

**Empowering Caregivers and Nurturing Growth:
An Intervention for Caregivers with ACEs**

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Abstract

Foundational physical and emotional systems that shape an individual's lifelong well-being develop in early childhood. Adverse childhood experiences (ACEs) can significantly disrupt this development, often leading to physical and mental health challenges in adulthood. Adults who have experienced ACEs may unintentionally expose their own children to similar adversities, perpetuating cycles of intergenerational trauma. This capstone project reviews existing literature to explore the effects of ACEs in adulthood and seeks strategies to interrupt this cycle. In this capstone, I propose the development of a podcast that incorporates psychoeducational content aimed at supporting caregivers in both self-care and child-rearing practices. By empowering caregivers with knowledge and practical tools, this initiative seeks to promote healing, resilience, and the reduction of intergenerational trauma.

Keywords: Adverse childhood experiences (ACEs), trauma, intergenerational trauma, caregivers, early child development

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Chapter One: Introduction

At the heart of this paper is a commitment to ensuring that more people experience contentment and good health in adulthood. Research suggests that well-being and health are tied together in a self-perpetuating cycle (Hautekiet et al., 2022). Possessing a high degree of health and well-being increases the likelihood of maintaining both, while unhappiness and poor health tend to reinforce one another. Given this dynamic, it is crucial to examine the foundational elements that shape overall well-being and health. While there are several factors that play a role, one of the most significant influences is early childhood experiences, as they reflect a critical period when the brain's structural and functional systems develop. Early development forms the foundation for essential abilities including movement, thinking, language, and overall functioning in daily life. Even in ideal developmental conditions, a person still may experience challenges and health issues in adulthood due to various life factors. When childhood is marked by adversity, however, the likelihood of poor mental and physical health in adulthood increases dramatically. A decline in either area, or both, makes it more challenging to lead a content and fulfilling life.

Adverse childhood experiences (ACEs) significantly impact brain development in negative ways. The presence of ACEs often leads to neurobiological disruptions that contribute to long-term mental and physical health challenges (Landa-Blanco et al., 2024; Nurius et al., 2019). These struggles often persist in adulthood and may affect a caregiver's ability to undertake their caregiving responsibilities. Moreover, a person who has had ACEs is at an increased risk of passing their unresolved trauma to the next generation (Imran et al., 2021). As a result, children of caregivers with unaddressed ACEs are more likely to experience similar adversities themselves. This perpetuates a cycle where unhappiness and poor health spread

across generations, placing an overwhelming strain on medical and social support systems. These medical and social support systems, therefore, face increased challenges providing adequate care to those in need.

Purpose Statement

This capstone will review existing ACE research, focusing on its impact on early childhood development (age 0-5), and their long-term effects that carry into adulthood. Specifically, exploring how ACEs shape cognitive, emotional, and physical maturation, influencing an individual's overall well-being across their lifespan.

A central theme of this analysis is exploring how primary caregivers with ACEs contribute to the continuation of adverse experiences for their children. Research suggests that unresolved trauma in caregivers can contribute to the intergenerational transmission of adversity, as it affects caregiving styles, emotional regulation, and the overall home environment (Imran et al., 2021; Li et al., 2024). By identifying the mechanisms through which ACEs are passed down, this paper aims to highlight key risk factors and points of intervention. While this paper focuses on primary caregivers of young children, it contains information that is transferable to all caregivers.

This capstone is written with the intention of being sufficiently detailed while also remaining accessible, ensuring that caregivers, childcare institutions, and counsellors can easily understand the information contained herein. It aims to strike a balance between being helpful to caregivers while also providing enough in-depth information to support professionals engaged in addressing challenges related to ACEs.

Research Questions

Research Question 1

How does the presence of ACEs in caregivers impact their ability to perform their caregiving responsibilities?

Research Question 2

What tools or interventions can assist caregivers affected by ACEs in promoting the emotional and physical well-being of the children in their care, ensuring they grow up feeling emotionally balanced and physically healthy?

Omission Notes

This paper offers an overview of research on ACEs and presents general caregiving strategies. It does not provide, however, an in-depth analysis of specialized approaches required for caregivers supporting children with physical or mental disabilities. Such approaches must be tailored in collaboration with a multidisciplinary team, including the child's physician, psychiatrist, and other relevant support professionals.

Furthermore, while I acknowledge the significant role of cultural differences in child-rearing practices, this paper does not specifically examine how particular cultural factors influence ACEs or parenting styles.

Structure of the Paper

Chapter Two: Literature Review will examine relevant research to establish a strong foundation for understanding key factors that influence child development, the impacts of ACEs on children and caregivers, and existing caregiving interventions. This chapter will synthesize current findings to support the intervention presented in Chapter Three: Intervention.

Chapter Three: Intervention will reflect on the research covered in Chapter Two: Literature Review and will incorporate it into a podcast intended to provide psychoeducation and empower caregivers who have been impacted by ACEs. The caregiving strategies presented in the podcast will focus on helping caregivers address their own trauma while equipping them with the necessary tools to break the cycle of ACEs and foster a healthier environment for their children.

Definition of Terms

Adverse Childhood Experiences (ACEs)

ACE's refer to traumatic events that take place during a person's childhood, from ages zero to eighteen. HealthLink BC (2022) lists the most common ACEs as

- “Emotional abuse. An adult insults, puts down, or swears at a child, or behaves in ways that makes the child fear they will be hurt.
- Physical abuse. An adult hits, kicks, or physically hurts a child.
- Sexual abuse. An adult (or older child) touches a child in a sexual way, makes a child touch them in a sexual way, or has sex (or tries to have sex) with a child.
- Violence in the home. A child sees adults in the home physically harming each other.
- Substance use problems in the home. A household member has problems with drinking, drug use, or misusing prescription medicines.
- Mental health problems in the home. A household member is depressed, has mental health issues, or has attempted or died by suicide.
- Emotional neglect. An adult in the home doesn't make a child feel safe, protected, and cared for.
- Physical neglect. An adult does not meet a child's basic needs.

- Divorce or separation of parents.
- Having a household member go to prison”.

Attachment

Attachment is the process by which children develop trust in the support and protection of their primary caregivers (Bosmans et al., 2020). It is one of the most crucial lenses by which one can seek to understand how a child’s worldview is formed.

Co-Regulation

The interactive process initiated in early childhood, wherein the caregiver significantly influences and facilitates the child's self-regulation development. Co-regulation in infancy involves anticipating demands and responding to cues, offering physical and emotional comfort by speaking soothingly and expressing love when the infant experiences discomfort or dysregulation. (Murray et al., 2015).

Critical Period

The critical period refers to a phase in early development when the brain exhibits peak plasticity, allowing for the formation of optimal neural connections (Cisneros-Franco et al., 2020). This period is vital because, once it ends, the brain becomes less responsive to passive experiences, making it more difficult for such experiences to induce lasting changes in the brain.

Econeurobiology

Econeurobiology examines how environmental and epigenetic factors influence a child’s neurobiological development (Mualem et al., 2024). The field of econeurobiology delves into the methods by which external influences mold a child’s brain structure.

Healthy Children

Healthy children, for the purposes of this paper, refers to children who grow up unimpeded by dysfunctional brain development. The term encompasses children who develop appropriate behavioral, cognitive, and motor skills for their age range.

Primary Caregiver

A primary caregiver is an individual who holds primary responsibility for a child's care. In this paper, the terms primary caregiver and parent will be used interchangeably, recognizing that not all children are raised by their biological parents.

Psychosocial Deprivation

Psychosocial refers to the intersection of psychological and social factors. Psychosocial deprivation occurs when an individual lacks access to essential needs such as emotional nurturing (love, affection, or comfort), social interaction (consistent and responsive caregiving), cognitive stimulation (play, exploration, and learning), or a stable and structured environment (Nelson et al., 2019).

Secondary Caregiver

A secondary caregiver is an individual who holds a secondary role for a child's care. Secondary caregivers are often teachers, nannies, extended family members (older siblings, grandparents, aunts, uncles) or guardianship workers.

Self-Regulation

Self-regulation refers to the ability to regulate one's emotions, thoughts, and behavior, typically in response to external stimuli, in order to achieve a goal or meet social norms (Montroy et al., 2016).

Personal Positioning

Even before I started working as a counsellor, in my interactions with adults, I frequently saw that many of their problems seemed to stem from their experiences in childhood. Since I started working as a counsellor, this observation has only been reinforced. In discussions with clients, I often notice a pattern suggesting that their early experiences have had a significant impact on their perceptions, actions, stress responses, and physical health.

The existence of this needless suffering is one of the hardest things for me to accept. It is unsettling to witness my loved ones and strangers navigating challenges that could have been avoided had they received better support and care from their caregivers during childhood. These insights have led me to consider what it might take to provide a stronger foundation for future generations, one in which children are prepared to handle life's inevitable obstacles without the added burden created by trauma or neglect. Over the years, I have become increasingly interested in teaching caregivers how to create environments that support children to grow into adults who are not burdened by preventable wounds, but who are able to thrive and reach their fullest potential.

Chapter Two: Literature Review

This chapter will explore recent research across interconnected areas to better understand how ACEs affect caregivers. It will demonstrate how early adversities can shape caregivers' thoughts, emotions, and behaviors, and how these, in turn, affect their young children, particularly in the early years. This chapter brings together research and ideas from child development, ACEs, trauma, and caregiving to highlight the complex ways these elements interact and shape family dynamics. It underscores the importance of support for caregivers and advocates for early childhood interventions.

Brain Development

Previous studies, as well as new advancements in neuroimaging technology, have enhanced our comprehension of brain development (Gilmore et al., 2018). Neuroimaging technology demonstrates that during the initial two years of life, the brain undergoes substantial enlargement, marked by strong development in both gray and white matter. The first years of life see a significant increase in gray matter, which is essential for a wide range of cognitive, sensory, and motor functions. The health and density of gray matter is strongly associated with better brain function, while abnormalities or reductions in gray matter have been linked to neurological and psychiatric conditions. Additionally, during the initial year of life, cortical gray matter significantly increases in several regions of the brain, including the parietal, prefrontal, and temporal areas (Gilmore et al., 2018). *Cortical gray matter* is specifically the grey matter that makes up the *cerebral cortex*, which is the outer layer of the brain. This is significant as the thickness of the cortex plays a crucial role in sensory processing, motor control, decision-making, and language development. White matter develops from central to peripheral areas and connects different areas of the brain in a wiring system that transmits information. White matter

is covered with a substance known as *myelin*, which is responsible for facilitating the brain's ability to process information quickly (Fandakova & Hartley, 2020; Schneider et al., 2022). The absence of myelin has been shown to lead to a delay in social development.

During early childhood, the brain begins to establish foundational functional networks that support increasingly complex cognitive abilities using gray matter and white matter. Among the most significant are the Default Mode Network (DMN) and the Salience Network (SN). The DMN supports functions such as self-awareness, memory, and social understanding (Rebello et al., 2018), while the SN helps detect and prioritize important stimuli, allowing the brain to shift between internal reflection and external focus (Schimmelpfennig et al., 2023). Healthy development of these networks is essential for children to engage effectively with their environment and begin forming a sense of self.

Research indicates that early childhood exposure to psychosocial deprivation - encompassing a lack of emotional nurturing, social interaction, cognitive stimulation, or structure and stability - correlates to reduced gray and white matter volume and an overall decrease in cortical thickness (Mualem et al., 2024). This can result in impaired cognitive abilities, emotional dysregulation, difficulty in learning, and reduced emotional and social competence. When children are extricated from their stressful surroundings and placed in a secure and nurturing environment, however, their white and gray matter volume (Bick et al., 2015) and cortical thickness can increase. As such, the negative consequences previously present in the brain can reverse.

ACEs also disrupt normal brain development by impacting important areas such as the hippocampus and amygdala. Both the hippocampus and amygdala are part of the *limbic system* which is a group of interconnected brain structures. The hippocampus facilitates the

transformation of short-term memories into long-term memories, and regulates emotions (Fogwe et al., 2023). Early infancy is a critical period for hippocampal development (Lupien et al., 2009), and adverse experiences during this time can alter both the structure and function of the hippocampus. The hippocampus controls cortisol levels, hence influencing the function of the hypothalamic-pituitary-adrenal (HPA) axis (Andersen & Teicher, 2009). These hippocampal changes are closely linked to the onset of depression (Pagliaccio & Barch, 2016), memory issues and difficulty learning (Voss et al., 2017).

The *amygdala* oversees emotional processing, detects danger and regulates fear responses (AbuHasan, 2019). The amygdala develops earlier than many other brain regions, which positions it to shape the development of essential cortical circuits. Due to the amygdala's crucial role in brain development, it is especially vulnerable to stress (Nim & Sheridan, 2010; Tottenham & Gabard-Durnam 2017). In response to early adversity, the amygdala often becomes hyperactive, which can contribute to anxiety and dysregulation over time (Nim & Sheridan, 2010; Tottenham, 2009). Additionally, trauma at an early age can cause premature functional connectivity between the amygdala and the prefrontal cortex, which has been shown to result in emotional dysregulation in later development (Gee et al., 2013; Nim & Sheridan, 2010). Finally, heightened cortisol levels and chronic stress are linked with accelerated amygdala-prefrontal connectivity maturation (Gee et al., 2013). This can result in reduced flexibility and resilience later in life.

During early childhood, the brain is highly adaptable due to its neuroplasticity, which enables it to rapidly learn and reorganize in response to new experiences (Fandakova & Hartley, 2020; Kolb & Gibb 2011). Due to the high neuroplasticity of this stage, this phase of child development is considered the critical period. Unfortunately, emotional trauma can interfere with

neuroplasticity, disrupting the brain's ability to adjust and form new neural connections (Mualem et al., 2024). As a result, children exposed to trauma may experience cognitive impairments, difficulties with emotional regulation, social and behavioral problems, as well as physical health challenges. Brain neuroplasticity changes over time, with the level of plasticity declining significantly as we age (Lenroot & Giedd, 2006). This occurs because the brain operates through experience-dependent plasticity, meaning that used connections are reinforced over time, while unused connections are pruned or deleted.

A critical period is a specific timeframe within the sensitive period of development, during which sensory experience is not just necessary, but essential for the development of brain circuits related to fundamental sensory processing (Gallagher et al., 2020). The Bucharest Early Intervention Project (BEIP) (McLaughlin et al., 2015) discovered that children who were brought up in institutional settings exhibited significant deficits in cognitive development, emotional control, and social competencies relative to those nurtured in familial environments. The findings emphasized the significance of early caregiving experiences, especially for infants 24 months of age and younger, as this is a sensitive period for influencing stress response systems and brain development.

Both genetic and environmental factors influence brain development and determine structural and functional results (Stiles & Jernigan, 2010). Although genetic influences are outside our control, caregivers can regulate the environment in which infants are nurtured. Mualem et al. (2024) identified six essential elements influencing brain growth: a supportive environment, diet, physical exercise, music, sleep, and cognitive methods. Collectively, these characteristics affect cognitive capacities, memory, learning, self-regulation, and socio-emotional

development in children. The child's caregiver is responsible for providing these essential needs to support the development of a well-rounded and healthy individual.

Nervous System

The autonomic nervous system governs involuntary physiological functions throughout the body (Waxenbaum et al., 2023). The nervous system is comprised of three divisions: sympathetic, parasympathetic, and enteric. For the purposes of this paper, we will primarily focus on the sympathetic and parasympathetic nervous systems. The sympathetic nervous system (SNS) remains active even in non-stressful situations, but it does not always trigger distress responses. The SNS is pervasive throughout the body, transmitting nerve impulses to nearly all organs, glands, and tissues to control their activities. In addition to governing physical functions of the body, the SNS also modulates immunology, hence influencing inflammation levels. The parasympathetic nervous system (PNS) regulates several bodily activities, chiefly digestion and the respiratory cycle. An important part of the PNS is the vagus nerve. The ventral vagus and the dorsal vagus are two distinct branches of the vagus nerve, each of which regulates distinct physiological responses (Porges, 2009; Porges, 2021; Porges, 2022). Polyvagal theory states that the roles of the ventral and dorsal vagus nerves, together with the SNS, modulate the body's reactions to safety, danger, and extreme threat.

The ventral vagal system governs facial expressions, vocalizations, heart rate, and social connections (Porges, 2009; Porges, 2021; Porges, 2022). It is activated when we feel safe and prompts calm, connection and emotional regulation. The dorsal vagal system, on the other hand, regulates survival responses, digestion and energy conservation. It is activated when the body perceives danger, triggering a shutdown, or 'freeze' response which can manifest as immobilization, dissociation, or numbness. As mentioned previously, SNS regulates heart and

blood pressure, as well as breathing. SNS is activated when a threat is perceived, and responds by increasing the heart rate, muscle tension and adrenaline in the body. This results in a “fight-or-flight” response that can cause chronic stress, anxiety, high blood pressure, insomnia, digestion issues and weakened immunity. The shifts between the PNS and the SNS states are based on the body’s ability to detect safety or danger in the environment. Typically, PNS and SNS work together to form homeostasis in the body, but when dealing with distress, one system may dominate disproportionately at the expense of the other. If this dynamic continues for a prolonged period, the whole network can become dysregulated. Prolonged dysregulation of a child's nervous system might adversely impact their growth and increase the probability that they suffer from mental health issues as adults (Corrigan et al., 2011).

Stress Response System

Stress is experienced when there is a perceived threat to the body’s regular physiological state (Mckissick, 2019). When a person experiences a stressor, the SNS is triggered, to prepare the body for quick action by releasing adrenaline (Chu et al., 2024). The body automatically reacts to the threat and responds in one of four ways: confronts and defends against the threat (fight), runs away (flight), avoids being noticed (freeze) or befriends the threat (fawn) (Schauer & Elbert, 2010). The fight-or-flight response is an immediate short-term reaction to stress. The body’s stress response system is activated simultaneously to the activation of the SNS. The HPA axis is the body’s stress response system and is typically active during prolonged periods of stress. The HPA produces corticotropin-releasing hormones (CRH) which triggers a chain reaction in the body and prepares a response to stress (Shin & Liberzon, 2010; McLaughlin et al., 2015). The body’s stress response will release cortisol to help the body sustain and manage stress, with the goal of returning the body to a state of homeostasis - a balanced regulation of

hormones. *Cortisol* is characterized as the 'stress' hormone because it plays a crucial function in the body's natural and necessary stress response system. It is a necessary process for survival, however, when a person experiences multiple or prolonged traumatic experiences, the stress response system can become overactive and remain in a heightened state (Corrigan et al., 2011; McKissick, 2019; McLaughlin et al., 2015). This heightened state of stress is termed as *chronic stress* and can lead to psychological and physiological problems (Chu et al., 2024). It is important to distinguish *chronic stress* from *toxic stress*, which arises from severe adversity or neglect. Toxic stress can result in long-term changes in the physiological stress response mechanisms, including disruptions to the immune system and hormone regulation, as well as elevated cortisol levels and overactivation of the stress response (Zarei et al., 2021). Over time, these changes can modify the brain, particularly in areas linked to memory (hippocampus), emotions (amygdala), and decision-making (prefrontal cortex).

Furthermore, research indicates that even the presence of low-to-moderate ACEs in a child's life can disrupt the healthy functioning of their HPA axis. A disrupted HPA axis often leads to activity dysregulation, which is regarded as a risk factor for many illnesses (Kuras et al., 2017). Moreover, if the HPA axis is overactivated or dysfunctional it can lead to wear and tear on the body. This prolonged adaptation to stress is referred to as the allostasis load (McEwen, 1998). Individuals exposed to ACEs can experience declining health because of increased allostatic load on their bodies during critical stages of development (Grey et al., 2019; Yu et al., 2022).

Attachment Theory

Attachment theory underscores the significance of early attachments in influencing emotional development (Diamond et al., 2021). Disruptions in attachment can lead to difficulties

in emotional regulation and behavior. Attachment behaviors are initiated when a newborn experiences stress from feelings of immediate danger (Alhusen et al., 2013; Thompson, 2000). When the child experiences such stress, their response often involves a strong desire to connect and communicate. Typically, infants will exhibit attachment behaviors, looking for support and solace from their main caregiver. How the caregiver responds will determine which specific type of attachment bond forms between them. From an evolutionary perspective, these attachment relationships enhance the child's survival prospects due to their need to rely on others during infancy (Harris, 2019). Secure attachment is established when the caregiver effectively perceives and comprehends the child's needs, subsequently responding to them in a positive and consistent manner (Cortazar & Herreros, 2010; Thompson, 2000). Ruptures may happen between the child and caregiver, but repairs are easily made, and the child learns that they can trust the caregiver (Bowlby, 1969; Cortazar & Herreros, 2010; Thompson, 2000). When early attachment interactions are primarily favorable, the child experiences safety with the caregiver and establishes a solid foundation that enables them to confidently engage with and investigate the world. However, if that is not the case, other attachment styles such as insecure-avoidant (avoidant) attachment, insecure-ambivalent (anxious) attachment and disorganized attachment are formed. Children commonly develop insecure-avoidant attachment when their caregiver is consistently emotionally unavailable or disinterested. Through repeated experiences of seeking comfort being met with emotional unavailability from the caregiver, the child learns that seeking comfort is ineffective and will thus repress their attachment needs and refrain from seeking comfort. Insecure-ambivalent attachment arises when caregivers provide inconsistent responses, leading to uncertainty and increased anxiety for the child. Finally, disorganized attachment usually forms when caregivers display worrisome or confusing conduct, which causes the child

to experience fear and disorientation, making them believe that it is unsafe to trust or rely on the caregiver to support them. Attachment patterns deeply affect emotional regulation, interpersonal interactions, and psychological well-being for a person over their lifespan.

Assumptive World

As a child develops, they unconsciously build a framework curated by their early life attachments, observations, and experiences with the external world (Parkes, 1971). This framework becomes a person's basis for the real world and serves to form their perception. This framework has been referred to in the research as the assumptive world (Harris, 2019; Parkes, 1971). The *assumptive world* has three categories that outline how an individual lives their life and understands the world around them. The first category is how that individual 'views others and their intentions'. The second category involves the perception of how the world 'should work', including such elements as fairness, justice, expectations, and randomness. The third category refers to how we 'tend to see ourselves'. The assumptive world is more than just a cognitive construct; the assumptions are fundamental to what gives life meaning, security, and purpose. A person's assumptive world forms the foundation of how they approach life and make sense of the world. When life experiences contradict these core assumptions, it can leave them feeling untethered and disconnected from their sense of self.

Adverse Childhood Experiences (ACEs)

ACE's are characterized as avoidable and potentially traumatic events occurring in the lives of individuals under 18 years of age (HealthLink BC, 2022). The presence of ACEs in a child's life are linked to various negative consequences (Swedo et al., 2023). In the original Felitti et al. (1998) study of ACEs, the following seven categories of ACE's were listed: "psychological, physical, or sexual abuse; violence against mother; or living with household

members who were substance abusers, mentally ill or suicidal, or ever imprisoned” (p. 245). Since the introduction of the ACE concept in 1998, the list of ACEs has expanded. Currently, HealthLink BC (2022) lists the most common ACEs as emotional abuse, physical abuse, sexual abuse, violence in the home, substance use problems in the home, mental health problems in the home, emotional neglect, physical neglect, divorce or parental separation and the incarceration of a member living in the same house. About 64% of adults in the United States have encountered at least one type of ACE and nearly 17.3% of adults have experienced four or more ACEs (Swedo et al., 2023).

Studies have shown that ACEs impact individuals throughout their lifespan. The findings indicate that ACEs alter the functionality of neural connections in the brain, particularly affecting the *superior temporal gyrus*, which is responsible for auditory processing and social cognition (Gilmore et al., 2018; McKissick 2019). Children who experience disruptions in the superior temporal gyrus can have significant developmental consequences, including poor communication skills, social withdrawal, difficulty understanding others’ emotions, and challenges maintaining relationships. ACEs also impact the functionality of the *inferior frontal gyrus*, which is responsible for impulse control and emotional regulation (De Bellis et al., 2002; McKissick, 2019). Underdevelopment of the inferior frontal gyrus can lead to emotional dysregulation, difficulties with impulse control, and an increased risk of externalizing psychopathologies in children (Barch et al., 2018). In adulthood, this results in challenges with work and interpersonal relationships stemming from inadequate emotional control, reliance on drugs or risky behaviors for coping, and increased vulnerability to mental health illnesses.

ACEs are also linked to both internalizing and externalizing disorders. *Internalizing disorders* encompass symptoms such as sadness, anxiety, and social disengagement, whereas

externalizing disorders pertain to acts such as aggressiveness and rule-breaking (Xu et al., 2023). Specifically, emotional and sexual abuse were linked with both internalizing and externalizing disorders, whereas neglect and substance misuse were predominantly related to internalizing problems (Barch et al., 2018; Xu et al., 2023). As the number of ACEs a child lives through increases, the probability that the child will develop behavioral disorders also increases, particularly for externalizing disorders (Petruccelli et al., 2019; Xu et al., 2023).

ACEs have also been found to cause neurobiological disorders such as ADHD, substance use disorder, post-traumatic stress disorder, anxiety and depression (Zarei et al., 2021). Neurological disorders result from disruptions in brain function and structure, leading to behavioral and emotional changes. These disorders are associated with changes in brain chemistry, development, and connectivity, which impact a variety of brain regions that are involved in the processes of reward, attention, emotions, and impulse control. As with behavioral disorders, the more ACEs a person experiences, the greater the likelihood of developing these neurobiological conditions.

The presence of ACEs in a child's development process has wide ranging consequences in their functionality as adults. Metzler et al. (2017) analyzed data to examine the connection between ACEs and adult education, employment and income. They discovered that in comparison to participants without ACEs, individuals with elevated ACE scores were more likely to report high school non-completion, unemployment, and reside in a home below the federal poverty threshold. This highlights that ACEs are consequential not only to a person's physical and mental health, but also their economic stability.

It is important to note that ACEs are more likely to occur in children who have long-term health conditions or disabilities. According to a meta-analysis, children with impairments were

3.5 times more likely to suffer violence than typically developing children. (Jones et al., 2012). This violence might worsen already-existing medical conditions and increase the risk of death (Grey et al., 2019).

As illustrated, experiencing ACEs can have enduring impacts on the development and subsequent health of an individual. Grey et al. (2019) suggest that retrospective research examining childhood experiences often excluded children who died prematurely, perhaps leading to an underestimation of the comprehensive impact of ACEs on lifelong health. Given that ACEs are significantly associated with chronic and acute health issues, they may contribute to child mortality, even in cases not formally classified as ‘avoidable’ or ‘unnatural’.

A recent five-year study discovered that individuals with a higher count of ACEs are at a higher risk of premature death (Yu et al., 2022). These findings are further supported by Brown et al. (2009) who state that “individuals with six or more ACEs die nearly 20 years earlier on average than those without ACEs” (p.389). Bellis et al.(2014) also state that the risk of developing severe health conditions and experiencing premature mortality is substantially increased when individuals are exposed to multiple ACEs. ACEs that are linked to maltreatment and household dysfunction are particularly associated with early mortality.

Measuring ACEs

An analysis of ACE-related publications from 1998 to 2018 shows that the majority of studies have focused on adult populations (Struck et al., 2021). The number of publications related to ACE has increased significantly, with over 50% of all ACE-related research published between the years 2015 and 2018. This emphasizes that the significance of ACEs and their relation to mental well-being is being acknowledged more readily. Should this trend continue, it

is reasonable to expect that the research will offer additional opportunities to improve our comprehension of ACEs and their influence on child development.

One aspect of ACEs that has been widely discussed within the mental health research community is the methodology by which ACEs can be more effectively measured. There are various methods for measuring ACEs (Bethell et al., 2017). One method measures them individually and delves into critical details about ACEs (Bethell et al., 2017; Negriff, 2020), while another method adds them together to form a cumulative score (Reidy et al., 2021). Since the process by which ACEs are measured can change how we understand their effects, the research suggests that measuring each ACE individually provides more meaningful insights (Bethell et al., 2017). This approach allows for a better understanding of the impact of each ACE, including how often or intensely they occurred. In contrast, cumulatively measuring ACEs and quantifying them into a base amount does not offer as much insight as to their effects and impacts (Negriff, 2020; Reidy et al., 2021). While the cumulative score technique offers deeper insights into the impact of increased ACEs, Negriff (2020) emphasizes that aggregating ACEs into a singular score may conceal the distinct impacts of each ACE on mental health outcomes.

Another limitation of this approach is that it assumes each individual ACE has an equal impact on mental health, which is not accurate. In fact, Briggs et al. (2018) found that experiencing abuse (emotional, physical, and sexual) is more strongly associated with adult mental health issues than household dysfunction factors (such as parental separation, substance abuse or incarceration). Furthermore, research highlights that individuals with more ACEs are more likely to also experience severe forms of traumas, such as sexual abuse and concurrent abuse, rather than simply accumulating less severe adversities (Reidy et al., 2021). Ultimately, not all ACEs have the same level of impact on an individual's mental health.

Window of Tolerance

Childhood trauma does not only negatively impact the stress response system, but it can also negatively impact regions of the brain associated with memory and emotional regulation, mentioned earlier in the chapter (McKissick, 2019). These alterations may lead to increased stress sensitivity and challenges in emotional regulation later in life. The window of tolerance represents a zone of arousal where a person can function optimally (Corrigan et al., 2011). In the event of trauma or extreme stress, an individual may surpass the threshold of tolerance and find themselves in either a hypoarousal or a hyperarousal zone. *Hypoarousal* provokes a state below a person's window of tolerance, such as dissociation, withdrawal and emotional numbness. In this state, individuals typically enter a 'freeze' response, unable to engage with their surroundings due to feelings of disconnection. *Hyperarousal*, on the other hand, encompasses feelings of anxiety and dread, placing an individual above their window of tolerance. It is characterized by an inability to think clearly or process information effectively, as the person is in a 'fight-or-flight' response. For children who have experienced chronic stress, the mere thought of the traumatic experience can trigger shifts into hypoarousal or hyperarousal states. Over time, this pattern can unduly heighten a child's sensitivity to potential threats and cause the child to develop improper stress responses. Impaired functioning of the stress response system can lead to challenges with emotional regulation and further compound the risk of prolonged stress, anxiety, and depression (Corrigan et al., 2011; Thompson et al., 2014). Furthermore, individuals subjected to early childhood trauma exhibit a diminished stress threshold and may possess reduced cortisol levels (McKissick, 2019), which can undermine their ability to adapt, cope and thrive under stress. These findings highlight the fact that people who encounter ACEs are more likely to struggle regulating their stress levels and managing emotions.

Preverbal Trauma

I would be remiss not to mention preverbal trauma when considering ACEs in young children. The research on preverbal trauma reflects that even though a child who experienced an ACE was not able to comprehend or remember the ACE, the trauma is internalized and repressed by the infant (Gaensbauer, 1995, 2002). Gaensbauer (2002) states that “preverbal children, even in the first year of life, can establish and retain some form of internal representation of a traumatic event over significant periods of time” (p. 259). Research indicates that preverbal trauma may adversely impact personality hardiness, potentially reducing resilience under stressful circumstances. The observed effects of body trauma include somatic symptoms such as unexplained pain and tension, as well as re-experiencing the trauma through physical sensations and discomfort (Gentsch & Kuehn, 2022). It can also lead to feelings of detachment from one's body or emotions contributing to various mental health conditions. Additionally, body trauma can disrupt the nervous system, affecting stress responses and impairing emotional regulation.

Transgenerational Trauma

The concept of transgenerational trauma is an important factor to consider when examining ACEs in relation to caregiver quality. Caregivers play a crucial role in transmitting cultural norms to children, shaping how they think, behave, and navigate the world. Similarly, caregivers affected by ACEs may unintentionally expose their children to similar adversities. This may occur due to the caregiver experiencing any number of the outlined symptoms associated with experiencing ACEs. Imran et al. (2021) highlights restricted self-awareness, emotional dysregulation, mental health challenges, or insufficient parental expertise as some of the ways that children get exposed to ACEs by their parents.

The current research primarily focuses on mothers who have suffered ACEs and how their ACEs affect their children. Research on fathers who have struggled with ACEs and how these experiences influenced fatherhood styles is more limited. This is largely because mothers play a more direct role in early childhood development, emotional bonding and caregiving. Given their central role in childhood development, research indicates that maternal mental health exerts a more immediate and profound influence on early infant development (Lamb, 2010).

Mothers who have been impacted by ACEs affect a child's mental health via social and psychological pathways. These pathways include problems with the mother's own mental challenges and her caregiving practices (Doi et al., 2021). Researchers suggest that a single issue—such as maternal ACEs—can set off a chain reaction, leading to psychological distress, which may then impact a mother's socioeconomic stability and parenting practices. Research has also found that a higher ACE score in a parent correlates with an increased probability of their child experiencing behavioral, physical, and/or mental health issues (Imran et al., 2021; Lê-Scherban et al. 2018). Children of mothers with elevated ACE scores exhibit both internalizing and externalizing symptoms by the age of three. Additionally, chronic health conditions, developmental delays, and emotional/behavioral issues are more prevalent in children of mothers with a high degree of ACEs. This is underscored by the observation that mothers with ACEs are more likely to experience distress and frustration in parenting, which negatively impacts their ability to raise their children optimally and increases the likelihood that their children will also experience ACEs (Schickedanz et al., 2018). Multiple studies highlight the crucial notion that maternal mental health problems are the leading cause of both depressive symptoms and behavioral problems exhibited in children (Doi et al., 2021; Schickedanz et al., 2018). Specifically, Doi et al. (2021) emphasize in their study that maternal ACEs from the

grandparental generation can have enduring consequences that transcend one generation, impacting the mental health of the mother's children. More precisely, Doi et al. (2021) discovered that the mother's emotional distress was responsible for around half (49.5%) of the association between maternal ACEs and the child's behavioral problems. The mother's psychological anguish also contributed 44.2% to the relationship between maternal ACEs and the depressed symptoms of her child. Although these findings are strong, the study has a key limitation: it did not measure whether a mother's ACEs influenced her parenting behaviors, so it is unclear if improving parenting skills could reduce the impact of maternal ACEs on a child's mental health. Lê-Scherban et al. (2018) suggest that the negative effects of parental ACEs can be reduced through protective factors like learning positive parenting practices and building strong social support.

The Role of Primary Caregivers

Developmental systems theory (DST) emphasizes that development emerges from the interaction of multiple systems, such as socioeconomic circumstances, cultural elements, parental behaviors, and biological predisposition (Moore, 2016). There are two primary perspectives about DST: one focuses on the many factors that contribute to development (Griffiths & Gray, 2004), while the other focuses on how development changes over time due to an individual's interactions with the world around them (Ford & Lerner, 1992). Together these two perspectives contribute to the idea that development is not a mere outcome of genetic determination but is constantly evolving through ongoing interactions that take place between the individual and the world around them.

While parents pass on unique genetic material to their children, they also serve as direct and indirect influences throughout their child's life (Moffitt & Maughan, 2010). Research

indicates that caregiving and attachment systems are interconnected. This suggests that how a child is raised is influenced by the parent's own attachment system (Doinita & Maria, 2015). Successful caregiving requires emotional regulation, sensitivity, and suitable responsiveness to the needs of others (Doinita & Maria, 2015). Caregivers with secure attachment styles are more likely to impart those characteristics to their children and often adopt an authoritative parenting style (Doinita & Maria, 2015; Niaraki & Rahimi, 2013). In contrast, caregivers with avoidant attachment are often emotionally distant with their children, maintain heightened expectations and establish rigid rules. These behaviors and standards tend to align with an authoritarian parenting style (Sanvictores & Mendez, 2022). While children that develop under authoritarian parenting styles are often well behaved and follow instructions, they have also been shown to demonstrate negative mental health outcomes, such as increased anxiety, depression, self-harm or aggression towards others. Additionally, these children may struggle with, self-esteem, emotional stability, and completing daily activities. Caregivers with anxious attachment styles, on the other hand, tend to have low expectations for their children, and introduce limited rules (Doinita & Maria, 2015; Niaraki & Rahimi, 2013). These tendencies typically align with a permissive parenting style. While this parenting style has been shown to cultivate good social skills and positive self-esteem in children, it has also been linked to the development of impulsive, demanding and selfish traits. Additionally, children raised in permissive environments can sometimes have difficulty with self-regulation. Caregivers with these insecure attachment styles often find it challenging to strike a balance between protecting themselves and stepping beyond their own needs to support and guide their child. The final parenting style to explore is uninvolved parenting. This approach provides a child with considerable autonomy, offering little to no nurturing, no discipline and sparse expectations. While children raised by uninvolved

parents may develop resilience out of necessity, they are more likely to struggle with emotional regulation, possess a lack of coping strategies and face difficulties maintaining social relationships.

Across the research, authoritative parenting consistently emerges as the most effective approach for supporting the development of secure and healthy children (Rezai Niaraki & Rahimi, 2013), however, incorporating some elements of authoritarian or permissive styles can still lead to positive outcomes (Lavrič & Naterer, 2020). While some aspects of authoritarian and permissive styles of parenting may be positive for children, research has shown that if a parent's parenting style is completely void of authoritative tendencies, children will often demonstrate lower levels of life satisfaction. The research highlights that parental styles have a very significant influence on many important aspects of a child's life such as emotional competence (Mortazavizadeh et al., 2022), behavior (Hosokawa & Katsura 2018), anxiety levels (Timpano et al. 2015) and creativity (Mehrinejad et al., 2015).

Current research presents conflicting views on whether a person's attachment style is permanent or whether it can change over time with environmental shifts and caregiver growth (Thompson, 2000). Regardless, the primary caregiver's role in establishing secure attachment is critical. For example, Ontai & Thompson (2000) indicate that children's comprehension of emotions undergoes substantial growth during the period of 3 to 5 years. Children who have secure attachments and engage in frequent conversations with their mothers exhibit a more profound understanding of emotions by the age of five. This highlights the significance of secure attachment and the lasting impact of early social interactions on cognitive and emotional development.

Epigenetics examines how environmental influences and life experiences can modify gene expression without changing the fundamental DNA sequence. Epigenetic studies were originally based on animal research, particularly involving mice and rats (Champagne & Meaney, 2001; Leckman & Herman 2002; Liu et al. 1997). These studies found that the behavior of the mother toward her offspring would impact the regulation of stress hormones (Fonagy et al. 2007). Offspring that received higher levels of attention and nurturing exhibited reduced levels of stress hormones. Consequently, initial patterns of maternal care have been demonstrated to affect DNA structure and gene expression, subsequently impacting the brain's ability to regulate the psychological stress response. A recent study on humans also confirmed that maternal care can influence stress response through behavioral programming and epigenetic changes in children (Lester et al. 2018). Conversely, long periods without maternal attention and reduced responsive caregiving increased the level of stress hormones (Fonagy et al. 2007).

Since attachment and epigenetics are experience-dependent actions, the results do not depend on the caregiver being the biological parent of the child. As a result, children raised by caregivers other than their biological parents are also significantly influenced by their caregivers' behaviors towards them.

The Role of Secondary Caregivers

In today's busy world, many primary caregivers must rely on others - such as extended family, babysitters, nannies, neighbors or caregiving institutions - for childcare support. Whether a child spends most of their time with their primary or secondary caregivers, all caregiving figures play a vital role in shaping a child's development (Rothenberg et al., 2024). By providing reliable childcare, secondary caregivers not only allow parents to focus on essential tasks, such as work or self-care, but they also offer emotional support that can help reduce parental stress

(Parkes et al., 2015; Raikes et al., 2019). In turn, this stress reduction enables parents to be more effective caregivers (Raikes et al., 2019). Secondary caregivers, however, can also become entangled in complex family dynamics, which may, in turn, affect the caregiving environment and influence the child's developmental trajectory (Yakeley, 2017). High-quality caregiving environments promote enhanced learning and positive behavioral outcomes, while poor-quality care and caregiving environments can have detrimental effects (Raikes et al., 2019).

Furthermore, care institutions can contribute to fostering secure child attachments and enhancing the parent-child relationship by encouraging the primary caregiver to visit the childcare setting and engage in collaborative bonding activities with the child (Marty et al., 2005).

Extended Family, Babysitters, Nannies, and Neighbors

Secondary caregivers, such as nannies, frequently assume critical positions within families, significantly impacting the emotional and psychological development of children (Yakeley, 2017). Imran et al. (2021) briefly addressed that secondary caregivers may also possess ACEs which can affect children under their care. The article emphasized the need to consider how family members, who are not the primary caregivers, can still impact the child's development given the transgenerational nature of ACEs. Furthermore, Tong and Kawachi (2021) found children predominantly raised by grandparents during infancy exhibited a greater number of ADHD symptoms by the age of preschool. The exact reason for this is unclear, but there are several factors that may contribute to it. First, grandparents may face physical and mental limitations that reduce their ability to provide consistent attention and engage in stimulating, interactive experiences, potentially delaying a child's social development. Second, grandparents may be overprotective and limit the child's physical activity, due to concerns of safety or hygiene. This restriction can prevent healthy development of reflexes or impair

cognitive and motor development, potentially contributing to ADHD symptoms (Tong & Kawachi, 2021). This brief exploration of the role of nannies and extended family as caregivers highlights the significant impact that non-parental care can have on children's behavioral outcomes.

Caregiving Institutions

The influence of caregiving institutions on child development is well-documented. Lowe Vandell (2010) found that children who experienced high-quality and longer durations of daycare during their early years were more likely to perform better academically and attend more prestigious colleges later in life. For females, spending more hours in caregiving institutions was associated with improved impulse control and a reduction in risk-taking behaviors. Another study found that at 15 months, interactions between caregivers and children in daycare facilities were significantly less supportive than those at home. By 23 months, however, caregiving institutions often exceeded the quality of support provided by parents at home (Gevers Deynoot-Schaub & Riksen-Walraven, 2008). This suggests that when caregivers are intentional, focused, and dedicated to teaching and supporting the child, it leads to positive developmental outcomes. It also demonstrates the potential for caregiving institutions to offer support that may sometimes surpasses parental caregiving capabilities, highlighting the importance of quality caregiving. Additionally, it emphasizes that secondary caregivers can serve as vital resources for primary caregivers, by complementing or enhancing parental influence.

Further research suggests that child development does not differ significantly based on whether the child is being cared for at home or in a day-care setting (Limtrakul et al. 2020). Both environments can facilitate comparable developmental growth when high-quality care is provided (Dwiyatna et al., 2020; Pierrehumbert et al., 2002) *High-quality care* generally refers to

caregiving environments that are nurturing, responsive, and attentive to a child's emotional and psychological well-being.

Despite the substantial influence that childcare institutions have on the child's development, research indicates that the family environment has the most profound influence on a child's overall growth and development (NICHD Early Child Care Research Network, 2002). Nonetheless, the stability of childcare arrangements remains crucial for the child's emotional development and attachment security (Yakeley, 2017). Pilarz and Hill (2014) suggest that frequent changes in childcare arrangements during the first three years of life can lead to externalizing behavioral issues, such as anger and hyperactivity. Additionally, having multiple concurrent childcare arrangements is associated with an increase in internalizing and externalizing behaviors. Furthermore, replacing a primary caregiver - especially one to whom the child has already formed an attachment - can result in internalizing behaviors such as anxiety and depression (Pilarz & Hill, 2014).

Counselling ACEs

Since symptoms of ACEs are so wide-ranging, there is no single intervention universally recognized as the best treatment. Lorenc et al. (2020), conducted a systemic review and highlighted a lack of comprehensive evidence regarding effective interventions for ACEs. Tailored interventions that account for the complexities and impacts of ACEs are likely to produce the best outcomes. For example, higher ACE scores are associated with treatment-resistant depression and greater likelihood of recurrent or chronic depression (Giampetruzzi et al., 2023). Such cases can complicate the standard treatment approach and may require integrative therapies with a trauma-informed focus. Additionally, trauma-focused cognitive behavior therapy (TF-CBT), eye movement desensitization and reprocessing, and mindfulness-

based therapies show promise in reducing co-occurring PTSD and substance misuse (Molina & Whittaker, 2022), both of which can be symptoms of ACEs. Targeted mindfulness-based interventions (MBIs) have also been found to improve mood, anxiety and emotional regulation for clients with ACEs (Moyes, 2022). Furthermore, dialectical behavior therapy (DBT) was originally designed for individuals with emotional dysregulation but has been shown to be effective in managing complex trauma resulting from early childhood experiences, particularly sexual abuse and violence (Michałowska & Chęć, 2024). Additionally, LaForce (2021) presents an innovative approach that integrates DBT with art therapy to assist traumatized children, aiming to enhance emotional regulation by encouraging them to externalize and process their complex emotions.

Attachment-based therapy (ABT) is not a structured therapy like cognitive behavioral therapy (CBT) or dialectical behavior therapy (DBT). Instead, it is a framework that integrates attachment theory into various therapeutic approaches to address issues related to early relational trauma, insecure attachments, and emotional regulation. This therapy can provide support for a variety of symptoms related to ACEs. For example, attachment theory can inform the treatment of substance use disorders (Fletcher et al., 2014), which research indicates can result from early childhood trauma and insecure attachments. This highlights how trauma-informed care and attachment-based approaches can help individuals understand the origins of their struggles and work toward healing. In the context of caregiving, an attachment-based approach operates on two levels. First, it helps adults explore their own attachment styles and early relationships with their caregivers. Second, it fosters awareness of how these attachment patterns influence their relationships with their own children. Due to this dual impact, attachment-based approaches are relevant to the next section of this chapter.

Most existing approaches intended for addressing ACEs typically focus on mitigating individual psychological harm rather than targeting the broader social determinants associated with causing ACEs (Lorenc et al. 2020). Certain aspects such as community violence, systemic inequality, family instability, and lack of access to education or healthcare, create environments where ACEs are more likely to occur. Nevertheless, research is more heavily concentrated on interventions to help individuals already suffering from the effects of ACEs, rather than being geared toward discovering the root causes of and preventing ACEs in vulnerable communities.

Counseling Caregivers and Children

Dowell and Ogles (2010) found that including parents in therapy can enhance treatment outcomes for children. This method allows caregivers to bond with the child and more clearly understand the child's difficulties, acquire good coping mechanisms, and offer constant assistance at home. Active parental involvement can enhance therapy, leading to more substantial and enduring changes in the child's well-being.

Attachment-based family therapy is empirically supported and improves family relationships, but it is primarily focused on the relationship between caregivers and adolescents (Diamond et al., 2021). The findings highlight the potential of attachment-based interventions to positively influence toddler attachment security; however the information is limited and further research is required (Kohlhoff et al., 2022). Two therapies that appear well suited for young children are child-parent psychotherapy (CPP) and parent-child interaction therapy (PCIT).

CPP is founded on attachment theory and incorporates aspects of psychodynamic, developmental, trauma, social learning, and cognitive-behavioral theories (Reyes et al., 2024). The treatment consists of collaborative sessions with the child and their caregiver aimed at improving caregiver sensitivity and the way they respond to their child's needs. A fundamental

component of CPP is recognizing and rectifying ‘ruptures in safety’ within the child-caregiver connection, while striving to reconstruct a protective and caring environment (Ghosh Ippen & Lieberman, 2024). Therapists work with parents to create developmentally suitable and emotionally helpful explanations for the child's experiences, promoting comprehension and empathy. CPP has shown to be useful in alleviating issues with behavior, decreasing the effects of trauma and strengthening the parent-child bond (Reyes et al., 2024). Reyes et al. (2024) outlines that CPP can also be adapted to prenatal stages which underscores its versatility and broad applicability.

Parent-child interaction therapy (PCIT) also uses a dyadic approach, where the parent and child meet for sessions, while the parent is simultaneously being coached via earbuds by a therapist. The parent and child are observed as they play from behind a two-way mirror (Bjørseth & Wichstrøm, 2016), allowing for immediate, tailored interventions based on real-time observations, rather than depending exclusively on parental accounts. PCIT results in both children exhibiting a decrease in behavioral problems and parents improving their parenting skills long term. PCIT uses a two-phase model, the child-directed interaction (CDI) and the parent-directed interaction (PDI). PCIT is highly effective because it actively engages both the parent and the child while providing real-time training for the parent. Moreover, engagement with this practice extends the quality time caregivers and children spend together. These aspects of PCIT have been shown to increase the connection and attachment of the caregiver and the child and encourage the parents to learn to discipline their child’s specific behaviors. Evidence suggests that PCIT works immediately and is effective long term. Finally, this method can be used universally, regardless of socioeconomic or cultural differences. Research supports that an intensive short-term PCIT format is both feasible and effective in addressing behavioral issues in

young children (Graziano et al., 2015). PCIT-T is intended specifically for toddlers and is an attachment-informed intervention model that meets the developmental needs of toddlers, with the same aim as the standard PCIT approach (Kohlhoff et al., 2022).

A variety of therapeutic models - such as Tuning in Toddlers[®], Circle of Security[®], Attachment and Biobehavioral Catch-Up - are available to support caregivers and children through their challenges. A review of these interventions reveals a pattern of the same recurring challenges in child-caregiver relationships, for which a few key strategies consistently emerge as being effective. Specifically, these approaches focus on repairing attachment security and increasing caregiver responsiveness to the child's emotional needs (Bjørseth & Wichstrøm, 2016; Ghosh Ippen & Lieberman, 2024). They also emphasize enhancing the caregiver's capacity to control their own emotions and encourage their child's co-regulation (Havighurst et al., 2019). A central theme across these interventions is teaching caregivers to closely observe their relationship with their child, recognize emotional cues, and respond appropriately to address any negative symptoms. This process often includes caregiver self-reflection and psychoeducation aimed at improving caregiving practices.

Caregiver Interventions

Jeong et al. (2021) found that parental interventions have been shown to boost the cognitive, language, motor, socioemotional, and attachment progress of young children, while also mitigating behavioral issues they may be exhibiting. Parenting interventions positively enhanced parenting knowledge, parenting practices, and parent-child interactions. Interestingly, parental interventions were found to have a much greater influence on children's cognitive, linguistic, and motor development in low- and middle-income nations than in high-income countries. These research outcomes could potentially be explained by the fact that people in

lower- and middle-income countries tend to have a lower baseline of parenting and development knowledge. That is, when measuring the positive impact of parental interventions, a higher degree of improvement may indicate that parents in more difficult circumstances had less of a solid baseline to begin with. Additionally, these higher reported scores could be attributed to the more prominent role extended families play in raising children in lower- and middle-income countries compared with high-income countries.

According to Jeong et al. (2021) parenting programs delivered through group sessions or home visits by trained professionals were effective in mediating negative mental health behaviors in children. Similarly, Furlong et al. (2012) supports the notion that short term, group-based parenting programs enhance the development of positive parenting skills and effectively address childhood behavior problems. Such programs have been shown to alleviate parental anxiety, tension, and melancholy. Despite there being confirmation supporting the efficacy of these methods, Ahun et al. (2024) note that the specific modes of parenting program delivery are inadequately documented. As a result, it has not been possible to definitively associate a particular delivery method with improved parental interventions or positive mental health outcomes in children. Other delivery options for parenting interventions include online programs and courses, mobile apps, telehealth services, workshops and seminars, books and videos, peer mentoring, interactive platforms, group therapy, and social media.

The research outlines that engagement in parenting intervention programs, and the retention of parents in those programs is challenging (Fraynt et al., 2014). Brief parenting interventions have demonstrated greater efficacy in engaging and retaining parents, leading to positive treatment outcomes (Timmer et al., 2023). Podcasts hold significant promises as effective tools for the promotion of mental health as they have potential of generating robust

engagement, which would in turn positively impact knowledge and behavior (Robins et al., 2024). Podcasts offer parents the opportunity to multitask while engaging with valuable learning content. Additionally, research has shown that the retention rate from listening to podcasts can be comparable to that of reading textbooks, making them an effective learning tool (Wolpaw et al., 2022).

An evidence-based strategy that has been shown to help parents of young children improve their parenting skills is the Triple P - Positive Parenting Program[®] (Triple P[®]). Triple P[®] is delivered in multiple modalities including seminars, group sessions and individual consultations (Sanders, 2023). This method focuses on enhancing parenting competencies, promoting positive child development, and preventing behavioral and emotional problems in children. What makes Triple P[®] effective is its focus on providing flexible interventions and positive parenting. Moreover, it is evidence-based, offering both broad and targeted lessons, while teaching caregivers long term-skills. Triple P[®] is culturally versatile, accommodates all phases of a child's growth, and has been modified for children with special needs and developmental delays.

There are three prominent programs in Canada that offer training in early parenting interventions: Incredible Years[®], Parent Management Training, and Attachment and Biobehavioral Catch-Up. All three programs prioritize the enhancement of parent-child relationships by promoting good communication, increasing warmth and responsiveness, and mitigating negative parental behaviors. The programs also aim to address children's behavioral issues, by equipping parents with strategies to reduce problem behaviors. They focus on parental empowerment, by increasing the parents' knowledge and skills and offering therapeutic support.

Summary

The reviewed research indicates that ACEs hinder the healthy development of a child's brain. These impacts can have lifelong consequences, to the detriment of the individual, as well as society at large. Individuals with ACE often have increased physical afflictions, reduced abilities to regulate their emotions and are at a higher risk of suffering from mental health issues. As a result, they may be less capable parents compared to people who have not experienced ACEs. Furthermore, if individuals with ACEs become caregivers themselves, they are more likely to develop an insecure attachment to their own children, thus perpetuating the cyclical nature of ACEs. A variety of interventions are available to assist caregivers in recognizing and treating their early traumas and helping them build stronger bonds with their children. These interventions can be a powerful tool to break the transgenerational trauma.

Chapter Three: Intervention

This chapter will integrate the studies referenced in the preceding chapter to provide an intervention to assist caregivers with ACEs. I will then broaden our focus and briefly discuss the broader implications of ACEs in society.

Unresolved Trauma

As outlined in the previous chapter, experiencing ACEs can cause a variety of physical, emotional and mental health issues in adults. When these adults become parents, their unresolved trauma can inadvertently place their children at risk of experiencing their own trauma. Main (2000) concluded that adults with unresolved trauma struggle to articulate their memories and experiences with their own parents coherently and logically. Instead, they often narrate their experiences in a confusing, inconsistent, or emotionally charged manner, rather than recounting them in a structured and introspective way. This approach makes it difficult for them to understand and process their relationship with their parents. The ability for them to examine their traumatic experiences with their parents, however, is crucial for them to be able to comprehend how the ACEs related to their parents, influence their emotions, actions, and parenting practices in their present life. Unprocessed trauma can unknowingly affect individuals' interactions with their children. This can result in emotional detachment, inconsistent caregiving, or the repetition of negative patterns from their own childhood. The ability to comprehensively understand their past in a structured manner provide caregivers with the skills necessary to disrupt these negative patterns, cultivate healthier relationships, and create a more stable and supportive environment for their children. Additionally, this understanding can help them become more emotionally available, help them regulate themselves, and address their child's needs supportively rather than getting triggered and responding based on their prior traumas.

The research overwhelmingly underlines the necessity of early intervention in mitigating the long-term impacts of ACEs, suggesting that addressing childhood trauma can reduce their lasting negative consequences (Allbaugh et al., 2024; Silva et al., 2024). Daines et al. (2021) underscores the significance of fostering positive early-life experiences alongside addressing negative ones to support long-term family well-being and prevent intergenerational health issues. Narayan et al. (2021) highlights that the risk of intergenerational ACEs come from parents' childhood experiences. The parents' positive childhood experiences, likewise, can also be transmitted to the child. To enable caregivers to effectively implement strategies that promote healthy child development, it is crucial to first address the parents' own past trauma through support and intervention. This, in turn, will enhance their parenting skills and improve their children's well-being (Wattanatchariya et al., 2024).

Positive Childhood Experiences (PCEs)

The most common ACEs mentioned in the research are abuse and household dysfunction (Crandall et al., 2020; Nurius et al., 2019). These are consistently linked with mental health issues and chronic conditions later in life. Symptoms of ACEs can manifest differently in everyone, therefore, it is important to know which ones are most harmful and target interventions accordingly. Understanding the full impact of ACEs, is crucial for designing effective prevention programs. Some research (Crandall et al., 2020; Sousa et al., 2025) has highlighted the importance of positive childhood experiences (PCEs) and their lasting effects into adulthood. This research suggests that children who have PCEs, such as consistent and supportive relationships with caregivers, positive reinforcement, access to education, and community support are better equipped to handle stress and adversity, fostering resilience (Crandall et al., 2020; Sousa et al., 2025). Sousa et al. (2025) states that PCEs buffer the negative effects of

ACEs, and reduce the risk of mental health disorders, resulting in fewer behavioral problems and improved social performance. As with ACEs, these impacts last throughout one's lifetime. PCEs have the potential to cultivate a sense of self-worth, agency, and belonging that are essential for a healthy life.

Intervention

Based on the information discussed thus far, I would like to introduce the concept of a podcast designed to support caregivers who have experienced ACEs. Each episode will be divided into three parts. The first will provide helpful psychoeducation for the caregiver, on a chosen topic related. The second part will focus on equipping caregivers with tools and skills to manage or resolve their ACE symptoms. The third part will offer strategies, related to the episode topic, to help caregivers in raising their young children.

The body of research collectively reinforces that adults with ACEs often struggle with emotional regulation, social relationships, anxiety, depression, substance abuse and chronic health problems (Silva et al., 2024). These adults are more likely to exhibit adverse parenting practices, such as harsh punishment, emotional unavailability, or inconsistent caregiving. For instance, children of parents who have experienced post-traumatic stress symptoms often view their parents as emotionally unavailable, inconsistent, or overwhelmed (Allbaugh et al., 2024). These perceptions can lead to increased anxiety and emotional challenges in children. Trauma in parents can also manifest in insecure attachment to their children, a concept outlined in Chapter Two: Literature Review, which has been shown to negatively impact both the caregiver-child relationship and the child's future social and emotional development (Doyle & Cicchetti, 2017). This includes deficits in social-emotional competencies, and persistent difficulties in forming

healthy relationships. Broadly speaking, attachment plays a critical role in infancy and influences subsequent adaptive or maladaptive functioning.

The first part of the podcast will focus on providing foundational knowledge to the caregiver and will cover crucial topics, such as trauma, the nervous system, stress responses, and attachment theory. The second part of the podcast will introduce practical techniques for caregivers to help manage their own well-being. These techniques will cover areas like mindfulness, grounding, managing emotional triggers, self-regulation, boosting self-esteem and self-worth, and addressing issues like codependency, people-pleasing, boundary setting, escapism, avoidance, and withdrawal. The goal of this section is to equip caregivers with tools to enhance their emotional resilience and self-awareness, empowering them to better support themselves. As indicated by the research from the previous chapter, current parent-child support groups and therapy programs tend to focus on improving communication, increasing warmth and responsiveness, and addressing adverse parenting behaviors. These programs primarily aim to modify children's behavior by providing parents with strategies to manage problematic behaviors, while also emphasizing parental empowerment through strengthening parents' knowledge and skills. The third part of the podcast will shift focus to the child. Psychoeducation will be aimed at helping caregivers understand their child's developmental needs. Topics will include the pros and cons of different parenting styles, routine and consistency, the replication of trauma across generations, early brain development, and key child milestones. Parents will also be introduced to practical strategies such as play-based parenting, responsive parenting, positive reinforcement, modeling emotional regulation, communicating with babies and toddlers, boundary setting with their child, fostering responsibility and effective discipline techniques (Hughes, 2009; Sanders & Mazzucchelli, 2017). Together, the three parts of the podcast will

provide caregivers with knowledge and tools to navigate the challenges of raising children while fostering personal healing and growth. By addressing the needs of both the caregiver and the child, the podcast aims to break the cycle of trauma and build healthier, more supportive family dynamics.

There are several advantages to delivering this intervention in a podcast format. First, accessing therapy services can be hindered by various barriers, such as geographical limitations, a shortage of trained professionals, stigma and cultural opinions, financial constraints, and technological limitations (Dew et al., 2012). Second, as discussed in Chapter Two: Literature Review, engagement and retention in parenting programs can be challenging with factors such as financial constraints, time limitations, inconvenient locations, scheduling, parenting stress, burnout, and anxiety over group settings, impacting participation. The podcast format is flexible in that it allows caregivers to listen at convenient times and from the comfort of their home, eliminating the need for someone else to watch their child. Podcasts provide accessible, on-demand information, which makes them a practical solution for caregivers. The content is concise and focused, saving time and allowing caregivers to quickly engage with topics that interest them most. Finally, they are affordable and accessible to anyone with internet access. It is important to note that while podcasts can be an effective tool, many caregivers would still need to seek counselling or attend support groups to address the impacts of ACEs more deeply. This podcast is not intended to replace professional help.

Podcast Episodes

Each podcast episode will be approximately 45 minutes in length. The podcast will begin with a short introduction of the topic, followed by ‘foundational knowledge’, ‘nurturing the

caregiver’, supporting the child’ and a short conclusion. Below is a preview of the format for the first four episodes:

- Episode 1: What is trauma?
 - Foundational knowledge: Overview of trauma and ACEs.
 - Nurturing the caregiver: Recognizing your own trauma responses.
 - Supporting the child: Understanding your child’s trauma response.
- Episode 2: The science of trauma.
 - Foundational knowledge: Understanding how the nervous system works.
 - Nurturing the caregiver: Regulating your nervous system.
 - Supporting the child: Helping your child co-regulate.
- Episode 3: Attachment theory.
 - Foundational knowledge: Exploring attachment styles.
 - Nurturing the caregiver: Understanding your attachment style and how it impacts you.
 - Supporting the child: Steps to build secure attachment with your child.
- Episode 4: Emotional triggers.
 - Foundational knowledge: List common triggers and where they come from.
 - Nurturing the caregiver: Learning to recognize your triggers and where they come from.
 - Supporting the child: Becoming aware of your child’s triggers and what you can do to help them.

Other episode topics would include coping strategies, modeling emotional regulation, self-worth, self-esteem, brain development, boundary setting, parenting styles, routines and consistency,

play-based parenting, positive reinforcement, communication, self-compassion, reparenting, support systems, emotional processing, mindfulness, conflict resolution.

Episode Outline

Below is a brief outline of what would be included in the first episode.

Introduction

This section would introduce the host, the topic and the flow of the podcast.

Foundational knowledge: What is Trauma and what are ACEs?

This section would provide the psychoeducation on the chosen topic, as illustrated by the following example. Trauma is defined as an emotional, psychological, or physical response to a deeply distressing or disturbing event (Perrotta, 2020). Trauma is often categorized into two main types, acute trauma and chronic trauma. Acute trauma is caused by a single event, for example being involved in a car accident. While chronic trauma is caused by repeated events, such as a child growing up in a household where there is ongoing verbal abuse. Trauma can manifest in multiple ways depending on the nature and duration of the experience. Some physical symptoms that can develop from trauma include chronic stress, a weakened immune system, sleep problems, and physical pain. Mental health problems that may arise from trauma include post-traumatic stress disorder, depression, anxiety, emotional dysregulation, cognitive impairments and relationship difficulties. Trauma can also impact the brain, leading to problems with concentration, memory problems, or intrusive thoughts. Finally, behavioral impacts of trauma can include substance abuse, self-harm, risky behaviors, or withdrawing from social interactions.

ACEs are traumatic events that occur before the age of 18, and their presence is linked to negative consequences in both childhood and adulthood. The recognized ACEs include (HealthLink BC, 2022):

- a) Experiencing violence, abuse or neglect.
- b) Witnessing violence in the home or community.
- c) Having a family member attempt or die by suicide.
- d) Growing up in a household wherein someone in that household is struggling with substance use issues.
- e) Growing up in a household where someone in that household is struggling with mental health issues.
- f) Instability due to parental separation.
- g) Instability due to household members being incarcerated.

Trauma impacts the stress response systems and brain areas related to memory and emotional regulation. There is a concept called the window of tolerance, which refers to a zone where the person is feeling balanced while experiencing emotions and undergoing stress (Corrigan et al., 2011). Experiencing trauma can push someone into hypoarousal or hyperarousal. Hypoarousal is below the window of tolerance and happens when a person becomes emotionally numb or detached. Hyperarousal is above the window of tolerance, and it leads to the opposite reaction, such as stress or anxiety. When a person is outside of the window of tolerance - either feeling hypoarousal or hyperarousal - they have a more difficult time managing their emotions or dealing with stress.

Children with history of trauma develop heightened sensitivity to threats, impacting their emotional regulation and stress responses. Even if a child cannot consciously remember

traumatic events, they can experience preverbal trauma (Gaensbauer, 1995, 2002). Preverbal trauma occurs before a child can verbalize it, yet it can still have lasting impacts. This type of trauma can affect resilience, cause somatic symptoms, and contribute to mental health conditions like dissociation and emotional detachment. Preverbal trauma can also disrupt the nervous system, impair emotional regulation, and create lifelong difficulties with stress responses. A stress response is activated when a person perceives they are in danger. To help the body escape danger, the stress response is activated, which can manifest in different ways for different people. The stress responses are fight, flight, freeze or fawn.

Nurturing the caregiver: Recognizing your own trauma responses

This section focuses on tools and strategies for the caregiver, as per the following example. Parents' nervous systems can react to stressful situations in ways that often reflect their ACEs. We will now go through the four types of stress responses (Bracha, 2004; Schauer & Elbert, 2010):

- In the fight stress response, you are apt to become frustrated easily, controlling, or overly reactive when feeling a sense of overwhelm.
- With flight, you feel like you want to escape, in both a mental and physical manner, avoiding conversations, or immersing yourself in a distraction.
- The freeze response is like emotional numbness, feeling 'shut down' or disconnected from your child in a way that does not allow you to recognize their needs.
- In fawn you will over-accommodate, seek to avoid conflict, or struggle to make boundaries, all in service of 'keeping the peace' in order to feel safe.

Emotional triggers:

- When your child behaves in a certain way - for example when they cry or throw tantrums - it may trigger strong emotional responses that are more intense than the reality of the immediate situation. These triggers in your body may be associated with prior experiences in which you felt unheard, powerless or unsafe (National Child Traumatic Stress Network, n.d.).

Unrecognized trauma responses can influence your interactions with your child, resulting in:

- Difficulty in establishing boundaries or maintaining consistency.
- Your child's emotional requirements are either overreacted or underreacted to.
- Experiencing emotional exhaustion or estrangement (Afzal et al., 2023).

Steps toward awareness & healing:

- **Pause and identify:** Observe your immediate reactions. What are you thinking and feeling?
- **Ground yourself:** Ease your nervous system by engaging in deep breathing, mindfulness, or movement.
- **Self-compassion:** Remind yourself that your capacity to parent with love and intention is not determined by past trauma.
- **Seek assistance:** Emotional regulation skills can be developed, and past trauma can be processed through mindfulness practices, support groups, or therapy.

Supporting the child: Understanding your child's trauma response

This part of the podcast would shift the focus to the child, as per the illustrated example. Young children process trauma differently than older children or adults. Their trauma can manifest in some of the following ways (National Child Traumatic Stress Network, n.d.; Perry & Pollard, 1998; Vanderzee et al., 2018):

- Increased separation anxiety - A child may experience difficulty being alone, become excessively attached, or feel anxious about being away from their caregiver.
- Regression - They may revert to behaviors that they had previously outgrown, such as thumb-sucking, bedwetting, or requiring a pacifier.
- Enhanced irritability or emotional outbursts - Frequent tantrums, excessive weeping, or difficulty soothing may indicate distress.
- Withdrawal or avoidance - Certain children may exhibit a lack of interest in play and interaction, become unresponsive, or become silent.
- Physical complaints - Stress may be indicated by unexplained stomach pains, migraines, or changes in eating and sleeping patterns.
- Hypervigilance - When a child is unduly vigilant to noises or changes in their environment, they may appear jumpy, easily startled, or overly attentive.
- Aggression or defiant behavior - They may exhibit aggression by striking, biting, or resisting direction as a means of expressing their overwhelming emotions.
- Repetitive play - As a coping mechanism, certain children reenact distressing experiences through play, employing figurines, drawings, or fabricated scenarios.

How caregivers can support their child (Amen & Fay, 2024; Bornstein, 2019; National Child Traumatic Stress Network, n.d.):

- Ensure predictability: Routine benefits young children. A sense of security is established by a consistent daily routine.
- Provide comfort and connection: Quality time, comforting words, and physical contact can be used to reestablish trust.

- **Helping name emotions:** As children may not possess the ability to articulate their trauma, it is important to label emotions for them. For example, “I see that you are scared. I am here to keep you safe.”
- **Demonstrate calmness:** The child's sense of security is bolstered by your own emotional regulation. Use a calm tone and deliberate respiration to reassure them.
- **Ensure the safety of the environment:** Minimize the presence of unpredictable situations, harsh discipline, or scary sounds that could potentially exacerbate their stress.
- **Foster play and expression:** Children are able to process emotions nonverbally through the use of art, music, movement, and storytelling.
- **Seek professional assistance if required:** Trauma-informed therapy, such as play therapy, can foster healing if symptoms persist or impede daily life.

Summary and Conclusion

Finally, this section of the podcast would summarize the key learnings and outline where sources and more resources can be found. I would also suggest incorporating a question-and-answer episode after every three to four episodes. This can provide an opportunity to address and answer the most common questions caregivers have, fostering a sense of community among listeners. It will also validate many of their concerns, helping them feel understood and supported. By providing a platform for interaction, these episodes will reassure listeners that they are not alone in their challenges and experiences. Furthermore, I suggest that each podcast includes links to sources in the show notes allowing listeners access to the full information referenced. Additionally, mental health resources related to the episode's topic should be offered to listeners in the show notes. Finally, I believe it would be beneficial to occasionally invite

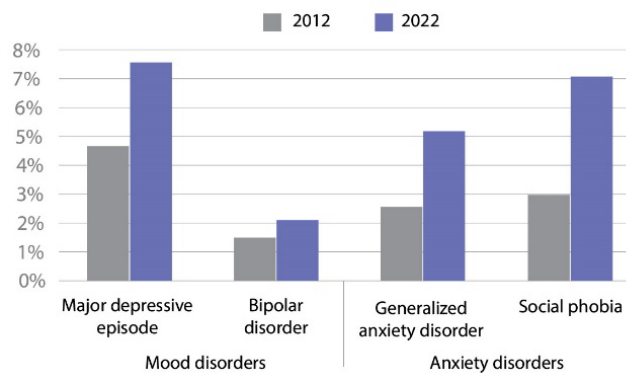
parents as guests on the podcast, to discuss experiences they lived through and lessons they learned, to further help foster a sense of connection with listeners and validate their experiences.

Broader View

Mental health profoundly affects life satisfaction, frequently surpassing the impact of other usually considered factors, such as income and general health (Lombardo et al., 2018). Tackling mental health concerns can result in significant enhancements in overall life happiness. However, according to data from 2022, 18% of Canadians aged 15 and older met the diagnostic criteria for a mood, anxiety or substance use disorder (Stephenson, 2023). Additionally, the prevalence of mood and anxiety disorders in Canada increased from 2012 to 2022, as per the table below:

Figure 1

12-month prevalence of selected mental disorders



Note: The comparison on the prevalence of social phobia was based on data from 2002 and 2022.

From Stephenson, E. (2023). *Mental disorders and access to mental health care. Insights on Canadian Society*. Statistics Canada.

<https://www150.statcan.gc.ca/n1/pub/75-006-x/2023001/article/00008-eng.htm>

Unmet or partially met counseling needs were reported by 30.5% of individuals with a mood, anxiety, or substance use disorder, while 17% had an unmet or partially met need for

additional information. Furthermore, the Canadian Institute for Health Information (2024) indicated that the median wait time to see a community mental health counsellor was typically 25 days between 2023 and 2024. This data suggests that there are now more individuals who are facing challenges with mental health and who are also facing difficulties in accessing essential information and support. Even when people manage to schedule an appointment with mental health practitioners, long waiting times often prevent them from receiving timely and effective help for their immediate needs. To reduce long-term mental and physical health issues, and ultimately decrease the strain on the healthcare system, raising holistically healthy children is essential (Nurius et al., 2019). Specifically, addressing early life adversity, such as ACEs, is a key aspect to ensuring that children grow up to be healthy adults. By focusing on educating caregivers on how to raise resilient, healthy children, we can decrease the prevalence of ACEs and promote the development of individuals who are less likely to face chronic diseases or mental health challenges later in life (Nurius et al., 2019; Yu et al., 2022). Investing in preventive measures, such as the proposed podcast, has the potential to enhance quality of life, improve the efficiency of the healthcare system, and strengthen societal well-being. This in turn, can enhance overall quality of life and ultimately lead to a healthier, happier, and more productive population (Nurius et al., 2019).

Final Note

Metzler et al. (2017) state that, “assuring the healthy development of all children is essential for societies seeking to achieve their full health, social, and economic potential” (p. 141). For these objectives to be met, preventing early adversity, including child abuse and neglect is critical. Families, communities, organizations and governments must all work together to achieve these goals. I believe that children are the foundation of society, and their mental and

physical health should be a priority for everyone. Although numerous factors can affect an individual's mental and physical health across the lifespan, ACEs consistently emerge as a leading and preventable contributor of lifelong challenges. That is why for my capstone, I chose to focus on:

1. Educating caregivers on early childhood development.
2. Highlighting the profound impact of ACEs on an individual's mental and physical health.
3. Explaining how the symptoms experienced by caregivers are passed down to their children, perpetuating the cycle of trauma and illness.
4. Introducing a podcast as an accessible platform to support caregivers in addressing the effects of ACEs and enhancing their parenting practices.

I hope this paper has provided valuable insights and inspires thoughtful reflection on how we can more effectively support caregivers in caring for themselves and nurturing a healthier, happier next generation.

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