

Chapter 1

Takeaways –

- Understanding the mechanisms of the brain (e.g., the billions of neurons and connections, where electrical signals travel through a process understood as electrochemical energy flow) can help us comprehend the complexity of what we all understand as consciousness and “the mind.”
 - The neurons that “fire together wire together” and form what are referred to as “neural net profiles” that are created and then reactivated for associated events (e.g., every time a person sees a cute dog the associated neural net profile that developed in their brain when they first saw a cute dog will be activated).
 - States of being (e.g., feeling confident when competing) that are repeated more often are more likely to be reactivated in those same contexts.
 - For instance, if an athlete is confident when they are competing, they are more likely to feel confident each time they arrive at their competition.
- The brain has billions of neural net profiles that are differentiated and linked to support how each person functions at any given moment through an ideal state of integration and metastability (i.e., a person maintains cognitive flexibility, optimal information processing, and self-organization).
 - Too much differentiation or linkage compromises integration and inhibits a person from functioning optimally (i.e., people experience rigidity or chaos; depression or anxiety).
 - A person who experiences well-being has whole-brain interconnectivity (i.e., “connectome”).

- We are connected to the universe and all things in the form of energy (i.e., our mind is deeply connected to this flow of energy).
 - Energy is processed in our brain (i.e., an “embodied mechanism”) through electrochemical impulses that travel through our neural networks (i.e., action potentials) and extrapolated as information (i.e., the symbolic pattern of energy that we can communicate and create a form of understanding).
 - These neural networks and electrochemical energy patterns are formed from both our personal and interpersonal experiences (e.g., from the heart, gut, body, people, and the natural world).
- The brain is optimally formed from both bodily mechanisms, as well as relational experiences resulting in optimal integration (i.e., cognitive flexibility; balance of differentiation and linkage between lower, central, and upper areas of the brain).
 - The lower brain structures mediate the basic elements of energy flow (e.g., arousal, temperature, respiration, heart rate; fight-flight-freeze-faint) and include the hypothalamus and pituitary (e.g., maintain bodily homeostasis).
 - Central brain structures include the hippocampus and the amygdala, which control motivation, emotion, attachment behaviors, and integrate memories.
 - Upper brain structures consist of the cerebral cortex, which is involved in thinking, perception, and reasoning (e.g., the prefrontal cortex, which helps integrate thought and feeling with the functions of the limbic, brainstem and bodily areas).
- When a person is self-regulated it means that their brain has “neural integration” (i.e., there is a balanced linkage between differentiated parts of the brain).

- Early life experiences have been found to profoundly influence a person's capacity to self-regulate (i.e., the type of electrochemical energy flow that is presented has the potential to shape the brain differently).
 - For instance, trauma and stressful situations activate the arousal functions of the brain at higher levels than comforting and relaxing situations that alleviate the arousal functions of the brain, therefore shaping the brain structure in two diverse ways that will later influence how the person engages with stressful situations.
- While each person's genes contain the information for how an individual's brain may become organized, both individual and interpersonal experiences dictate which genes actually become expressed and, therefore, how the brain will ultimately become structured, and integration occurs.
 - Experience is understood as the activation of specific neural pathways in response to external stimulus. This results in the development of specific neural networks or net profiles associated with this external stimulus that will become activated in associated contexts and improves the flow of energy through the mind.
 - This gene expressing process activated primarily through the interpersonal experiences a person experiences in infancy has the potential to not only greatly shape their world concept but change the regulatory molecules in the person's sperm or eggs to be passed on to following generations.
- Genes may predispose individuals to certain conditions (e.g., depression, schizophrenia, psychopathology), however it's the experiences that individuals experience, especially during developmental years that results in the expression of these conditions.

- For instance, if a child experiences an environment of security, attunement, and conditions that optimize integration and well-being, the individual is likely to live a relatively unincumbered life without the predisposed condition ever manifesting.
- In contrast, if an individual were to experience trauma, abuse, or neglectful conditions, these conditions of rigidity and chaos (i.e., a lack of integration) are likely to manifest.
- Further, if an individual who was not predisposed to developing schizophrenia and they were exposed to the same trauma or abuse, while they may benefit from counseling to reach a healthier state of integration, as they may still be impacted by these experiences, they will not develop schizophrenia as it is not in their genetic profile of possible conditions that can become activated.
- Each person has billions of possible neural connections that can occur.
- Integration is improved as the brain goes through the process of myelinating regularly activated neural pathways and pruning or dying away of neural pathways that are not used or may have been negatively impacted by chronic stress.
- Experiences not only shape what energy and information enters a person's mind, but it dictates how a person will process this input.
 - For instance, a child who has had caring, attuned, present parents will have secure attachments with not only the parents but will maintain this level of security as they approach new relationships.
 - In contrast, if a child has had abusive or neglectful parents, they will have insecure attachments that may manifest in several ways (e.g., avoidant or

disorganized) and they will not only suffer directly with the parents, but they will struggle to form relationships in the future, as they have no frame of reference of the benefits of attachment, nor how to healthily seek and form attachment.

- The brain is always in a dynamic state of change responding from not only the outside world and interpersonal connections but from the physiological mechanisms of the brain and body through the form of energy and electrochemical signals and impulses. The mind is what processes this “within-ness” and “between-ness” energy and flow of information exchange.
- Emotions are understood as temporary changes of states of integration through various forms of electrochemical surges that alter energy flow and information integration.
 - Emotions immerse from subcortical processes, as well as from interpersonal experiences.
- Ideally people would benefit from interpersonal and personal experiences that create emotions and energy flow that promotes a state of integration (i.e., not a state of rigidity or chaos).
- Relationships are so impactful to our neural networking and brain development because the brain circuits responsible for processing energy flow and information exchange between people are the same as those that integrate information surrounding the understanding of meaning, modulate emotions, organize memory, process interpersonal information, and regulate bodily states.
- Early relationships, such as between parent and child, should involve the process “tuning in,” where the parent and child resonate with one another’s feelings and intentions. This involves the parent being able to perceive and then respond accurately to the child’s

internal state and reflect back the energy that is being perceived from the child back to the child. This means the parent has “theory of mind” (i.e., the ability to conceptualize the state of mind of themselves and another, including in relation to one another). This helps individuals to create a conceptual understanding of themselves, especially in relation to the world around them. This results into the capacity to have mindsight (i.e., the ability to see their internal world and that of others).

- Mindsight promotes integration both between others and within themselves (i.e., optimally linking and differentiated different parts of the brain).
- There are supposedly four facets of the mind that can help explain how our minds function:
 - First, the mind has a regulatory function that attempts to self-organize (i.e., regulation) and reach an optimal state of “integration.”
 - Regulation results from integration, such that when a person has optimally integrated the differentiated parts of the brain and experiences, they can reach an optimal state of self-organization where they remain self-regulated and not in a state of rigidity or chaos.
 - Presence plays an integral role in optimal development and integration (i.e., the presence and ability to optimally attune to an individual and their needs greatly influences an individuals’ integration).
 - Second, we have the capacity to have an internal sense of knowing regarding the mind’s processes (i.e., awareness or consciousness).
 - Awareness provides us with choice regarding how we experience and what we do with each experience.

- The process of mindfulness is the practice of understanding our inner knowing and optimizing it for optimal integration.
 - Third, our subjective experience of our state in the world (e.g., being optimistic versus pessimistic).
 - Fourth, information processing and our subjective sense of knowing or understanding something (e.g., knowing what a tree is when we see one).
- Our goal is to be flexible, adaptive, coherent, energized, and stable across various states of self in every context personally or interpersonally.
- We have various self-states that are shaped in specific contexts (e.g., our role as a teacher, student, parent, or friend all may reveal different aspects of our selves).
- Modules are a set of neural circuits that carry specific information utilizing a similar form of neural signal (e.g., detecting one shape from another).

Questions/Considerations – What are some of the most effective strategies for optimizing neural integration, especially if a person is in a state of rigidity or chaos?

“Where attention goes, neural firing flows, and neural connection grows.” While interpersonal connections greatly impact our development early on, they continue to shape our lived experiences throughout the lifespan. This means that people should be supported with maintaining healthy interpersonal connections. What is the best way to help a person understand how they can achieve a state of healthy integration (i.e., a state of well-being and self-regulation)? How can we help individuals develop mindfulness, especially when individuals did not receive attunement or experience secure attachments during developmental years? Using the Wheel of Awareness is a great tool for individuals to increase their awareness. The wheel is divided into four segments, first, the senses (e.g., hearing, smelling, seeing), second, the interior

signals of the body (e.g., interoception), third, mental activities (e.g., emotions, thought), and fourth, our sense of interconnectedness with others. Individuals explore their awareness of each of these segments and as a result have the potential to experience joy and awe, as they gain an understanding of something that was initially beyond their comprehension.

Chapter 2

Takeaways –

- A “state of mind” is understood as the specific pattern of activation in a person’s brain at a specific moment in time. For instance, if a person is in a fearful state of mind their brain would be activating the amygdala displayed in heightened attentional acuity, behavioral vigilance, memories of other fearful events may be flooding the person’s mind, experiencing the self as a victim in need of help.
- Healthy individuals have a series of self-states adapted for specific contexts.
 - For each self-state there is continuity for the specific self in that context across time.
 - For instance, one an individual understands it means to be a parent will be activated at various points in time in the context of that person being a parent for their child. This self-state would not be activated if this person were engaging in a different context, such as when talking with a friend about their charity for dogs.
 - A person’s mental life is therefore composed of many relatively distinct but interdependent states that manifest during specific contexts.
 - These self-states can be divided at the most basic levels of private, inner self, and public such that the multitude of contexts within each of these categories will

manifest a different but associated self-state developed across both personal and interpersonal experiences.

- While these differentiated self-states exist, it is pertinent that there be a unifying continuity between each of these self-states (i.e., authenticity) for effective functioning (i.e., mitigating rigidity and conflict between self-states).
- Every sensation a person experiences is limited by the body's capacity to take in energy at any one time.
- After sensation a person shifts to the experience of perception where they can receive the information surrounding this sensation based on prior experiences with similar sensations.
- The brain has systems of the mind that serve specific functions, such as implicit (i.e., factual memory, where facts about memories are encoded via modules) and explicit memory (i.e., autobiographical, where subjective experiences are encoded via modules).
- States of mind are patterned activities in the brain containing energy and information arising from specific neural networks that are activated from associated experiences.
 - States of mind influence how we feel in the present and reinforce a pattern that is more likely to occur again.
 - Emotion is regulated via the prefrontal cortex, which further moderates arousal levels, appraisal centers, and attention, and then sensation is perceived and process in the medial temporal lobe, and then motor processes via the basal ganglia. These circuits create and process the

energy and information flow and provide an individual with an experience of their state of mind.

- Emotions are the overall states, whereas feelings are the subjective experience that can be interpreted from the integrative states of mind.
- States of mind are regulated when the different systems of the brain are “linked” and simultaneously activated and functionally influencing one another.
 - States of mind are perceptually biased (i.e., individual experiences shape how individuals perceive stimulus), possess emotional tone and regulation, involve memory processes (i.e., associations from lived experiences), involve mental models (e.g., prefrontal cortex), and display behavioral patterns that are reflective of the state of mind (e.g., laughing when person is experiencing joy).
 - States of mind are dynamic and need to be observed over time to comprehend any person’s subjective experiences, as each moment brings unique stimuli that has the potential to create a different state of mind.
 - States of mind that are reactivated across various contexts will create cohesion and provide functional benefits with internal linkages that optimize integration.
 - Optimally a person will maintain cognitive flexibility as not to become locked into their perceptual experiences and reach a state of confirmation bias where they only select input that they believe to be true.
 - When the mind cannot organize itself effectively, such as due to trauma the brain enters a state of disorganization and chaos.

- The probability for a state of mind to be reactivated is contingent on both history and the present context of environmental conditions.
- Our brains were designed to receive and send social signals.
- Context sensitivity refers to when a person's internal state shifts to a previous associated experience when they are subjected to a specific context that might be associated in some way.
 - When an adult child returns home, they suddenly feel like a child again.
- The brain is a complex, dynamic system that is designed to self-organize.
- The self is the experiencing, acting part, and perceiving of our mind's processes.
 - Self-regulation is formed from the interaction of our attention, emotions, mood and affect, memory, thought, and behavior.
 - It is the shaping of energy and information flow within and between the body and the world around us.
- The brain is also a living system that is capable of responding and adapting to the environment.
 - Experience affects the brain by altering the strengths of synaptic connections.
 - The developing brain moves from simplicity to complexity.
 - Complexity is moving into a state of integration.
 - A system, the brain, a person will move into a state of harmony when integration is achieved.
 - PTSD suggests the impairment of integration with too much linkage in some areas of the brain without the necessary differentiation resulting in hypervigilance as well as disconnections from stress regulating centers.

- The ability to remember a memory from a long time ago is an attractor state.
 - Emotional responses constitute the primary value system that engrains pattern of neuronal firing and shapes emergent states of activation of the system.
 - Attractor states help create a sense of continuity amidst the infinitely possible outcomes of any given stimulus, giving us a sense of familiarity and connection across time.
 - Small changes in the microcomponents of the brain can result in large changes in the macrolevel of behavior of any organism.
- When we focus on perceiving reality in the present, we can experience this emergence sense of vitality and freshness.
- Recursive states of mind in a present moment can bring a sense of familiarity and continuity of self across time.
- The mind uses the brain and relationships to create itself.
- Cooperative communication between parent and child is the hallmark of securely attached dyad.
 - Mutually attuned experiences.
 - A child with a secure attachment can use these interactions to self-organize their internal state.
 - An avoidantly attached child, who has not experienced this cooperative communication from their parents will rely on its own internal constraints.
 - This results in an excessive reliance on internal constraints to self-regulate, as the parent did not provide a mutual regulation that the child feels a sense of reliance on.

- This learned autonomy keeps the individual remaining isolated from others.
- Ambivalently attached children are excessively responsive to their inconsistent attachment figures and are unable to be soothed themselves with or without the presence of their parent.
 - The child perceives the parent as unreliable and even anxiety provoking as the parent lacks attunement to regulate the child's internal state accurately.
- Disorganized attached children are unable to use either their internal or external means to regulate their internal states.
 - They experience a chaotic inner world that is unable to regulate with a parent who is incompatible and fails to provide a sense of security.
 - Prone to develop a fragmented self-organization and a lack of coherence due to the internal stress and turmoil.
 - Prone to developing dissociative disorders.
- Maximal complexity is achieved through individual differentiation and interpersonal linkage.
 - A balance between continuity (i.e., a degree of certainty where the brain can create a sense of stability and familiarity across time) and flexibility (i.e., diversity of responses and allows for novel adaptations).
 - Selfing (i.e., the emerging of self across time and in different and similar contexts).

- A state of mind is created by shifts of integration and the emotion is at the core of the emergence and maintenance of a state of mind.
 - Emotion is central to helpful change but also how we get stuck.
- Self-organization reflects how the mind is created from both interpersonal interactions and neurophysiological processes.
- While the brain and mind need interpersonal connections, the brain and body also need time of solitude to focus inwardly to promote well-being, organize its own processes, and create an internal state of resonance.

Questions/Considerations –

Understanding how states of being in associated contexts are likely to be reactivated in similar contexts is important for counselors and consultants to understand to support athletes with establishing optimal states surrounding their competitions. It is important that we help individuals develop a sense of authenticity for optimal well-being and integration. We achieve balanced self-regulation by integrating neural systems and interpersonal relationships. Parents' patterns of self-organization are often reflected in a child's self-organization. Therefore, it is integral that parents have optimal self-organization (i.e., integrated and not dysregulated), as to set their child up for success with optimal integration and self-organization. How do we help clients discern when they need more solitude or interpersonal connection? Help each person find their own balance between solitude and interpersonal connections.

Chapter 3

Takeaways –

- Memory is best described as the way past events affect how we function in the present and future.

- It is more than what we can recall.
- Our earliest experiences, some of which we cannot recall, influence the way we relate with others and approach the world around us.
- Learning occurs from the forming of new neurons based on the energy and information flow.
 - If a certain neural network was activated in the past, it is more likely to be reactivated under similar conditions.
 - The more a neural network is activated the more likely it is to be activated again through the process of myelination that insulates the neural networks and increases the rate at which information and energy flow on these neural networks.
 - Infants have an overabundance of neurons with few synaptic connections.
 - Experiences create synaptic connections and neurons that are utilized to form neural networks and those that are not utilized die off.
- Memories are formed from chemical alterations that strengthen neuron connections.
 - Long term memories form when proteins are produced to create these stronger synaptic connections.
 - Encoding a memory is the first stage of the memory processing.
 - This involves the first associated experience (e.g., seeing a dog for the first time).
 - The initial impact of an experience on the brain is the engram
 - The next stage is the storage of memory, which increases the chances of a similar net profile will be activated in the future.
 - The brain integrates

- semantic information (i.e., facts – You saw a dog)
 - autobiographical information around seeing the dog at that time (i.e., I was young when I first saw this dog)
 - somatic information around seeing this dog (e.g., I felt excited to see this cute animal).
 - Perceptual information (e.g., this dog looked furry).
 - Emotional information (e.g., I was joyous to see this dog).
 - Behavioral (e.g., I approached the dog with enthusiasm).
 - When you see a dog a second time a similar net profile that was first activated when you saw the dog for the first time will be reactivated.
- Memory is an active set of processes.
 - Implicit Memory
 - Involves parts of the brain that do not require conscious processing during encoding or retrieval (e.g., emotions, bodily sensations, images).
 - The subjective sense of ourselves that filter our experiences in the moment.
 - This includes how we act, feel, imagine without direct recognition of how the past is influencing us.
 - Involve the amygdala and other limbic areas of the brain.
 - Mental models are the basic components of implicit memory that form over time and lived experiences that allow us to assess situations more rapidly.

- Mental models give us a sense of familiarity amidst the unknown and allow us to create meaning in unfamiliar situations.
 - The brain is understood as an anticipation machine due to the brains function of creating mental models to make sense of the world more rapidly.
 - Prospective memory is the brains attempt to make sense of the future based on what has occurred in the past.
- Explicit memory are the explicit recollections of lived experiences, including semantic (i.e., factual) and autobiographical (i.e., episodic) components.
 - Cognitive mapping; the brains ability to create a four-dimensional sense of the self in the world across time.
 - The emergence of consciousness is believed to be related to the development of memory.
 - Noesis, allows us to know facts across time
 - Auto-noesis, is knowing the self across time, dependent on the prefrontal cortex.
 - Mental time travel is having the capacity to recollect the self at a time in the past, awareness of the self in the present, and the ability to project the self into the imagined future.
 - Parental reflection of shared experiences with the child increases a child's autobiographical sense of self.
 - Parent and child attachment experiences influences a child's auto-noetic consciousness.

- Our autobiographical self emerges as a result of our interpersonal experiences.
- The encoding process for explicit memory requires focal, conscious, and directed attention to activate the hippocampus.
 - Stimuli is first placed in the sensory memory, lasting for a quarter of a second, which activates the perceptual system.
 - Selected items from this sensory memory are placed in the working memory for half a minute.
 - When this information is rehearsed it can be stored in the long-term memory.
 - Recollection is the reactivation of the neural networks that were activated under the initial experience.
 - Without focal attention, items are not encoded explicitly.
- Childhood amnesia can occur due to trauma, or a lack of memory talk with their parents.
 - Memory talk involves the parents focusing their attention on discussing the contents of a child's memories.
 - Children develop more autobiographical memories when their parents talk more elaboratively about their experiences.
 - When parents talk more factually with less elaboration, children have a decreased ability to recall shared experiences.
 - Emotion knowledge is higher in children whose parents talk more elaboratively with their children.

- Interpersonal experiences profoundly impact explicit memories.
- When parents co-construct lived experiences with their children, it increases a child's capacity to describe their memories.
- Cultural experiences shape memory recall.
 - Culture plays a role in how we relate to one another and therefore influences our brain growth, how our mind develops, and memories form.
- Forgetting is an aspect of explicit memory, as we cannot possibly encode every experience, energy or information flow that enters our mind.
 - Experiences that involve little emotion do not activate our focal attention, and therefore are deemed unimportant and are not easily recalled later.
 - Experiences that involve more emotion are deemed more important and are therefore more easily recalled in the future.
 - If experiences are too overwhelming, a number of factors inhibit the hippocampal processing of explicit memory and block the explicit encoding and subsequent retrieval.
 - Cortisol that is released during stress impedes the hippocampus functions.
 - Divided attention during stressful events also interferes with explicit memory encoding while simultaneously strengthening implicit memory encoding.
 - If the brain appraises an event as meaningful, it will be more likely to be recalled in the future.

- A protein called CREB-1 is involved in the activation of genes that initiate the protein synthesis that is necessary for creating synaptic connections (i.e., integrating memories).
- The emotion circuits of the brain that are activated during an emotionally engaging experience serve as evaluative centers that directly influence our focus of attention and our state of arousal, which contributes to memory formation.
 - Concentrated attention increases the localized release of brain-derived neurotropic factor, increasing gene expression and contributing to the development of neural connections that heighten neuroplastic changes in the brain.
 - Our minds must selectively encode lived experiences, and emotions and meaning help us encode relevant experiences.
- When stress is overwhelming and overtly traumatizing, it impairs memory.
 - Chronic stress can produce elevated baseline levels of cortisol and other stress hormones which inhibit the hippocampus and can result in neuronal death.
 - The amygdala is involved with establishing the value of an experience and integrating elements of encoding with hippocampal processing, however excessive cortisol secretion has been found to impair hippocampal functioning, impeding explicit memory processing, while the noradrenaline secretion enhances implicit memory encoding facilitated by the amygdala.

- This means that the traumatic associations of an experience are encoded in a person's memory however the person lacks the autobiographical memory to integrate the whole memory, separate the self from that lived experience, and cortically consolidate the experience, and the person may experience intrusive implicit images and experiences.
- REM sleep attempts to consolidate these experiences (e.g., nightmares are common).
 - The REM sleep helps integrate experiences in both right and left hemispheres through synchronous oscillations to synthetically retrieve and encode episodic memory into a consolidated form.
 - Dreaming permits episodic memory representations to become engrams for consolidative encoding.
 - Trauma must be consolidated by integrating implicit and explicit memories.
 - Encoding noetic and auto-noetic information.
 - External corroborations of reported experiences can help create a fuller picture.
 - Actual memories can be forgotten and nonexperienced "recollections" can be deeply felt to be true.
 - Clinicians need to take a neutral stance.

- Chronic stress may damage the hippocampus itself.
- The self is layered with mental representations, only some of which are present in our conscious experience at any given time.
- When implicit memory is reactivated it does not have a sense of self, time, or of something being recalled (i.e., it created the mental experience of behavior, emotion, or perception; mental model).
- Explicit memory allows us to have a sense of self, time, and something being recalled.
 - Autonoetic consciousness permits us to mental time travel, creating representations of the self in the past, present, and future.

Questions/Considerations –

Memory talk involves the parents focusing their attention on discussing the contents of a child's memories. Children develop more autobiographical memories when their parents talk more elaboratively about their experiences. When parents talk more factually with less elaboration, children have a decreased ability to recall shared experiences. Emotion knowledge is higher in children whose parents talk more elaboratively with their children. Interpersonal experiences profoundly impact explicit memories. When parents co-construct lived experiences with their children, it increases a child's capacity to describe their memories. Cultural experiences shape memory recall. Culture plays a role in how we relate to one another and therefore influences our brain growth, how our mind develops, and memories form. How should we support individuals optimally from different cultures? Forgetting is an aspect of explicit memory, as we cannot possibly encode every experience, energy or information flow that enters our mind. Experiences that involve little emotion do not activate our focal attention, and therefore are deemed unimportant and are not easily recalled later. Experiences that involve more

emotion are deemed more important and are therefore more easily recalled in the future. If experiences are too overwhelming, a number of factors inhibit the hippocampal processing of explicit memory and block the explicit encoding and subsequent retrieval. Sharing this information with clients can help them to optimize their own memory processes. Dreaming permits episodic memory representations to become engrams for consolidative encoding. Trauma must be consolidated by integrating implicit and explicit memories. External corroborations of reported experiences can help create a fuller picture. Actual memories can be forgotten and nonexperienced “recollections” can be deeply felt to be true, therefore, clinicians need to take a neutral stance as not to influence these experiences.

Chapter 4

Takeaways –

- Attachment is what motivates human beings to seek proximity to parents and other primary caregivers to establish communication and meet their needs.
- The emotional transactions of secure attachment involve a parent’s emotional attunement to child signals.
 - This amplifies child’s positive states and mitigates negative states.
 - Repeated positive experiences become integrated into the child’s implicit and explicit memory as expectations and mental models that provide them a secure base in the world.
 - Secure attachment is associated with emotional regulation, social relatedness, autobiographical memory, and the development of self-reflection and narrative.
- Attachment experiences are crucial to organizing ongoing experience but also neuronal growth in the developing brain.

- Influencing states of mind, emotions, and memories.
- Attachment relationships create the central foundation from which the mind develops.
- Many factors contribute to overall development: Experiences, temperament, peers, chance, culture, and genetic and epigenetic factors.
- Person-to-person synchrony involves synchrony between bodily and mental states; the feeling connected; feeling felt.
 - Affect attunement is the capacity to be sensitive to another person's signals.
- "The attunement of states of mind is the fundamental way in which the brain activity of one person directly influences that of the other."
- Integrative relationships cultivate integration that forms the basis of optimal regulation and the nurturance of resilience.
 - Alignment of states is contingent on parental sensitivity to child's signals.
 - This forms a mental state resonance that helps the child develop regulatory capacities that can be utilized in the future.
 - Attuned communication involves the resonance of energy and information between two people.
- If an attachment relationship is insecure, the internal working model of attachment will not give the child a secure base.
- The attachment relationship infants experience creates the mental model for the basis of all future relationships and interpersonal connections.
 - Secure patterns of attachment are developed from parents who are emotionally available, perceptive, and responsive to their infant's needs and mental states.

- Contingent communication involves the parent attuning to not only the external behaviors of the child but the perceived internal states of the child.
- Mental presence, combining the emotional and cognitive aspects of being empathetic, enables a parent to sense the child's needs freely while remaining differentiated.
- Securely attached children seek proximity to parents but then return to play quickly when presented to strange environments.
- Avoidant patterns form from parents who are emotionally unavailable, imperceptive, rejecting, and unresponsive.
 - Infants ignore presence of parents.
- Resistant or ambivalent patterns form from parents who are inconsistently available, perceptive, and responsive who tend to intrude their own states of mind onto those of their children.
 - Infants are anxious and are not easily soothed.
- Disorganized or disoriented pattern forms from parents who show frightened or disoriented communications during the first year of life.
 - Infants freeze.
- Caregiver's mind and patterns of communication directly shape the organization of the developing child's brain.
- Temperament and genetically determined features can play a role in overt behavior.
- Insecure attachment does not mean a mental disorder will occur, but it puts a risk for psychological and social dysfunction.

- Avoidantly attached children have been found to be controlling and aggressive.
- Ambivalently attached children are at risk for social anxiety.
- Disorganized attachments are at risk for dissociative symptomology.
- Secure attachments have been associated with emotional, social, and cognitive competence.
- Individual's personality is created from the continual interaction of genetically determined constitutional features and experiential exchanges with the environment shaped by the family and culture.
- Relationships share interconnections and neurotransmitters that involve reward circuitry.
 - Oxytocin
 - Dopamine
- The neural regions involved in attachment
 - The reward-motivation system (e.g., the striatum, amygdala), associated with social-seeking, and maintaining contact across extended periods.
 - Attachments have intrinsic motivational value that combines immediate hedonic response with approach motivation.
 - The embodied simulation/empathy network including the insula.
 - This results in automatic interoception and internal representations, recreates other's states in one's brain.
 - Creating a shared world,
 - Underpins the human capacity to build and maintain attachments.
 - Mentalizing processes.

- An individual's capacity to appreciate multiple perspectives, understand partner goals, and keep in mind higher values and goals.
- The matter of mind matters for secure attachments.
 - Adults with secure/autonomous state of mind have a fluidity in their narratives, self-reflection, and access to memory, and have a range of mental models of attachment relationships that allow them to be flexible in their perceptions.
 - These individuals have an organized and unimpaired flow of energy and information.

Questions/Considerations –

People benefit from attuned alignment and distance autonomy. Children with disorganized attachments have the most difficulty later in life. How can we support individuals who did not receive secure attachment experiences? Secure attachments have been associated with emotional, social, and cognitive competence. We should help individuals with developing optimal integration so that they establish a secure/autonomous state of mind with a fluidity in their narratives, self-reflection, access to memory, and have a range of mental models of attachment relationships that allow them to be flexible in their perceptions. This will allow them to be better parents and help more people to develop a secure/autonomous state of mind. These individuals have an organized and unimpaired flow of energy and information.