social sciences

MDPI

*Article*

# Childhood Adversity and Life Satisfaction in Adults with Alternative Care Experience in 12 Low- and Middle-Income Nations: The Mediating Roles of Individual and Relational Protective Factors and Resilience

**Nicole Gilbertson Wilke [1,*], Megan Roberts [2], Lindsey Newsom [3], Tony Mitchell [4] and Amanda Hiles Howard [5]**

[1] CAFO Center for Applied Research for Vulnerable Children and Families, Arequipa 04000, Peru
[2] Department of Education, Auburn University, Auburn, AL 36849, USA
[3] College of Osteopathic Medicine, Liberty University, Lynchburg, VA 24515, USA
[4] Christian Alliance for Orphans, McLean, VA 22101, USA
[5] Department of Psychology, Samford University, Homewood, AL 35229, USA
* Correspondence: nicole.wilke@cafo.org

**Abstract:** Adults with care experience have elevated rates of adverse childhood experiences (ACEs) and a greater likelihood of poor outcomes. Some research has examined how protective factors and resilience impact outcomes among care leavers, but few studies include those from low- and middle-income countries (LMICs). Further, little work has examined the interactive impact of protective factors and resilience in this population. We investigated (a) the prevalence of ACEs among care leavers from LMICs, the mediating roles of (b) resilience and (c) individual and relational protective factors on the relationship between ACEs and life satisfaction, and (d) whether mediation was occurring both in parallel and sequentially. Five hundred forty-two care leavers from twelve LMICs completed an online survey. Participants completed the Brief Resilience Scale, ACEs Questionnaire, and open-ended questions regarding care experiences. Open-ended questions were coded for protective factors. There was a high prevalence of ACEs among care leavers. The relationship between ACEs and life satisfaction was partially mediated by resilience. Individual and relational protective factors partially mediated the relationship between ACEs and life satisfaction. Finally, resilience and protective factors partially mediated the relationship between ACEs and life satisfaction in both parallel and sequential mediation among care leavers from LMICs. Protective factors operate interactively to influence resilience, increasing life satisfaction among care leavers from LMICs.

**Keywords:** care leavers; alternative care; adverse childhood experiences (ACEs); protective factors; life satisfaction; low- and middle-income countries

check for updates

**Citation:** Wilke, Nicole Gilbertson, Megan Roberts, Lindsey Newsom, Tony Mitchell, and Amanda Hiles Howard. 2024. Childhood Adversity and Life Satisfaction in Adults with Alternative Care Experience in 12 Low- and Middle-Income Nations: The Mediating Roles of Individual and Relational Protective Factors and Resilience. *Social Sciences* 13: 551. https://doi.org/10.3390/socsci13100551

Academic Editor: Neil Gilbert

Received: 24 July 2024
Revised: 27 September 2024
Accepted: 9 October 2024
Published: 16 October 2024

**Copyright:** © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

## 1. Introduction

Recent estimates suggest that around five million children and youth around the world are separated from their biological parents and live in alternative care settings, such as residential or foster care (Desmond et al. 2020; Neville et al. 2023; van IJzendoorn et al. 2020). Research has found that the long-term outcomes for this vulnerable population are consistently poor (Bondi et al. 2020; McGuire et al. 2021), especially for youth in residential settings (van IJzendoorn et al. 2020). Individuals who have resided in alternative care environments during their childhood have elevated rates of adverse childhood experiences (ACEs), which could be contributing to the poor outcomes they encounter in adulthood (Howard et al. 2023b; Simkiss 2019; Toivonen et al. 2020). Despite these challenges, some adults with care experience demonstrate remarkable resilience and have high rates of wellbeing (Howard et al. 2023a, 2023c; Refaeli et al. 2019). These disparate outcomes have prompted increasing research attention exploring how protective factors and resilience contribute to improving the long-term outcomes of individuals with a history of alternative

care (Refaeli et al. 2019). However, as with other areas in intervention science (Hodge and Kibirige 2022; Roche and Flynn 2020), most of the research on adults with care experience has been concentrated in high-income nations, with few studies of adults with care experience in low- and middle-income countries (LMICs) (van Breda 2018; Wilke et al. 2022b). As such, the goal of the present study was to examine the interactive and cumulative impact of individual and relational protective factors and resilience on the relationship between ACEs and life satisfaction in adults with care experience in LMICs.

### 1.1. Adults with Care Experience

Internationally, terms used to describe individuals with a history of alternative care settings during childhood vary. These terms include "care experienced," "care leaver," "care alumni," "adults with alternative care experience," and "young people leaving out-of-home care." However, in the current paper, the term "care leaver" will primarily be utilized to align with previous literature and denote individuals who were separated from the care of their biological parents between the ages of 0 to 17 and lived in either foster care or a residential care center during the period of separation.

Generally, research has shown that care leavers experience unfavorable long-term outcomes (Bondi et al. 2020; Howard et al. 2023a; McGuire et al. 2021; Neville et al. 2023), particularly those who spent time in residential care centers (van IJzendoorn et al. 2020). These challenges can include poorer physical and mental health, risk-taking behavior, high rates of incarceration, suicidality, addiction, homelessness, and unstable employment (Berejena Mhongera and Lombard 2016; Berlin et al. 2011; Diraditsile and Nyadza 2018; Palmer et al. 2022; Neville et al. 2023; Sekibo 2020; Sulimani-Aidan 2017a; Wilke et al. 2020). Additionally, these adults often struggle with social relationships and lack social support, which has a significant influence on their mental and physical health (Howard et al. 2023b; Huppert 2009; Melkman and Benbenishty 2018; Tay et al. 2013). Care leavers tend to be over-represented as parents of children in the child welfare system (Roberts et al. 2017). Further, they report lower levels of life satisfaction (Howard et al. 2023a; Llosada-Gistau et al. 2015; Pound and Sims-Schouten 2022; Refaeli et al. 2019).

### 1.2. ACEs and Care Leavers

Research has found that poor outcomes in care leavers may partially be the results of this population's increased prevalence of ACEs, such as abuse, neglect, or loss of a caregiver (Melkman and Benbenishty 2018). ACEs are widely acknowledged as impacting the trajectory of health and wellbeing in adulthood (Felitti et al. 1998). Studies conducted on ACEs have generally demonstrated that individuals who have encountered four or more ACEs have poorer health than those without ACEs (Boullier and Blair 2018; Felitti et al. 1998), as well as lower life satisfaction (Howard et al. 2023b; Mosley-Johnson et al. 2019). Individuals who have a history of alternative care are more prone to having a higher prevalence of ACEs, which in turn may lead to the adverse outcomes observed in this population (Howard et al. 2023b; Melkman and Benbenishty 2018; Simkiss 2019; Toivonen et al. 2020). According to research by Melkman and Benbenishty (2018), Israeli care leavers had high rates of ACEs ($M$ = 3.72; $SD$ = 2.64), with approximately 90% of care leavers experiencing at least one adversity, while 45.8% have experienced four or more forms of adversity. Similarly, Simkiss (2019) has suggested that the prevalence of ACEs among care leavers is even higher than among other groups who have experienced similar adversities. An increasing number of studies have examined how ACEs impact adult functioning in care leavers (Melkman and Benbenishty 2018; Stein 2009). This has led to an emerging body of research focused on investigating the role of protective factors in increasing resilience and improving outcomes among this population (Howard et al. 2023c; Refaeli et al. 2019, 2022). However, much of the work examining ACEs among adults with care experience has been conducted in high-income nations.

### 1.3. Resilience and Protective Factors

Existing research on ACEs has predominantly focused on the population health risks associated with their cumulative effects (Putnam et al. 2020). However, recent work has begun investigating the role of resilience and protective factors on ACEs and wellbeing (Bethell et al. 2016; Daníelsdóttir et al. 2022; Panisch et al. 2020; Poole et al. 2017; Soleimanpour et al. 2017). Resilience factors include various adaptive processes that enable individuals to navigate and overcome adversity and distress (Burt and Paysnick 2012; Masten 1994, 2004). These factors can manifest differently across various situations and areas of life, and they often develop and strengthen over time through experiences, learning, and support systems (van Breda 2018; Wu et al. 2013). It is important to note that resilience is not a fixed trait but rather a dynamic process influenced by both internal and external protective factors. Research suggests that the presence of strong resilience factors can buffer the effects of ACEs, potentially leading to better outcomes in specific areas of life (Logan-Greene et al. 2014). This topic is particularly relevant to care leavers as they navigate the challenges of overcoming the potential effects of early adversity, recognizing that resilience may vary across different domains of their lives and that it can be fostered through appropriate interventions and support.

Previous evidence has suggested that resilience is one possible mediator for understanding the relationship between ACEs and life satisfaction. Protective factors have also been widely discussed as explanatory factors for this relationship among care leavers (Pham et al. 2021; Refaeli et al. 2019). Individual (i.e., emotional regulation, social competency, self-efficacy), relational (i.e., support networks, belonging), and communal protective factors (i.e., education, spiritual and cultural traditions) interact to influence resilience and increase the probability of positive outcomes in the presence of risk among adults with a history of care experience (Bhargava et al. 2018; Frimpong-Manso 2018; Gilligan 2001; Howard et al. 2023c; Refaeli et al. 2019; Sulimani-Aidan 2017a). Protective factors offer potential intervention points that facilitate resilience, which can diminish the detrimental consequences of ACEs. For example, Brown and Shillington (2017) have demonstrated that the link between cumulative ACE scores and increased substance use was only significant when protective adult relationships were low. Moreover, Nurius et al. (2012) demonstrated that socioemotional support was a moderator for the link between ACEs and adult mental health. Specifically, individuals with more support reported fewer mental health challenges. Thus, interventions that focus on increasing protective factors, such as bolstering social support, might provide a buffer against the adverse effects of ACEs.

Currently, most research examines protective factors separately, with studies looking solely at the impact of one protective factor, such as optimism or social networks, on outcomes (Liu et al. 2020). When studying protective factors, especially in relation to resilience and life satisfaction, it is valuable to evaluate the cumulative effect of multiple variables rather than studying them separately. This is because protective factors may have an additive effect, where the combined effect of multiple protective factors is greater than the sum of their separate effects (Liu et al. 2020). For example, having a robust social support network can influence an individual's sense of belonging, which in turn increases optimism. Cumulatively, these protective factors may contribute to an individual's resilience. Indeed, emerging work has highlighted the cumulative and interactive nature of protective factors' impact on resilience and life satisfaction (Kia-Keating et al. 2011; Liu et al. 2020). Studying protective factors cumulatively allows researchers to identify the collective importance of different categories of protective factors (i.e., at the individual level, relational level, community level, etc.), as well as their interaction effects, which may not be evident when studying them separately (Ernestus and Prelow 2015). Therefore, studying the cumulative impact of categories of protective factors may provide a more comprehensive picture of resilience and life satisfaction, enabling researchers to develop more effective interventions and strategies for promoting resilience and wellbeing (Hardaway et al. 2012; van Breda 2018). Moreover, some research has provided indirect evidence that resilience and individual and relational protective factors might mediate the link between ACEs

and life satisfaction sequentially (Howard et al. 2023b; Liu et al. 2020; Sulimani-Aidan and Melkman 2018; van Breda and Dickens 2017). Specifically, higher ACEs first lead to lower individual and relational protective factors, influencing resilience and allowing ACEs to predict life satisfaction. The current work seeks to examine how individual protective factors, relational protective factors, and resilience work in tandem to influence the relationship between ACEs and life satisfaction.

### 1.4. Adults with Care Experience and Resilience

Understanding the impact of protective factors and resilience is particularly relevant to care leaver outcomes. As adults with care experience tend to have higher rates of ACEs, and ACEs are associated with poorer outcomes, identifying mechanisms to buffer the effect of ACEs is a critical public health concern (Simkiss 2019). We know from previous research that higher levels of resilience are associated with better outcomes in individuals with early adversity (Hall et al. 2021; Logan-Greene et al. 2014), and even specifically in care leavers (Sulimani-Aidan 2017b; Theron and van Breda 2021; van Breda 2017). However, there needs to be more clarity on whether or not protective factors, especially multiple and interacting protective factors, contribute to resilience in adults with care experience. Understanding these dynamics is critical to developing policies and practices that support adults with care experience. Further, this focus on resilience can help shift the focus from adverse outcomes associated with care leaving to identifying and promoting factors contributing to successful transitions.

### 1.5. The Present Study

The current study offers a significant contribution to the literature by advancing our understanding of how individual and relational protective factors, as well as resilience, interact in adults with care experience from LMICs, a population that has been historically underrepresented in research. While much of the previous literature has focused on high-income contexts, our findings extend the current knowledge base by exploring these dynamics in LMICs, where care-leaving experiences may differ due to unique cultural, economic, and social contexts (van Breda 2018; Wilke et al. 2022b). Further, high-income countries often have more robust child welfare systems and greater access to resources that support adults with care experience. In contrast, adults with care experience in LMICs face distinct challenges, such as underfunded care systems, limited social support networks, and broader structural inequalities. This broader understanding can lead to more globally informed interventions and policies that are sensitive to regional differences in child welfare systems, care practices, and access to protective resources. Additionally, the current study builds upon prior research by not only identifying protective factors but also examining their cumulative and interactive effects in LMIC settings. This goes beyond previous studies, which often focus on specific protective factors in isolation. By assessing how multiple protective factors work together, we offer a more nuanced understanding of how resilience is fostered among adults with care experience. Our work thus highlights the additive and potentially multiplicative effects of protective factors, providing new insights into how interventions can be more comprehensive and effective in promoting positive outcomes.

As such, the present study has four primary goals: (a) to examine the prevalence of ACEs among adults with care experience in LIMC; (b) to examine the mediating role of resilience and (c) individual and relational protective factors in the relationship between ACEs and life satisfaction among individuals with a history of care experience from LMICs; and (d) to investigate if these variables are mediating these links both in parallel and sequentially. As such, the current study has four primary hypotheses. First, we hypothesize that adults with care experience from LIMCs would have high rates of ACEs. Second, we hypothesize that resilience would mediate the relationship between childhood adversity and life satisfaction among adults with care experience who resided in LMICs during childhood. Specifically, ACEs would negatively predict resilience, which in turn would increase the risk of lower life satisfaction. Next, we hypothesize that individual and relational

protective factors would mediate the association between ACEs and life satisfaction among adults with care experience who resided in LMICs during childhood. Particularly, ACES would negatively predict both individual and relational protective factors, which in turn would predict life satisfaction. Finally, we hypothesize that resilience, individual protective factors, and relational protective factors will mediate the association between ACEs and life satisfaction, both in parallel and sequentially, in this population.

## 2. Material and Methods

The information presented in the current manuscript was gathered as part of a broader undertaking aimed at promoting wellbeing in individuals with a history of care experience during childhood. The larger dataset includes over 1100 participants from 60 nations of all income levels that experienced alternative care during childhood, including foster care, residential care, kinship placements, adoption, etc. The current research only included data from participants placed in foster or residential care during childhood in an LMIC. Only care leavers whose country of residency during childhood had more than 15 participants were included.

### *2.1. Participants*

Participants included 542 subjects who had been separated from the care of their biological parents and placed in residential (78.8%) or foster care (35.3%) during childhood for at least six months. A minority of participants (14.2%) reported residing in both residential and foster homes during childhood. Participants reported having between 1–19 placements ($M$ = 2.27; $SD$ = 2.32) while in care. Slightly less than half of adults with care experience identified as female (47.6%). The age of participants ranged from 18–89 ($M$ = 26.48; $SD$ = 7.83). Most adults with care experience reported being never married (65.7%). Further demographic information can be found in Table 1. The most frequently reported countries of residence during childhood included India (15.6%), Kenya (12.1%), and Zimbabwe (6.2%). Table 2 provides data on the frequencies, percentages, and Human Development Index scores pertaining to the nation of residence during childhood. The age of the initial separation from parental care spanned from 0 to 15 years ($M$ = 6.46; $SD$ = 4.44). The primary reasons for placement in alternative care varied, with the most frequently reported reasons being parental death (38.4%), abandonment or voluntary relinquishment of custody (25.0%), and financial instability and/or poverty (23.6%).

**Table 1.** Participant demographic ($N$ = 542).

| Category | | F | % |
|---|---|---|---|
| Gender | | | |
| | Female | 258 | 47.6 |
| | Male | 284 | 52.4 |
| Education | | | |
| | Less than high school degree | 76 | 14.0 |
| | High school diploma or equivalent | 171 | 31.5 |
| | Some college but no degree | 112 | 20.7 |
| | Associate's degree/trade | 28 | 5.2 |
| | Bachelor's degree | 113 | 20.8 |
| | Graduate degree/professional | 42 | 7.8 |
| Employment | | | |
| | Not working | 244 | 45.0 |
| | Working (paid employee) | 298 | 55.0 |
| Marital status | | | |
| | Never married | 356 | 65.7 |
| | Married | 101 | 18.6 |
| | Other | 85 | 15.7 |
| Children | | | |
| | No | 424 | 78.2 |
| | Yes | 118 | 21.8 |

**Table 2.** Frequency, percentage, and Human Development Index for nations of residence during childhood ($N$ = 542).

| Nation | F | % | HDI |
|---|---|---|---|
| India | 146 | 15.6 | 0.645 |
| Kenya | 113 | 12.1 | 0.601 |
| Zimbabwe | 58 | 6.2 | 0.571 |
| Uganda | 39 | 4.2 | 0.544 |
| Mexico | 37 | 3.9 | 0.779 |
| Rwanda | 29 | 3.1 | 0.543 |
| Democratic Republic of the Congo | 27 | 2.9 | 0.480 |
| Ethiopia | 22 | 2.3 | 0.485 |
| Peru | 22 | 2.3 | 0.777 |
| Thailand | 19 | 2.0 | 0.777 |
| South Africa | 15 | 1.6 | 0.705 |
| China | 15 | 1.6 | 0.761 |

### 2.2. Measures

The data presented in this manuscript were gathered as part of a more extensive research study to examine the factors that predict positive outcomes in individuals transitioning from care. The current manuscript specifically focuses on analyzing a subset of measures related to protective factors, resilience, and childhood adversity.

***General Demographics***. Participants reported demographic information, including marital status, current age, whether they have children, nation where they resided, gender, education, and employment status.

***Care Experience Demographics***. Participants were asked to respond to a series of questions related to their demographic information, specifically focusing on their experiences during childhood when they were in alternative care. These questions covered a range of details, including the country where the separation from parental care occurred, the age when the initial separation occurred, the underlying reasons leading to their placement in alternative care, the types of care placements involved, and the total number of placements. It is worth noting that many individuals with a history of care experience may attribute their initial separation to multiple reasons and might have experienced several types of placements during their period of separation from parental care. To ensure a comprehensive representation of care experiences, these questions were presented in a format in which participants could check all that applied.

***Brief Resilience Scale***. The Brief Resilience Scale is a six-item measure of resilience and the ability to bounce back from adverse events (Smith et al. 2008). The Brief Resilience Scale consists of three items with positive valence and three with negative valence. These items are evaluated on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The negative valence items are scored in reverse. An example item would be "I tend to bounce back quickly after hard times." The total score for the Brief Resilience Scale is calculated by summing the items, with higher total scores indicating greater resilience. Cronbach's Alpha = 0.717

***Adverse Childhood Experiences (ACEs) Questionnaire***. The ACEs questionnaire (Felitti et al. 1998) consists of 10 items asking about maltreatment and family functioning during childhood. Participants indicated if they had experienced each type of experience before age 18 (i.e., did a parent or other adult in the household often or very often act in a way that made you afraid that you might be physically hurt?). The scores for all items were combined to generate a total score, with higher scores indicating a greater number of challenging experiences during childhood. Cronbach's Alpha = 0.725.

***Care Experience Survey***. Participants responded to 15 open-ended questions inquiring about their childhood experiences when they were in alternative care. For this study, all the provided responses were considered in the analysis. The questions encompassed various topics, such as the participants' views on the supports and obstacles they encountered while

transitioning to adulthood, their sense of belonging during their time in care, and their primary strengths and challenges. Notably, none of the questions directly mentioned protective factors, so any responses related to protective factors were spontaneously provided by the participants.

***Protective Factors Coding***. Three research assistants manually coded all 15 open-ended questions for references to 15 specific protective factors categorized into two overarching groups of protective factors. Overarching factors included individual (i.e., self-efficacy, self-regulation, social competency, optimism, future orientation, positive self-esteem, positive identity, involvement in extracurricular activities, positive coping skills, and self-reliance/independence) and relational (i.e., sense of belonging, stable relationship with at least one caring adult, competent caregiving, support network, and quality caregiver–child relationship) protective factors. Based on a literature review, a code book containing operational definitions for overarching and specific protective factors was developed. The assistants received instructions to adhere closely to the operational definitions and exercise their best judgment. When encountering ambiguous situations (e.g., uncertainty about whether a statement represented a particular protective factor), they discussed with the research scientist to reach a consensus. In this process, two of the research assistants functioned as primary raters, each evaluating half of the items, while the third research assistant assessed 30% of the responses to establish interrater reliability ($\kappa = 0.69$). Discrepancies that did occur were usually on the specific protective factor (i.e., self-efficacy vs. self-regulation) rather than the overarching category (i.e., an individual protective factor). A consensus was reached for all discrepancies.

### 2.3. Translations

The questionnaire was translated from English to Hindi, Spanish, and Thai. The guidelines outlined by Brislin (1980) for cross-cultural research methodology were adhered to meticulously. This process entailed the performance of independent (double-masked) back-translations and professionally informed translations for all questionnaire items. Two bilingual subject matter experts translated all of the survey questions for each language, stipulating that at least one of the translators for each language was a native speaker. Any discrepancies that emerged were typically minor. However, when differences did occur, translators engaged in discussions to achieve consensus.

### 2.4. Procedure

The research study received ethical approval from the Institutional Review Board at the authors' university. The recruitment approach involved a blend of convenience and chain-referral sampling techniques. Recruitment notices were posted on the websites of organizations involved in child welfare and distributed by email to their subscriber lists to reach potential participants. All assessments were conducted online via a survey platform, with the measures administered in a randomized sequence. Informed consent was acquired from all participants at the start of the survey, facilitated through a checkbox. This consent process offered a comprehensive explanation of the research's purpose, procedures, potential risks and benefits, as well as information about privacy and confidentiality. Adults with care experience were actively involved in all phases of the research process, including conceptualization, measure selection, recruitment strategies, and reviewing the manuscript prior to submission. Their input helped to ensure that ethical considerations were deeply rooted in the real-world experiences of care leavers in LMIC settings, and that the research was conducted with sensitivity and respect for participants. The completion rate of the survey was 74.0%.

## 3. Results

### 3.1. Prevalence of ACEs and Protective Factors

The descriptive statistics and correlational analysis for major variables can be found in Table 3. As can be seen in Table 3, the sample had a high rate of ACEs ($M = 4.17$; $SD = 2.20$;

Felitti et al. 1998), indicating a high prevalence of adversity during childhood. As can be seen in Tables 4 and 5, all participants reported experiencing at least one ACE during childhood, with more than half (57.3%) of care leavers indicating that they experienced four or more ACEs during childhood. The most commonly occurring ACEs were parental separation (77.3%), emotional abuse (66.0%), and emotional neglect (57.3%).

**Table 3.** Descriptive statistics and Pearson's correlations between ACEs, individual protective factors, relational protective factors, resilience, and life satisfaction ($N$ = 542).

| | M | SD | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1. ACEs | 4.17 | 2.20 | −0.27 * | −0.37 * | −0.26 * | −0.39 * |
| 2. Relational PFs | 2.08 | 1.30 | - | 0.36 * | 0.27 * | 0.35 * |
| 3. Individual PFs | 3.28 | 1.49 | | - | 0.35 * | 0.52 * |
| 4. Resilience | 3.17 | 0.74 | | | - | 0.50 * |
| 5. Life satisfaction | 20.65 | 7.05 | | | | - |

* $p < 0.01$.

**Table 4.** Frequency and percentage of total ACEs ($N$ = 542).

| Total ACEs | F | % |
|---|---|---|
| 1 | 98 | 18.5 |
| 2 | 68 | 12.9 |
| 3 | 60 | 11.3 |
| 4 | 63 | 11.9 |
| 5 | 65 | 12.3 |
| 6 | 58 | 11.0 |
| 7 | 42 | 7.9 |
| 8 | 35 | 6.6 |
| 9 | 21 | 4.0 |
| 10 | 19 | 3.6 |

**Table 5.** Frequency and percentage for each ACE category ($N$ = 542).

| ACEs Type | F | % |
|---|---|---|
| Emotional abuse | 349 | 66.0 |
| Physical abuse | 280 | 52.9 |
| Sexual abuse | 107 | 20.2 |
| Emotional neglect | 303 | 57.3 |
| Physical neglect | 268 | 50.7 |
| Parental separation/divorce/death | 409 | 77.3 |
| Domestic violence | 155 | 29.3 |
| Household alcohol/drug abuse | 172 | 32.5 |
| Mental illness in household | 166 | 31.4 |
| Incarcerated caregiver | 83 | 15.7 |

Frequencies and percentages of each protective factor can be found in Table 6. All participants reported experiencing at least one protective factor. The most commonly occurring individual protective factors were extracurricular activities (26.9%), social competency (24.4%), and self-reliance (21.4%). The most commonly occurring relational protective factors were support network (85.6%), sense of belonging (59.5%), and competent caregiving (33.3%). Pearson's correlation analyses revealed that the ACE score was negatively correlated with individual and relational protective factors and resilience, suggesting that ACEs are risk factors for decreased resilience. All other items were positively correlated, suggesting that higher levels of individual and relational protective factors were associated with higher resilience.

**Table 6.** Frequencies and percentages for individual and relational protective factors ($N$ = 542).

| Category | | F | % |
|---|---|---|---|
| Individual | | | |
| | Self-efficacy | 101 | 18.7 |
| | Self-regulation/emotional expression | 43 | 7.9 |
| | Social competency | 132 | 24.4 |
| | Optimism | 70 | 13.0 |
| | Future orientation | 80 | 14.8 |
| | Positive self-esteem | 58 | 10.7 |
| | Positive identity | 89 | 16.4 |
| | Extracurricular activities | 146 | 26.9 |
| | Positive coping skills | 51 | 9.4 |
| | Self-reliance | 116 | 21.4 |
| Relational | | | |
| | Sense of belonging | 322 | 59.5 |
| | Stable relationship with one adult | 111 | 20.5 |
| | Competent caregiving | 180 | 33.3 |
| | Support network | 464 | 85.6 |
| | Quality caregiving | 57 | 10.5 |

### 3.2. Proposed Multiple Mediation Model

Integrated multiple mediation analysis allows us to examine the multiple factors influencing the relationship between childhood adversity and life satisfaction in a sample of adults with care experience from LMICs (Hayes 2017). Multiple mediation models suggest that two factors may work in tandem to mediate relationships between variables through sequential, parallel, and mixed mediation (Hayes 2017). To test the mediation roles of resilience and protective factors between ACEs and life satisfaction, the current study used the Preacher and Hayes (2008) method, which assesses and compares indirect effects in models using multiple mediators. Current age, age of separation from biological parental care, and total number of placements were inputted as control variables in the current model. The model utilized bootstrapping with 10,000 resamples to evaluate mediation. All of the indirect effects were analyzed using 95% bias-corrected confidence intervals (See Table 7). The proposed multiple mediation model can be seen in Figure 1. The results of the mediation analysis show that ACEs negatively predicted resilience ($\beta = -0.28$, $p < 0.001$), relational protective factors ($\beta = -0.16$, $p < 0.001$), and individual protective factors ($\beta = -0.23$, $p < 0.001$) as well as life satisfaction ($\beta = -0.10$, $p < 0.01$). Relational protective factors ($\beta = 0.10$, $p < 0.01$) and individual protective factors ($\beta = 0.55$, $p < 0.001$) positively predicted resilience and life satisfaction ($\beta = 0.11$, $p < 0.01$). Additionally, relational protective factors positively predicted life satisfaction ($\beta = 0.14$, $p < 0.001$) and individual protective factors positively predicted life satisfaction ($\beta = 0.37$, $p < 0.001$). As can be seen in Figure 1, all indirect pathways were significant. Taken together, these findings indicate that relational protective factors and individual protective factors partially mediate the relationship between ACEs, resilience, and life satisfaction. All covariates were nonsignificant, $p$ = ns.

**Table 7.** Bootstrapping analysis of the mediation effects ($N$ = 542).

| | Standard Indirect Effects | 95% CI | |
|---|---|---|---|
| | | Lower | Upper |
| ACEs → Resilience → Life satisfaction | −0.07 | −0.11 | −0.04 |
| ACEs → Individual PFs → Life satisfaction | −0.11 | −0.16 | −0.07 |
| ACEs → Relational PFs → Life satisfaction | −0.01 | −0.03 | 0.00 |
| ACEs → Individual PFs → Resilience → Life satisfaction | −0.02 | −0.03 | −0.01 |
| ACEs → Relational PFs → Resilience→ Life satisfaction | −0.00 | −0.01 | 0.00 |

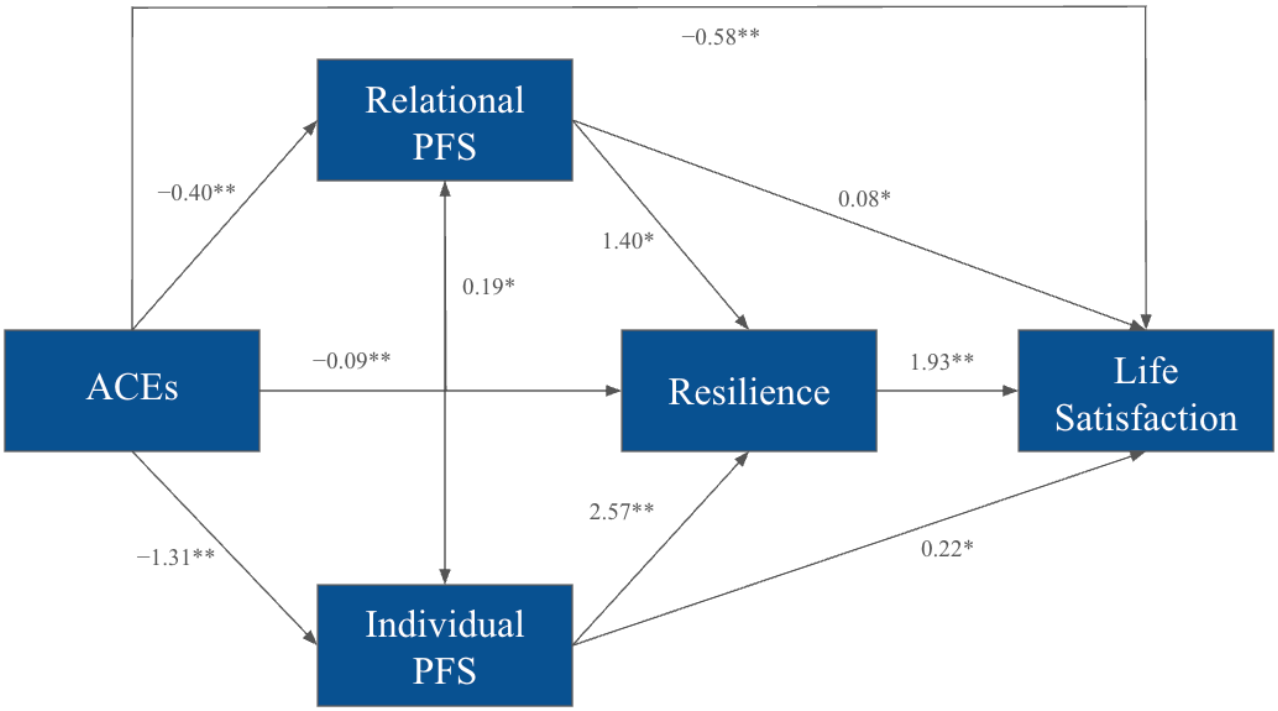



**Figure 1.** Multiple mediation analysis depicting direct and indirect effects of ACEs on life satisfaction. Standardized coefficients are presented. The covariates were included in the analyses but are not presented for simplicity. Note: * $p < 0.05$, ** $p < 0.01$, $N = 542$.

## 4. Discussion

Results from the current study suggest that care leavers from LMICs had a high prevalence of ACEs. In addition to the prevalence of ACEs, the current study examined the factors underlying the relationship between childhood adversity and life satisfaction among adults with a history of care experience from LMICs. As hypothesized, the results confirm the mediating roles of resilience, individual protective factors, and relational protective factors in the association between childhood adversity and life satisfaction in this population.

### *4.1. Prevalence of ACEs*

Care leavers from LMICs had high rates of adversity, with all participants reporting at least one ACE and over half of participants in the current study reporting four or more ACEs. These findings align with previous work, suggesting that adults with care experience have higher rates of ACEs than individuals who do not have care experience (Melkman and Benbenishty 2018; Simkiss 2019). A meta-analysis by Hughes et al. (2017) of 37 studies including 253,719 participants found rates of four or more ACEs to vary from 1% to 38%. This same study found a higher likelihood of all negative health outcomes in individuals who reported four or more ACEs (Hughes et al. 2017). Compared with samples of care leavers from high-income nations, the current findings suggest that adults with care experience from LMICs have slightly higher rates of ACEs (Melkman and Benbenishty 2018; Turney and Wildeman 2017). For example, Melkman and Benbenishty (2018) found that approximately 90% of Israeli care leavers had experienced at least one ACE, while 45.8% had experienced four or more ACEs. Further, the mean number of ACEs in the current study (4.17) stands in contrast with a mean of 2.47 in a sample of 467 U.S. foster care recipients (Turney and Wildeman 2017), indicating that care leavers from LMICs may have higher rates of early adversity than those leaving care in higher income countries. Clearly, adults with care experience have higher rates of early adversity than the general population and therefore a greater risk for negative outcomes. Furthermore, the current

findings suggest that adults with care experience from LMICs may have slightly higher rates of ACEs than those from high-income nations. This underscores the importance of identifying mechanisms that can buffer the effects of ACEs in this population.

### 4.2. The Role of Resilience

In line with hypothesis 1, our findings suggest that resilience is an explanatory mechanism through which ACEs are related to life satisfaction for care leavers in LMICs. Specifically, ACEs negatively predicted resilience and therefore decreased life satisfaction. These findings are consistent with studies conducted in high-income nations and support a coping and resilience model. However, the LMIC context introduces specific challenges that may make resilience-building efforts more difficult. Limited access to mental health resources, political instability, and high rates of poverty can hinder the development of protective factors and reduce opportunities for care leavers to develop resilience. Taken in this context, the current findings highlight the way in which resilience is essential to understanding how childhood adversity influences life satisfaction among adults with care experience in LMICs (Liu et al. 2020; Schaefer et al. 2018).

Further, the individual links among the path analysis are also worth noting. For example, findings from the first link in the mediation model (i.e., ACEs → resilience) suggest that ACEs negatively predicted resilience. This finding is in line with previous work conducted in high-income nations, which suggests that adversity during childhood leads to lower levels of resilience (e.g., Liu et al. 2020). The second link in the mediation analysis (i.e., resilience → life satisfaction) is also consistent with previous work from high-income nations, which indicates that adults with care experience who have higher levels of resilience also have higher levels of life satisfaction (Mabille et al. 2022; Refaeli et al. 2019).

### 4.3. The Mediating Roles of Individual and Relational Protective Factors

Consistent with hypothesis 2, the results show that categories of individual and relational protective factors are important mechanisms through which ACEs were related to life satisfaction among care leavers from LMICs. Specifically, ACEs increased the risk of low life satisfaction through fewer individual and relational protective factors. As such, individual and relational protective factors are not only outcomes influenced by a history of childhood adversity but also factors that may influence the risk of low life satisfaction for adults with care experience. The interactive nature of these protective factors is especially important in LMIC contexts, where relationships may play an even more significant role in buffering against adversity due to the limited availability of formal support systems.

Some specific links in the current model are worth considering. For example, the first links of the mediation model (i.e., ACE → individual and relational protective factors) are consistent with previous literature that suggests ACEs are associated with fewer individual and relational protective factors in adults with care experience (e.g., Liu et al. 2020). Further, the second links of the current mediation model (i.e., individual and relational protective factors → life satisfaction) are in line with previous research that has suggested a positive relationship between more individual and relational protective factors and higher life satisfaction (e.g., Mabille et al. 2022).

It is important to note that protective factors were being examined collectively, as individual and relational categories, rather than individually. This is distinctive because it is likely that the impacts are interactive and additive, with the presence of certain protective factors making others more likely. For example, quality caregiving could be associated with a greater sense of belonging, which could be associated with greater self-esteem. Given the interwoven and layered nature of protective factors, it is less helpful to examine them individually and more helpful to consider them collectively (Liu et al. 2020). Taken together, these findings support previous work on the role of individual and relational protective factors among adults with care experience in high-income nations.

### 4.4. The Multiple Mediation Model

The current findings suggest that resilience and individual and relational protective factors mediated the relationship between ACEs and life satisfaction both in parallel and sequentially among adults with care experience from LMICs. As such, the current research supports hypothesis 3. Individual and relational protective factors can influence a person's resilience, which in turn influences life satisfaction. Notably, resilience, individual protective factors, and relational protective factors only partially mediated the relationship between ACEs and life satisfaction. The remaining direct effect of ACEs on life satisfaction suggests that early adversity also functions as a direct risk factor for low life satisfaction among care leavers. This finding contributes to the existing literature by providing new insights into the interactive and additive roles of multiple protective factors specifically in LMIC contexts, where the lack of systemic support necessitates a greater reliance on individual and relational resilience mechanisms. To our knowledge, no work to date has examined the role of these variables in this capacity.

### 4.5. Recommendations for Policy and Practice

Given the vulnerability of care leavers from LMICs, there is an urgent need to improve the policies and programs by which children, youth, and adults with care experience are served and supported. Broadly, service providers need to be aware of the nature and frequency of exposure to early adversity and its potential consequences in this population. More specific to this study, findings suggest that developing resilience in individuals who have experienced early adversity is a critical factor in their wellbeing and eventual life satisfaction. Further, facilitating the development of individual and relational protective factors is important for facilitating the resilience that leads to greater life satisfaction. This can be especially achieved through programs and services that help cultivate individual protective factors, such as counseling, psychoeducation, and extracurricular activities. Relational protective factors can be developed by creating care systems in which relationships are prioritized, emphasizing family care for children, primary caregiver relationships, and training for parents and caregivers. Interestingly, emphasizing support for developing protective factors does not necessarily require developing new programs or services. Rather, training, education, workshops, and more can be incorporated into existing programs from schools, churches, and child welfare agencies. Considering the interactive and additive nature of protective factors, it will likely be more helpful to facilitate the development of many over just one or two.

It is important to note that there are limits to resilience. Resilience requires exposure to challenge (Sulimani-Aidan 2017a; Theron and van Breda 2021; van Breda 2017). However, resilience does not entirely negate or counteract exposure to adversity, and exposure to substantial and sustained adversity is likely to lead to negative outcomes. Further, ongoing stress without the presence of a nurturing primary caregiver leads to toxic stress and prevents proper development (Loman and Gunnar 2010). In light of this, it is vital for practitioners and policymakers to prioritize the prevention of sustained and systemic adversity as well as emphasize programs that build protective factors and resilience. Facilitating the development of protective factors alone is not sufficient.

### 4.6. Limitations and Future Research

Though promising, results from this study should be interpreted with caution, as there are several notable methodological limitations that need to be considered. First, the current study was cross-sectional, which means that causal relationships among the variables cannot be inferred. Future research should utilize a longitudinal design to better delineate the relationship between the factors and examine the multiple mediation analyses. Second, the survey was self-reported and, as such, could be influenced by several factors, including social desirability. This is particularly important as some research has suggested that participants might over- or under-report ACEs (Howard et al. 2017). Furthermore, convenience and chain-referral sampling methods were employed in the present study.

It is important to acknowledge that the current sample may only partially represent part of the population of adults with care experience. By using an online survey, there is a sampling bias toward individuals with internet access and strong literacy skills. This could imply that the sample in the current study was more likely to include those who are better educated, have higher socioeconomic status, and have experienced more favorable long-term outcomes. To address this potential limitation, future research should employ more comprehensive and inclusive sampling techniques. This could involve reaching out to a more diverse range of participants, providing surveys in multiple languages, and recruiting individuals from various backgrounds to ensure a more accurate representation of the experiences of all adults with care experience.

Another set of limitations focused on sample selection. Although the researchers successfully incorporated participants from different nations with a wide range of care experiences, the heterogeneity of the sample posed a challenge in generalizing the findings to all adults who have experienced care. Consequently, the conclusions presented in the current manuscripts may not wholly represent the entirety care leavers but instead reflect broader trends within the population. While the inclusion of care leavers from various LMICs is a strength, the study did not explore the unique socio-political and economic contexts of the individual countries from which participants originated. Country-specific factors, such as government stability, access to education, and healthcare, can significantly influence care leaver experience. This level of detailed analysis was beyond the scope of the current study, which aimed to identify broader patterns across LMICs. Future research should investigate how these country-level differences may impact protective factors and outcomes. In the future, it is advisable to make concerted efforts to recruit more representative samples. This will help in capturing the experiences of all adults who have undergone separation from parental care during their childhood more accurately.

There were confounding variables not addressed in this study that should be explored in future research. Although this investigation focused on individuals in LMICs, it did not examine individual-level socio-economic status. Wealth and access to resources may play a role in determining protective factors. Additionally, although this study specifically examined the relationship between care experience and ACEs and then the influence of ACEs on other variables, it did not examine other factors associated with the presence of ACEs, such as the complex factors that led to the initial separation from parental care (Wilke et al. 2022a). Further, although this study examined individual and relational protective factors, it did not examine broader systemic or structural factors that could substantially impact wellbeing outcomes and the utility of individual and relational protective factors. These categories of variables need to be investigated further.

Despite the researchers adhering to cross-cultural research guidelines (Brislin 1980), some limitations remain to be addressed. Firstly, the current questionnaires were translated into only a few languages, highlighting the need for future research to expand the range of available languages for participants. Secondly, though all responses were translated and back-translated from participants' native languages, they were ultimately coded in English, potentially impacting the subtleties of the responses. While there were noticeable parallels in responses across different countries, the lack of fine-grained country-level analysis limits the interpretation of some findings. Though this study took a broad approach, future research could offer valuable insights by conducting more robust samples from each country, with a focus on culture-specific themes and national contexts. Conducting research in the future with more robust samples from each country and a focus on culture-specific themes could offer valuable insights and further mitigate these limitations.

Finally, this study conceptualized both protective factors and resilience primarily as static outcome variables. Indeed, researchers and scholars have predominantly focused on identifying the factors contributing to resilient outcomes in individuals. This approach has yielded valuable insights into the protective factors associated with successful adaptation in the face of adversity. However, it fails to capture the complexity and fluidity of resilience and the variables that contribute to it as they unfold over time (Masten 2014). It

is essential for future work to examine these variables from the perspective of dynamic and ongoing processes.

### 4.7. Implications

Despite the study's limitations, the current research demonstrates how childhood adversity impacts resilience in adults with care experience who resided in LMICs during childhood. First, the data indicate that childhood adversity negatively predicts resilience. This reinforces the idea that health professionals should consider ACEs as critical risks to the resilience of children and youth in care, as well as adults with care experience. In line with findings from similar work, the current research also confirms that individual and relational factors are key intervention targets to improve the resilience of care leavers (Howard et al. 2023a; van Breda 2018; van Breda and Dickens 2017). This may help children and youth in care to successfully transition to adulthood. Furthermore, the existing literature on vulnerability in adults with care experience predominantly concentrates on their shortcomings, with minimal attention given to the strengths and resources that can enhance resilience and wellbeing within these communities. Allocating resources towards bolstering resilience could offer viable alternatives. Given the LMIC context, these findings emphasize the need for culturally sensitive and contextually relevant interventions that consider socio-economic and systemic barriers. Policymakers and practitioners should prioritize interventions that not only address individual and relational factors but also engage with community and structural supports to foster long-term resilience. Tailoring interventions to the specific needs of care leavers in majority world settings could amplify the effectiveness of resilience-building efforts, contributing to sustainable change.

## 5. Conclusions

The findings of the current study demonstrate the cumulative and interactive roles that individual and relational protective factors play in our understanding of how resilience impacts the association between ACEs and life satisfaction among care leavers in LMICs. Specifically, these results underscore the significance of initiatives aimed at preventing adversity and interventions that enhance protective factors and develop effective coping strategies to foster resilience. While the study offers important insights into broad trends across LMICs, future research should explore how specific country contexts, such as socio-political and economic factors, shape the experiences of adults with care experience. This would allow for a more nuanced understanding of how protective factors may vary by region and better inform localized intervention efforts. Future research that identifies individual and relational factors that characterize the connection between ACEs and life satisfaction may offer valuable support for developing prevention and intervention programs.

**Author Contributions:** Conceptualization, N.G.W. and A.H.H.; methodology, N.G.W. and A.H.H.; formal analysis, A.H.H., L.N., M.R.; data collection, N.G.W. and A.H.H.; writing—original draft preparation, A.H.H. and N.G.W.; writing—review and editing, T.M., L.N., M.R.; visualization, A.H.H.; project administration, N.G.W.; funding acquisition, N.G.W. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was funded by UBS Optimus Foundation, grant number 49692.

**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of Samford University (protocol code EXMT-A-20-F-2 and date of approval: 15 September 2020).

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** To request access to the data presented in this study, please contact the corresponding author. The data cannot be publicly accessed to ensure the confidentiality of the participants.

**Acknowledgments:** The research team would like to express their appreciation for the participants of this study, as well as the networks of adults with care experience that facilitated their participation.

A special acknowledgment is given to Laura Nzirimu for her unwavering dedication and support throughout the entirety of this project.

**Conflicts of Interest:** The authors declare no conflicts of interest. The funders had no involvement in the study design, data collection, analysis, interpretation, manuscript writing, or decision to publish the results.

## References

Berejena Mhongera, Pamhidzayi, and Antoinette Lombard. 2016. Poverty to more poverty: An evaluation of transition services provided to adolescent girls from two institutions in Zimbabwe. *Children and Youth Services Review* 64: 145–54. [CrossRef]

Berlin, Lisa, Kare Appleyard, and Kenneth Dodge. 2011. Intergenerational continuity in child maltreatment: Mediating mechanisms and implications for prevention. *Child Development* 82: 162–76. [CrossRef]

Bethell, Christina, Narangerel Gombojav, Michele Solloway, and Lawrence Wissow. 2016. Adverse childhood experiences, resilience and mindfulness-based approaches: Common denominator issues for children with emotional, mental, or behavioral problems. *Child and Adolescent Psychiatric Clinics* 25: 139–56. [CrossRef] [PubMed]

Bhargava, Rini, Riti Chandrashekhar, Shubhangi Kansal, and Kiran Modi. 2018. Young adults transitioning from institutional care to independent living: The role of aftercare support and services. *Institutionalised Children Explorations and Beyond* 5: 168–87. [CrossRef]

Bondi, Bianca, Debra Pepler, Mary Motz, and Naomi C. Andrews. 2020. Establishing clinically and theoretically grounded cross-domain cumulative risk and protection scores in sibling groups exposed prenatally to substances. *Child Abuse and Neglect* 108: 104631. [CrossRef]

Boullier, Mary, and Mitch Blair. 2018. Adverse childhood experiences. *Paediatrics and Child Health* 28: 132–37. [CrossRef]

Brislin, Richard W. 1980. Cross-cultural research methods. In *Environment and Culture*. Edited by Irwin Altman, Amos Rapoport and Joachim F. Wohlwill. Boston: Springer, pp. 47–82. [CrossRef]

Brown, Samantha M., and Audrey M. Shillington. 2017. Childhood adversity and the risk of substance use and delinquency: The role of protective adult relationships. *Child Abuse and Neglect* 63: 211–21. [CrossRef]

Burt, Keith B., and Amy A. Paysnick. 2012. Resilience in the transition to adulthood. *Development and Psychopathology* 24: 493–505. [CrossRef]

Daníelsdóttir, Hilda Björk, Thor Aspelund, Edda Bjork Thordardottir, Katja Fall, Fang Fang, Gunnar Tómasson, Harpa Rúnarsdóttir, Qian Yang, Karmel W. Choi, Beatrice Kennedy, and et al. 2022. Adverse childhood experiences and resilience among adult women: A population-based study. *eLife* 11: e71770. [CrossRef]

Desmond, Chris, Kathryn Watt, Anamika Saha, Jialin Huang, and Chunling Lu. 2020. Prevalence and number of children living in institutional care: Global, regional, and country estimates. *The Lancet Child and Adolescent Health* 4: 370–77. [CrossRef]

Diraditsile, Kabo, and Mbongeni Nyadza. 2018. Life after institutional care: Implications for researchand practice. *Child and Family Social Work* 23: 451–57. [CrossRef]

Ernestus, Stephanie M., and Hazel M. Prelow. 2015. Patterns of risk and resilience in African American and Latino youth. *Journal of Community Psychology* 43: 954–72. [CrossRef]

Felitti, Vincent J., Robert F. Anda, Dale Nordenberg, David F. Williamson, Alison M. Spitz, Valerie Edwards, and James S. Marks. 1998. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine* 14: 245–58. [CrossRef] [PubMed]

Frimpong-Manso, Kwabena. 2018. Building and utilising resilience: The challenges and coping mechanisms of care leavers in Ghana. *Children and Youth Services Review* 87: 52–59. [CrossRef]

Gilligan, Robbie. 2001. Promoting positive outcomes for children in need: The assessment of protective factors. In *The Child's World: Assessing Children in Need*. Edited by Jan Horwath. Delhi: Kingsley Publishers, pp. 180–93.

Hall, Ashleigh, Alberly Perez, Xandria West, Maryilyn Brown, Ella Kim, Zainab Salih, and Stephen Aronoff. 2021. The association of adverse childhood experiences and resilience with health outcomes in adolescents: An observational study. *Global Pediatric Health* 8: 1–8. [CrossRef]

Hardaway, Cecily R., Vonnie C. McLoyd, and Dana Wood. 2012. Exposure to violence and socioemotional adjustment in low-income youth: An examination of protective factors. *American Journal of Community Psychology* 49: 112–26. [CrossRef]

Hayes, Andrew F. 2017. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York: Guilford Publications.

Hodge, David R., and Kasule Kibirige. 2022. Addressing the global inequality in social work research: Challenges, opportunities, and key insights and strategies in sub-Saharan Africa. *Social Work Research* 46: 84–92. [CrossRef]

Howard, Amanda H., Erin Razuri, Rachel Copeland, Casey Call, Marisa Nunez, and David Cross. 2017. The role of attachment classification on disclosure of self and rater-reported adverse childhood experiences in a sample of child welfare professionals. *Children and Youth Services Review* 83: 131–36. [CrossRef]

Howard, Amanda Hiles, Getrude Dadirai Gwenzi, Lindsey Newsom, Belay Gebru, and Nicole Gilbertson Wilke. 2023a. A preliminary investigation of the relationship between sense of belonging while separated from parental care and life satisfaction and resilience in emerging adulthood. *International Journal of Environmental Public Health* 20: 6311. [CrossRef]

Howard, Amanda Hiles, Getrude Dadirai Gwenzi, Trent Taylor, and Nicole Gilbertson Wilke. 2023b. The relationship between adverse childhood experiences, health and life satisfaction in care leavers: The mediating role of attachment. *Child and Family Social Work* 28: 809–21. [CrossRef]

Howard, Amanda Hiles, Megan Roberts, Tony Mitchell, and Nicole Gilbertson Wilke. 2023c. The relationship between spirituality and resilience and wellbeing: A study of 529 care leavers from 11 nations. *Adversity and Resilience Science* 4: 177–90. [CrossRef]

Hughes, Karen, Mark A. Bellis, Katherine A. Hardcastle, Dinesh Sethi, Alexander Butchart, Christopher Mikton, Lisa Jones, and Michael P. Dunne. 2017. The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health* 2: e356–e366. [CrossRef]

Huppert, Felicia A. 2009. Psychological wellbeing: Evidence regarding its causes and consequences. *Applied Psychology: Health and Wellbeing* 1: 137–64. [CrossRef]

Kia-Keating, Maryam, Erin Dowdy, Melissa L. Morgan, and Gil G. Noam. 2011. Protecting and promoting: An integrative conceptual model for healthy development of adolescents. *Journal of Adolescent Health* 48: 220–28. [CrossRef]

Liu, Sabrina R., Maryam Kia-Keating, Karen Nylund-Gibson, and Miya L. Barnett. 2020. Co-occurring youth profiles of adverse childhood experiences and protective factors: Associations with health, resilience, and racial disparities. *American Journal of Community Psychology* 65: 173–86. [CrossRef]

Llosada-Gistau, Joan, Carme Montserrat, and Ferran Casas. 2015. The subjective wellbeing of adolescents in residential care compared to that of the general population. *Children and Youth Services Review* 52: 150–57. [CrossRef]

Logan-Greene, Patricia, Sara Green, Paula S. Nurius, and Dario Longhi. 2014. Distinct contributions of adverse childhood experiences and resilience resources: A cohort analysis of adult physical and mental health. *Social Work in Health Care* 53: 776–97. [CrossRef]

Loman, Michelle M., and Megan R. Gunnar. 2010. Early experience and the development of stress reactivity and regulation in children. *Neuroscience and Biobehavioral Reviews* 34: 867–76. [CrossRef] [PubMed]

Mabille, Geraldine, Jeanette Skoglund, Renee Thørnblad, and Amy Holtan. 2022. Placement stability and satisfaction with foster home as predictors of life satisfaction for young adults raised in foster care. *Child and Family Social Work* 27: 267–77. [CrossRef]

Masten, Ann S. 1994. Resilience in individual development: Successful adaptation despite risk and adversity. In *Educational Resilience in Inner-City America: Challenges and Prospects*. Edited by Margaret C. Wang and Edmund W. Gordon. New York: Routledge, pp. 3–25.

Masten, Ann S. 2004. Regulatory processes, risk, and resilience in adolescent development. *Annals of the New York Academy of Sciences* 1021: 310–19. [CrossRef]

Masten, Ann S. 2014. Global perspectives on resilience in children and youth. *Child Development* 85: 6–20. [CrossRef] [PubMed]

McGuire, Austen, Lindsay Huffhines, and Yo Jackson. 2021. The trajectory of PTSD among youth in foster care: A survival analysis examining maltreatment experiences prior to entry into care. *Child Abuse and Neglect* 115: 105026. [CrossRef] [PubMed]

Melkman, Eran P., and Rami Benbenishty. 2018. Social support networks of care leavers: Mediating between childhood adversity and adult functioning. *Children and Youth Services Review* 86: 176–87. [CrossRef]

Mosley-Johnson, Elise, Emma Garacci, Nick Wagner, Carlos Mendez, Joni S. Williams, and Leonard E. Egede. 2019. Assessing the relationship between adverse childhood experiences and life satisfaction, psychological wellbeing, and social wellbeing: United States Longitudinal Cohort 1995–2014. *Quality of Life Research* 28: 907–14. [CrossRef]

Neville, Sarah Elizabeth, Oladoyin Okunoren, and Thomas M. Crea. 2023. Youth who have lived in alternative care in Nigeria, Zambia, and Zimbabwe: Mental health and violence outcomes in nationally representative data. *JAACAP Open* 1: 141–50. [CrossRef]

Nurius, Paula S., Patricia Logan-Greene, and Sara Green. 2012. Adverse childhood experiences (ACE) within a social disadvantage framework: Distinguishing unique, cumulative, and moderated contributions to adult mental health. *Journal of Prevention and Intervention in the Community* 40: 278–90. [CrossRef]

Palmer, Angela, Michelle Norris, and Joanne Kelleher. 2022. Accelerated adulthood, extended adolescence and the care cliff: Supporting care leavers' transition from care to independent living. *Child and Family Social Work* 27: 748–59. [CrossRef]

Panisch, Lisa S., Catherine A. LaBrenz, Jennifer Lawson, Beth Gerlach, Patrick S. Tennant, Swetha Nulu, and Monica Faulkner. 2020. Relationships between adverse childhood experiences and protective factors among parents at-risk for child maltreatment. *Children and Youth Services Review* 110: 104816. [CrossRef]

Pham, Tien, Haiying Qi, Dingxuan Chen, Huilin Chen, and Fang Fan. 2021. Prevalences of and correlations between childhood trauma and depressive symptoms, anxiety symptoms, and suicidal behavior among institutionalized adolescents in Vietnam. *Child Abuse and Neglect* 115: 105022. [CrossRef]

Poole, Julia C., Keith S. Dobson, and Dennis Pusch. 2017. Childhood adversity and adult depression: The protective role of psychological resilience. *Child Abuse and Neglect* 64: 89–100. [CrossRef]

Pound, Megan, and Wendy Sims-Schouten. 2022. A systematic review of the principles of co-production in relation to the mental health and wellbeing of care leavers. *International Journal of Emotional Education* 14: 3–19. [CrossRef]

Preacher, Kristopher J., and Andrew F Hayes. 2008. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods* 40: 879–91. [CrossRef]

Putnam, Frank W., Lisa Amaya-Jackson, Karen T. Putnam, and Ernestine C. Briggs. 2020. Synergistic adversities and behavioral problems in traumatized children and adolescents. *Child Abuse and Neglect* 106: 104492. [CrossRef]

Refaeli, Tehila, Anat Zeira, and Rami Benbenishty. 2022. Ten years later: Satisfaction with intimate relationships and parenthood of young people aging out of residential care. *Child Abuse and Neglect* 129: 105635. [CrossRef] [PubMed]

Refaeli, Tehila, Rami Benbenishty, and Anat Zeira. 2019. Predictors of life satisfaction among care leavers: A mixed-method longitudinal study. *Children and Youth Services Review* 99: 146–55. [CrossRef]
Roberts, Louise, Sarah Meakings, Donald Forrester, Audra Smith, and Katherine Shelton. 2017. Care leavers and their children placed for adoption. *Children and Youth Services Review* 79: 355–61. [CrossRef]
Roche, Steven, and Catherine Flynn. 2020. Geographical inequity in social work research: A snapshot of research publications from the global South. *International Social Work* 63: 306–22. [CrossRef]
Schaefer, Lauren M, Kathryn H. Howell, Laura E. Schwartz, Jamison S. Bottomley, and Candice B. Crossnine. 2018. A concurrent examination of protective factors associated with resilience and posttraumatic growth following childhood victimization. *Child Abuse and Neglect* 85: 17–27. [CrossRef] [PubMed]
Sekibo, Belema. 2020. Experiences of young people early in the transition from residential care in Lagos State, Nigeria. *Emerging Adulthood* 8: 92–100. [CrossRef]
Simkiss, D. 2019. The needs of looked after children from an adverse childhood experience perspective. *Paediatrics and Child Health* 29: 25–33. [CrossRef]
Smith, Bruce W, Jeanne Dalen, Kathryn Wiggins, Erin Tooley, Paulette Christopher, and Jennifer Bernard. 2008. The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine* 15: 194–200. [CrossRef] [PubMed]
Soleimanpour, Samira, Sara Geierstanger, and Claire D. Brindis. 2017. Adverse childhood experiences and resilience: Addressing the unique needs of adolescents. *Academic Pediatrics* 17: S108–S114. [CrossRef]
Stein, M. 2009. Young people leaving care: Transitions to adulthood. In *Managing Transitions*. Edited by A Petch. Bristol: Policy Press, pp. 25–40. [CrossRef]
Sulimani-Aidan, Yafit. 2017a. Future expectations as a source of resilience among young people leaving care. *British Journal of Social Work* 47: 1111–27. [CrossRef]
Sulimani-Aidan, Yafit. 2017b. To dream the impossible dream: Care leavers' challenges and barriers in pursuing their future expectations and goals. *Children and Youth Services Review* 81: 332–39. [CrossRef]
Sulimani-Aidan, Yafit, and Eran Melkman. 2018. Risk and resilience in the transition to adulthood from the point of view of care leavers and caseworkers. *Children and Youth Services Review* 88: 135–40. [CrossRef]
Tay, Louis, Kenneth Tan, Ed Diener, and Elizabeth Gonzalez. 2013. Social relations, health behaviors, and health outcomes: A survey and synthesis. *Applied Psychology: Health and Wellbeing* 5: 28–78. [CrossRef]
Theron, Linda, and Adrian van Breda. 2021. Multisystemic enablers of sub-Saharan child and youth resilience to maltreatment. *Child Abuse and Neglect* 119: 105083. [CrossRef]
Toivonen, Katri, Pirkko Salokekkilä, Anne Puustelli, and Arja Häggman-Laitila. 2020. Somatic and mental symptoms, medical treatments and service use in aftercare–Document analysis of Finnish care leavers. *Children and Youth Services Review* 114: 105079. [CrossRef]
Turney, Kristin, and Christopher Wildeman. 2017. Adverse childhood experiences among children placed in and adopted from foster care: Evidence from a nationally representative survey. *Child Abuse and Neglect* 64: 117–29. [CrossRef]
van Breda, Adrian D. 2017. A comparison of youth resilience across seven South African sites. *Child and Family Social Work* 22: 226–35. [CrossRef]
van Breda, Adrian D. 2018. Research review: Aging out of residential care in South Africa. *Child and Family Social Work* 23: 513–21. [CrossRef]
van Breda, Adrian D., and Lisa Dickens. 2017. The contribution of resilience to one-year independent living outcomes of care leavers in South Africa. *Children and Youth Services Review* 83: 264–73. [CrossRef]
van IJzendoorn, Marinus, Marian Bakermans-Kranenburg, Robbie Duschinsky, Nathan Fox, Philip Goldman, Megan Gunnar, Dana E. Johnson, Charles A. Nelson, Sophie Reijman, M Skinner, and et al. 2020. Institutionalisation and deinstitutionalisation of children 1: A systematic and integrative review of evidence regarding effects on development. *The Lancet Psychiatry* 7: 703–20. [CrossRef] [PubMed]
Wilke, Nicole G., Amanda Hiles Howard, Sarah Todorov, Justine Bautista, and Jedd Medefind. 2022a. Antecedents to child placement in residential care: A systematic review. *Institutionalised Children Explorations and Beyond* 9: 188–201. [CrossRef]
Wilke, Nicole Gilbertson, Megan Roberts, Ian Forber-Pratt, Grace Njeri, and Amanda Hiles Howard. 2022b. Recommendations for child welfare care reform in the global south: Perspectives of 542 adults who were separated from parental care during childhood in 12 nations. *Children and Society* 37: 925–42. [CrossRef]
Wilke, Nicole, Amanda Hiles Howard, Meredith Morgan, and Martha Hardin. 2020. Adverse childhood experiences and problematic media use: The roles of attachment and impulsivity. *Vulnerable Children and Youth Studies* 15: 1–12. [CrossRef]
Wu, Gang, Adriana Feder, Hagit Cohen, Joanna J. Kim, Solara Calderon, Dennis S. Charney, and Aleksander A. Mathé. 2013. Understanding resilience. *Frontiers in Behavioral Neuroscience* 7: 10. [CrossRef]

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.