

# Adverse caregiving in early life: The trauma and deprivation distinction in young children

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## ABSTRACT

Knowledge and understanding about the impact of cumulative adverse experiences on the health and wellbeing of children, adolescents, and adults has rapidly expanded over the past 30 years. Despite the invaluable attention and support this proliferation has drawn to the importance of early childhood experiences, we believe that it is time to move beyond broad indices of risk and toward more specific and individualized understanding of how risk exposures are linked to clinical outcomes in young children. Within infant and early childhood mental health, there is a need for greater specificity in linking adverse caregiving experiences in early life to psychopathology in children. We highlight a framework distinguishing experiences of trauma from experiences of deprivation and use the examples of posttraumatic stress disorder and reactive attachment disorder to demonstrate how greater specificity in our understanding of early adverse caregiving can lead to more accurate and targeted diagnosis and treatment for young children. Both researchers and clinicians benefit from an approach to gain a greater appreciation of the links between specific types of experiences and outcomes in the children that we serve.

## KEYWORDS

adverse caregiving, cumulative risk, deprivation, specificity, trauma

## 1 | INTRODUCTION

Research in the 21st century has made large strides in documenting the profound effects of adverse early experiences (i.e., those occurring in the first 5 years of life). In addition to studies examining the associations of early adversity with brain structure and functioning (Vanderwert, Marshall, Nelson, Zeanah, & Fox, 2010), these advances have derived from work in epigenetics (Dunn et al., 2019; McGowan et al., 2009), stress response systems (Bernard, Lind, & Dozier, 2014; McLaughlin et al., 2015), inflammatory processes (Rasmussen et al., 2020), and cellular aging (Esteves et al., 2020; Wade, Fox, Zeanah, Nelson, & Drury, 2020). Beyond immediate effects of exposure to adversity, researchers also have documented both lasting

effects (Humphreys et al., 2015) and later emerging effects (Wade et al., 2019) in some cases. This important work has brought much needed attention to the importance of early experiences. To advance the field, we believe it is essential to move toward greater specificity in our understanding of early experiences and outcomes. Of high relevance to infant and early childhood mental health clinicians and researchers, our understanding of adverse early caregiving experiences, in particular, needs greater specificity. We briefly review the large empirical base for cumulative risk models of early adverse experience before turning to a model that involves more detailed specification of the nature of early adverse caregiving experiences.

One compelling line of research in the effects of early adverse experiences on young children has focused on

a model of cumulative risk, in which long-term adverse outcomes are predicted by the total number, rather than the specific types of environmental risk exposures. In other words, this approach sets aside attention to the specificity of forms of adversity and rather counts the number of adverse events. Measures of cumulative risk are quite compelling and predict outcomes evident in early childhood and into adulthood (Evans, Li, & Whipple, 2013; Kalmakis & Chandler, 2015; Lieberman, Chu, Van Horn, & Harris, 2011; McCrae & Barth, 2008).

Perhaps the best known of the studies using a cumulative risk approach is the Adverse Childhood Experiences Study (Felitti et al., 1998), also known as ACEs, which has been instrumental in drawing attention to the link between a set of adverse experiences occurring in childhood and a broad range of negative adult health outcomes (e.g., diabetes, cancer, and depression) (Hughes et al., 2017; Kalmakis & Chandler, 2015). Though impressive and important to the field of childhood adversity, this lumping approach assumes a lack of differences in outcomes among various experiences. The lack of specificity between types of risks and outcomes is well known in developmental psychopathology, as typified by the principles of *multifinality* and *equifinality* (Cicchetti & Rogosch, 1996). Multifinality refers to a single risk factor predicting a broad range of outcomes (e.g., sexual abuse is associated with many adverse outcomes [Tyler, 2002]), and equifinality refers to a variety of risks factors predicting a single outcome (e.g., various adverse experiences appear to be associated with increased risk for major depressive disorder [Infurna et al., 2016; Nelson, Klumparendt, Doebler, & Ehring, 2017]). Thus, these findings represent an important first step in establishing links between adversity and outcomes across the life span but tell only the story of cumulative, and notably nonspecific, risk.

A strong theoretical base and a growing body of empirical work support the idea that more specificity exists than cumulative risk studies suggest (Humphreys & Zeanah, 2015; McLaughlin & Sheridan, 2016; McLaughlin et al., 2015; McLaughlin, Sheridan, & Lambert, 2014; Miller et al., 2018; Miller, Machlin, McLaughlin, & Sheridan, 2020). It is likely that additional evidence of specificity will emerge as pathways by which adverse experiences lead to particular types of outcomes for children are more clearly defined (Zeanah & Sonuga-Barke, 2016).

One useful model comes from McLaughlin and Sheridan (McLaughlin et al., 2014; Sheridan & McLaughlin, 2014), which involves dimensions of threat (low to high) and deprivation (low to high). Thus, a two-by-two map of exposures includes quadrants of low deprivation/low threat (i.e., safe and stimulating environments), high deprivation/low threat (e.g., severe neglect and institutional rearing), low deprivation/high threat (e.g., expo-

sure to violence and abuse), and high deprivation/high threat (i.e., complex exposures). This dimensional model of adversity represents a step (see also Amso & Lynn, 2017; Humphreys & Zeanah, 2015) toward understanding links between the nature of more specific types of adversities and different types of psychopathology (as well as sequelae in other domains).

This line of research is not merely an academic exercise. These conundrums about links between adversity and outcomes have important clinical implications, as well. The good news for infant and child mental health practitioners is that the importance of early experiences has never been clearer or more robustly supported. The result is a sense of urgency for developing ways to alter developmental trajectories in the earliest years of life, which should be a fundamental priority for both clinicians and researchers. Much as it is important that investigators make distinctions within broad references to “early life stress” or “early adversity” in their research, it is the responsibility of clinicians to think beyond broad exposures to environmental risk and to focus on young children’s specific experiences and symptoms.

It is well known that maltreatment, for example, is associated with increased risk for many different types of psychopathology (Cicchetti & Toth, 2016; Green et al., 2010), as well as cognitive and language delays, disturbances in interpersonal relatedness, and disturbances in the sense of self (Cicchetti & Toth, 2016; Kaufman & Henrich, 2000; Toth & Manly, 2019). Neuroscience research on maltreated children (often grouped together despite different types, severity, and timing of exposures), including structural magnetic resonance imaging (MRI) and functional MRI studies, has documented potential alterations in regions associated with threat processing, reward processing, executive functions, and emotion regulation. Notably, alterations in threat processing, reward processing, and emotion regulation can occur in posttraumatic stress disorder (PTSD) as well as a wide range of other disorders including attention-deficit/hyperactivity disorder (ADHD) and mood and anxiety disorders (e.g., Admon & Pizzagalli, 2015; Buff et al., 2016; Diekhof, Falkai, & Gruber, 2008; Rive et al., 2013). Thus, experiences of maltreatment have been linked to a wide range of changes in brain functioning that likely underlie observed impairments in the wide range of social-emotional and behavioral differences we observe among children with histories of maltreatment.

This has led some to conceptualize repeated or chronic exposures to abuse and/or neglect as *complex trauma* and to propose *developmental trauma disorder* (DTD) as a diagnosis that incorporates a broad behavioral presentation that comprises a greater repertoire of behavioral outcomes than those currently used to diagnose PTSD (van der Kolk, 2005). However, we contend that lumping disparate

symptoms into an all-encompassing disorder is moving away from specificity, and as a result will be less likely to result in targeted treatments.

Of course, many young children who present for treatment may have complex exposures and present with many different types of psychopathology, and severity and chronicity of threat or deprivation also will affect clinical presentation (an important direction for future work). Nevertheless, we believe it is useful to review the clinical presentations of prototypical responses to threat/trauma, on the one hand, and of severe deprivation/neglect, on the other, to illustrate their differences.

## 2 | THREAT PROTOTYPE: PTSD

Unwelcome input in the form of excessive threat includes frightening experiences that overwhelm the child's capacity for regulation. Experiences of physical abuse, sexual abuse, or witnessing domestic violence are examples of threatening input (i.e., trauma), which have been clearly and extensively documented in their negative impact on physical and psychological well-being across the life span (Cicchetti & Banny, 2014; Lindert et al., 2014; Vachon, Krueger, Rogosch, & Cicchetti, 2015). The core symptoms of PTSD (i.e., re-experiencing, avoidance, cognitive/emotional disturbance, and hyperarousal) are thought to reflect dysfunction in fear circuitry, specifically amygdala overactivity, and medial prefrontal cortex underactivity (Shvil, Rusch, Sullivan, & Neria, 2013), as well as increased fear reactivity and difficulty with emotion regulation (Liddell et al., 2019). These changes in brain functioning lead to the affected child remaining frightened and threatened even though the original threat is no longer present.

### 2.1 | Behavioral presentation of PTSD

The diagnosis of PTSD is included in both the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) (American Psychiatric Association [APA], 2013) and the Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (DC:0-5) (ZERO TO THREE, 2016). Here, we draw on both manuals to describe the behavioral presentation of PTSD in young children, which includes the broader categories of re-experiencing symptoms, avoidance, emotional and cognitive distortions, and increased arousal.

In young children, signs of re-experiencing include reenacting aspects of the traumatic event through play, nightmares (trauma-related or unrelated), bringing up and talking about aspects of the event (with or without distress),

and distress at reminders of the event (e.g., emotional distress, sweating, upset stomach, and heart racing). For example, a child who experienced physical abuse may play out scenes with a doll being physically hurt or punished or start to cry when they see the house where the abuse occurred. Signs of avoidance include avoiding people who are reminders of the event, such as police officers if they were part of a child's traumatic experience, or places such as bathrooms for a child who was sexually abused in a bathroom. Avoidance can also involve hiding when someone raises their voice following experiences of domestic violence. Emotional disturbances common to PTSD include increased social withdrawal, reduced expression of positive emotions, anhedonia, and increased fearfulness or sadness. Cognitive distortions may involve causal inferences about the trauma or confusion about who was involved. Finally, symptoms of increased arousal include difficulty concentrating, trouble falling or staying asleep, hypervigilance, exaggerated startle response, and increased irritability, outburst of anger, fussiness, or temper tantrums. Diagnostic algorithms for young children require some alterations to make the criteria more developmentally sensitive, but young children who experience serious traumas exhibit symptoms of PTSD that are similar to those in older individuals (Scheeringa, Zeanah, & Cohen, 2011).

## 3 | DEPRIVATION PROTOTYPE: REACTIVE ATTACHMENT DISORDER

In cases of extreme psychosocial deprivation, caregivers are physically and/or psychologically absent, resulting in a lack of responsive cognitive, social, and emotional stimulation. This form of maltreatment has been most often studied in large institutional settings for young children, in which the quality of care can vary widely but typically is characterized by a high child:caregiver ratio, rotating shifts for staff, and impersonal care provided by caregivers focused on instrumental care needs such as food and diaper changes (Zeanah, Smyke, & Settles, 2006). Conditions of severe psychosocial deprivation, of course, occur in cases of serious neglect beyond institutional rearing and involve children not receiving the necessary, species-expectant experiences of forming and maintaining relationships with stable caregivers that offer safety, security, and the regulatory functions that are believed to be essential for healthy development (Humphreys & Zeanah, 2015). Accordingly, inadequate input in the form of early institutional care has been strongly associated with difficulties forming initial attachment relationships (Bowlby, 1973; Hodges & Tizard, 1989; Smyke, Dumitrescu, & Zeanah, 2002; Zeanah, Smyke, Koga, & Carlson, 2005).

Research to date clearly indicates that severe psychosocial neglect, that is, extremes of inadequate input from caregivers, leads to reactive attachment disorder (RAD), rather than exposure to violence or physical abuse (Zeanah & Gleason, 2015). For this reason, in DSM-5 (APA, 2013), RAD requires evidence of “insufficient care” rather than the requirement of “pathogenic care” (terminology previously used in DSM-IV, which was broader and less specific to deprivation). Failure to appreciate the distinction between truly insufficient care (i.e., severe psychosocial deprivation) and pathogenic care (i.e., harmful caregiving) may be responsible for confusion about the precursors and clinical manifestations of RAD (see Owen, 2020); Notably, others have thoroughly characterized issues with misdiagnosis of RAD (Allen, 2018; Allen & Schuengel, 2019). Further, given the strong propensity of infants and young children to form attachments—even to maltreating caregivers (Baer & Martinez, 2006)—it is clear that extremes of inadequate input are necessary for RAD to develop.

### 3.1 | Behavioral presentation of RAD

Evidence suggests that in young children, the clinical manifestations of RAD represent the child’s not having a discriminated attachment figure (Zeanah & Gleason, 2015; Zeanah et al., 2016). The diagnostic criteria for RAD are outlined in both DSM-5 (APA, 2013) and DC:0-5 (ZERO TO THREE, 2016). There are five cardinal signs of RAD. The first is failing to seek comfort. Unlike typically developing children, children with RAD are unlikely to go to their caregivers for comfort when they are emotionally or physically hurt or afraid. Instead, they may hide or keep to themselves and appear unaffected by distress. Relatedly, the second sign of RAD is a failure to respond to comfort when it is provided by caregivers. Children with RAD may refuse comfort when they are distressed and caregivers may feel as though their attempts to comfort the child are unhelpful. Third, children with RAD demonstrate a lack of interest and initiative in engaging socially with others. Thus, they may be uninterested in interacting with caregivers or other children. Fourth, when interacting with others, particularly caregivers, there is reduced social reciprocity. That is, children with RAD do not appear to be emotionally connected to other people, which may include making little eye contact and a tendency to not share their feelings or experiences with others. In fact, what is striking is reduced or absent interest in initiating or responding to engagement with others; what is inhibited in RAD is social engagement. The last feature of RAD is emotion regulation difficulties, characterized by reduced or absent positive expressions of emotions and occasional

fearfulness, anger/irritability, or sadness. It is important to highlight that the negative emotionality that is sometimes evident among children with RAD is marked by passive, negative expressions of anger, fear, and sadness rather than provocative anger and defiance seen in more common disruptive behavior disorders, such as oppositional defiant disorder.

## 4 | TOWARD GREATER SPECIFICITY IN UNDERSTANDING EARLY CAREGIVING ADVERSITY AND OUTCOMES

Specificity in early adverse experiences is necessary to lead to more accurate and targeted diagnosis and treatment for young children. Perhaps no better examples of the specificity between experience and psychopathology exist than that with trauma linked to PTSD and insufficient care from caregivers linked to RAD. These experiences fit well into the framework of threat and deprivation, two widely different experiences that will result in distinct phenotypic presentations, requiring matched therapeutic approaches.

Research on adverse experiences is only at the early stages of delineating specificity in risks and outcomes, and future work is needed to provide guidance for researchers in navigating these new endeavors. We know little about why only some children exposed to threat develop PTSD and why only some children exposed to deprivation develop RAD. This is a potentially rich area for clinical and basic investigators to explore. Of course, any risk exposure to a group of individuals will lead to a range of effects within the group, but the moderating factors involved are crucial to understand, particularly in the application of appropriate interventions. For example, although it is clear that extremely inadequate input is a necessary requirement for the development of necessary RAD, most children in depriving circumstances do not develop RAD. The degree to which vulnerability to RAD involves intrinsic child characteristics versus particular types of environmental exposure remains to be determined. Further delineating specificity in pathways from early adversity to child outcomes will expand our ability not only provide more targeted treatment but also to apply more targeted and effective efforts toward prevention.

## 5 | CURRENT TREATMENT APPROACHES FOR PTSD AND RAD

Given the different etiologies and clinical manifestations of these two disorders, it stands to reason that their treatments should be quite different and should derive

logically from our understanding of both the etiology and the meaning of the symptomatology. Here, we review treatment approaches to PTSD and RAD.

## 5.1 | Treatment of PTSD

There are several validated interventions designed to address the symptoms of PTSD. For very young children (i.e., those under the age of 6 years), several interventions have been demonstrated to be effective in reducing symptoms of PTSD in young children (child under 6 years of age): Trauma-focused cognitive behavioral therapy (TF-CBT; Cohen, Mannarino, & Deblinger, 2006), particularly an adaptation for very young children called Preschool PTSD Treatment (PPT; Scheeringa, 2015), and child–parent psychotherapy (CPP; Lieberman, Gosh Ippen, & Van Horn, 2015). PTSD treatment for young children involves having therapists and trusted caregivers helping to support the young child face fearful memories and associations and to regulate emotional and behavioral responses to traumatic reminders. We also acknowledge that there are other excellent, empirically supported treatments for young children who have been exposed to threat. For example, Attachment and Biobehavioral Catch-up (Dozier et al., 2006; Dozier et al., 2006), Parent–Child Interaction Therapy (Eyberg, Nelson, & Boggs, 2008; Gurwitsch, Messer, & Funderburk, 2017), and Circle of Security (Cooper, Hoffman, Powell, & Marvin, 2011; Powell, Cooper, Hoffman, & Marvin, 2014) all have empirical support for addressing broader sequela of threatening experiences in early childhood including disruptive behavior problems and parent–child relationship difficulties. However, our purpose here is to focus specifically on interventions that aim to reduce symptoms of PTSD and have been shown to do so in empirical studies.

TF-CBT and PPT focus on controlled exposure of the child to memories of trauma and reminders through play and exposure exercises in the context of learning skills for distress tolerance. The treatment is designed to reduce fear sensitization and overreactivity and enhance regulation. Caregiver involvement in the treatment is crucial to help the child face fears and practice coping skills, as well as to be with the child as traumatic memories are revealed and worked through. Observing the young child recount painful traumatic memories often facilitates empathic appreciation of the young child's experience and mobilizes protective responses in caregivers. TF-CBT has been shown to reduce symptoms of PTSD among young children with exposure to threatening experiences through three randomized control trials (Cohen & Mannarino, 1996; Deblinger, Stauffer, & Steer, 2001; Scheeringa, Weems, Cohen, Amaya-Jackson, & Guthrie, 2011).

CPP evolved from infant–parent psychotherapy (Fraiberg, 1980) and was developed to expand the age range of infant–parent psychotherapy into the preschool years and specifically to address symptoms resulting from interpersonal traumas, particularly those associated with intimate partner violence (Lieberman et al., 2015). The caregiver and child are seen in weekly dyadic sessions with a therapist who helps them construct a shared narrative of the child's traumatic experience through talk and play. A key element of CPP is explicitly naming the traumatic experience(s) in the first dyadic session in the service of highlighting the importance of the experience and creating an environment where it is safe to talk and play about what happened. Explicitly mentioning the child's experiences affords the child the opportunity to process their trauma along with their caregiver who may have been implicated in the event either directly as a perpetrator or indirectly by failing to protect the child from exposure to serious threats.

The effectiveness of CPP in reducing child PTSD symptoms was demonstrated in a randomized trial of 75 preschool-aged children who had been exposed to domestic violence (Lieberman, Van Horn, & Ippen, 2005). Children who completed CPP demonstrated a significant reduction in their PTSD symptoms and following treatment; only 6% of the CPP group compared with 36% of the comparison group met criteria for PTSD.

Thus, threatening experiences can lead to the development of PTSD in young children, and treatments designed to address the threatening experience through exposure are helpful in reducing symptoms of PTSD. Caregiver involvement in the treatment is central because enhancing effective responsiveness and regulation is a key feature of these treatments.

## 5.2 | Treatment of RAD

In stark contrast to PTSD, there have been no formal evaluations of interventions to treat RAD. Although some have advocated for the use of “attachment holding therapies,” these interventions have been completely discredited as dangerous, unethical, and importantly, also ineffective (Chaffin et al., 2006; Zeanah et al., 2016). It is important that we develop standardized interventions for RAD and subject them to empirical validation. Until then, the best evidence to date is that placing affected children in nonneglecting caregiving environments—that is, families providing at least “good enough” care—appears to be sufficient for treating this disorder. This conclusion derives from the lack of reports of children who manifest signs of RAD following institutional rearing and later adoption (O'Connor & Rutter, 2000; Tizard & Rees, 1975).

Investigators have also demonstrated that structural changes in staffing consistency are associated with fewer signs of RAD among children being raised in institutions (Smyke et al., 2002).

The most direct and compelling evidence of the impact of placement in nonneglecting caregiving environments on symptoms of RAD comes from the Bucharest Early Intervention Project (BEIP), a randomized control trial of foster care as an alternative to institutional care conducted in Bucharest, Romania (Nelson, Fox, & Zeanah, 2014). In the BEIP, foster families were recruited and trained by study staff to provide sensitive and responsive care to postinstitutionalized children placed with them and to genuinely invest in the children as if they were their own biological children (Smyke, Zeanah, Fox, & Nelson, 2009). Many of these children manifested signs of RAD while living in the institution, but those randomized to foster care had significantly fewer signs of RAD than those who experienced more prolonged institutional exposure at every assessment during the trial, and these differences persisted into adolescence (Guyon-Harris et al., 2019; Humphreys, Nelson, Fox, & Zeanah, 2017; Smyke et al., 2012). In addition, signs of RAD in children randomized to foster care diminished to levels undistinguishable from those of never institutionalized children. These findings guide clinical best practices for young children with RAD, emphasizing the urgency of providing an adult to whom child can form an attachment (Zeanah et al., 2016). Thus, at our present state of knowledge, caregiving environments that provide sensitive and responsive care to young children are likely to be sufficient to resolve RAD.

## 6 | CLINICAL IMPLICATIONS

This paper draws clear distinctions between deprivation and threat to aid our understanding of how different types of early caregiving experiences lead to different types of psychopathology requiring different treatment approaches. PTSD and RAD are two disorders, both linked to adversity, which have different etiologies, different clinical presentations, and different treatment approaches. We use these to illustrate a clear distinction between one disorder that arises in conditions of threat and exposure to violence and the other in conditions of deprivation.

Of course, the mere presence of a history of deprivation should not imply a diagnosis of RAD, nor should the mere presence of threat or trauma automatically lead to a diagnosis of PTSD. Each diagnosis requires both exposure and a specific array of symptoms sufficient to meet the diagnostic threshold. In fact, most children who experience deprivation will not develop RAD and most children who experience threat will not develop PTSD. When uncertainties

about diagnosis arise, attention to the salient experiences of the child will help determine what type of intervention should be prioritized. Greater specificity in research and in clinical diagnosis represents the most promising path toward greater understanding.

Advocates for a single, all-encompassing disorder such as DTD that represent the clinical picture of young children exposed to chronic and severe adversity argue that this approach better captures the broad range of dysregulation and complex psychopathological presentations of children who are victims of interpersonal violence in the context of inadequate caregiving systems (van der Kolk, 2005). Rather than having a diagnosis of PTSD along with a number of comorbid disorders, the assertion is that it is more parsimonious and valid to incorporate the clinical picture of children exposed to complex traumas into a single, all-encompassing disorder, that is, DTD.

But lumping young children's experiences into an overarching category of "adversity" or "early life stress" or even "developmental trauma disorder" is not helpful in designing the most appropriate and effective treatment plan for the child, particularly given the differences in outcomes between threat and deprivation. Severely and chronically neglected children will likely require very different interventions than those exposed chronically to intimate partner violence, for example.

We acknowledge that most children presenting to clinics may have a range of exposures to caregiving adversities—from none to complex—leading to variability in both their experiences and their symptomatology. These differing exposures should be matched by differing approaches to address the maladaptive behaviors that are targeted in treatment.

As research advances toward understanding pathways and mechanisms of symptom expression, clinicians should also aim for enhanced precision. Focusing on the specificity in exposure/experience, symptoms, and diagnoses is what will help us best understand and care for children with both single and multiple adverse early caregiving experiences.

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