 22(2), 981–991. <https://doi.org/10.1111/cfs.12318>
- Radey, M., Schelbe, L., McWey, L. M., Holtrop, K., & Canto, A. I. (2016). “It’s really overwhelming”: Parent and service provider perspectives of parents aging out of foster care. *Children and Youth Services Review*, 67, 1–10. <https://doi.org/10.1016/j.chidyouth.2016.05.013>
- Roberts, L. (2017). A small-scale qualitative scoping study into the experiences of looked after children and care leavers who are parents in Wales. *Child & Family Social Work*, 22(3), 1274–1282. <https://doi.org/10.1111/cfs.12344>
- Roberts, L., Maxwell, N., & Elliott, M. (2019). When young people in and leaving state care become parents: What happens and why? *Children and Youth Services Review*, 104, Article 104387. <https://doi.org/10.1016/j.chidyouth.2019.104387>
- Roberts, L., Meakings, S., Forrester, D., Smith, A., & Shelton, K. (2017). Care-leavers and their children placed for adoption. *Children and Youth Services Review*, 79, 355–361. <https://doi.org/10.1016/j.chidyouth.2017.06.030>
- Rouse, H. L., Hurt, T. R., Melby, J. N., Bartel, M., McCurdy, B., McKnight, E., Zhao, F., Behrer, C., & Weems, C. F. (2021). Pregnancy and parenting among youth transitioning from foster care: A mixed methods study. *Child & Youth Care Forum*, 50(1), 167–197. <https://doi.org/10.1007/s10566-020-09567-0>
- Schelbe, L., & Geiger, J. M. (2017). Parenting under pressure: Experiences of parenting while aging out of foster care. *Child and Adolescent Social Work Journal*, 34(1), 51–64. <https://doi.org/10.1007/s10560-016-0472-2>
- Stein, M. (2006). Research review: Young people leaving care. *Child & Family Social Work*, 11(3), 273–279. <https://doi.org/10.1111/j.1365-2206.2006.00439.x>
- Straatmann, V. S., Jackisch, J., Brännström, L., & Almquist, Y. B. (2021). Intergenerational transmission of out-of-home care and the role of mental health problems: Findings from Stockholm birth cohort multigenerational study. *Social Science & Medicine*, 284, Article 114223.
- Svoboda, D. V., Shaw, T. V., Barth, R. P., & Bright, C. L. (2012). Pregnancy and parenting among youth in foster care: A review. *Children and Youth Services Review*, 34(5), 867–875. <https://doi.org/10.1016/j.chidyouth.2012.01.023>
- Tyrer, P., Chase, E., Warwick, L., & Aggleton, P. (2005). ‘Dealing with it’: Experiences of young fathers in and leaving care. *The British Journal of Social Work*, 35(7), 1107–1121. <https://doi.org/10.1093/bjsw/bch221>
- Van Dongen, T., Sabbe, B., & Glazemakers, I. (2020). Collaboration for children with complex needs: What adolescents, parents, and practitioners tell us. *Journal of Child Health Care*, 24(1), 19–32. <https://doi.org/10.1177/1367493518823906>
- Vinnerljung, B., & Sallnäs, M. (2008). Into adulthood: A follow-up study of 718 young people who were placed in out-of-home care during their teens. *Child & Family Social Work*, 13(2), 144–155. <https://doi.org/10.1111/j.1365-2206.2007.00527.x>
- Vinnerljung, B., Franzén, E., & Danielsson, M. (2007). Teenage parenthood among child welfare clients: A Swedish national cohort study of prevalence and odds. *Journal of Adolescence*, 30(1), 97–116. <https://doi.org/10.1016/j.adolescence.2005.12.002>
- Wade, J. (2008). The ties that bind: Support from birth families and substitute families for young people leaving care. *British Journal of Social Work*, 38(1), 39–54.
- Wall-Wieler, E., Almquist, Y., Liu, C., Vinnerljung, B., & Hjern, A. (2018a). Intergenerational transmission of out-of-home care in Sweden: A population-based cohort study. *Child Abuse & Neglect*, 83, 42–51. <https://doi.org/10.1016/j.chiabu.2018.07.007>
- Wall-Wieler, E., Bolton, J., Liu, C., Wilcox, H., Roos, L. L., & Hjern, A. (2018b). Intergenerational transmission of out-of-home care in Sweden: A population-based cohort study. *Journal of Affective Disorders*, 238, 506–512.
- Wright, E. M., Spohn, R., Chenane, J., & Juliano, N. (2017). The importance of interagency collaboration for crossover youth: A research note. *Youth Violence and Juvenile Justice*, 15(4), 481–491. <https://doi.org/10.1177/1541204016686663>
- Yang, M.-Y. (2015). The effect of material hardship on child protective service involvement. *Child Abuse & Neglect*, 41, 113–125. <https://doi.org/10.1016/j.chiabu.2014.05>