



Systematic Review

A Systematic Literature Review of the Contribution Accumulation Makes to Psychological and Physical Trauma Sustained through Childhood Maltreatment

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Abstract: The pervasive effects of cumulative harm resulting from adverse childhood experiences influence all aspects of an individual's life course. Research highlights a relationship between accumulation and trauma symptomatology across all domains of harm and risk. A systematic literature review was conducted to explore and synthesize the current evidence base for the contribution accumulation makes to psychological and physical injury of childhood trauma. A search was conducted relevant to two areas of interest: (a) "cumulative harm" or "cumulative trauma" and (b) "consequences and outcomes". Database searches and further manual searches yielded a total of 1199 articles, and 12 studies satisfied all the inclusion criteria. Only studies that were peer-reviewed and published between January 2011 and January 2022 were included. The evidence from the review indicated that multiplicity and polyvictimization, parental history and intergenerational transmission of trauma, systemic cumulative harm, and developmental lifespan outcomes were associated with the likelihood and impact of the accumulation of physical and psychological injury. The findings of this review contribute valuable knowledge to allow for a better understanding of the physical and psychological impact of accumulated and chronic childhood trauma. This knowledge will improve intervention, prevention, and management strategies for helping professionals working with traumatized or vulnerable children and adults.

Keywords: accumulation; cumulative trauma; cumulative harm; traumatic injury; psychological injury



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1. Introduction

The present research explores the contribution accumulation makes to the physical and psychological impacts of trauma across the life course.

"The prevalence of adverse childhood experiences (ACEs) was found to be so common . . . and their powerful, dose-related relationship to various damaging outcomes so strong, that one can only wonder why the relationship of life experiences in the developmental years to adult functionality, disease, and life span was not recognized long ago". [1]

More than twenty years of extensive international research have shown a strong predictive relationship between the cumulative effects of negative life events during childhood (i.e., the number of ACEs a person is exposed to as a child) and the probability of poor physical, emotional, mental, and social health outcomes across the lifespan [2,3]. The research draws convincing conclusions regarding the relationship between maltreatment experiences in childhood and poor mental health in adulthood [4,5], increased risk of physical health problems [6–9], substance misuse in adulthood [10–12], and violence and criminal behaviour [10,13].

The Adverse Childhood Experiences Study [4] is seminal, and one of the largest investigations of childhood abuse and neglect, other forms of adversity during childhood, and their relationship to later life health and wellbeing. The study discovered a direct link

between childhood trauma and adult onset of chronic disease, mental illness, as well as poor social outcomes, such as incarceration, unemployment, and substance misuse. The study also identified that 87% of maltreated individuals had experienced two or more types of adverse childhood experiences, highlighting that adverse childhood experiences (ACEs) rarely occur in isolation [2]. The conclusion drawn by Felitti and colleagues [2,4] was that a dose-like relationship exists, whereby the more ACEs a child experiences, the higher the risk of physical and mental illness and social issues experienced as an adult. These adverse outcomes are often exacerbated by the impact of revictimization across the life course and transform an experience of harm into a protracted condition of cumulative trauma.

Empirical research supports the notion that an accumulation of trauma, both in terms of risk and harm, is far more predictive and far more valuable in informing therapeutic practice than viewing these adversities and traumas in isolation [14–16]. Cumulative risk is well accounted for in the literature relating to childhood maltreatment and trauma and assumes that the accumulation of risk factors, rather than a single particular risk factor, has higher predictive power for negative outcomes across the lifespan [14,15,17]. Similarly, when considering the reciprocal relationship of risk and harm, cumulative harm is a label that has been attributed to:

“... the effects of patterns of circumstances and events in a child’s life which diminish the child’s sense of safety, stability, and wellbeing. Cumulative harm is the existence of compounded experiences of multiple episodes of abuse or ‘layers’ of neglect”. [18]

The accumulation of traumatic experiences and their deleterious outcomes are referred to in a variety of ways in the literature. Cumulative harm is largely an Australian term, with international research using the more generic terminology of complex trauma, to encapsulate the lifespan implications of the accumulation of childhood adversity. However, the terms cumulative harm, cumulative abuse, cumulative trauma, or cumulative risk have been utilized in some research in the United States. In a seminal study conducted in the mid-1990s by Follette and Colleagues [19] in fact referred to cumulative trauma in their exploration of trauma symptomology associated with both childhood and adult sexual and physical abuse. They hypothesized that “multiple trauma experiences would lead to increased trauma symptoms and, as the number of different types of traumatic experiences increased, subjects would demonstrate a cumulative impact of trauma” [19]. Comparatively, McNutt, et al. [20] investigated the relationship between cumulative abuse experiences, physical health, and health behaviour, concluding that both repeat victimization in childhood and revictimization in adulthood influenced health in adulthood. Cumulative harm and complex trauma are conceptually distinct. Cumulative harm focuses on the ongoing and repeated trauma and negative outcomes experienced by children and individuals who have endured childhood maltreatment. However, complex trauma is the model used to conceptualize the complexity of traumatic outcomes for survivors of victimization across the lifespan. A majority of individuals who experience complex trauma have endured cumulative harm; however, not all those who have experienced cumulative harm will develop complex trauma. According to Hodges et al. [21] the tendency for children or adults to have experienced multiple, repeated, and diverse traumas across their life course is referred to as cumulative trauma in the psychological literature, operationalized as the total number of different types of interpersonal trauma experienced by a given individual [19,22–24]. Thus, “cumulative trauma” or “cumulative harm” were both used as search terms to set specific parameters around the study.

Cumulative harm or trauma as a result of chronic childhood maltreatment can manifest in a range of ways, through multi-type maltreatment [25], polyvictimization [26] and revictimization across the lifespan [27,28]. Multi-type maltreatment has been proposed as a theoretical framework for understanding the interrelatedness of the five abuse types, emotional, physical, sexual, neglect, and witnessing domestic and family violence. In contrast, polyvictimization focuses on traumatization in the broader sense, taking into account other forms of victimization, including but not limited to bullying, neighbour-

hood conflict, and crime, which might co-occur in childhood [29]. Revictimization is also a broader model, exploring the same adversities as polyvictimization, although from a ‘whole of lifespan’ perspective [30].

In many cases, different types of childhood traumas and adversities co-occur within the same period of time, such as physical abuse and witnessing domestic and family violence [31–33], child physical abuse and psychological maltreatment [34], and sexual and physical abuse [33,35]. Additionally, children who have experienced maltreatment or other victimizations (such as property crime, bullying, or community violence) are at an increased risk of continued victimization from others across their life course [27]. As noted by Cloitre et al. [24], the interpersonal violence research suggests that an accumulation of numerous types of trauma exposures per individual appears to be a robust predictor of negative psychosocial outcomes. This highlights the particularly injurious nature of experiencing multiple forms of traumas, adversities, and interpersonal victimization.

This article reports the findings of a systematic literature review (SLR) synthesizing the existing research over the past decade and interrogating the contribution of accumulation to psychological and physical trauma, which can begin in childhood and extend across the life course. The article examines the literature on cumulative trauma and draws on the theoretical frameworks underpinning the notion of accumulation. Therefore, the research question posed for the present study is: how does accumulation contribute to the psychological and physical impact of childhood trauma across the lifespan? The overarching aim of this present study is to synthesize the existing evidence on the relationship between an accumulation of traumatic experiences and psychological and physical outcomes and to inform further research into cumulative harm and trauma care.

2. Method

2.1. Search Strategy

Using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines as defined by Moher et al. [36] a systematic search of published literature was commenced in January 2022, using databases: EBSCOHost Megafire Ultimate, PsychArticles, Sage, Taylor and Francis, and Science Direct. A research question was formulated using the PICO model, explained as population or patient groups studied, intervention, comparison or control, and outcome [37]. This resulted in a question that contained the following elements: individuals who have experienced childhood trauma (population), accumulation (intervention), physical and psychological trauma (outcome). The research question guided the development of the search protocol that was implemented to search databases; however, due to limited results located in the scoping searches, the search terms were further developed using Boolean searches combining two key areas of interest (a) “cumulative trauma” or “cumulative harm” and (b) “outcomes” and “consequences”. Only empirical studies that were peer-reviewed, in English, full text accessible, and published between January 2011 and January 2022 were included. Database searches resulted in 1080 studies, with 434 articles remaining after duplicates were removed. After the database searches were complete, duplicates removed, and remaining studies screened for relevance to the research question, the reference lists of the relevant hits were inspected for additional studies. The results of the manual reference list searches were then screened for relevance and duplicates removed. Additional manual search methods included reference list mining of the relevant hits from the database searches. The manual searches of the selected domains were conducted and resulted in an additional 19 studies; 5 remained after duplicates were removed when cross-referenced with the database searches. 760 duplicates were removed in total from the total 1199 articles from database and manual searches, leaving 439 records to be screened. Only studies that were peer-reviewed and published between January 2011 and January 2022 were included.

2.2. Study Selection

The selection of studies involved Cohen's [38] method of Preview, Question, Read and Summarise (PQRS) [39]. The preview stage was employed to screen article titles and abstracts and to categorize the studies as qualitative, quantitative, or mixed methods. It was determined that the review would include only empirical studies as the purpose of the review was to establish the evidence base regarding the contribution of accumulation to traumatic psychological and physical injury. During the "question" and "read" stage, studies were appraised against the inclusion/exclusion criteria. Studies that met the inclusion criteria of an investigation into all three elements of the research question (i.e., childhood trauma, career choice, and helping professions), full-text articles, and studies published in English were included for appraisal.

Additionally, journal titles for all eligible studies were entered into Ulrichsweb, an authoritative source of bibliographic and publisher information for all types of academic and scholarly journals, to ensure all selected studies were peer-reviewed. Studies removed were duplicates, not empirical or peer-reviewed, not fully accessible, and studies that did not unequivocally focus on the core elements of the research question (cumulative harm or trauma, and outcomes or consequences). The search, exclusion, and inclusion processes are depicted in Figure 1 as a PRISMA flow chart. To aid the summary step, a tabulated synthesis matrix tool was generated and included studies indexed; the matrix is presented in Appendix A [39]. The synthesis matrix tool provided a table for organizing and summarizing the data as they were extracted from each study, including the quality of resources, participants, aims, methodology, limitations, results, and conclusions.

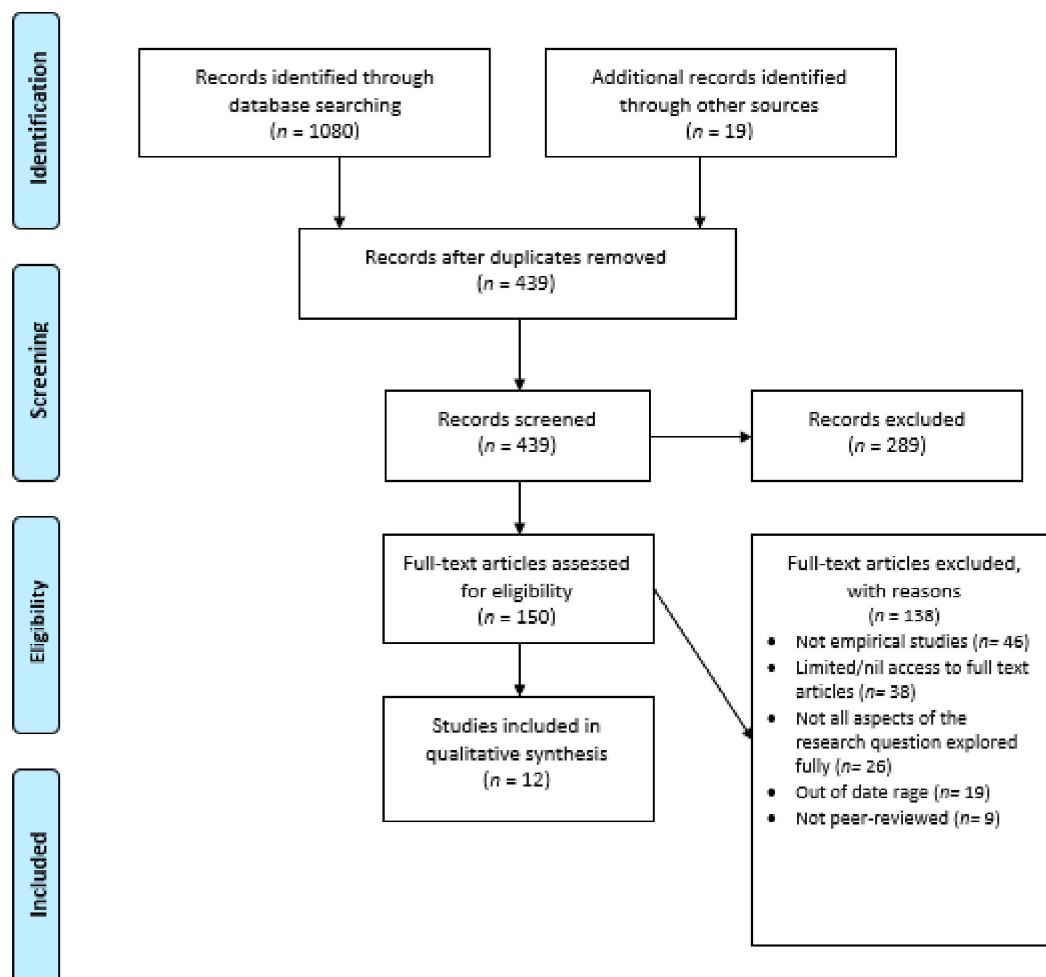


Figure 1. PRISMA flow chart.

2.3. Quality Assessment

Twelve studies met the exclusion/inclusion criteria and were categorized according to their qualitative or quantitative methodology. The qualitative studies ($n = 6$) were assessed and ranked against the Critical Appraisal Skills Programme (CASP) criteria [40], analysing each study against the following areas: aims, methodology, design, sampling, data collection, ethical considerations, analysis, findings, and value. Quantitative studies ($n = 6$) were assessed and ranked using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) evaluation tool [41] to adequately appraise cross-sectional studies. The following criteria were assessed: abstract, introduction, methods (including study design, study size, participants, quantitative variables, attempts to resolve bias, data sources, and measurement), results (including data description, key results, limitations, interpretations), participants clearly defined, summary and outcome measures clear, bias/generalizability addressed [41].

Each quantitative study was ranked low, moderate, or high according to the STROBE tool. The bias/generalizability of each quantitative study was considered low due to the presence of convenience bias as each study drew on purposive sampling to inform the population group under review, common to academic research [37]. Despite the bias, quantitative studies were relevant to the research question and provided valuable insight into the contribution of accumulation to injurious traumatic experiences. No studies were eliminated based on the quality appraisal of each of the quantitative, qualitative, and mixed-method studies; however, limitations were noted where necessary. The single mixed-methods study was assessed using both STROBE and CASP. The final number of studies included in this systematic review consisted of 12 studies,

2.4. Triangulation

Systematic reviews rely upon an objective, transparent, and rigorous approach to minimize bias and ensure future replicability [42]. Triangulation is primarily used to describe the process of comparing concurrently collected findings [43]. To ensure greater reliability, a second researcher replicated the aforementioned search strategy and quality assessment processes. The second researcher achieved identical findings.

2.5. Data Synthesis and Emerging Themes

Following the quality assessment, the 12 studies were analysed using the synthesis matrix tool [37]. A descriptive evaluation was undertaken to assess, summarize, and organize the studies and identify the preliminary themes that emerged. A narrative synthesis was established as the most appropriate method of analysis [37].

The study design comprised a systematic review of qualitative, quantitative, and mixed-method studies. The reason for including all three approaches was due to the articles being predominantly cross-sectional, with both qualitative and quantitative methods being deemed appropriate to inform the research question. A meta-analysis/meta-synthesis was not feasible due to heterogeneity across the qualitative and quantitative studies [27,39]. Subsequently, a thematic synthesis was determined as the most appropriate method for analysis [37]. Thematic analysis is a “method for identifying, analyzing, and reporting patterns (themes) within data” [44]. Methodologically, thematic analysis involves searching the data to find repeated patterns, undergoing a progression of deconstruction and synthesis, so that “tangible data can be analytically interpreted [45]. The six stages of thematic analysis were employed and described as familiarizing oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing a report [44]. A multiphase top-down thematic analysis was applied in response to the research question; the first-order descriptive themes were identified and synthesized under the results (themes) heading of the synthesis matrix tool used to extract the data [37,44]. This formed the total data sample of the review.

During the next stage of the thematic analysis, second-order themes were developed after a process of reformulating first-order themes [44,46]. Finally, third-order themes were generated based on a synthesis of second-order themes and involved analysing the relationship of the themes to each other and the research question [44,46]. This process resulted in the following core themes: multiplicity and polyvictimization, intergenerational transmission of trauma, systemic cumulative harm, comorbidity, and lifespan outcomes. The breakdown of the coding process is presented in Appendix B.

3. Results

This SLR discerned the key contributions accumulation makes to psychological and physical injury of childhood trauma across the lifespan. The findings identified four contributions: multiplicity and polyvictimization in childhood, intergenerational transmission of trauma, systemic cumulative harm, and developmental lifespan outcomes.

3.1. Multiplicity and Polyvictimization in Childhood

Multiplicity refers to the number of times that a child or young person may encounter an adverse experience. A common theme woven throughout all twelve studies in this literature review was the impact of multiplicity and polyvictimization throughout childhood and the likelihood of those individuals then experiencing the impingement of revictimization in their adult years. Stewart et al. [47] discussed that children who experience high volumes of maltreatment are more likely to develop significant psychopathology as they follow their developmental trajectory. In line with cumulative risk theory, Stewart et al. [47] found that children who are exposed to multiple types of maltreatment and significant volumes of adversity tend to demonstrate greater levels of trauma symptomatology. The impact of revictimization on those individuals who have suffered a multiplicity of adversity and polyvictimization has been demonstrated through longitudinal research and is discussed by Ford and Delker [48]. They revealed that adults who have significantly higher rates of mental illness have often experienced a greater number of maltreatment occurrences as children. This is further supported by Stewart et al. [47], who discussed that, the earlier a child experiences adversity, the greater the predictability of anxiety and depressive symptoms in adulthood. The polyvictimization prevalence rate, whereby multiple types of maltreatment were experienced, was 29% according to Stewart et al. [47]. Papalia et al. [49] discussed the commonality of young people who identify as polyvictims showing significantly higher rates of psychological injury and greater degrees of emotional and behavioural symptoms than similarly aged peers who had not experienced multiplicity and were not polyvictims. Further to this, young people who have experienced high levels of physical and emotional abuse have shown high scores in impulsivity and lower coping mechanisms, as well as higher rates of self-harm and suicidal ideation [48]. Menger Leeman [50] identified cumulative effects as being related to the co-occurrence of multiple maltreatment types and other adverse experiences, along with the adversity being experienced on multiple occasions. Experiences of multiplicity and the associated increased likelihood of revictimization in adulthood were explored further by Menger Leeman [50] when discussing outcomes related to subgroups reporting adverse experiences of witnessing domestic, family, and community violence, along with being immersed in families with career drug problems and the likely possibility of psychological injury as a consequence of these experiences. Menger Leeman [50] acknowledged the value of considering these contexts when exploring outcomes and assessing interventions.

Childhood maltreatment experiences, in particular polyvictimization, have been associated with an increased probability of revictimization in their adult years. Stewart et al. [47] compared children with no experiences of maltreatment with children and young people who had experienced adversity in the form of abuse and neglect and found that those with prior victimizations were six times more likely to experience recurrent abuse. Stewart et al. [47] further identified that revictimization in the form of suicidality was twice as likely among children and young people who had experienced polyvictimization, further

supporting the concept that cumulative relationships exist when individuals experience multiple types of maltreatment. Cumulative risk in relation to the harming of oneself or others may be present when children and young people have been polyvictims, further supporting the view that accumulated adversity may contribute heavily to the possibility of clinical mental health levels [51]

Farnfield and Onions [52] discussed the “toxic trio” effect of parental substance misuse, mental illness, and domestic violence as causing a cumulative impact on the offspring in the home. This accumulation of harm through maltreatment experiences has assisted in the psychiatric diagnosis of prioritizing the impact of the maltreatment experiences on the child victim [52]. and acknowledging the overlap between trauma experiences and comorbidity with mental illness.

The operationalization of polyvictimization and revictimization has been an increasing body of work over the past few decades. It has been determined that a dose–response relationship exists between the accumulation of physical harm and psychological injury and the cumulative impact of revictimization [48]. These experiences of polyvictimization recurrent across critical developmental periods place these children and young people at a high risk of revictimization caused by the contribution of accumulated harm [48].

3.2. Intergenerational Transmission of Trauma

This SLR located two studies that discussed the intergenerational transmission of harm and parental risk. Due to the patrimonial effects of early life trauma, it is well discussed in the literature that parents with their own history of adversity caused by maltreatment face potential obstacles and challenges in their attachment and connection with their own children [52]. Intergenerational transmission of harm converges across the areas of attachment, parenting, behaviour and emotional regulation, psychosocial risk, and maltreatment [50]. The terms intergenerational transmission and intergenerational continuity are frequently used interchangeably in the literature. For the benefits of this paper, intergenerational transmission refers to the direct role of the parent in perpetrating abuse, neglect, or maltreatment of the child [53] and intergenerational continuity refers to the outcome or experience found in both generations and implies child maltreatment related to ecological risks [50].

It has been discussed by Menger Leeman [50] that children who experience maltreatment will have parents with similar developmental trauma histories. Several studies have reported the this intergenerational transmission of maltreatment as most widely reported for childhood physical abuse [50]. This is further evidenced by Toohey [53] who identified direct correlations between parental histories of physical maltreatment and parental risk of perpetrating physical abuse against their child. Menger Leeman [50] discussed direct associations between mothers who had endured physical childhood abuse and then physically abused their infant children. It is apparent in the literature that the mental health outcomes of parents who have experienced physical abuse and then perpetrate physical maltreatment against their own child are aligned with the cumulative risk theory, whereby multiple types of maltreatment accumulate incrementally, resulting in higher dosages of harm that cause negative mental health outcomes across adulthood.

Risk factors identified by Menger Leeman [50] including parents under the age of 21 years, parental mental illness, and domestic and family violence, each separately and in combination, mediate the relationship between historical parental maltreatment as a child and child maltreatment towards their own child. These risk factors have been reinforced by Toohey [53] who discussed risk factors for vulnerable populations within our communities and the intergenerational nature of consequences, such as children of multiple being placed into statutory care and experiencing social exclusion both within the family context and within institutions, such as schools, justice systems, and sporting groups. Intergenerational disadvantage is another aspect Toohey [53] explored and focused on in terms of intergenerational unemployment, welfare dependency, poverty, incarceration, substance dependency, and mental illness. The accumulated adversity these families endure

across generations is apparent within many families that are entrenched within the social services sectors in our communities.

3.3. Systemic Cumulative Harm

Environmental and systemic contributors to harm are a consistent theme that is evident throughout the literature explored in this SLR. Three studies highlighted the role of systematic cumulative harm for children and young people who have suffered from abuse and neglect. Robinson [51] discussed the direct correlation between children and young people being part of the out-of-home care sector, homelessness, and the youth justice system and the gaps in service delivery compounding the experiences of this vulnerable cohort. These individuals who tend to become involved in these three sectors do so due to their high levels of vulnerability caused by exposure to maltreatment risk and harm and accumulated adversities often from a young age [51]. Exposure to early developmental trauma results in accumulated trauma within the family context and is compounded through subsequent disengagement from education, misuse of alcohol and drugs, declining mental health status, and unstable care placements and further estrangement from their family networks. This cumulative trauma theory is further supported by the dosage rates of compounding adversity in each trauma domain and enhances the likelihood of suicidality and self-harming behaviours [49]. According to Papalia et al. [49] children and young people who have experienced high levels of physical and emotional abuse tend to score highly on impulsivity and have lower rates of coping mechanisms, resulting in higher rates of self-harm and suicidal ideation. These impacts further complicate their cumulative trauma, in particular as they become older and behaviours more severe and frequent.

Children and young people who are polyvictims have been found to experience serious mental illness and high levels of regulatory needs, increased severity of internalizing and externalizing symptoms, substance abuse, self-harm and suicidal behaviour, and early-onset violence. However, as discussed by Ubbesen et al. [54], there is inconclusive evidence to suggest that the statutory care sector changes the trajectory for these at-risk children. In some studies, these highly vulnerable children and young people are referred to as “cross-over-youth” as, often, they are dual or multiple system clients who are regularly entering and exiting statutory systems and youth and housing sectors [51].

Ubbesen et al. [54] argued the age a child is placed into the statutory care system is significant as many children are removed from their parents due to the maltreatment they have endured and the lack of parental resources and capacity to keep the child safe from future harm, whereas adolescents are typically placed into care because of problems related to the individual. An important point to address here is the role accumulation plays in preceding harm that has evolved over time due to a number of types of adversity and maltreatment occurring multiple times. Ubbesen et al. [54] refer to cumulative incidences being a significant factor in this vulnerable cohort entering care and other statutory systems.

In the study conducted by Robinson [51] many of the children and young people who were interviewed disclosed that physical abuse was a common form of maltreatment, as were many other forms of abuse, including psychological harm caused by abandonment. Many of the participants’ parents were preoccupied with their own complex needs and unable to keep the participants in the study safe. These children and youth were all polyvictims, had families who were entrenched in adversity across previous generations, and had all been deemed “cross-over-youth”. These children and young people spoke of how the adversity continued to compound and this accumulation of harm resulted in comorbid mental health diagnosis and significant physical injury, often as a result of high-level risk-taking behaviours, disabilities, or neglected medical conditions [51]. An alternative view of services that are designed to support healing, diversion, rehabilitation, and early intervention is that they can unintentionally contribute to clients becoming further entrenched in abuse and neglect concerns due to differences between service mandates and paradigms [55]. This is evident from findings from studies in the human services sector between statutory care, justice, homelessness, and domestic violence services. Key factors in the differences

between statutory or tertiary sectors and other supporting services are the voluntary status of the clients and the philosophical frameworks on which the service is based. Services in the human services sector are focused on the safety, wellbeing, and protection of clients; however, when a conflict between the principles of protection and safety of children and young people exists, barriers to collaboration and service provision can result, and this can have a detrimental impact on the support provided, enabling opportunities for a piecemeal approach to support and inadvertently providing opportunities for further abuse and harm to occur [55].

3.4. Developmental Lifespan Outcomes

The mapping of the life histories of children and young people informs an understanding of the critical developmental landscape of vulnerability and accumulating adversity that can provide insights into future lifespan outcomes. In this SLR, five studies discussed the developmental lifespan outcomes that occur as a result of accumulated harm experiences caused by maltreatment and associated adversity. Comorbid mental health diagnoses that result in psychological injury caused by an accumulation of adverse childhood experiences result in many children and young people struggling to realize basic human rights related to education, safety, care, and shelter. These highly vulnerable children and young people can experience the “double suffering” phenomenon, as discussed by Robinson [51] which incorporates experiences of abandonment and betrayal within familial contexts and by the systems of care, protection, and safety within our communities. Vulnerable children often become victims of retraumatizing circumstances throughout their adult years following developmental trauma [50].

Throughout the literature, there is a significant discussion relating to the high rates of children and young people who have experienced childhood maltreatment, with 50–70% of this vulnerable cohort being polyvictims of abuse and neglect [56]. Many of these young people who reside in residential care facilities experience a range of psychiatric conditions, with high rates of comorbidity [56]. Many of these young people exit statutory care with ongoing mental illness that compounds their trauma domains and provides a trajectory of deleterious lifespan outcomes.

The lifespan outcomes for vulnerable cohorts with significant rates of maltreatment as children are often associated with high levels of psychological injury, higher rates of susceptibility to coercion, and poor adaptive skills and experiences of incarceration in their adult years, further compounding their vulnerabilities [48]. Toohey [53] discusses social exclusion, both in and out of the statutory institutional context, as a result of poor social and emotional skills, cognitive disability, and a lack of capacity to utilize adaptive processing skills to prevent further marginalization and reduce the risk factors. An accumulation of adversity, including developmental trauma, experiences in the statutory care system, abandonment and betrayal by familial members, juvenile detention, homelessness, domestic, family, and community violence, substance abuse, and disengagement from education systems, is compounded by prison and juvenile justice detention environments that reinforce further loss of control through intuitional protocols [51,53]. The contribution of accumulation in vulnerable populations is discussed by Toohey [53] as resulting in poor physical, emotional, social, and psychological outcomes throughout their adult years.

4. Discussion

The review revealed four themes that demonstrate the contribution accumulation makes to physical and psychological trauma, multiplicity, and polyvictimization in childhood and revictimization into adulthood, developmental lifespan implications, intergenerational transmission of trauma, and systematic cumulative harm. From these themes, we can explicate the direct impact the accumulation of childhood trauma has on an individual across the lifespan.

4.1. Multiplicity, Polyvictimization, Revictimization

This review highlighted the overarching contribution that accumulation makes to physical and psychological harm through the specific impact of cumulative harm and risk on increasing vulnerability to ongoing victimization and maltreatment. In order to adequately communicate the interconnectedness of maltreatment experiences in childhood, Australian researchers Higgins and McCabe [25,57] introduced the term multi-type maltreatment. Higgins and McCabe [58] conducted a systematic review of existing studies that explored more than one type of child abuse or neglect and discovered two key findings: (1) a large percentage of adults who had experienced childhood maltreatment were subject to more than one type; and (2) those who reported multiple abuse subtypes had significantly poorer outcomes than those experiencing one or no abuse types [58]. Polyvictimization is generally closely associated with multiplicity, and these were recurring themes throughout the twelve papers that were the focus of this SLR. Finkelhor et al. [59] proposed that, for many children, “victimization is more of a condition than an event” (p. 9). They argued:

“... persistence is a pathway in which child maltreatment, domestic violence, family conflict, and disruption propel children into an intensively and generalized victimized condition that in turn generates general anger/aggression, which, by fueling and sustaining defiant, challenging, rule-violating behavior, tends to lock them into an even more persistent victimized condition”. [60]

The largest polyvictimization studies found that almost a quarter of children in the United States experienced polyvictimization in a 12-month period [26,59].

Beyond the accumulation of adversities in childhood, the present review highlighted the way in which cumulative harm and risk in childhood perpetuate the vulnerability to victimization well into adulthood. Finkelhor et al. [59] explored this cohort more closely and concluded that those children who had experienced four or more victimizations in one year were at a high risk of revictimization. Olomi et al. [30] discussed how the accumulation of maltreatment results in revictimization and is impacted by a diverse range of mediating factors, including trauma characteristics of prior abuse experiences, age, and relationships to the perpetrator, and other intrapersonal factors, including the child’s cognitive understanding of the adverse experiences, capacity to emotionally regulate, executive functioning capabilities, psychopathology, and physical health. To address a dearth of integrated models for understanding revictimization, Olomi and colleagues [30] proposed a dynamic developmental model. Their model prioritized the incorporation of development as an essential component in understanding the cumulative and developmental impact of repeated traumatic experiences on life [30]. According to Olomi and colleagues [30] this model asserts that women who have been repeatedly sexually revictimized following childhood sexual abuse are likely to experience developmentally appropriate symptoms that evolve over time in an iterative manner, which increases the risk for revictimization. They posit that these symptoms interact with others continuously and logically but that, over time, these increased risk as opposed to reducing it.

This revictimization experience may unfold as follows: a child who has experienced chronic and cumulative sexual abuse or exposure to ongoing domestic violence in the familial context presents with a range of trauma symptoms throughout childhood; these symptoms may be erroneously labelled as the child being ‘difficult’ or ‘bad’ or misdiagnosed as a disability rather than traumatic symptomology. These symptoms, therefore, go untreated in childhood and continue to evolve to translate into risky behaviours, misplaced trust, and a reduced ability to establish boundaries [30]. As the child emerges into adulthood, the adult woman has experienced multiple relationships characterized by violence and struggles to access support and services due to her internal distress and its impact on her ability to complete the tasks and obligations required to engage in these services. Struggling from the secondary consequences of her symptoms and growing more isolated, the woman’s risk for repeated victimization, and, ultimately, homicide, continues to increase.

The likelihood of revictimization is affected by the timing of the childhood experiences of abuse and how “sleeper effects” [61] can be enacted, where experiences are deemed less severe, causing symptoms of the trauma experiences to manifest later in the adult years. This accumulation of adversity impacts the physical health and psychological outcomes when revictimization continues to occur.

4.2. Lifespan Developmental Implications

The successful and healthy development of a child relies predominantly on the provision of basic needs in an orderly and sequential manner [18]. Failure to do so may, and often does, compromise the socio-emotional, cognitive, and physical development of the child and impair their life potential [4,18]. Development is an enduring and dynamic process and is greatly influenced by the experiences that take place throughout our lifespan, the impact of which can be empowering and propelling, or pervasive and debilitating. Just as trauma is cumulative, so too is development as we build our capacity to achieve each milestone towards adulthood.

The findings of the review emphasize that it is through high levels of vulnerability that are initiated when the child begins to experience adversity in their early years, coupled with the biological and psychosocial impacts this has on the development, that predict and shape their adaptive responses to ensure survival. Often, many of the responses to compounding adversity are cumulative in nature, and this perpetuates maladaptive responses in schooling, home, and community contexts.

There has been a significant influx in the last two decades of research that examines trauma and interpersonal violence through a developmental and ecological lens [62]. Development is a dynamic process through which interactions in the micro (e.g., biological) and macro (e.g., social) environments continuously influence outcomes [63]. According to Olomi et al. [30], trauma sequelae may disrupt typical development at various levels of an individual’s eco-system (e.g., inter- and intra-personal, systemic, cultural), how seemingly harmful reactions to trauma (e.g., dissociation, substance use) may have adaptive functions, and how reactions might take different forms across the lifespan (e.g., emotion dysregulation may have different phenotypic presentations depending on the developmental stage). Additionally, a developmental perspective acknowledges that trauma might have different effects on an individual depending on when it occurs during the lifespan [30].

Developmental victimology has been proposed as a “study of the diverse victimizations of children, including crime, child abuse, and other types of violence, across the various stages of development” [64]. Finkelhor [27] proposed a model for conceptualizing developmental victimology—the Developmental Dimensions Model of Victimization Impact. This model argues that developmental differences can affect four distinct dimensions of victimization impact: understanding of the victimization and its implications, disruptions to achieving developmental tasks, coping strategies, and environmental buffers located in their social and familial networks [64].

A large body of research on child welfare and development conclusively demonstrates that chronic child maltreatment in the early years can have a profoundly detrimental impact on children’s overall long-term wellbeing, the effects of which are costly to the individual, their community, and the economy [65]. When cumulative harm occurs during critical periods of brain development in the first five years of life, it interrupts healthy development and can lead to potentially lifelong, permanent, and irreversible impairments in learning, behaviour, and physical and mental health. Cumulative harm negatively affects the attachment process between parent and child. Trauma is particularly devastating when experienced at the hands of an attachment figure as it forms a “dual liability” by creating extreme distress and undermining the development of the biological, emotional, and behavioural capacities that regulate that distress [66]. The most devastating impacts exist in worryingly frequent cases, whereby a child experiences both neglect and abuse [67]. In such cases, the interpersonal trauma, inflicted by someone with attachment to the child, may indeed override any genetic, constitutional, social, or psychological resilience [68].

Children who are denied relationships with an attentive and nurturing primary caregiver are likely to have abnormal developmental processes and altered brain function, severely impairing the child's socio-emotional development, including self-perception, emotional regulation, and social problem-solving [65].

Poor lifespan outcomes associated with past histories of child maltreatment often share an interrelatedness. The findings of this review corroborated previous ACEs research, which assessed cumulative childhood stress and later life adjustment and revealed powerful relationships between childhood adversities and poor adult health and wellbeing. The ACE study and subsequent research found that, as the number of ACEs increased, so too did the risk of a vast number of health and behavioural outcomes, including chronic disease, health risk behaviours, mental health, sexual behaviours, revictimization and perpetration, and other social issues [4,7–9,11,12,69–81].

4.3. Intergeneration Transmission and Continuity of Trauma—Perpetuating the Cycle

The review highlighted the role of intergenerational transmission and continuity of trauma in terms of contributing to psychological and physical injury. Intergenerational continuity research refers to a parent's own life experiences being expressed through their parenting behaviours [82]. Although it is not a foregone conclusion that children who experience abuse will perpetuate that abuse against their own offspring, there is a body of evidence that suggests those who are maltreated as children are at a more increased risk of intergenerational abuse than their non-maltreated peers [83–85]. According to Pears and Capaldi [85], parents who had experienced physical abuse in childhood were significantly more likely to engage in abusive behaviours toward their own children. This concept of modelling and transmission of abuse behaviours from parent to child to parent is reflected in the review by Oliver [86], who concluded one third of abused and neglected children repeat these abusive patterns in their own parenting. Boursnell [87] discovered, through her study of intergenerational transmission of mental illness, that a significant number of parents (participants) believed their parenting was impacted by their own parent's mental ill-health and their experiences of violence, abuse, and neglect in childhood.

For children living with a parent who continues to struggle with the impacts of their own developmental trauma, the compounding presence of multiple, complex, and interacting risk factors with minimal to no protective factors in the caregiving context or the attachment relationship, the safety and protection of the child is undermined. Increased risks for social, emotional, and health problems are transferred from parent to child, and this can have a critical impact on early development and on later functioning, adaptation, and resilience [88,89]. To further account for this relationship dynamic, Dixon et al. [90] studied the impact of the parental characteristics of parents, both with and without a childhood history of child maltreatment. Their findings highlighted poor standards of caregiving and attachment behaviours, negative parental attributes, and unrealistic expectations of their children, and this then mediated the intergenerational cycle of maltreatment. In line with Sidebotham et al. [91] and the proposed toxic trio analogy, the findings of these two studies reported that the three risks and the caregiving behaviours accounted for 62% of the impact on the intergenerational effect [90]. This has significant implications for interventions in the future. The theme of intergenerational transmission of abuse and neglect is evident through specific parental characteristics or behaviours, according to Serbin and Karp [92] as they found: “these will increase the probability that similar or related problems will occur in the next generation”.

4.4. Exposure to Systems That Perpetuate Adversity

The findings of the review reveal the mechanisms by which exposure to institutions and systems that are intended to support those suffering from the physical and psychological injury of childhood trauma may in fact perpetuate the accumulation of adversity. Accumulation of adverse experiences results in many children and young people who have experienced maltreatment quickly becoming polyvictims who will experience serious

mental health and behavioural disturbances that can often result in high-risk behaviours, causing physical injury and augmented trauma-related psychological harm [49]. Many of these children and young people experience movement into the statutory care system, juvenile justice, and youth accommodation services, where institutionalized processes attempt to ameliorate the circumstances of the young person. However, often through the structured nature of such institutions, the young person is further abated of personal control and dignity, has limited access to education, endures estranged familial connections, has a poor capacity to develop attachments, and demonstrates greater severity of internalizing and externalizing behavioural symptoms, impulsivity, substance abuse, and suicidality [49].

Cumulative social risk factors increase the risk of maladaptive and destructive behaviours in young people, which can lead to further physical and psychological injury. However, the accumulation and interaction of these risk factors are considered more significant for children in out-of-home care (OOHC) [93,94]. Researchers argue that the combination of risk factors that bring children into care (abuse and neglect, adversity) and those they experienced whilst in care (negative peer group, schooling disruptions) foster an environment that is conducive to delinquency [95,96].

It is an unintended outcome that these systems that are designed to support, heal, assist in recovery, and ensure safety will often exacerbate and contribute to the accumulation of further adversity into adulthood. This tends to further complicate the lifespan outcomes and affect the developmental implications as the child moves through critical developmental periods. There is significant overlap between all four themes and the role of accumulation causing physical and psychological harm to the child who is in a vulnerable cohort. Polyvictims who experience a multiplicity of maltreatment will likely experience re-victimization, and this will have significant implications for their lifespan outcomes. Many of these children and young people who experience multiple adversities find themselves involved in a myriad of human services, both in the tertiary and secondary sectors, that are offering, at best, a piecemeal approach aimed at safety and protection, healing, and recovery but, ultimately, are operating from different philosophical frameworks that will further embed the opportunities for future trauma to occur in the current and future generations.

4.5. Limitations

This review study has several limitations. Firstly, the study relies upon the validity of the methodologies and the accuracy of the results of previous studies. In addition, the articles draw on several methodological approaches, covering both qualitative and quantitative articles that utilize different methods, assessments, and subscales. Additionally, most of the studies originated in the United States, with only one study considering outcomes in Denmark and the United Kingdom, and, therefore, further research is needed to explore the role of accumulation in terms of contributing to psychological and physical injury from childhood trauma across a broader geographical focus. Given the diversity of terminology to describe cumulative experiences of childhood adversity and its impact, and despite this review using broad terms to cast as wide a net as possible, the variation in terms and phrases across cultures and professions may mean that the review did not capture articles that used phrases that were not known to the researchers.

Race, ethnicity, and gender were not reported in the studies reviewed, and, therefore, assumptions cannot be made about the influence of gender, culture, and race on the experiences of traumatized individuals engaging with higher education. This limitation highlights the need to explore the role of race and culture as a factor in the accumulation of adversity, especially given the overrepresentation of indigenous and ethnically diverse peoples exposed to childhood adversity and maltreatment [97–99]. These limitations highlight the need for further exploration of the opinions and experiences of a broader and larger range of participants.

Additionally, 'cumulative trauma' was a common term used in orthopaedic and musculoskeletal literature; therefore, those studies were excluded early in the preview stage, but this helps to account for the large number of articles removed. Moreover, there were a large number of duplicates removed, which may indicate some of the databases that were searched were redundant; however, in order to ensure a thorough review, the searching of relevant databases was a necessary step.

4.6. Implications for Practice and Research

The implications of these four core themes include considerations for research and practice that can ensure the mitigation of risk associated with accumulation. The rates of maltreatment, risk-taking behaviours, and mental illness of particular cohorts within our communities, including youth in residential care settings, juvenile justice contexts, and the youth accommodation sector, would benefit from more comprehensive screening and assessment procedures that detect accumulation and enable early intervention and prevention. Within these settings, identifying polyvictimization and those in need of more intensive monitoring, bespoke interventions, and treatments to address complex clinical and behavioural profiles are recommended. It is evident that the likelihood of revictimization as children and young people move into adulthood further compounds the impacts of adversity; therefore, comprehensive skill-building, and additional wraparound supports earlier across sectors, may be an implication for policymakers and practitioners. Practitioners working from compatible philosophical models would assist with alleviating the piecemeal approach to achieve a cross-sector multi-disciplinary casework approach to meet the complex needs of the individual.

Another significant moderator that would assist with buffering or reducing the impact between childhood maltreatment of a parent and their parenting behaviours towards their own child is the role of social support. Bartlett and Easterbrook [100] found the impact of social support moderated the relationship between maternal history of maltreatment and infant abuse and neglect. Other protective buffers that are worthy of consideration to address the impact of parental trauma and their own parenting include stable adult attachments, higher maternal education, and higher income streams. Despite the moderators that are suggested in the literature, more robust research is needed to better understand the mediating and moderating factors influencing maltreatment and resilience to intergenerational trauma [101].

Accumulation of adversity has clear implications for the individual across their lifespan; however, this theme of understanding the convergence of historical maltreatment in previous generations and how this impacts future generations gives credence to this theme of intergenerational transmission. It is imperative that the focus of future research be broadened beyond the immediate to an understanding of the ongoing risks resulting from the accumulation of adversity across multiple generations and the way these interact within an eco-transactional model, as suggested by Menger Leeman [50]. When considering interventions for treating maltreatment and mitigating the effects for future generations, the effects of childhood maltreatment and the accumulation of adversity must be considered in the realms of relationships and developmental functioning as being transactionally influenced by cumulative risk and protective factors. This eco-transactional model highlights the importance of the effects of accumulation as it is related to the co-occurrence of multiplicity and polyvictimization and the likelihood of revictimization.

In conclusion, this review provides a synthesis of the existing research and highlights the core contribution that accumulation, in its own right, makes to the physical and psychological impact of childhood trauma. The themes identified in this review draw attention to the four dominant areas of impact; accumulation increases vulnerability to lifespan victimization and has deleterious implications of cumulative harm on developmental lifespan outcomes. The accumulation of adversity and trauma has intergenerational implications that perpetuate the cycle of harm. Furthermore, accumulation results in exposure to systematic cumulative harm perpetuated by the environments and institutions victims interact

with through the course of their experiences, such as child protection, out-of-home care, and criminal justice contexts. These themes provide a foundation from which to target intervention and prevention strategies, across all disciplines of health and welfare, to interrupt the cycle of maltreatment and prevent accumulation, minimize lifelong patterns of harm, and refocus treatment approaches to address accumulation, regardless of maltreatment type, to improve outcomes for individuals across the lifespan.

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Appendix A

Table A1. Synthesis Matrix Tool.

Reference	Quality of Resource (Peer-Reviewed)	Participants	Aims of Study (Underlying Arguments)	Methodology (Research Design)	Limitations	Results (Themes)	Conclusions of Paper
Ford, J., & Delker, C. (2018)	Peer-reviewed	Individuals deemed as polyvictims	To understand the nature, consequences, and assessment of polyvictimization	Analysis of key findings of 6 empirical studies on polyvictimization	Does not account for all profiles of victimisation	Revictimization may compound the individual's coping adaptations	Polyvictim adolescents at higher risk for alcohol and drug misuse Polyvictim adolescents in JJ require trauma-focused treatment that caters to PTSD and dissociation
Zannettino, L. McLaren, H. (2012)	Peer-reviewed	Child protection workers from 6 sites in SA	Determine bridges and barriers to effective collaboration between child protection and DFV services	Qualitative survey	Worker continuity	Sustained neglect types and ongoing implications of DFV causes psychological injury	Differences between service mandates & paradigms can contribute to clients becoming further entrenched in abuse and neglect concerns
Pane Seifert, H., Farmer, E., Wagner, R., Maultsby, L., Burns, B. (2015)	Peer-reviewed	523 youth	Determining correlation between youth with psychiatric disorders and maltreatment histories and matching between clinical care levels and restrictiveness	Quasi-experimental study	Rates of maltreatment and diagnosis are underestimated; incomplete information about the child on records	1. Psychological injury and accumulation of maltreatment experiences 2. Childhood maltreatment and adult psychiatric morbidity links	Distinct demographics exist for youth with maltreatment histories and psychological injury
Ubbesen, M., Gilbert, R., & Thoburn, J. (2015)	Peer-reviewed	Administrative data in Denmark & England from child protection services	Determine the cumulative incidence of entry into out-of-home care (OOHC) and the impacts	Analysis of administrative data	Not inclusive of respite care, which still highlights impacts of entering care and maltreatment consequences	Psychological injury and accumulation of maltreatment experiences can be furthered when entering OOHC	Importance of detailed analysis of age-specific cumulative incidence rates of entry into OOHC and psychological harm caused by the maltreatment and then removal
Menard, S., Covey, H. & Franzese, R. (2015)	Peer-reviewed	1725 respondents' exposure to violence and physical abuse	Association to exposure to violence and later illicit drug misuse	Self-reported data from longitudinal study. NYSPS analysed using descriptive statistics		Physical abuse and emotional/psychological abuse correlate with illicit drug misuse	Witnessing parental violence and physical abuse leads to physical and psychological harm and later illicit drug misuse
He, A., Fulginiti, A., Velasquez, M. (2015)	Peer-reviewed	995 adolescents investigated by child protection agencies	Determine relationship between connectedness in main social domains and psychological injury and suicidal ideation	Interviews	Not all dimensions of connectedness were assessed Exclusively focused on youth self-report measures	Impacts on attachment has links with adult psychiatric morbidity and suicide	Identifying protective factors for suicidal ideation and associations between maltreatment perpetrated by a carer/parent and suicide needs to be a focus for repair and recovery

Table A1. Cont.

Reference	Quality of Resource (Peer-Reviewed)	Participants	Aims of Study (Underlying Arguments)	Methodology (Research Design)	Limitations	Results (Themes)	Conclusions of Paper
Papalia, N., Baidawi, S., Luebbers, S., Shepherd, S., Ogloff, J. (2020)	Peer-reviewed	Existing 215 juvenile inmates from Victorian prisons	Determine associations between child maltreatment, psychopathology, and juvenile incarceration	Analysis of existing datasets from current juvenile inmates, including analysis of standardised assessments		Youth who are polyvictims showed significantly higher rates of psychological injury Greater degree of emotional and behavioural symptoms among polyvictims. Youth in high physical and emotional abuse groups showed high scores on impulsivity and lower coping mechanisms and higher rates of self-harm and suicidal ideation	Over $\frac{2}{3}$ detained juveniles report maltreatment as children, with significant numbers identifying as polyvictims and result with psychological injury
Leeman, M. Marta, J. (2018)	Peer-reviewed	323 volunteer participants (parent/child dyad)	Retrospective examination of reports to assess the intergenerational effects of childhood maltreatment and unresolved trauma and loss experiences and psychosocial functioning in the next generations to follow	Self-reports by participants on 4 items related to physical abuse, emotional abuse and neglect, and sexual abuse.	Small sample size and homogeneity produced in each of subsets in the three studies	Cumulative harm effects were demonstrated in participants who reported more than one category of abuse or neglect Lifespan implications of abuse and neglect	Poorer adult functioning and relationship outcomes are evident in individuals reporting abuse and neglect. An intergenerational impact of the effects of childhood abuse and neglect is supported
Farnfield, S., Onions, C. (2022)	Peer-reviewed	Children at a therapeutic residential school	Assessment of the role of chronic dysregulation of affect in abused and neglected children	Child attachment and play assessment	Small sample size makes it challenging to generalise	Affect regulation has a significant role in developmental trauma	Physical abuse, emotional abuse, psychological injury impact on affect regulation Viewing a child's difficulties in terms of chronic dysregulation may be a more productive method to understanding children's problems than ACEs or psychiatric diagnosis
Robinson, C (2017)	Peer-reviewed	Cohort of teens (10–17 years) in OOHc Tasmania	Involves an investigation of trajectories and impacts for highly vulnerable children and adolescents falling outside of the scope of families, NGOs, and gov. agencies	Analysis of life histories		Cumulative adversity equals clinical mental health levels	An accumulation of adverse experiences and lack of treatment, intervention due to event-focused systems increases vulnerability and creates psychological injury and poor physical and social/emotional outcomes

Table A1. Cont.

Reference	Quality of Resource (Peer-Reviewed)	Participants	Aims of Study (Underlying Arguments)	Methodology (Research Design)	Limitations	Results (Themes)	Conclusions of Paper
Toohy, J. (2020)	Peer-reviewed	Female prisoners with cognitive disabilities	Investigate the impacts of social exclusion contributing to reoffending rates for cognitively impaired women prisoners	Semi-structured interviews in four women prisons in three Australian states with all women present with cognitive impairment	Australian cultural context only	Lifespan implications for cumulative harm experiences from early childhood years and when a polyvictim experiences multi-type maltreatment	Women interviewed revealed extensive trauma histories from childhood throughout adolescence and into childhood and trauma reinforced and the women revictimized by the prison system.
Stewart, S., Toohy, A., Lapshina, N. (2020)	Peer-reviewed	8980 child participants (4156 with maltreatment history) aged 4–18 years from 50 mental health facilities in Ontario	Examination of relationship between polyvictimization and risk of harm to self and others	Semi-structured interviews at intake into mental health facility. Additional information gathered from medical records		Cumulative relationships exist when experiencing multiple types of maltreatment. Cumulative risk exists in relation to the harming of oneself or others	Importance of background assessments when psychological injury occurs that consider all forms of maltreatment to understand risk of harm and to inform intervention.

Appendix B

Table A2. Thematic Breakdown.

	First-Order Themes	Second-Order Themes	Third-Order Themes
	Revictimization may compound the individual's coping adaptations		
	Polyvictim adolescents at higher risk for alcohol and drug misuse		
	Polyvictim adolescents in JJ require trauma-focused treatment that caters to PTSD and dissociation		
	Sustained neglect types and ongoing implications of DFV cause psychological injury		
	Differences between service mandates & paradigms can contribute to clients becoming further entrenched in abuse and neglect concerns		
	Psychological injury and accumulation of maltreatment experiences 2. Childhood maltreatment and adult psychiatric morbidity links		
	Psychological injury and accumulation of maltreatment experiences can be furthered when entering OOHc		
	Importance of detailed analysis of age-specific cumulative incidence rates of entry into OOHc and psychological harm caused by the maltreatment and then removal		
	Physical abuse and emotional/psychological abuse correlate with illicit drug misuse		
	Witnessing parental violence and physical abuse leads to physical and psychological harm and later illicit drug misuse		
	Impacts on attachment has links with adult psychiatric morbidity and suicide		
	Identifying protective factors for suicidal ideation and associations between maltreatment perpetrated by a carer/parent and suicide needs to be a focus for repair and recovery		
	Youth who are polyvictims showed significantly higher rates of psychological injury		
	Greater degree of emotional and behavioral symptoms among polyvictims.		
	Youth in high physical and emotional abuse groups showed high scores on impulsivity and lower coping mechanisms and higher rates of self-harm and suicidal ideation		
	Over $\frac{3}{4}$ detained juveniles report maltreatment as children, with significant numbers identifying as polyvictims and result with psychological injury		
	Cumulative harm effects were demonstrated in participants who reported more than one category of abuse or neglect		
	Lifespan implications of abuse and neglect		
	Poorer adult functioning and relationship outcomes are evident in individuals reporting abuse and neglect.		
	An intergenerational impact of the effects of childhood abuse and neglect is supported		
	Physical abuse, emotional abuse, psychological injury impact on affect regulation		
	Viewing a child's difficulties in terms of chronic dysregulation may be a more productive method to understanding children's problems than ACEs or psychiatric diagnosis		
	Affect regulation has a significant role in developmental trauma		
	Cumulative adversity equals clinical mental health levels		
	Lifespan implications for cumulative harm experiences from early childhood years and when a polyvictim and experiences of multi-type maltreatment		
	An accumulation of adverse experiences and lack of treatment, intervention due to event-focused systems increases vulnerability and creates psychological injury and poor physical and social/emotional outcomes		
	Cumulative relationships exist when experiencing multiple types of maltreatment.		
	Cumulative risk exists in relation to the harming of oneself or others		
	Women interviewed revealed extensive trauma histories from childhood throughout adolescence and into childhood, and trauma reinforced and the women revictimized by the prison system.		

Multiplicity, polyvictimization
Chronicity (including ongoing DFV)
Parental history of CAN

Intergenerational trauma and abuse—transmission—contributing to psychological injury
Revictimization

Attachment
Comorbidity of psychological disorder with psychological injury, including substance abuse
OOHC

Systemic harm
Developmental trauma
Lifespan outcomes
Lifespan implications

Multiplicity and polyvictimization
Intergenerational transmission and parental contributions to accumulation
Comorbidity
Systemic cumulative harm
Lifespan outcomes

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