

Psychotherapy with Attachment and  
the Neurosciences in Mind  
**Clinical Applications**

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## Goals of Lecture

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- Overview of Attachment Theory
- Infant-parent, pair-bond and therapist-patient attachment
- Neurobiology of attachment
- Affect regulation and working models
- Memory and attachment theory
- Incorporating attachment into evaluation and treatment

## Attachment Theory in a Nutshell

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- Attachment theory is an attempt to explain how secure attachment develops and how it helps people survive temporary bouts of pain discomfort, doubts and distress and help individuals reestablish hope, optimism and emotional equanimity. It also explains how various forms of attachment insecurity develops and interferes with emotion regulation, social adjustment and mental health. (Shaver and Mikulincer, 2008)

## Attachment Theory

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- Bowlby felt that both emotions and cognitions were strongly associated with attachment.
- Emotion: When an infant feels distress, proximity to it's caretaker become the means to reducing that stress.
- Cognitive: Attachment relationships create the building blocks of representations of self and others. Am I the kind of person people will respond to? Are others likely to respond to my needs?

## Secure vs. Insecure Attachment

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- Secure attachment occurs when the child has a mental representation of the attachment figure being present, attentive and responsive when needed.
- Insecurely attached children lack such a representation.
- And depending on the response patterns of the caregiver when the attachment behavioral system of the child is activated (wanting proximity), you will see different patterns of insecure attachment.

## Patterns of Attachment

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- *“Happy families are all alike; every unhappy family is unhappy in its own way.”*

Tolstoy' s Anna Karenina, 1917

## Bowlby' s Central Proposition

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- Beginning in early infancy, an innate component of the human mind -- called the **“attachment behavioral system”** -- in effect asks the question: Is there an attachment figure sufficiently **near, attentive and responsive?**

## If the answer is yes.....

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- ...then certain emotions and behaviors are triggered, such as **playfulness, less inhibited, visibly happier and more interested in exploration.**
- In the Strange Situation, developed by Mary Ainsworth, these infants are distressed when the parent leaves the room, but eventually go back to playing with the stranger. When the parent returns, these infants are distressed (protest) but will quickly settle down and return to playing and exploration. These infants are **securely** attached.

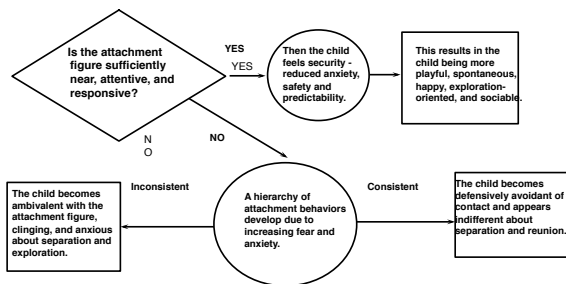
### If the answer is consistently no...

- ...a hierarchy of attachment behaviors develop due to increasing fear and anxiety (**visual checking; signaling to re-establish contact, calling, pleading; moving to reestablish contact**).
- If the set of attachment behaviors repeatedly fails to reduce anxiety (get the caregiver to respond appropriately) then the human mind seems capable of deactivating or suppressing its attachment system, at least to some extent, and defensively attain self reliance. This leads to detachment.
- In the strange situation, these infants seem to be not phased by the parent leaving and disinterested when the parent returns. But when their heartbeat is measured, they are indeed quite anxious. These infants are **anxious-avoidant**.

### If the answer is inconsistently no...

- ...the attachment behaviors described previously become exaggerated as if intensity will get the attachment figure to respond (which may or may not work). Like the dynamic between a gambler and the slot machine, the attachment figure will pay off or respond in sufficient frequency that the infant becomes **preoccupied** or **anxious** or **hypervigilant** about the attachment figure's availability.
- In the strange situation these infants are very distressed when the parent leaves the room, can't settle down after the parent leaves and can't settle down when the parent returns. These infants are **anxious-ambivalent**.

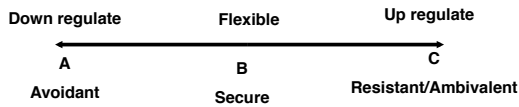
## The Development of Attachment



## Attachment Categories

- Secure (B)
- Insecure
  - Resistant, ambivalent (C) (preoccupied)
  - Avoidant (A) (dismissing)
  - Disorganized (unresolved/disorganized)

### The Continuum of Attachment from an Affect Regulation Perspective



### Attachment disorganization

- Originally researchers described three categories (secure, anxious-avoidant and anxious-resistant) and a final category termed “can not classify.”
- Main and Solomon looked more closely at these unclassifiable infants and found an interesting and consistent pattern that emerged.
- Some children were particularly ambivalent upon reunion with their attachment figure, both approaching and avoiding contact. Upon reunion some of these infants would walk toward their parent and then collapse on the floor. Others would go in circles and fall to the floor. Some would reach out while backing away.

### Attachment disorganization

- Why were these children were both seeking protection from their caregivers while at the same time moving away?
- A large percentage of these infants were experiencing abuse by their caregiver. In other words, the person who was supposed to be a haven of safety for the infant was also the source of fear. These infants were experiencing “**fear without solution.**”

### Attachment disorganization

- Another subgroup of disorganized infants, however, were not experiencing abuse by their caregivers.
- It was discovered that these caregivers had experienced abuse by their parents, but that abuse was still unresolved.
- When the infant was in need of protection, the caregiver became frightened (may turn away or make subtle frightening faces at the infant).
- Attachment disorganization occurs when a parent acts either frightening or frightened in response to the infants need for protection.

### What is significant about this finding?

- Disorganized attachment has been highly correlated with Borderline Personality Disorder.
- Although many individuals who are suffering from this disorder have experienced trauma in their lives, some may have this disorder for less obvious reasons.
- This is why it's always a good idea to not only assess for the trauma in your client's lives, but in their parents lives as well.

### Parent-Infant Attachment Correspondence (3-way)

- **75% secure vs.. insecure agreement:** If a parent was secure as assessed by the AAI, there was a 75% chance that their child would be securely attached. This was true for insecure parents as well.
- **70% three-way agreement:** When taking into account all three organized categories (secure, dismissing, preoccupied), there was a 70% prediction of the attachment of the child based on the parent's attachment status.
- **Prebirth AAI show 69% three-way agreement:** When pregnant parents' attachment status was assessed, researchers were able to predict the attachment status of their children by age 12 months with 69% certainty.

### Parent-Infant Attachment Correspondence (4-way)

- **63% four-way agreement.** Which means that the researchers could predict with 63% certainty whether the infant will be secure, avoidant, ambivalent or disorganized, based on the attachment status of the parent (secure, dismissing, preoccupied or disorganized) using the AAI.
- **Prebirth (similar to last slide) the AAI showed 65% predictability based on all four attachment categories.**

### What does these data suggest?

- The attachment status (or state of mind regarding attachment) of the parent, is going to have a direct effect on the attachment of the infant to that parent - as high as 75% predictability.
- Secure adults engender security in their children, dismissing adults tend to engender avoidant relationships with their children, pre-occupied adults engender ambivalent attachment in their children and adults with unresolved trauma or disorganization may act frightening or confusing with their children, causing disorganized attachment in their children.

### What's so great about attachment security?

- Engage in more elaborate make-believe play
- Display greater enthusiasm,
- Are flexible and persistence in problem solving
- Have higher self-esteem,
- Are socially competent,
- Cooperative with peers
- Liked by peers
- Empathic
- Have closer friendships
- Have better social skills.
- Adults: happy, stable close relationships, flexible, compassionate and accepting of differences.
- What's not to like?

### Is attachment a real and independent phenomenon?

- Attachment and temperament are separate phenomenon
  - Different attachment to each parent
  - Can be predicted pre-birth
  - Discontinuity
- Intelligence
  - Attachment status can not be predicted by IQ
- Disability
  - Attachment can be assessed in autistic infants
- Culture
  - Same rates of secure/insecure

### Adult Attachment Patterns

### Infant/Parent v. Pair Bonds

- Infant/parent there is one caregiver and one care receiver, whereas in adult pair bonds each person can be the caregiver or the care receiver.
- Infant/Parent doesn't include sexual/mating behavioral system.
- When infants approach their caregiver it's usually for stress alleviation. When adults turn towards one another they may be seeking comfort or sexual contact.
- Infants can't live without their attachment figure. Adults can live without their attachment figure.
- Infant attachment figures are usually related biologically. Adult pair bonds don't have biological connection.

## Secure Attachment

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## Adult Attachment Development

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- Secure adults have mastered the complexities of close relationships sufficiently well to allow them to explore and play without needing to keep vigilant watch over their attachment figure, and without needing to protect themselves from their attachment figures insensitive or rejecting behaviors (Shaver & Clark).

## Secure Adult Patterns

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- Highly invested in relationships
- Tend to have long, stable relationships
- Relationships characterized by trust and friendship
- Seek support when under stress
- Generally responsive to support
- Empathic and supportive to others
- Flexible in response to conflict
- High self-esteem

## Preoccupied Attachment

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## Adult Attachment Development

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- **Preoccupied:** What begins with attempts to keep track of or hold onto an unreliable caretaker during infancy leads to an attempt to hold onto partners, but this is done in ways that frequently backfire and produce more hurt feelings, anger and insecurity.

## Preoccupied Adult Patterns

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- Obsessed with romantic partners.
- Suffer from extreme jealousy.
- High breakup and get-back-together rate.
- Worry about rejection.
- Can be intrusive and controlling.
- Assert their own need without regard for partner's needs.
- May have a history of being victimized by bullies.

## Dismissing Attachment

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## Adult Attachment Development

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- **Dismissing:** What begins with an attempt to regulate attachment behavior in relation to a primary caregiver who does not provide, contact, comfort or soothes distress, becomes defensive self-reliance, cool and distant relations with partners, and cool or hostile relationships with peers.

## Dismissing Adult Patterns

- Relatively un-invested in romantic partners.
- Higher breakup rate than pre-occupied.
- Tend to grieve less after breakups (though they do feel lonely).
- Tend to withdraw when feeling emotional stress.
- Tend to cope by ignoring or denying problems.
- Can be very critical of partner's needs.
- May have a history of bullying.

## Disorganized Attachment



## Adult Attachment Development

- **Unresolved/Disorganized/Fearful:** What begins with conflicted, disorganized, disoriented behavior in relation to a frightening or frightened caregiver, may translate into desperate, ineffective attempts to regulate attachment anxiety through approach and avoidance.

## Disorganized Adult Patterns

- Introverted
- Unassertive
- Tend to feel exploited.
- Lack self confidence and are self conscious.
- Feel more negative than positive about self.
- Anxious, depressed, hostile, violent.
- Self defeating and report physical illness.
- Fluctuates between neediness and withdrawing.

## Deconstructing Attachment

- Emotion Regulation

## Emotion Regulation

- Emotions: Unlearned reactions to events that cause a change in state of the organism. Occur within the limbic system
- Regulated by the prefrontal cortex.
- Relationship between the emotion and the regulatory process will result in the resultant style and its behavioral manifestation.

## Affect Regulation

- Securely attached individuals have developed the ability to recognize emotions in self (reflective function) and others (social cognition or theory of mind), flexible approaches problem-solving; and can make use of self and dyadic soothing.
- Insecurely attached individuals lack these capacities to varying degrees. So how a person regulates emotion, will give you some insight into their attachment style/state of mind.
  - Deactivate (dismissing)
  - Hyperactive (preoccupied)
  - Overwhelm/dissociate (disorganized)

## Neuroscience of Emotion

Emotions, Feeling and Attachment

## What are Emotions?

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- Unlearned reactions to events that cause a change in state of the organism.
- Packages of solutions handed down by evolution to assist organisms to solve problems or endorse opportunities.
- The purpose of emotions is to promote survival with the net result being to achieve a state of wellbeing.
- Doesn't need to be felt
- 3 types of emotions: Primary, Background and Social.

## Types of Emotions

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- Primary: fear, anger, disgust, surprise, sadness and happiness.
- Background:
  - Often not consciously aware of them.
  - May contribute to a 'mood' we experience.
  - Exist on a continuum from good to bad and everything in-between.
- Social: awe, sympathy, embarrassment, shame, guilt, pride, jealousy, envy, gratitude, admiration, indignation, compassion and contempt.

## What are feelings?

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- Occurs when a person becomes consciously aware of the fact that they are in the process of experiencing emotion.
- Occurs in the prefrontal cortex, which has a region that is specifically dedicated to body mapping.
- Similar to a sense – smell, hearing, sight, touch and taste.
- Feelings reveal to us the state of the organism at any particular point in time.
- Feelings allow us to make decisions about how to respond to emotions; they allow us the opportunity to make a choice.

## What are Feelings

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- Feelings are mental readouts of the process of emoting. They are a knowing of the body state in reaction to certain stimulus or situation.
- The ability to take stock - connect object to emotion.
- Feelings reveal (lift the veil) of the state of the organism when it is in the process of reacting to an emotionally competent stimulus.
- Feelings have the possibility of revealing "good for life" and "not-good for life" states.

## How this Relates to Mental Health

- Secure attachment results in adaptive affect regulation:
  - Connected with body
  - Can represent emotion with feeling
  - Flexible in response strategies
  - Empathic toward emotion in others
- Insecure attachment results in affect dysregulation.
  - Hyperactivation and/or deactivation strategies that may interfere with any or all of the functions above.
- Assessment and treatment is going to focus on identifying how the person experiences emotion, it's representation as feeling and developing more adaptive affect regulation strategies.

## Goals of Treatment

- Strengthen Capacities of Prefrontal Cortex that regulates emotions
  - Body mapping
  - Reflective function
  - Social cognition
  - Response flexibility
- Sometimes use medication to reduce limbic reactivity or strengthen synaptic connections in the PFC.

## Mirror Neurons

Understanding Ours and Other's Minds

## Ours and Others Minds

- How do we understand the mental states of others?
- Theory of mind, mentalizing, reflective function, seeing the world from the others point of view; mind reading, figuring out what someone is up to, etc.
- Take this process for granted most of the time.
- Social cognition: Awareness and interpretation of social stimuli based on our knowledge of the rules that govern social interaction within the cultural context

## Intersubjectivity

- Intersubjectivity is the sharing of meaning between people
- The problem of intersubjectivity: if I have only access to my own mind, which is a very private entity I can only access, how can I possibly understand the minds of other people? How can I possibly share the world with others, how can people possibly share their own mental states?
- Behavior, mental representation (verbalizing) are ways to understanding
- Mirroring is another way - less conscious, more automatic and more efficient

## Mirror Neurons

- Parma Italy Neuroscience Research Lab - Giacomo Rizzolatti
- Cells in the ventral premotor cortex and inferior parietal cortex of the rhesus monkey brain fires when the monkey performs goal-oriented hand and mouth actions
- Also fires when observing those actions in other monkeys
- Not only do these mirror neurons fire, but they activation motor neurons
- Key to not only understanding the intentions of others, but also the mental states underlying those intentions

## Mirror Neurons & Emotion

- Subject perceives the emotional state of the object
- Subject's MNS simulates (activates similar motor and emotion neural processes) that mental state in the subject
- Subject's body changes in response to emotional state
- Subject notices a change in the physical state of the body
- Subject labels that change - "anger, sadness, fear, etc."
- Subject has represented the emotion with feeling
- Is this me or you I am feeling?

## Mirror Neurons and Empathy

- Different types of empathy
  - Emotional: state matching; increases with familiarity, similarity and salience; self-other distinction (bottom up process)
  - Cognitive: no state matching; self-other distinction; perspective-taking (top down process)
  - Contagion: state-matching; no self-other distinction; AKA vicarious emotional transfer (vicarious trauma)
  - Sympathy: feeling sorry for other's situation, not necessarily emotional state; self-other distinction; no state matching
- Early studies suggest that the MNS is more involved in the process of empathy where there is state-matching (emotional and contagion) rather than no state matching (cognitive and sympathy).

## Learning Empathy

- Cognitive empathy and sympathy are more easy to teach.
- Emotional empathy involves learning to connect with one's own emotions first, which is not always easy.
- Begins with the therapist helping the person to recognize and represent their emotional experience, by feeling the client's emotions (MNS).
- The better one gets at recognizing and expressing their own emotions, the better they'll get at social cognition.

## Mirror Neurons in Attachment Relationships

- In Secure-Secure dyads, mirror neurons efficiently facilitate the social interactions between individuals.
- In Insecure-Secure and Insecure-Insecure dyads, mirror neurons can create problematic dynamics that impair social interactions and adjustment.
- Therapists are in the unique position to use their MNS to work with attachment dynamics of clients.

## Integrating Theory and Practice

- Typologies or styles
- Assessment-based treatment
- Emotion regulation is an important aspect of health interpersonal functioning
- Members of dyads or families are more prone to the problematic effects of emotion contagion when they have insecure attachment.
- Replace outdated paradigms with newer conceptualizations of emotion.