



The Magic of Connections

Attachment and FASD

Saskatoon, 2012

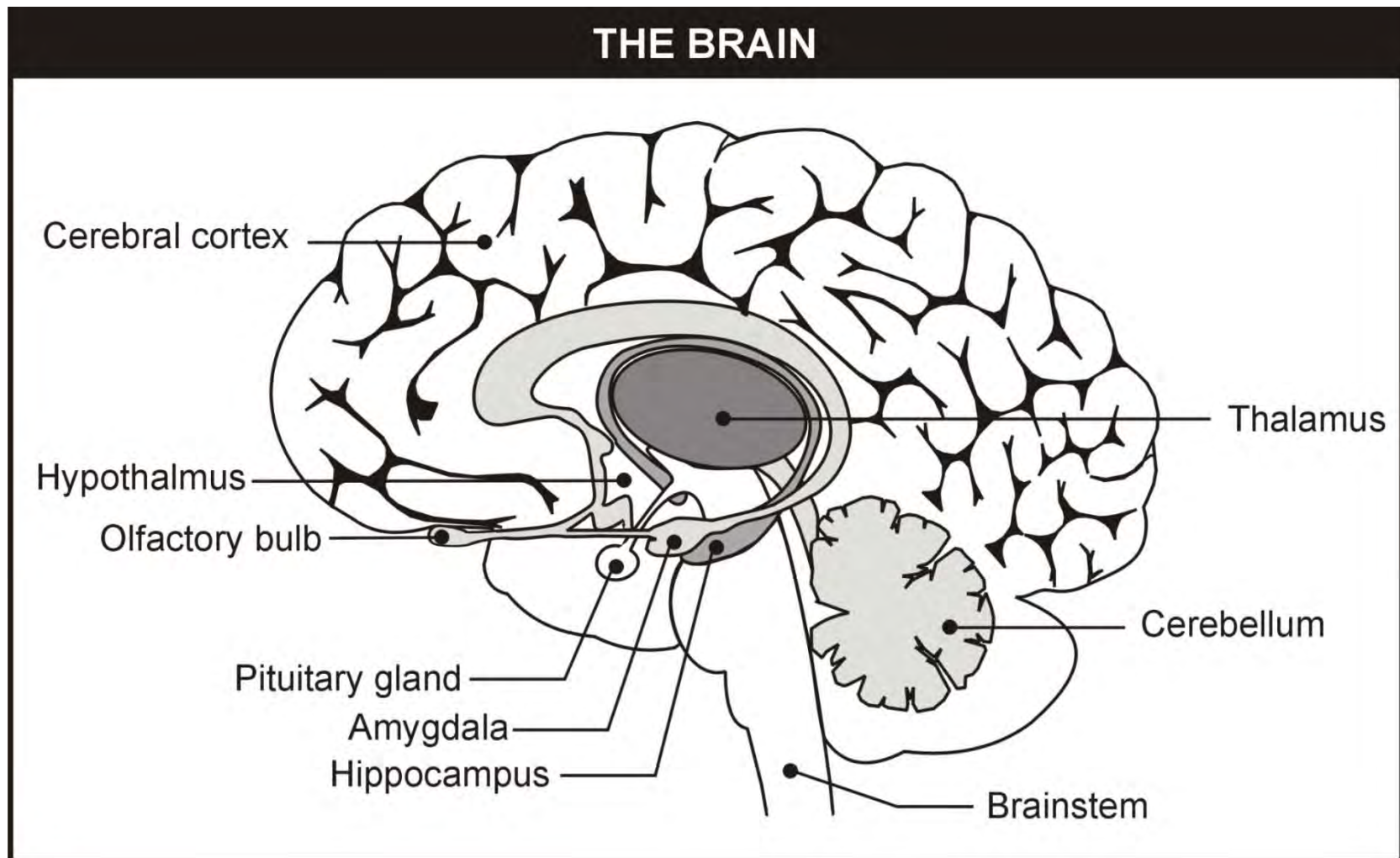
Kim Barthel, OTR





Magic of Connection

What Does Attachment do to the Brain?



What is Attachment?

- A pattern of interaction in a specific relationship.
- The self-protective strategies used in a relationship.
- Pattern of information processing that is used to select the self-protective strategy.
- Evident throughout the lifespan.
- Develops during primary connection with caregiver – grows the brain.

Attachment is About Danger

Attachment strategies are protection strategies from danger.

Attachment behaviours

Proximity Seeking - The desire to be near the individual(s) one is attached to.

Secure Base - The attachment figure acts as a base of security from which the child can explore the surrounding environment.

Safe Haven - Returning to the attachment figure for comfort and safety in the face of a fear or threat.

Separation Anxiety - Anxiety that occurs when the attachment figure is absent or inaccessible.

Early events of developmental experience have far-reaching and long lasting effects upon the nervous system's development.

Allan N. Schore

Their Brains Light Up Like Christmas Tree Lights

- When mom and baby fall in love their brains both become very active in the same part of the brain.
- The right side of the front of the brain lights up like a light bulb.



Gleaming and Beaming



- At the time of birth, mom and baby are flooded with adrenaline with subsequent pupil dilation.
- Sympathetic discharge resulting in sharper vision. Mothers giving birth have dilated pupils 5 times greater than normal!
- When you look in a dilated pupil you can see the retina! Light energy meets neural energy (twinkling of the eye).
- “Gleaming and beaming” affect from the mother’s eyes at the moment of birth placed directly into the widely dilated eyes of the baby.
- Biochemistry of affect occurs. Mom experiences a flood of dopamine with baby also experiencing a commensurate surge of chemistry. Sympathetic nervous system arousal.
- This is the first awakening of the right orbitofrontal cortex which is filled with dopamine receptors oriented to novel stimuli. Growing the brain! Doesn’t happen on the left side of the brain.

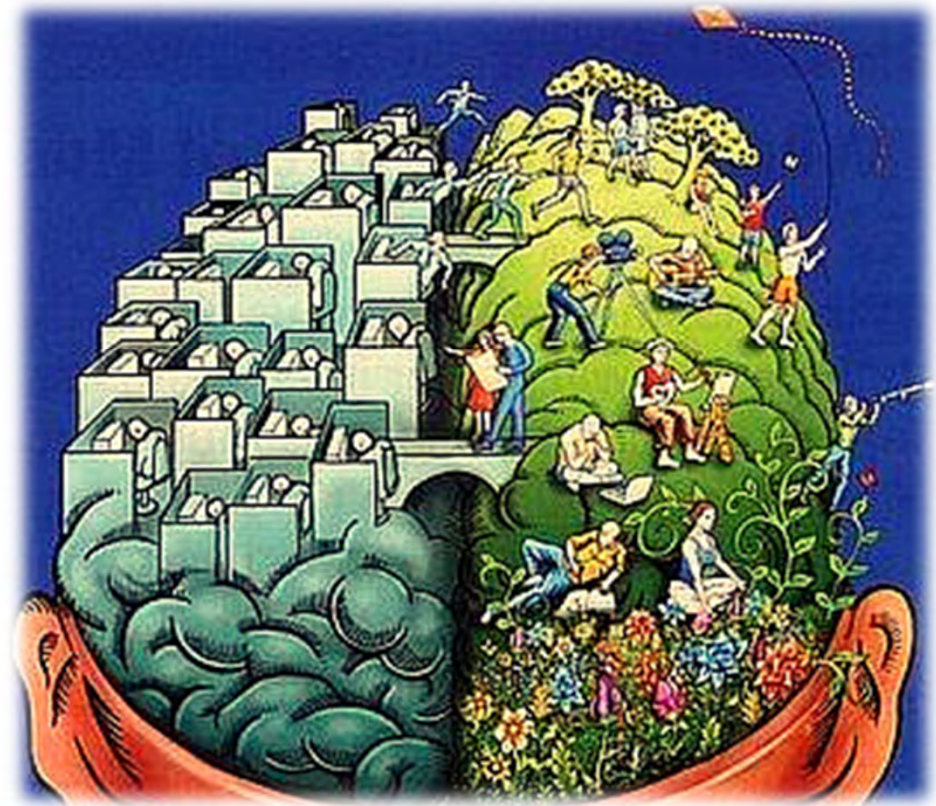
Experience Dependent Right Brain Maturation

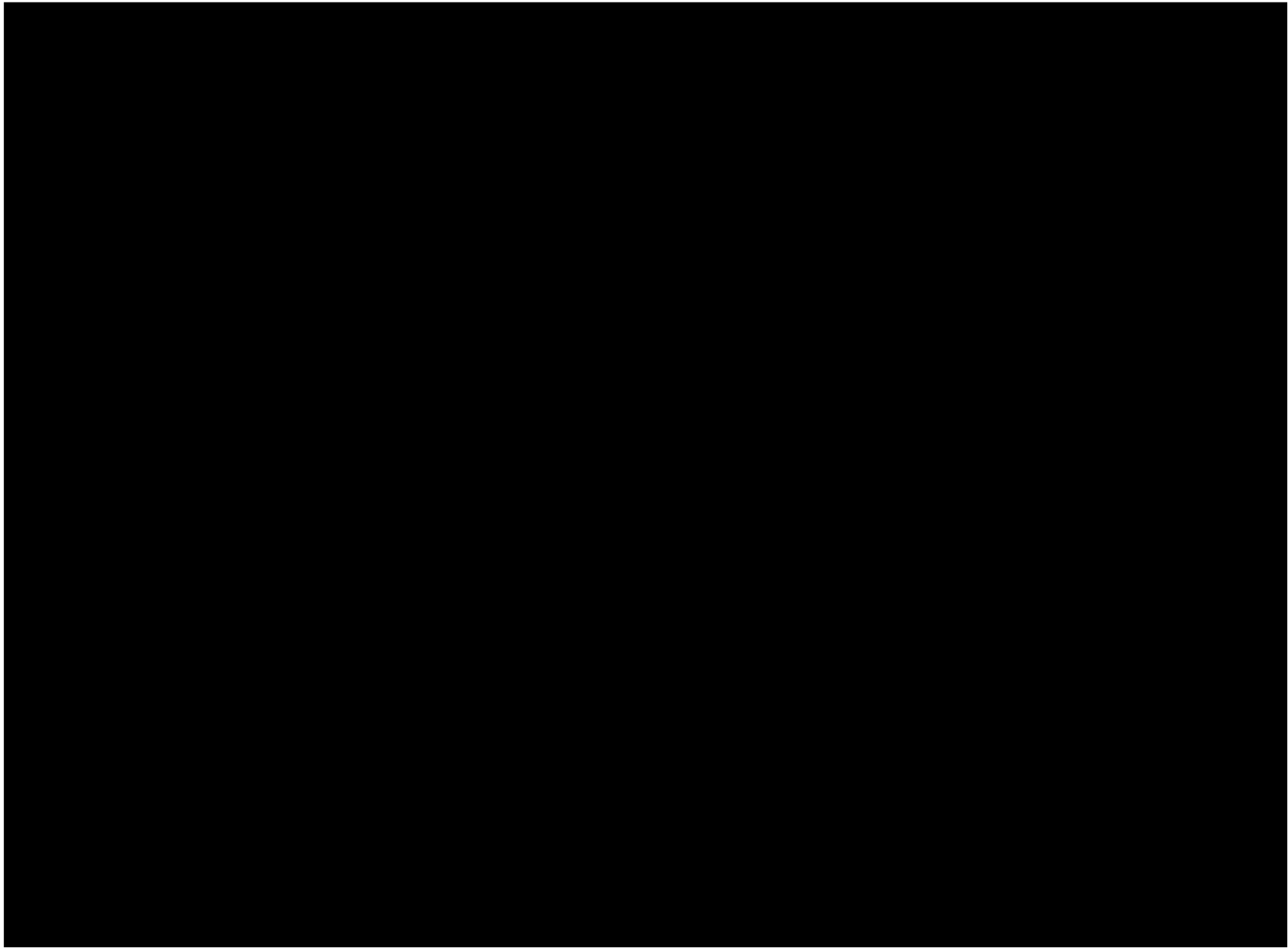
The Right Orbito Frontal Cortex

When you are deep in conversation, staring into someone's eyes the right hemisphere is fully engaged!



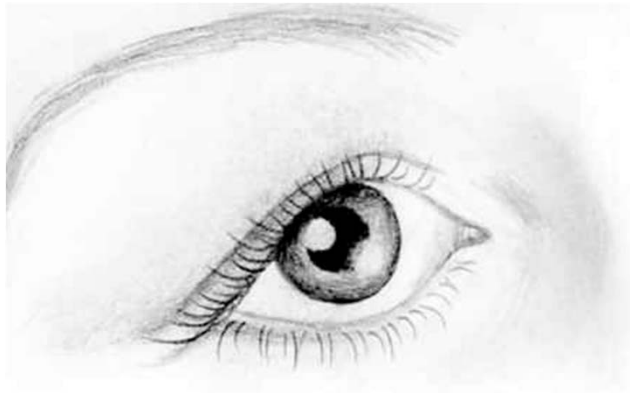
Dr. Allan Schore





Scientific America

One person uses another's pupil size as a source of information about that person's feelings or attitudes; this process usually occurs at unconscious levels. Dilated pupils occur in states of pleasure and are an indicator of "interest"... Experiments have shown that women's eyes dilate in response to a picture of a baby. Viewing dilated pupils elicits larger pupils in the observer. In a developmental study, infants smiled more when a female experimenter's eyes were dilated rather than constricted.

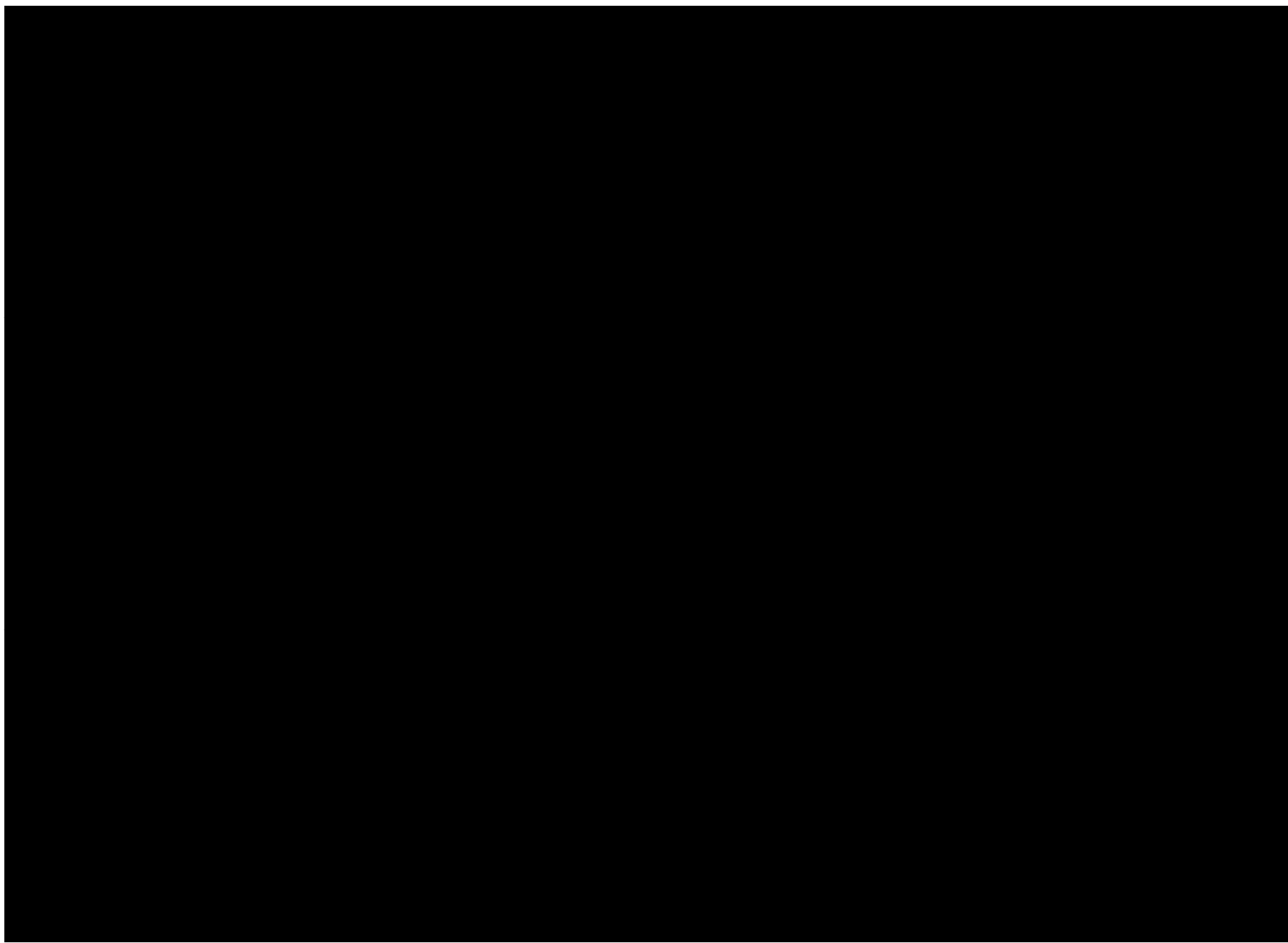


The Same Brain Parts

- The same brain parts developed through attachment are affected neurobiologically in FASD.
- Maladaptive attachment can exaggerate impairment in FASD.

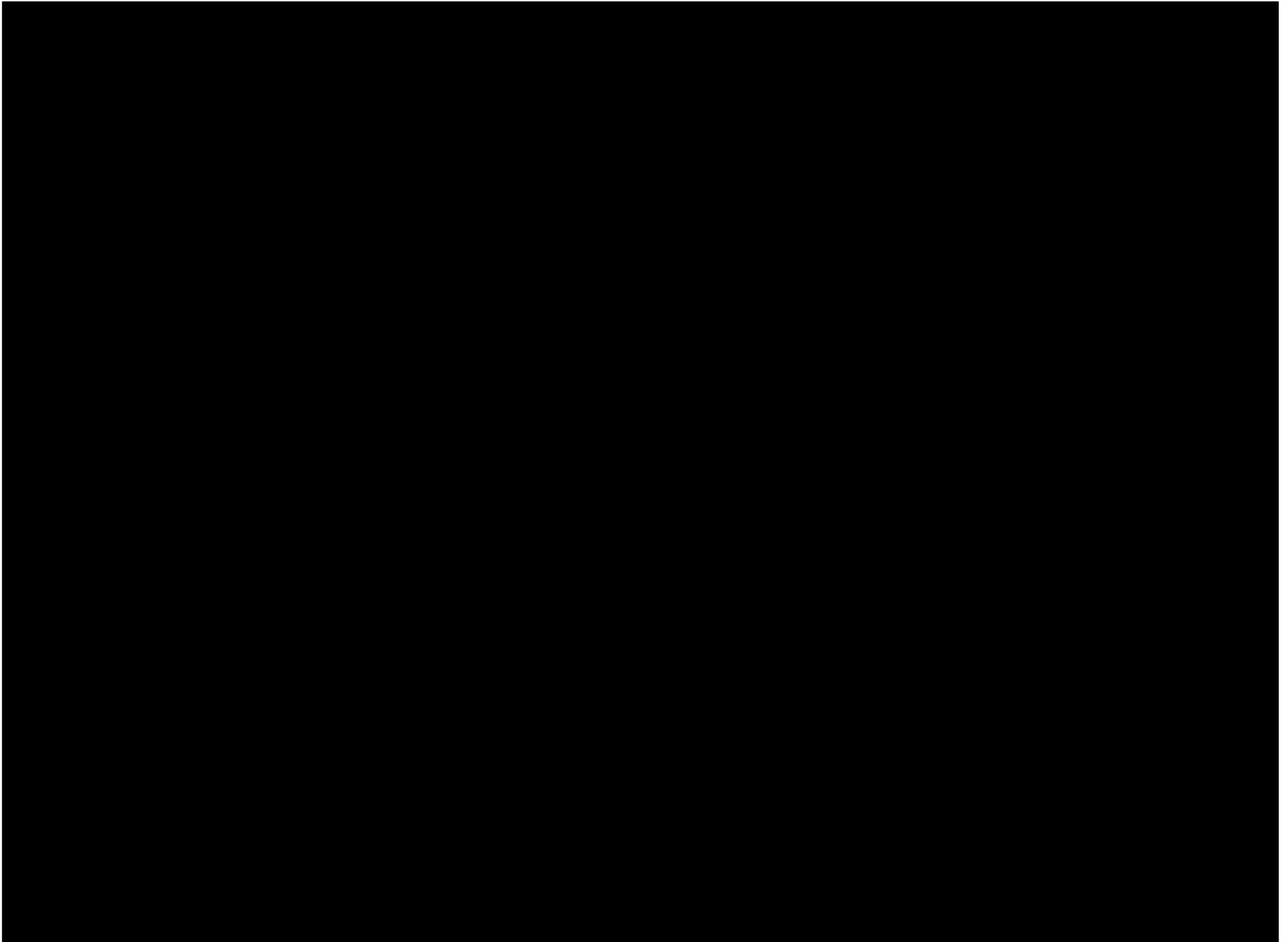
The Dance of Attunement





Emergence of Attunement

- Face to face interactions emerging at approximately 2 months of age, are highly arousing, affect laden, short interpersonal events that expose infants to high levels of cognitive and social information.
- To regulate high positive arousal, mothers and infants synchronize the intensity of their affective behavior within lags of split seconds



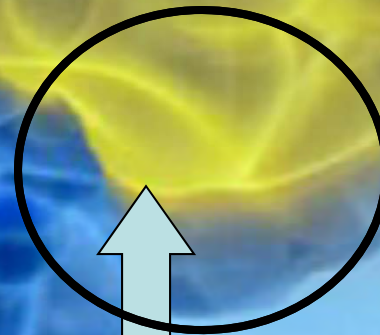
Right Orbitofrontal Cortex

Severe distractibility, and inability to sustain attention, fractionated thought, disorganized, loss of insight, delusions



Right Hemisphere Inhibits

Poor impulse control, locomotor hyperactivity



Right Orbitofrontal Cortex

Attachment Modulates Stress

- Stress hormones are hazardous to the brain, especially to the hippocampus, anterior cingulate gyrus and amygdala.
- One year old babies with higher cortisol levels showed dampened electrical activity emanating from the hippocampus.
- Babies brains are vulnerable to stress

Even Rats

Licking and Grooming!

Makes Rats Happy and Less Stressed!



FASD and Maladaptive Stress Response

- Dr. Joanne Weinberg has discovered that her FASD rats have a sensitized stress response with a lower threshold for coping with stress throughout their lifespan.
- Easier for FASD to move into heightened states of arousal and depression.
- Prenatal alcohol exposure interferes with the stress response through the interference with the brain parts that create the stress response.

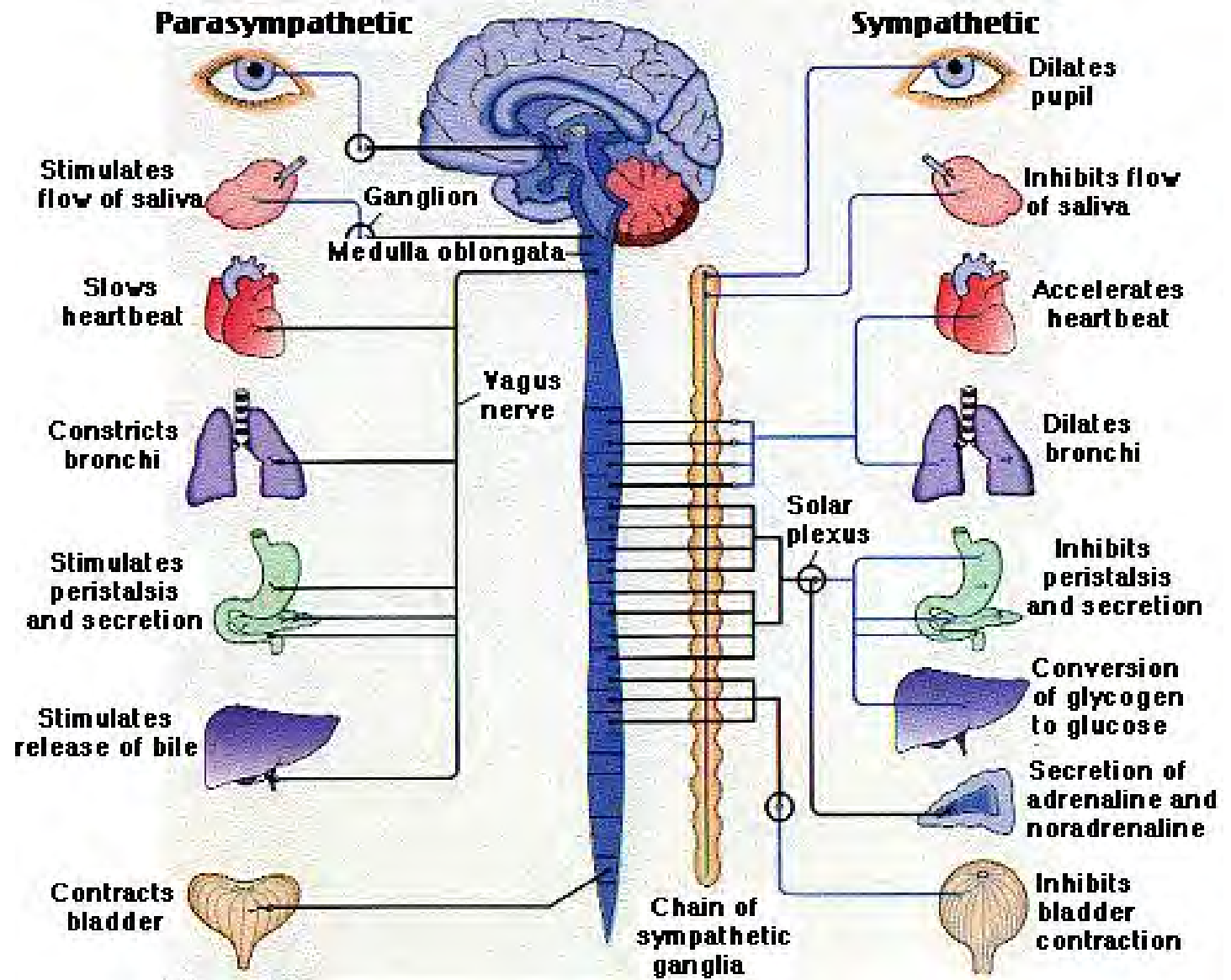
Typical Attachment
Relationships Mediate Stress
But May not be as Effective in
Mediating Stress Response in
Children with FASD

Let's Talk about Stress



Stress Response





Autonomic Nervous System

Stress is toxic to the Brain

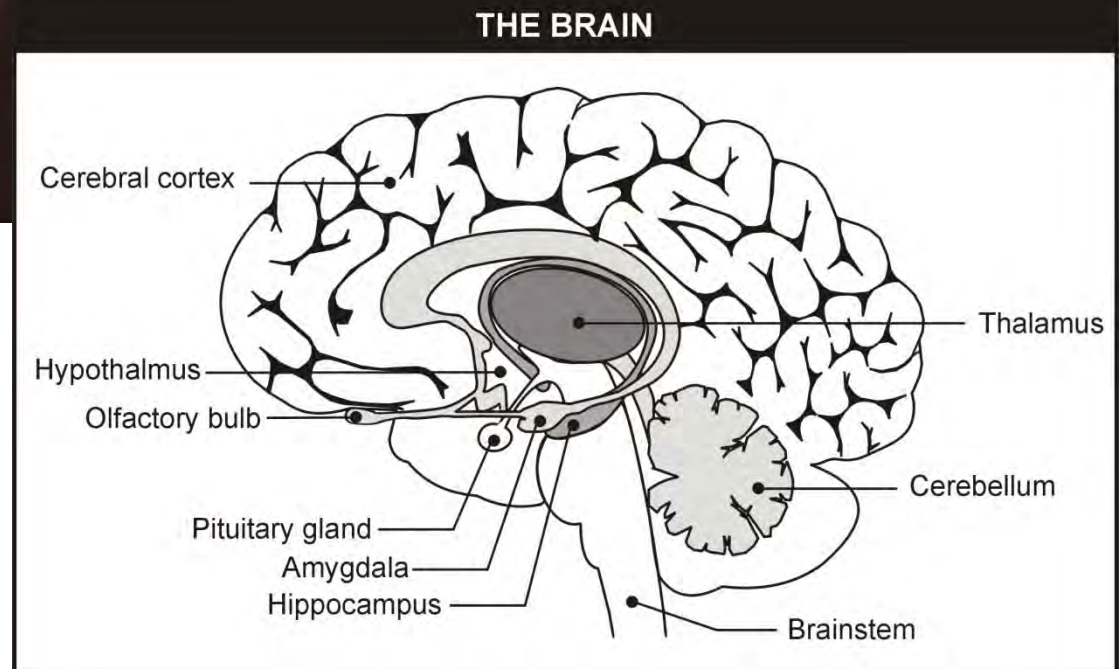
- When the baby attempts to engage the caregiver, the urgent desire is for the caregiver to enable the baby to modulate and recover from the stress which has provoked the discomfort.
- Babies rely upon their caregiver to regulate their stress response!

Oxytocin is an Anti-Stress Chemical !

- Attachment helps reduce Stress!



Attachment Systems Organize the Brain



Secure Attachment



Caregiver consistently responds to infant's distress in a sensitive and loving way

- Caregiver typically waits for child to signal when ready to move on
- Child will seek proximity to and maintain contact with caregiver when distressed
- Child can use caregiver as a secure base from which to explore when calm
- Disruptions in the child's life are easily repaired
- Child is able to approach problem-solving tasks positively and with persistence
- Child can demonstrate empathy, compliance, and competence in their relationships with adults and peers
- Healthy Balance between relying on themselves and relying on others

Secure Attachment Regulates Stress

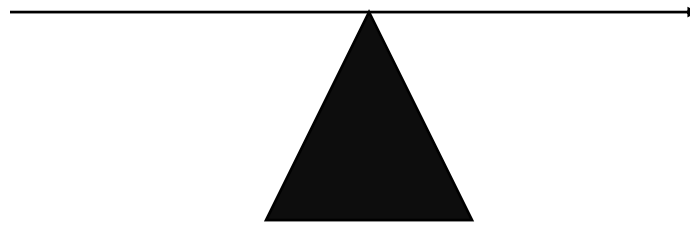
- Baby is hungry, thirsty, wet and aroused.
- Mom hears baby cry, she feels distress too.
- She meets the physiological needs of baby and the child is calmer and more relaxed so is mom.
- Relief from distress is wired in the brain as PLEASURE! (DOPAMINE)

Secure Attachment and Secure Autonomy

Overly
Rely on
Others

Rely on
Others

Don't Rely
on Others

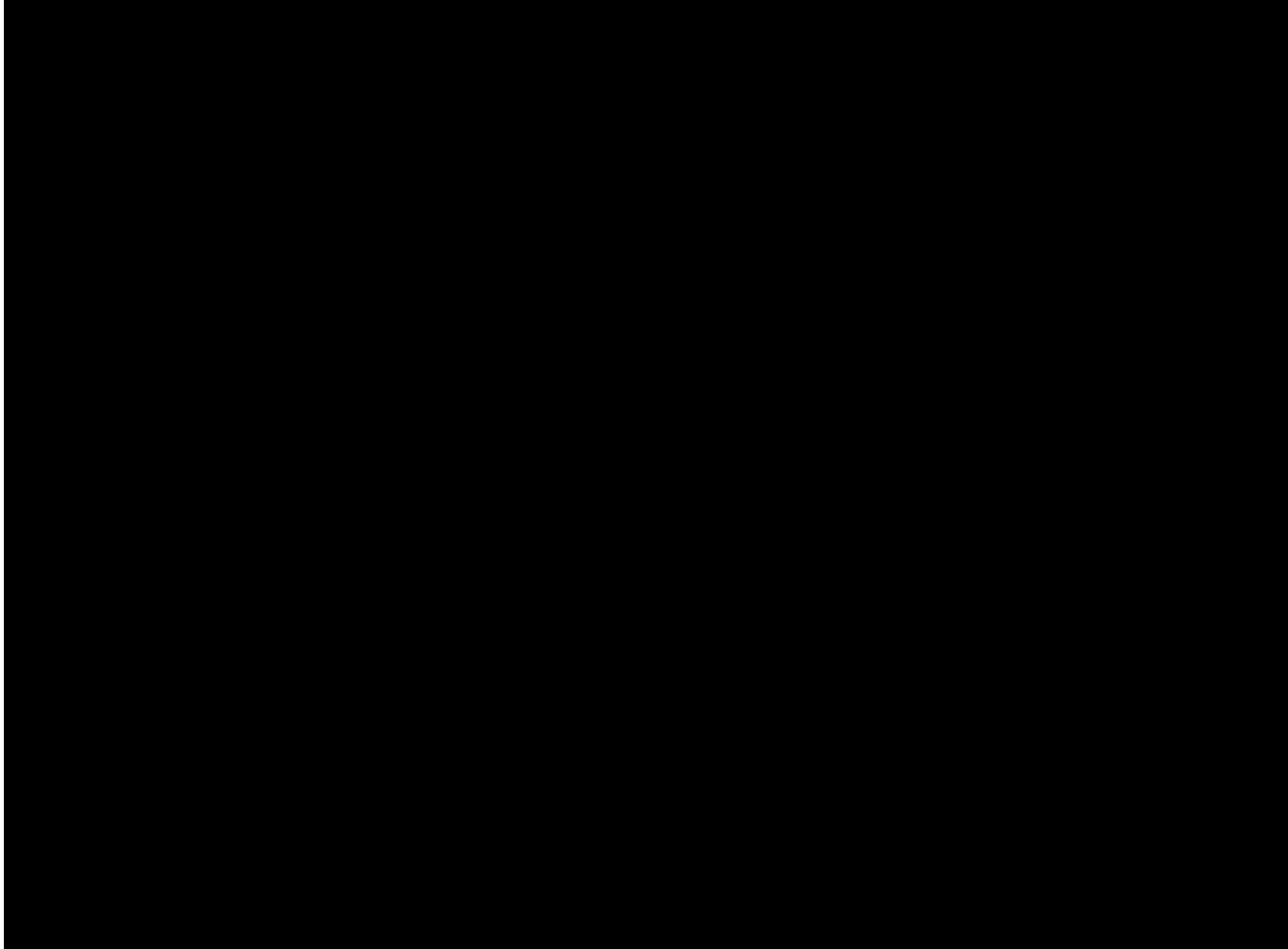


Overly
Rely on
Your Self

Rely on
Your Self

Don't
Rely on
Your Self

Secure Attachment



Caregiver behaviors leading to insecure attachment

- Inability to read infant/child cues
- Lack of empathy toward child
- Turning away from the child
- Rejecting affection
- Intrusiveness
- Ridiculing requests for help
- Frightening the child
- Being frightened of the child



Smiles and Oxytocin

- Securely and insecurely attached mothers showed different patterns of brain response to their infants' photos.
- The securely attached women had greater activation in the reward-processing brain regions when they saw their children's smiling face as well as sad face.
- Insecurely attached women had activation in the reward regions only when they saw their children's happy face.
- Instead, their infant's sad face activated the brain regions associated with feelings of unfairness, pain, and disgust.



Dr. Lane Strathearn

OVER-FEELING STRATEGIES

Feelings In Charge



Anxious Attachment

Need more relational
pleasure to help them feel it!

Caregiver responds to infant's distress in unpredictable and inconsistent ways

- Creates an infant who must display extreme negative emotion when distressed
- Infant has significant difficulty using parent as safe haven when distressed
- Parent tends to keep child close as well as push the child away depending on the parent's state of mind. (Not based on the child's needs)
- Child has learned that "situations" have no significance on getting needs met, only internal feelings are reliable information.
- Child may be described as "clingy", "needy", "insecure"
- Child will keep the parent engaged by increasing attention getting behaviours (often includes risk taking)
- Unhealthy balance: Child verly relies on others, doesn't rely on themselves

Development of C Strategy

- Child doesn't trust predictions of consequences.
- Child experiences intermittent reinforcement of negative affect.
- The parenting strategy is inconsistent.
- Parents respond to their children's feelings in a way that is sometimes concerned, sometimes switched off, other time uninterested.
- Children are focused on their parents' state of mind in order to optimize their chance of getting a response.



Exaggerated Negative Affect



C' s

- Most commonly referred for intervention because of aggression side of this pattern.
- The behavior is misleading and does not help us understand intention behind the behavior.
- In it' s most pathological state C' s are:
 - Bullies and victims
 - Domestic violence
 - Gangs



C Strategy

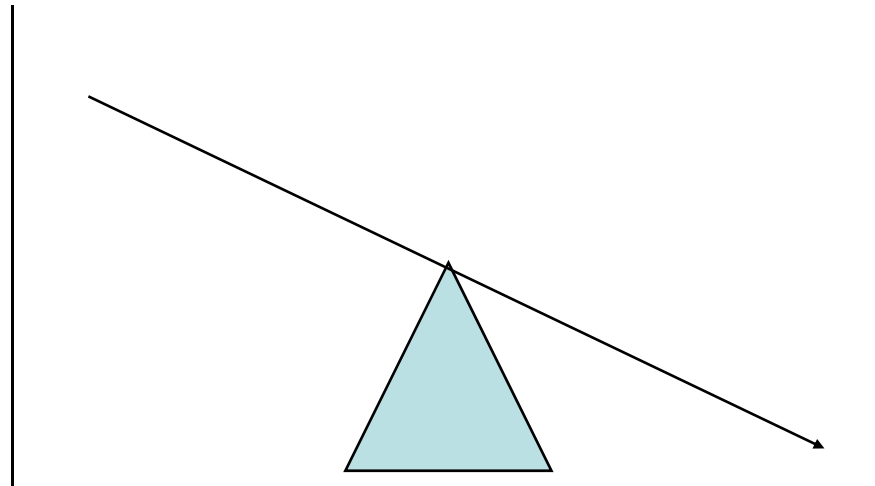
- These children tend to keep their feelings close to the surface.
- Appear to need attention constantly because they wait until they think they may be able to get it!
- Help with regulating feelings is not available.
- Undermines independence

Type C: Relatedness-without-autonomy

Overly
Rely on
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Rely on
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Don't
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OVER-THINKING STRATEGIES



Cognitive Strategy of Attachment

Avoidant Attachment

Caregiver consistently responds to infant's distress in rejecting ways (e.g., by ignoring, ridiculing, or becoming annoyed)

-Creates an infant who learns to avoid caregiver when distressed and minimizes displays of negative emotion (e.g., remains focussed on toys or environment when distressed)

-Parent tends to push child away

-Child has learned to recognize the parent's need to "not be needed" and the child complies

-Child will not want to risk the rejection

-Child will comply with parent's need

-Child is continually tuned into others' needs and dismisses own needs

-Unhealthy balance: Doesn't rely on others, only relies on yourself

Development of “A” Strategies

- Dismissive parents underplay their importance in the relationship with their child.
- Needs of the child become competitive with needs of parent.
- Negative attributes, “Don’ t you dare look at me like that,” replaces sensitivity. As a result the child learns to hold back and repress such feelings, because they promote rejection, anger and disapproval.

Anxious Avoidant

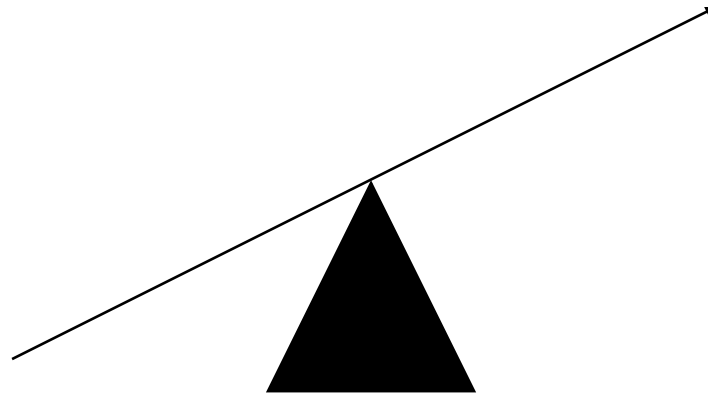
- The child remains distressed, learns there is no regulatory help with such feelings.
- Both partners tend to minimize the more intimate attachment-caregiving. interactions.
- Emphasis upon over-activation of child's exploration and competence

Type A: Autonomy without Relatedness

Overly
Rely on
Others

Rely on
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Overly
Rely on
Your Self

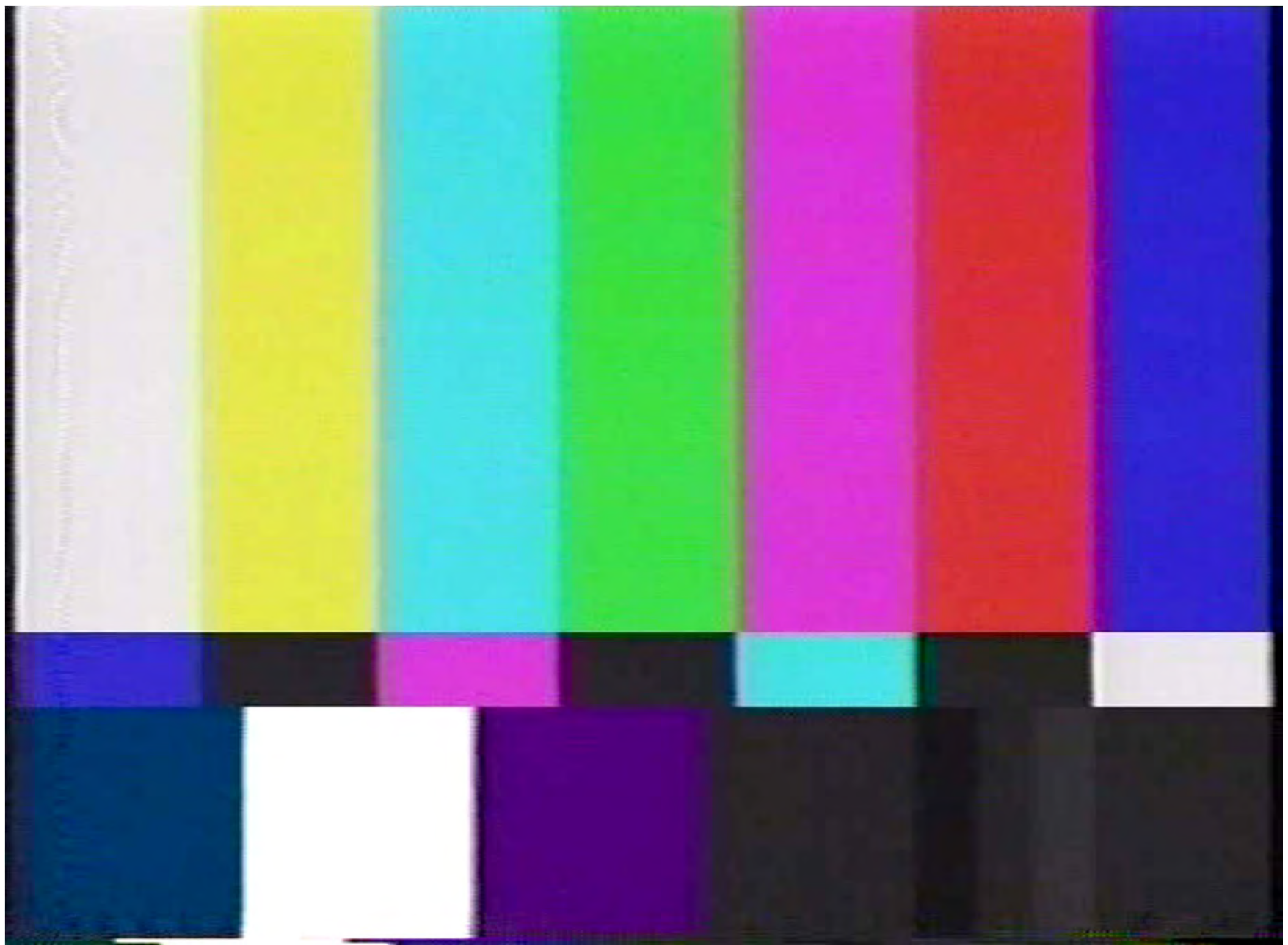
Rely on
Your Self

Don't
Rely on
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Compulsivity

- Compulsive compliance
- Compulsive performance
- Compulsive caregiving

presented by



Can Create a Set Point for the Future



Attachment Styles Affect Future Relationships

- Early developed attachment styles affect how we relate to others in our future relationships.

Things Can Go Wrong

- Trauma, neglect, violent or sexual abuse can impair the brain's ability to use oxytocin, locking the brain and the person into a constant state of fear!
- If the oxytocin response doesn't develop in a healthy way, you may fall in love without loving.....

The Brain isn't Made of Stone

It is living flesh that continues to grow and change all of our lives!!!

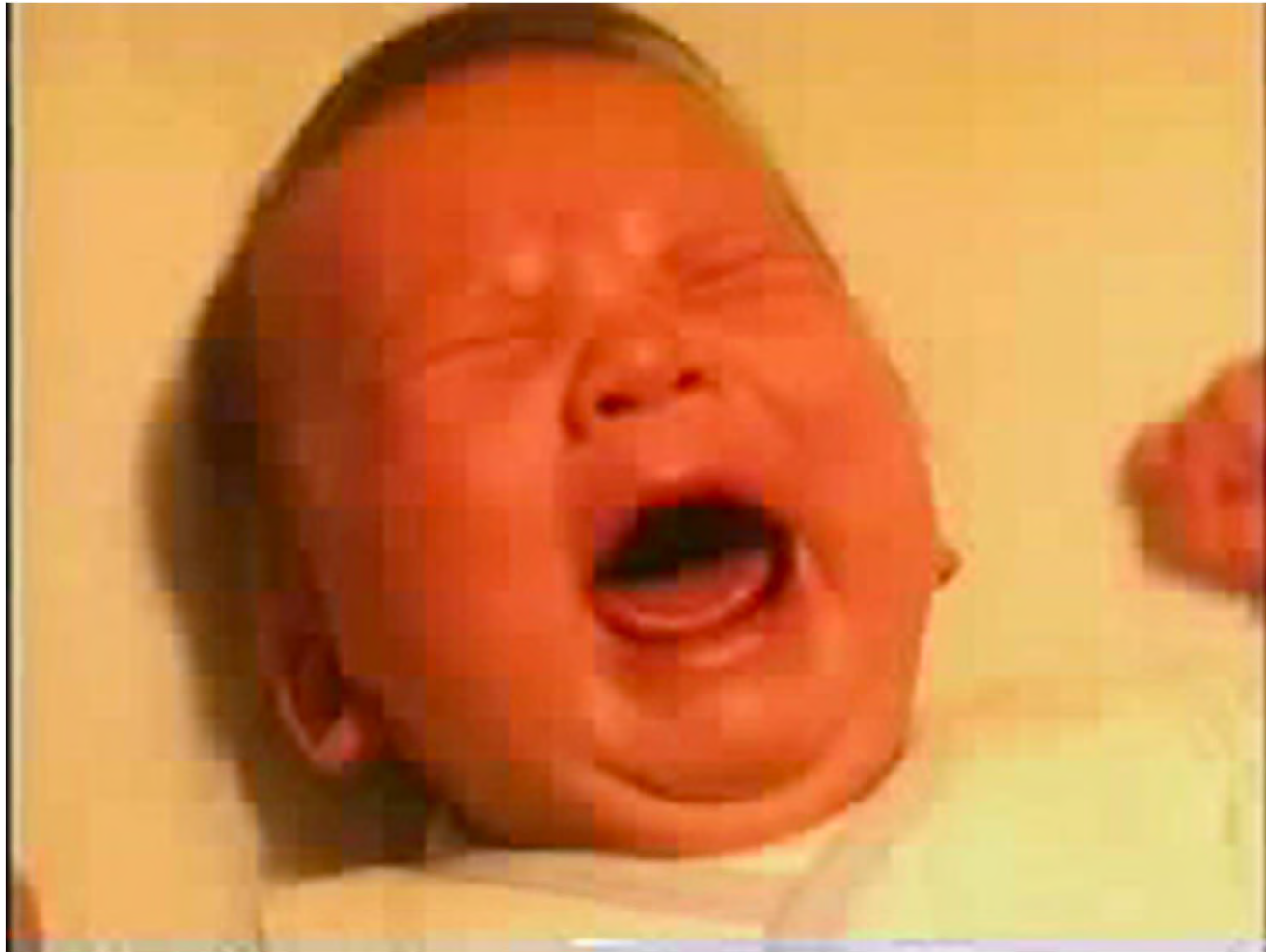


Neglect

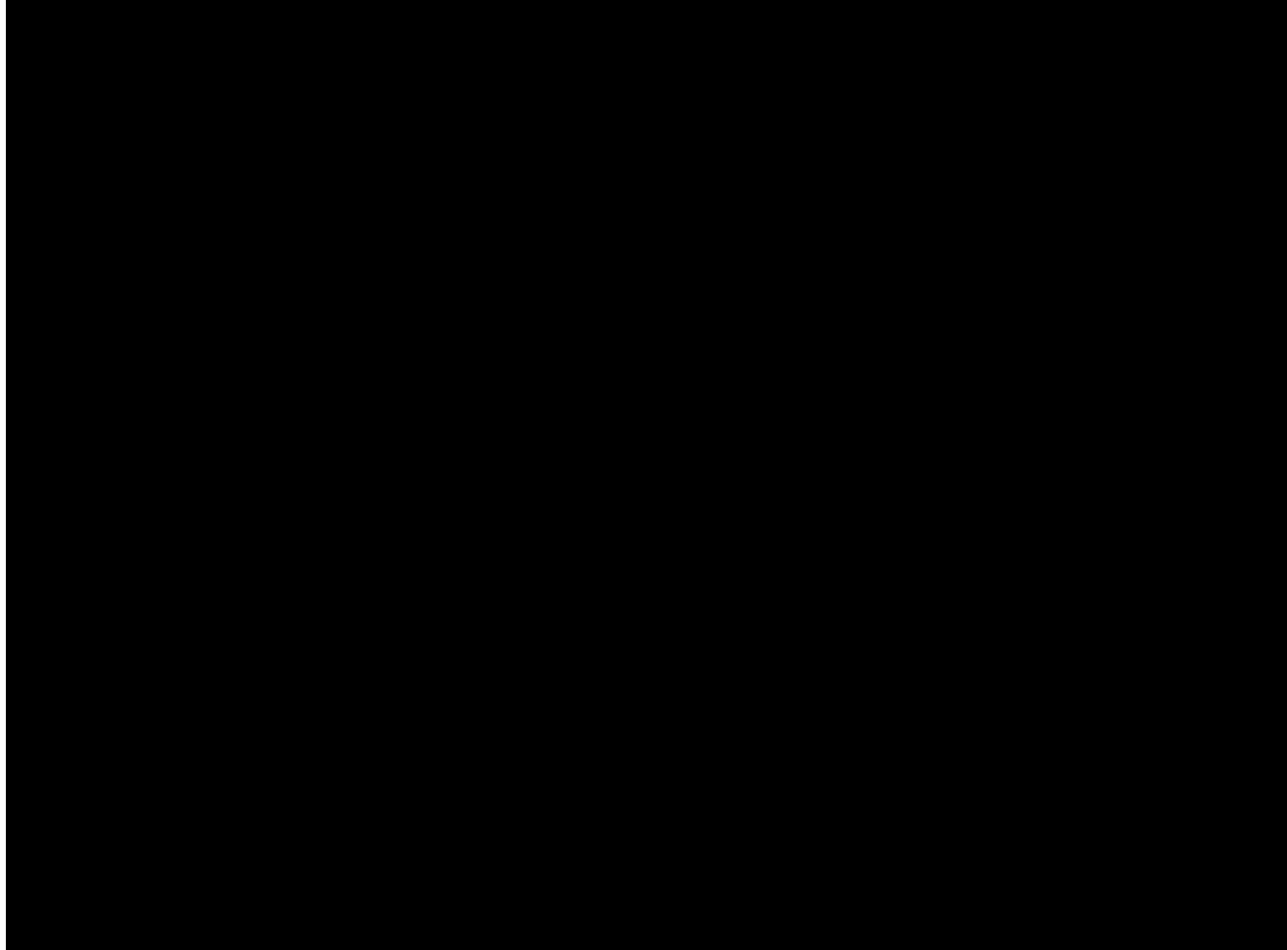
- If a child is neglected or under-stimulated while the brain is shaping and pruning.
- The brain will be malformed!



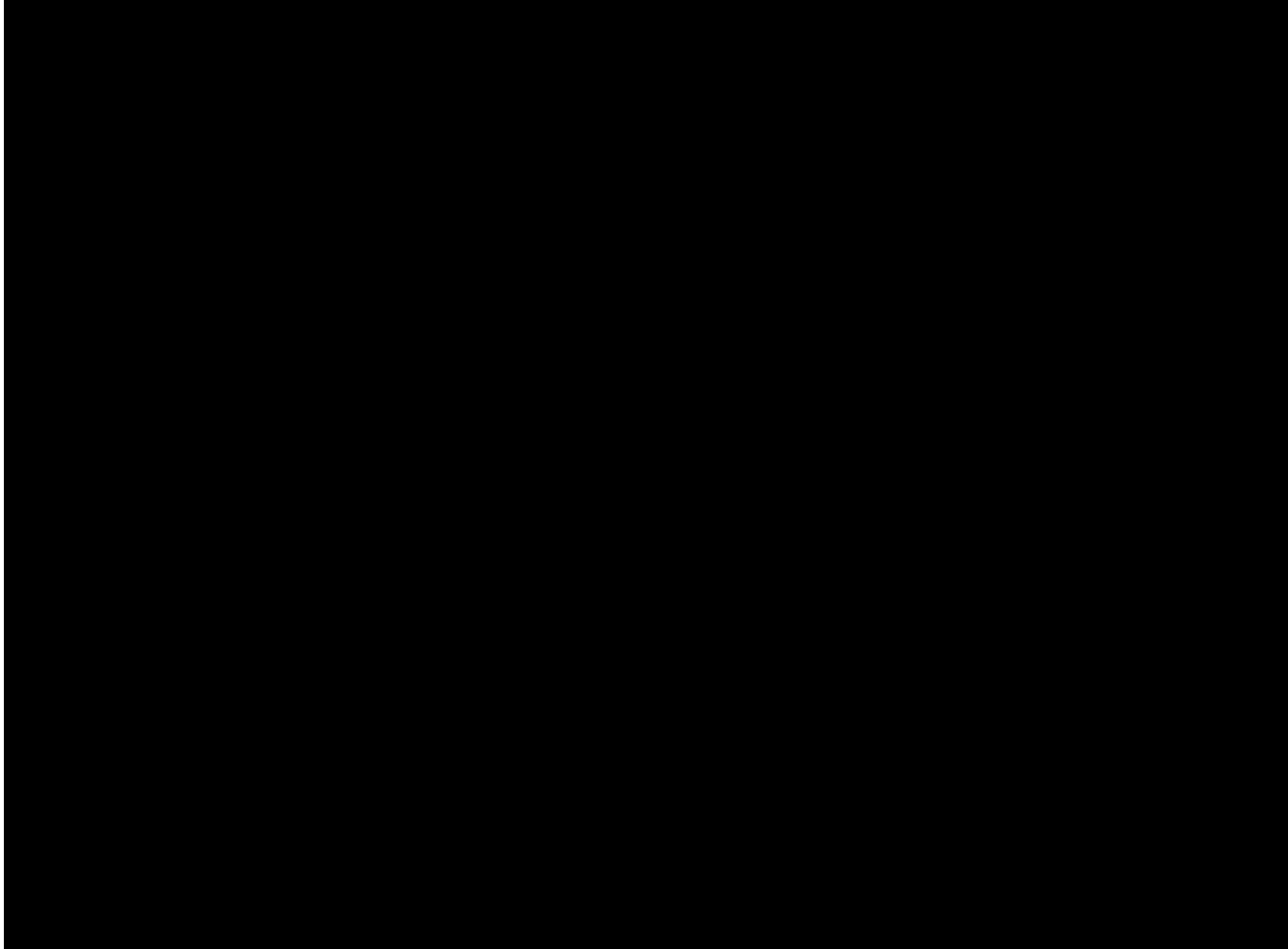
Trauma and the Brain



Modified Interactional Guidance



MIG Simulation



Therapeutic Parenting

Child

I Really Need You

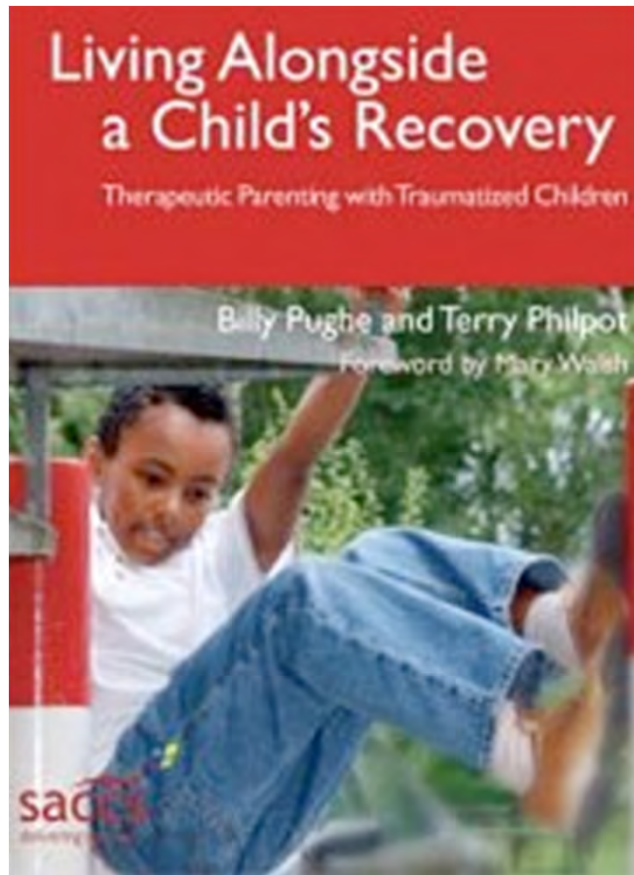
- I am crying
- I am frightened
- I am hurt
- I am sick
- I am very nervous

Caregiver

I Am Available to You and
Attending to You

- I will hold you
- I will talk to you and
reassure you
- I will be close to you
- I will tell you I understand
how you feel

Excellent Resource



Billy Pughe and Terry Phillpot

Kim Barthel, OTR

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