Addiction and Attachment: A Complex Relationship

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Abstract

Childhood trauma is the most significant predictor of addiction in an adult (Flores, 2003). Understanding the effects of the attachment relationship and addiction on brain functioning suggest potential explanations for this phenomenon. Viewing addiction in the context of attachment suggests addiction is not a disease, but a symptom of early relational trauma: a perspective with significant implications for addiction treatment. Understanding addiction as an attachment disorder emphasizes the importance of a securely attached therapeutic relationship as the primary healing factor for effective treatment.

*Keywords:* addiction, attachment, therapeutic alliance
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Research on addiction reveals a significant prevalence of early relational trauma history in adults presenting with substance abuse. In fact, childhood trauma is the most significant predictor of addiction in an adult (Flores, 2003). Understanding the effects of both the attachment relationship and addiction on micro and macro levels of brain functioning suggest potential explanations for the comorbidity between addiction and early trauma. Addiction does not exist in a void; acknowledging the potential for biological, psychological, emotional, social, and even spiritual factors to play a key role in the development and pervasiveness of addictive patterns is critical. Viewing addiction in the context of attachment suggests the addictive process is not a disease that stands on its own, but a symptom of early relational trauma: a perspective with significant implications for addiction treatment emphasizing the importance of an attuned therapeutic alliance for a compassionate and effective recovery process.

Defining Addiction

A traditional approach to defining addiction refers to a chronic neurobiological disease emphasizing relapse and negative consequences as a key feature of an addictive process (Mate, 2010). Though this definition speaks to the harmful and distressing nature of the addictive process, a broader view is necessary. Significant mood-altering substances are not the sole cause of addiction; in fact, non-substance addictions can be equally as destructive to physical and psychological health and relationships (Mate, 2010). Flores (2003) explains addiction is not a simple one-dimensional phenomenon, but a process that alters brain functioning - further reinforcing the addiction, whether substance-driven or not. Therefore, for the purposes of this paper, addiction will be defined as “a state of feeling stuck to something, whether it be a substance, an emotion, a thought, a person, or behavior” (Caldwell, 2001, p. 216); and “any
repeated behavior, substance-related or not, in which a person feels compelled to persist, regardless of its negative impact on his life and the life of others” (Mate, 2010, p. 136).

**Attachment and the Brain**

In order to understand the connection between addiction and attachment patterns, it is important to first identify the role of attachment patterns on brain development. Lipton and Fosha (2011) suggest that brains are “wired to connect…not only at the microscopic level of synapses and dendrites, but also at the macroscopic level of primary relationships” (p. 255); humans have a biological need for interpersonal closeness in order to survive (Flores, 2006). Schore (2003) notes, “the self-organization of the developing brain occurs in the context of a relationship…this other brain, the primary caregiver, acts as an external psychobiological regulator of the experience-dependent growth of the infant’s nervous system” (p. 5). Experiences during this early critical period shape the maturation of the brain systems involved in regulating homeostasis and attachment, and because an infant’s central and peripheral nervous system continue to myelinate and develop during infancy (Ginot, 2011), the primary relationship is an essential component of this process (Schore, 2003).

When the attachment relationship is insufficient, the consequential relational trauma “carves its way deeply into the body, brain, and nervous system” (Lipton & Fosha, 2011, p. 260), and has immediate and long-term effects, especially in the areas associated with the development of coping capacities (Schore, 2003). Messages of shame, fear, and neglect are stored and rooted in the somato-sensory structures of the right brain (Ginot, 2011) and imprint in the amygalar-hypothalamic circuits (Wilkinson, 2003). Here, we see the impact of relational trauma on the infant’s developing limbic system, as consistent negative arousal states leave the amygdala in a chronic state of activation (Lipton & Fosha, 2011). Stress and trauma also damage the cortical
and subcortical structures of the brain, further reinforcing this cycle of dysregulation and persistent stress (Lipton & Fosha, 2011).

Relational trauma also affects the infant’s neurotransmitter systems, and “sets off a ripple of hormonal changes that organize the brain to cope in a hostile world” (Wilkinson, 2003, p. 237). Failed attunement and repair inhibits the brain’s secretion of dopamine and opiates, which in turn decreases synaptic growth in the limbic regions that later support capacity for emotional regulation (Flores, 2006, p. 11). Simultaneously, chronic dysregulation of the infant’s nervous system results in continuously high cortisol levels (Flores, 2006). Together, these shifts in neurotransmitter systems leave psychological imprints, forming a biological basis for various psychological disorders and manifesting as impaired affect regulation.

Chronic misattunement also challenges the development of safe and adaptive relationships on both an intrapsychic and interpersonal level (Lipton & Fosha, 2011). On an intrapersonal level, attachment patterns directly affect adult cognition and self-representation. Ginot (2011) explains that prolonged states of affective dysregulation mold much of a child’s evolving representation of self and others. With attachment trauma, negative self-concept becomes a developmental adaptation; a child will sacrifice a positive attitude towards the self in order to “maintain sanity and a semblance of some sense of security in the world” (Siegel, 2012, p. 24-3). This adaptation leads to potentially chronic and consistent negative self-narrative and low self-esteem (Ginot, 2011). This “disordered development of self agency” (Knox, 2011, p. 1) can lead to emotional problems, including addiction and self-harm (Knox, 2011).

The effects of the attachment relationship also emerge within a somatic context. Caldwell (2001) explains, “without sufficient movement attunement, babies do not make it whole into adulthood” (p. 216). Good enough movement/body attunement is crucial, “because it
stimulates the dopamine-mediated reward centers of the brain…and this satisfaction in the body forms the basis of a strong self-concept, of self-efficacy, and self-regulation” (Caldwell, 2001, p. 217). If, however, this movement attunement need of the infant is not met, the body experiences an “intolerable boundary loss” (Caldwell, 2001, p. 217); because at this stage in development the hippocampus is not fully available for processing memory, the “the body keeps the score” (Ginot, 2011, p. 259). This is tragic for the infant: the needs associated with those states remain; therefore the coping behavior persists. Thus, a habitual cycle of using movements to dissociate from body states, and sedate the nervous system from natural self-regulating messages emerges as “the somatic origin of addiction” (Caldwell, 2001, p. 216).

**Addiction and the Brain**

When exploring the effects of addiction on the brain, research immediately points to the role of dopamine, and the pleasure and reward centers in the brain. Morgenstern, Naqvi, Bretier, and Debellis (2013) define addiction as “a deficit in reward learning characterized by a hyperactivation of brain-reward systems…and changes in the neurotransmitter dopamine” (p. 9). Substance use and addictive behaviors degrade the brain’s dopamine system; over time, this leads to mechanisms that further reinforce the addictive process such as tolerance, withdrawal, and craving (Li, Du, Yu, Jiang, Fu, Wang, Sun, Chen, & Zhao, 2012). The body mechanism of addiction, therefore, lies in the dopamine system (Caldwell, 2001).

Koob (2012) describes the effect of addictive conditions on dopamine circuitry in three stages that are each associated with specific changes in the structure and function of neurotransmitter systems: (a) the binge-intoxication stage, (b) the negative-affect/withdrawal stage, and (c) the preoccupation-anticipation stage. During the binge-intoxication stage, “a downregulating of positive reward pathways occurs” (Koob, 2012, p. 144), leading to tolerance,
when increased drug levels are needed to trigger the brain’s reward system (Koob, 2012). In this stage, addictive behaviors trigger “a state of sympathetic nervous system arousal (fight/flight/freeze/faint), and that in turn stimulates dopamine to flood neural junctions” (Caldwell, 2001, p. 215). Over time, this chronic sympathetic nervous system arousal leads to addictive behaviors “in order to force exhausted and depleted dopamine circuitry” (Caldwell, 2001, p. 215), resulting in the negative-affect/withdrawal stage, where use is motivated by a desire to avoid negative consequences (Koob, 2012). At this stage, dopamine activity decreases and the body’s stress response system (the hypothalamic-pituitary-adrenal stress response) is activated. Finally, in the preoccupation-anticipation stage, activity in dopamine reward circuitry further decreases, and motivation for drug use is exaggerated, resulting in craving (Koob, 2012). During this phase, the amygdala “converges with frontal cortex activity to drive drug seeking…producing deficits in executive function” (Koob, 2012, p. 145).

Dopamine may also play an underlying, biological role in impulsivity, a significant predictor of addiction. In addiction, maladaptive decision-making and disordered judgment emerge within neural systems related to self-control (Morgenstern, Naqvi, Breiter, & Debellis, 2013). The resulting impulsivity, which may also relate to impaired affect regulation skills, reveals a disruption in the communication between two neural systems: (a) the impulsive/immediate prospects of pleasure and pain linked to the amygdala and dopamine systems; and (b) a reflective system with long-term prospects in the prefrontal cortex (Morgenstern et al., 2013). “The impulsive and reflexive systems work through somatic markers to label options for behavior…decision making, therefore, is inherently tied to the body and emotional experience” (Morgenstern et al., p. 339). This becomes relevant in addiction as an
addictive behavior may become integrated into what the body recognizes as pleasure or pain, breaking down neural systems associated with self control (Morgenstern et. al, 2013).

Finally, it is important to understand that on a neurobiological level, drugs and mood-altering behaviors are not the cause of addiction (Mate, 2010). Mate (2010) suggests that exposure to a drug does not make a person an addict; rather, addiction occurs because an individual was already at risk. For example, Mate (2010) explains that stimulant drugs work by increasing dopamine levels, leading to an experience of elation. Studies suggest that individuals who become addicted to these drugs had fewer dopamine receptors to begin with. In an individual with lower numbers of dopamine receptors, the brain welcomes external substance that help increase its dopamine supply (Mate, 2010). Thus, the potential of drugs to be addictive is “deeply rooted in neurobiology and psychology of emotions” (Mate, 2010, p. 144), and is increased by preexisting vulnerability and stress.

Understanding Addiction as an Attachment Disorder

Exploring neurobiology of both addiction and attachment reveal a myriad of similarities and connections that support the argument that addiction is not simply a disease, but a symptom of relational trauma and insecure attachment. Microscopic factors, including dysfunction in the dopamine system and alterations in limbic system play a role in both attachment and addiction, supporting the theory that “adverse childhood experiences are the hidden engine underneath addiction” (Morgan, 2009, p. 9). The macroscopic consequences of these changes, including an inability to form and maintain satisfying relationships, impaired self- and affect- regulation skills, and a loss of a cohesive and embodied sense of self, all create vulnerability for addiction.

Because the human brain is by nature relational (Siegel, 2012), attuned relationships and capacity for repair are integral aspects of affect and emotional regulation. Here, a critical link
emerges, suggesting addictive behaviors are actually an adaptive response to challenges in relationship:

Dysfunctional attachment styles interfere with the ability to derive satisfaction from interpersonal relationships and contribute to internal working models that perpetuate this difficulty... Experiences related to early developmental failures leave certain individuals with vulnerabilities that enhance addictive-type behaviors...that are misguided attempts at self-repair. Deprivation of age-appropriate developmental needs leaves the substance abuser constantly searching for something “out there” that can be substituted for what is missing “in here” (Flores, 2003, p. 7).

Flores (2006) suggests, “there is an inverse relationship between addiction and healthy interpersonal attachment” (p. 6). Because it is biologically impossible for humans to regulate their own affect/nervous systems for a sustained period of time (Flores, 2003), addictive behaviors and substances can be a substitute for deficiency in intimacy (Flores, 2006). In addition, “a deep and systemic concordance exists between the brain regions and neurochemicals involved in both addiction and social attachment” (Burkett & Young, 2012, p. 2). Because the human brain desperately seeks equilibrium and regulation (LaFond Padykula & Conklin, 2010), when people cannot find reward in others, they may seek alternative solutions to activate the pleasure centers in the brain (Cozolino, 2006). Addictive behaviors can be both a consequence of, and solution to, impaired relational skills because the power of the emotional rush (often a dopamine surge) is so significant it can serve as both a substitute for interpersonal relationships, and an obstacle in forming new relationships (Flores, 2006). The brain is wired to connect (Siegel, 2012); therefore, addiction can be understood “as an attempt to regulate one’s attachment system in the service of adaptation” (LaFond Padykula & Conklin, 2010, p. 351).

On an intrapersonal level, insecure attachment leads to chronic nervous system dysregulation and an inability to regulate emotion (Schore, 2003). In addition, the relational trauma that imprints in the right brain from insecure attachment creates a disorganized, discontinuous self that further challenges affect-regulation abilities (Schore, 2003).
Modern attachment theory explains that self-regulation ability arises out of infant-caregiver dynamic... For the addicted individual with an attachment system that has also incurred trauma, the chemical initially serves as a complex compensatory mechanism. This is done by maintaining an equilibrium, albeit addicted, through self-regulation and self-medication behaviors directed as adaptation (LaFond Padykula & Conklin, 2010, p. 352).

Caldwell (2001) further suggests “addiction induces affects and intense feelings in order to re-establish a cohesive sense of self when that self is threatened by loss of continuity” (p. 218). Use satisfies an intense need related to the failure of an important developmental relationship (Caldwell, 2001). Addiction therefore becomes a self-medication tool, an attempt at calibrating the nervous system and regulating affect to feel less emotion. Unfortunately, however, the short- and long-term consequences of addictive behaviors create a paradox: momentary regulation and emotional changes that result from use are temporary, and followed by a deeper dysregulation that further reinforces the addictive cycle (LaFond Padykula & Conklin, 2010).

**Implications for Treatment**

Understanding addiction in the context of attachment patterns has significant implications for treatment and recovery, emphasizing the importance of shifting the addict’s attachment away from the substance or behavior and towards recovery. Flores (2003) explains:

> Whether impaired attachment capabilities are the consequence or cause of prolonged substance abuse is irrelevant as far as recovery is concerned because the approach to treatment remains the same. Attachment theory holds the position that it is impossible for individuals to completely regulate their affective states alone. Consequently, until substance abusers relinquish their dysfunction attachment styles and develop the capacity for healthy interpersonal affect regulation they will forever remain vulnerable to substitute one obsessive addiction for another. (p. 3)

This attachment-oriented view of addiction treatment reveals a paradigm shift, emphasizing not what the therapist does, but how the therapeutic alliance promotes a healthy relational environment as the driving force of recovery.
In order to engage in a securely attached therapeutic relationship, it is crucial the addict lets go of the substance or behavior. Fosha (2006) explains that in order to attach to the therapeutic alliance, addicts must become detached from the substances and behaviors they use. The neurobiological and psychological power of an attached addictive relationship deeply challenges this attempt to let a substance go. Flores (2006) therefore suggests keeping goals of addiction treatment simple: first, stop the substance; and second, prevent relapse. Abstinence allows an addict to detach from the substance so there is capacity to attach to treatment. In this stage, it is imperative to create alternative behaviors, such as strong secure attachment to a therapist or 12-step recovery fellowship to substitute for the addictive substance. At this point in recovery, learning emotion modulating coping skills to attend to basic self-regulatory deficits can also support and sustain the addict through early sobriety (Ford & Russo, 2006).

Understanding addiction treatment in the context of attachment highlights the “transformational power inherent in any authentic intimate relationship” (Flores, 2003, p. 15) and reinforces that a securely attached, attuned relationship is crucial for recovery. Lipton and Fosha (2011) explain, “even in adults with histories of attachment trauma, the capacity for secure attachment is there for the activating in the right environment” (p. 254). Through mechanisms of neuroplasticity, the experience of attachment itself can support healing in the brain, “facilitating an entirely different system of wired-in capacities for positive growth” (Lipton & Fosha, 2011, p. 265). Lipton and Fosha (2011) view therapy as an opportunity for resilient parts that have adapted to hostile environments to experience repair through the regulatory power of secure attachment. Empathetic, authentic attunement in the therapist can create space for a recovering addict to experience the implicit regulatory power of an attached relationship, and thus is integral to the healing process.
Conclusion

Viewing addiction as an attachment disorder can take judgment and blame out of the equation, and create space for compassionate understanding of the initially adaptive qualities of later problematic behaviors. Addiction is significantly more complex than drug abuse, and can include a wide spectrum of behaviors – all of which have an effect on brain chemicals and functioning. Choosing to see these behaviors as an individual’s attempt to fulfill a genetic and biological need for relationship recognizes the inherent wisdom of the brain’s mechanisms to adapt for survival. Perhaps this same adaptive wisdom can be harnessed to attach to a secure, empathetic, attuned therapeutic relationship and therefore be an agent of strength and change in treatment and recovery.
References


