The relationship between early trauma and ADHD is currently the focus of a great deal of research as well as controversy. Culling from both ADHD and trauma studies, we will try to understand what might occur when the ADHD brain is exposed to trauma. Individuals with ADHD are already challenged by the struggle to regulate their responses to the environment. Exposure to trauma also triggers intense dysregulation of the central nervous system. Early chronic trauma often renders the nervous system in perpetual high alert, compounding the challenge of the ADHD brain to respond appropriately and consistently to stimulation. While there is minimal research clarifying the impact of early trauma on the ADHD brain, this summary of what we know will hopefully shed some light on a complex interaction that is essential to understand.

Physiological hypersensitivity causes the ADHD brain to be reactive rather than proactive much of the time. Sometimes their system seeks greater stimulation in an attempt to improve focus while, at other times, their already saturated system under-responds in an attempt to avoid further stimulation. Similarly, in the brain’s response to trauma, there are those who tend toward excitatory expressions of anxiety and fear, including hyperactivity and aggression, and those who tend more toward an inhibition of response. Those who display under-arousal are still overstimulated by their trauma; however, they’re more likely to feel numb and dissociate, appearing avoidant and tending to daydream. In general, girls have been shown to utilize more internalizing behaviors, tending more towards dissociative behaviors, while boys tend towards externalizing behaviors (Perry & Pollard, 1998).

Whether the brain is coping with ADHD or trauma, each individual has a characteristic response style, although they’ll respond in the opposing way in some circumstances. These polarized response styles occur as the ADHD brain struggles to manage normal stimuli or as the non-ADHD brain struggles to manage intensely traumatic material. In both cases, the brain may over or under-respond to stimulation, without finding the appropriate response for optimal functioning. The presentations are remarkably similar, with the hallmark of both being that the dysregulated nervous system is compromised, and manifests as executive dysfunction (Weinstein et al, 2000). In either case, it is the prefrontal cortex of the brain that is implicated in ADHD’s impaired executive functions. It is also an area that is particularly susceptible to trauma since it is the last part of the brain to reach maturity, with full myelinization occurring in the mid-to-late 20’s.

In an effort to focus, the ADHD brain seeks optimal arousal by pursuing stimuli that are inherently rewarding. For this reason, impulsive children with ADHD are highly motivated by the physiological arousal that risky situations evoke. The adrenaline rush of risk-taking is distracting and thereby trumps the mundane assessment of safety. It is easy for the ADHD brain to ignore or deny information that is tedious or repetitive, especially when it runs counter to their impulses. This low stimulation safety assessment might reveal the gradual buildup toward a dangerous situation but the ADHD brain may not process that, choosing instead higher stimulation. In the case of a ‘creepy’ individual offering something of high stimulation value to a child with ADHD, the intensity of the ‘high stim’ offer coupled with the drama of the unusual interaction may trump the subtle but critical acknowledgment of discomfort in the situation. Hence, a child with ADHD may not successfully predict the advances of an adult predator whereas another child may heed their own discomfort and withdraw from the situation.
Since ADHD is a highly heritable condition, there is usually at least one ADHD parent of an ADHD child, and perhaps other ADHD siblings. Due to their own distractibility, it may be difficult for an ADHD parent to appropriately supervise the impulsive hyperactivity and oppositional provocations of their ADHD child. While very focused on more rewarding aspects of childcare, the parent may avoid the tedious job of limit-setting and eschew the routines that create predictability. However, without these structures, a consistent sense of secure attachment cannot be established. In addition, their low frustration tolerance often results in emotionally reactivity in the face of provocative behavior. Due to their own impulsivity, they may express their anger in verbal or even physical attacks that can traumatize their child. In addition, ADHD parents may be more likely to deny subtle issues until they become crises. Since they may be less likely to acknowledge potential dangers, they may be less successful in protecting their child. They may unwittingly neglect their child’s safety, and feel ambushed when a traumatic event does occur. These factors, both within the child and within his environment, combine to increase the likelihood that the child in an ADHD family system will experience trauma.

In response to repeated trauma, the child’s developing brain, in an effort to protect itself, becomes attuned to which adult behaviors may lead to violence. Hypervigilance allows this child to scan their environment for threats. This hypervigilance can mimic hyperactivity or inattentiveness in school because the child is more focused on “distractions” like the teacher’s face or another child’s movements than their schoolwork. A door slamming closed may trigger a “fight or flight” response that a teacher may perceive as aggressive or defiant (Glod & Teicher, 1996). Since both ADHD and trauma result in strikingly similar behavioral and cognitive manifestations, it makes sense that some victims of early trauma are incorrectly diagnosed as having ADHD. However, the underlying cause of these similar symptoms requires different treatment. Specifically, these traumatized children misdiagnosed with ADHD have increased levels of adrenaline and norepinephrine, and the goal is to reduce the levels of these neurotransmitters in order to restabilize their systems. However, those neurotransmitters are further increased when treated with stimulants like Ritalin, which are traditionally used to treat ADHD symptoms by increasing dopamine levels. Therefore, a traumatized child treated with stimulants is going to experience increased symptoms. Instead, clonodine, a second-line medication used mostly for young children with ADHD, reduces the release of these neurotransmitters, and has also proved successful in treating traumatized children.

It is reasonable to conclude that inherent in ADHD are tendencies that may both increase the likelihood of experiencing trauma, as well as increase the overall impact of a traumatic event. In addition, both ADHD and trauma compromise the executive functions of the brain. In fact, the manifestations of early trauma are extremely difficult to distinguish from those of ADHD, to the degree that a differential diagnosis based on behavioral assessment is challenging. It has been shown that psychosocial functioning in ADHD children who have experienced trauma was worse than either ADHD children without trauma or traumatized children without ADHD (Wozniak et al, 1999). While it makes clinical sense that when the two co-occur, they would exacerbate the effects of one another, further impairing executive functioning, there is no research that demonstrates that at this time. The focus on the relationship between ADHD and trauma is quite recent, and research in the next few years will clarify this critical issue.


