

# Chapter 4

## Integrating Interpersonal Neurobiology into the Play Therapy Process: Advancing Adlerian Play Therapy

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### ABSTRACT

*Advancements in neuroscience provide theoretical support for principles and practices of counseling and play therapy intervention (Badenoch & Kestley, 2015; Siegel, 2012). Likewise, AdPT shares many conceptual similarities with IPNB and neuroscience research including emphasis on childhood experience, social interest and relationships, purposefulness of behavior, holism, and the internalized narrative or self-schema. This chapter per the authors will (a) develop connections from neuroscience and IPNB to play and play therapy, (b) review the IPNB model's domains of integration and their relationship to AdPT, and (c) provide an updated AdPT framework that encompasses the most recent neuroscience empirical support.*

### NEUROSCIENCE, IPNB AND PLAY: ADVANCING ADLERIAN PLAY THERAPY

The first six years of life are the most influential period of neuronal growth, as well as, the most vulnerable to maltreatment (National Scientific Council on the Developing Child, 2010; U.S. Department of Health and Human Services, 2013). This period of vulnerability makes early childhood a critical and influential time in development and learning. Recent advancements in neuroscience provide evidence that our environment, early life experiences, and relationships contribute to physical and psychological health (Kandel, 1998; Panksepp & Biven, 2012; Porges, 2011; Siegel, 2012). Negative and positive experiences exert a differential impact to how our brains are formed, function, and integrate information.

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## ***Integrating Interpersonal Neurobiology into the Play Therapy Process***

The Interpersonal Neurobiology model (IPNB; Siegel, 2012) incorporates several theories from neuroscience that address (a) memory encoding, (b) the polyvagal theory (Porges, 2011), (c) neuroplasticity (Kandel, 1998), and (d) the midbrain's affective emotional-motivational systems (Panksepp & Biven, 2012). These theories underscore the value of new experiences and interaction in our social environment to reshape and restructure both brain and behavior. Therefore, this introduction begins with a review of neuroscience theory within the framework of the IPNB model, play, and play therapy, specifically Adlerian play therapy.

### **IPNB**

In the Interpersonal Neurobiology (IPNB) model, Siegel (2012) postulates that health is influenced by the integration of the brain, mind, and in interactions with others in our social environment. All relationships have the potential to inhibit or contribute to neural integration. IPNB addresses nine domains of neural integration: *consciousness, bilateral, vertical, memory, narrative, state, interpersonal, temporal, and transpirational* or *identity integration* (refer to IPNB domains of integration and Adlerian Play Therapy section below). Each domain contributes to overall health and requires attention in therapeutic and educational intervention (Siegel, 2012), because each domain also produces energy and information flow through the nervous system and body. We are constantly receiving information, interpreting and incorporating messages into conscious and unconscious responses. Likewise, energy and information are shared between nervous systems with others in the social environment. We are impacted by those around us and respond in accordance to the integrated messages experienced from within (internal cues) and between (our system in interaction with others in the environment).

Similarly, Alfred Adler (1998) identified early childhood influences to personality and lifestyle development from the social system (e.g. family constellation, gender roles, parental attitudes, and family economic position) and inherited qualities (i.e. health and appearance). Adler noted the importance of a person's perceptions of childhood experiences for adult life and the value of social interest for well-being. He theorized that our beliefs and logic about self, others, and the world are created in childhood and serve as the foundation for future attitudes and behavior. We are wired to seek integration among brain, mind, and in interactions, which contributes to growth, health, and restoration. Principles emerging from IPNB provide theoretical support for many prevention and intervention strategies with adults as well as children.

### **Play**

Children are able to work through experiences and make meaning of their life events, environment, and relationships through play. In fact, play contributes to neurobiological development as well as cognitive, socio-emotional, physical development, acquisition of social skills, and capacity for self-regulation (Berk, 2012; Erickson, 1963; Greenspan, 1993; Ray, 2011). Play is the first, natural language for children whereby needs, emotions, and thoughts are communicated (Landreth, 2012). Through play, children interpret their experiences and relationships to cultivate social skills, self-regulation, and a nervous system responsive to life. Play contributes to secure relationships and social connection that provides safety for exploration and engagement with the world. However, when a child experiences trauma or poor attachment to significant caregivers, development can be interrupted resulting in heightened stress responses, immobilization, and developmental delays (Badenoch, 2008; Kestley, 2015). Therefore, when

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