



**Attachment Matters**

Kim Barthel, OTR  
November 20-21, 2025  
Sydney, Australia

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**What Are We Going To Learn?**

- Describe the neurobiological foundations and role of attachment in emotional and relational development across different environments and contexts
- Discuss the different theoretical models of attachment and how they can assist with understanding oneself and others
- Explain attachment through a spectrum of attachment adaptations with flexibility, and their impact on self-awareness for both the clients and the therapists as they relate to self-regulation
- Develop individual therapeutic strategies for responding effectively to the various shades of attachment adaptations, enhancing effective therapeutic use of self and co-regulation

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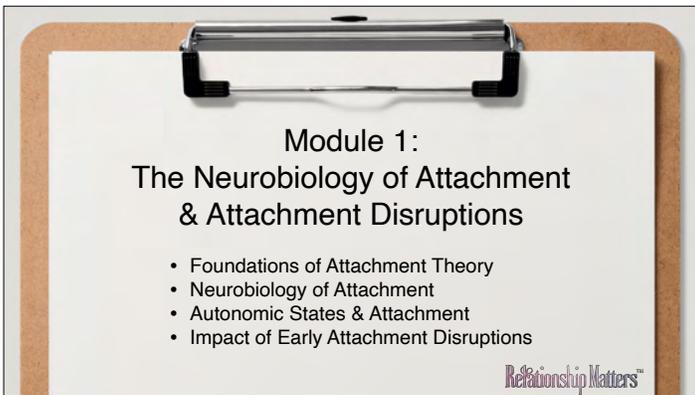
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**Module 1:  
The Neurobiology of Attachment  
& Attachment Disruptions**

- Foundations of Attachment Theory
- Neurobiology of Attachment
- Autonomic States & Attachment
- Impact of Early Attachment Disruptions

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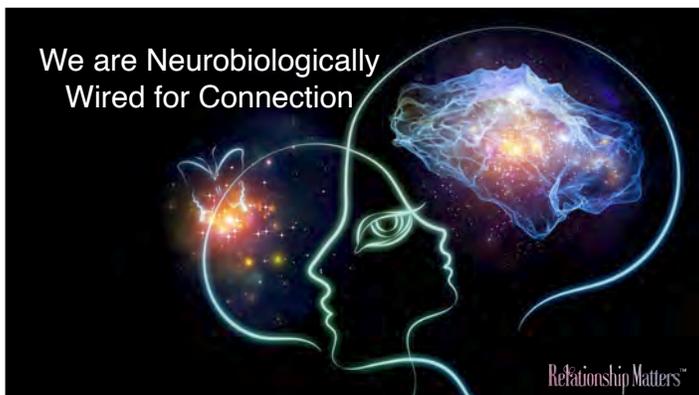
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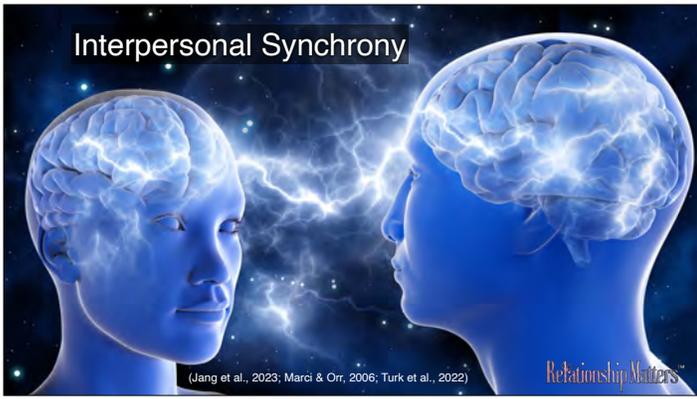
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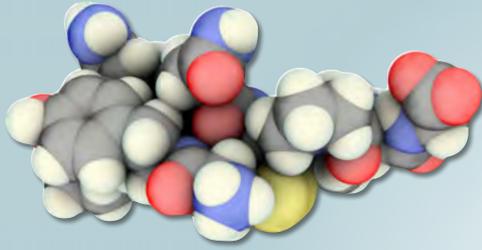
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# Oxytocin: Love & Connection Hormone



(Breuning, 2019; Carter, 2017; Domes et al., 2007a; Domes et al., 2007b; Guastella et al., 2008; Kosfeld et al., 2005; Tsakiris, 2017; Valcheva et al., 2023)

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# Up-Regulating Oxytocin



Oxytocin can up-regulate or down-regulate our state of arousal, depending on what is needed.

(Blake, 2018; Field, 2014; Tsakiris, 2017)

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# Oxytocin Modulates Levels of Cortisol



(Alexander, 2022; Hurlmann et al., 2023; McQuaid et al., 2016; Nussey et al., 1988; O'Connor, 2018; Petraglia et al., 1986; Tops et al., 2012; Tsai et al., 2019)

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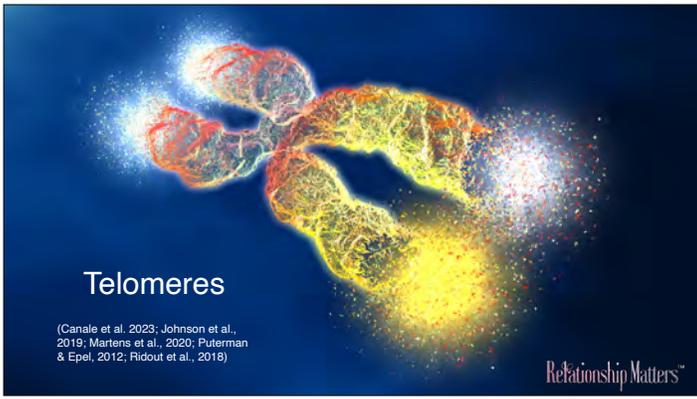
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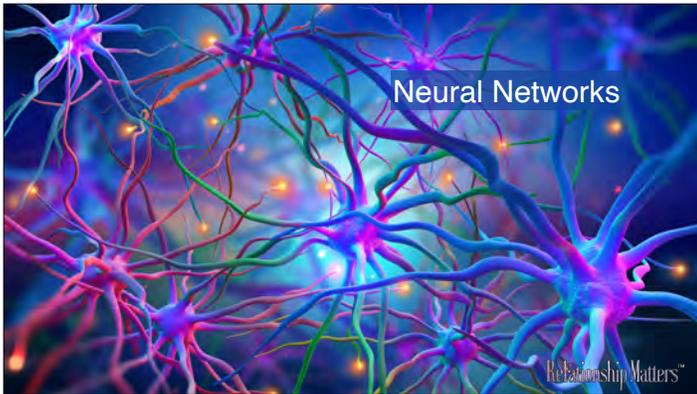
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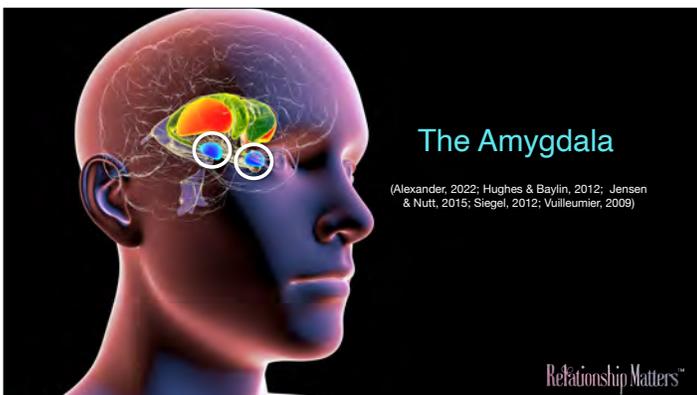
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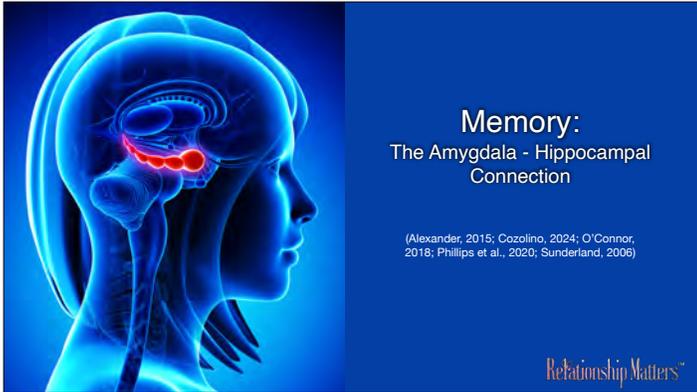
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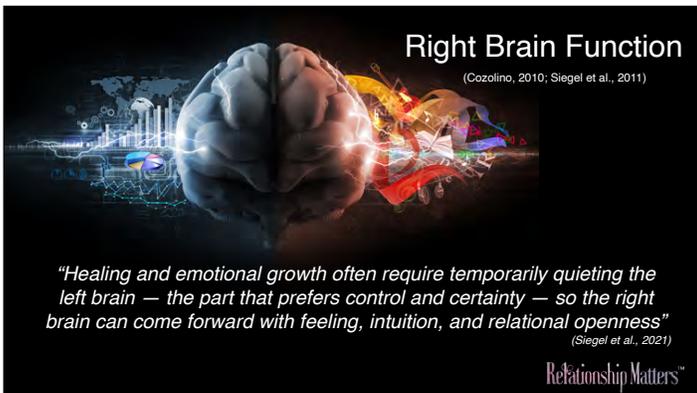
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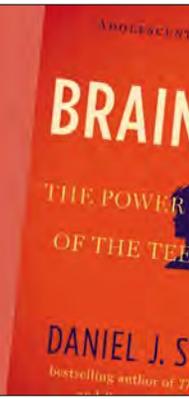




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In our narratives, the left side of the brain is thought to be the drive for telling our story. But the autobiographical goods are on the right. So in a nutshell, the coherent narrative of security is reflected in the way that the left and right are differentiated well and then linked.

Brainstorm  
Daniel J. Siegel MD  
(2013)



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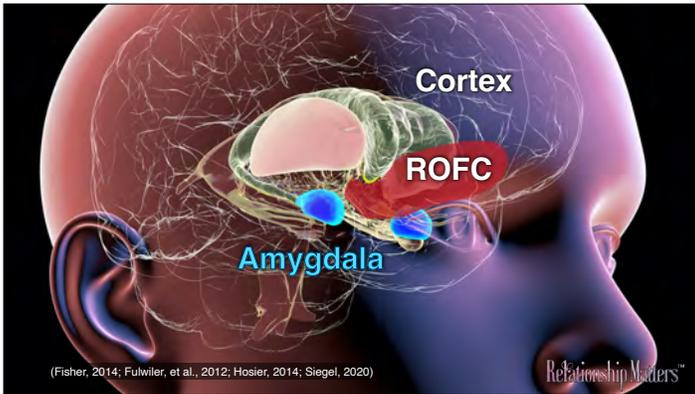
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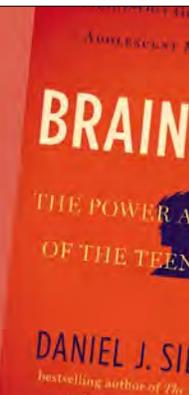
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There are two routes that send information to the amygdala. One is a slow route, in which the higher cortex sifts through information, reasons, reflects, and then informs the amygdala in a calm and rational way.

Brainstorm: The Power and Purpose o...  
Daniel J. Siegel MD  
(2013)



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**Polyvagal Theory  
Contributions to  
Attachment**



<https://soma-meditation.com/blog/polyvagal-theory>

Facial Nerve  
Vagus Nerve

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**Face-Heart Connection**

(Kram, 2021; Porges, 2011)

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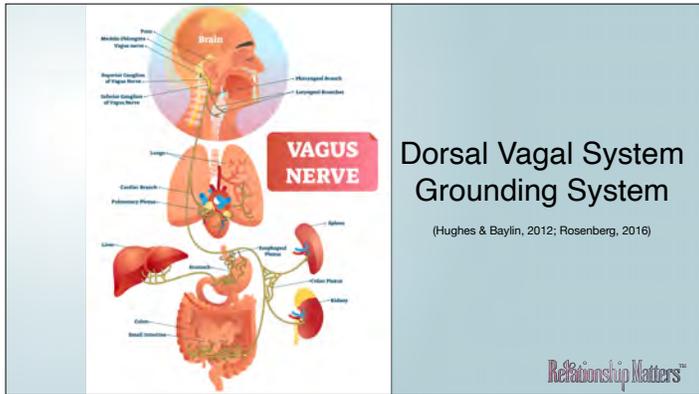
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Attachment and Neurodiversity

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What Impacts Attachment in Children with ASD?

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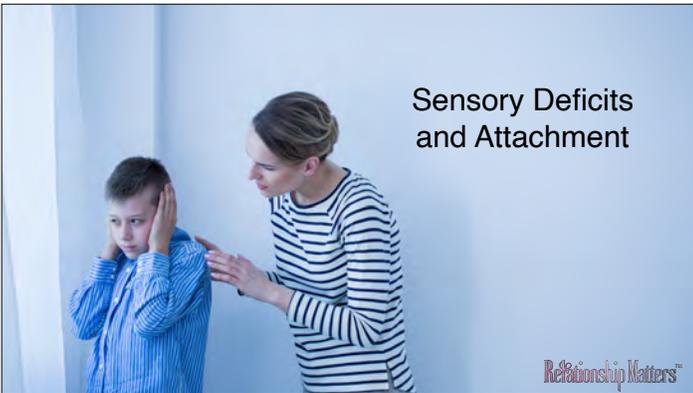
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Sensory Deficits and Attachment

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**What did we Learn in Module #1?**

- The origins of attachment theory
- The neurobiological foundations of attachment theory
- The connection between autonomic states and attachment theory
- The impact of neurodiversity on attachment

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**Module 2:  
Classic & Emerging Attachment Models**

- Overview of Classic Attachment Theory
- Examining and Expanding on Original Attachment Models
- Introduction to the Dynamic Maturational Model (DMM)

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**Theoretical Models of Attachment Theory**

Model/Theory	Key Researchers	Year Introduced / Developed
Classic Attachment Theory	John Bowlby, Mary Ainsworth	1958–1978
Disorganized Attachment	Mary Main, Judith Solomon	1986–1990
Dynamic–Maturational Model (DMM)	Patricia (Pat) Crittenden	1983–present <i>(core work emerging mid-1980s)</i>
Main vs. Crittenden Comparison	Mary Main, Pat Crittenden	Late 1980s–2000s <i>(theoretical divergence and dialogue)</i>
Attachment in Maltreated Children	Pat Crittenden	1983–2015 <i>(observational and clinical studies)</i>

(Ainsworth & Wittig, 1969; Ainsworth et al., 1978; Bowlby, 1960, 1980; Main & Solomon, 1990; Crittenden, 2015; Duschinsky, 2015; Landa, 2013)

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## Core Attachment Theory Concepts

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Theorist	Core Concept	Key Terms & Contributions	Focus of Attachment System
John Bowlby	Attachment as an evolutionary, biologically driven system for survival and safety	Secure vs. Insecure attachment	Proximity ensures safety; infant seeks closeness to caregiver
Mary Ainsworth	Identified organized attachment behaviours through the Strange Situation Assessment	A (Avoidant), B (Secure), C (Ambivalent/Resistant). Clarified that "organization" = proximity behaviour under anxiety	Infant's goal is proximity; attachment is activated by separation or threat
Mary Main	Added "Disorganized" (D) category for contradictory, conflicted behaviours	Examples: freezing, rocking, crying, approach-with-avoidance. Suggested attachment system constantly scans for danger (1999)	Attachment system remains continuously active, scanning for safety cues
Patricia (Pat) Crittenden	Reframed attachment as adaptive and context-dependent. Developed the Dynamic-Maturational Model (DMM)	Focused on caregiver availability, not just proximity. Studied at-risk families	The caregiver's responsiveness determines attachment safety; child's strategy adapts to threat

(Ainsworth & Wittig, 1969; Ainsworth et al., 1978; Bowlby, 1960; Crittenden, 2015; Main & Solomon, 1990; Main, 1999)

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## Heart Rate Monitors During Strange Situation

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## Attachment Assessments

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Assessment Title	Creators	Year	Demographic Assessed	What is Assessed
Strange Situation	Ainsworth and Wittig	1968	9-18 months	Behaviour
Separation Anxiety Test	Klagsbrun and Bowlby	1976	4-7 years	Representation (internal working model one have of himself)
Maternal Sensitivity Scales	Ainsworth	1978	Infants & Young Children	General Maternal Characteristics
CARE-INDEX	Crittenden	1979	0-15 months & 15 months-3 years	Mother-infant interaction
Attachment Q-Set	Waters and Deane	1985	1-5 years	Behaviour
Adult Attachment Interview	George, Kaplan and Main	1985	Adults	Representation
Preschool Strange Situation	Cassidy, Marvin and the MacArthur Working Group	1987	3-4 years	Behaviour
Main and Cassidy Attachment Classification Style for Kindergarten age	Main and Cassidy	1988	6 years	Behaviour
AMBIANCE - Atypical Maternal Behaviour Instrument for Assessment and Classification	Bronfman, Parsons and	1993	Infants (dyads)	Atypical Maternal Behaviour
Child Attachment Interview	Target, Fonagy and Shmuel-Goetz	2003	7-12 years	Representation

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Type B:  
Balanced and Secure Attachment



(Cozolino, 2014; Gander & Buchheim, 2015; Lanius et al., 2014; Marriott & Kelley, 2024; Prior & Glaser, 2006)

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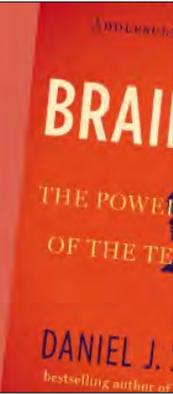
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We need to be seen, safe, and soothed, in order to feel secure.

Brainstorm  
Daniel J. Siegel MD  
(2015)




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Sensitive Caregiving

(Ainsworth et al., 1978; Beebe & Lachmann, 2014; De Wolff & van IJzendoorn, 1997; Fonagy, 2019; Main & Solomon, 1990)



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## Caregiver Behaviours Contributing to Insecurity

- Not reading infant/child cues
- Lacking empathy toward child
- Turning away from the child
- Rejecting affection
- Being intrusive
- Ridiculing requests for help
- Frightening the child
- Being frightened of the child

(Alexander, 2015; Crittenden, 1993, 1995, 2008; Crittenden et al., 2000; Crittenden & Landini, 2011; Hautamäki et al., 2010; Hesse & Main, 1999; Kerig, 2005; Landa, 2013; Mayselless & Scharf, 2009)



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Insecure attachment is the inability to be soothed and comforted by others. Thought to be the result of unpredictable and/or anxiety-provoking interactions with caretakers, individuals with insecure attachments do not gain a predictable sense of safety in relationships with others.

Attachment-Based Teaching  
Louis Cozolino  
(2014)



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## Dissociation



(Chapman, 2014; Fisher, 2014)

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(Bowlby, 1980; Chapman, 1999)

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(Zwick, 2010)

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Progressive Disconnection from Self

(Chapman, 2014; Schore, 2009; Schore, 2012)

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**Type C:  
Connection-Seeking  
Attachment Adaptation**



(Bombér et al., 2020; Brown & Elliott, 2016; Cozolino, 2014; Crittenden, 2015; Landa & Duschinsky, 2013)

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**How Might Connection-Seeking Look in the Brain?**

- Baby's brain may not release oxytocin unless anger or rejection is part of the interaction.
- Why? The caregiver's care may have come with a dose of anger or resentment, or the parent may have been extremely inconsistent in their style of connection.



(Gander & Buchheim, 2015; Ng, 2017; Perlini et al., 2019)

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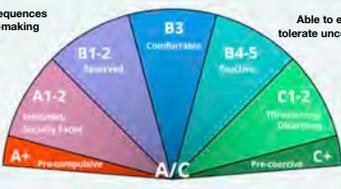
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**DMM - Infancy**



**Integrated true thoughts and feelings**

Processes temporal sequences developing meaning-making

Able to experiences and tolerate uncomfortable feelings

Uncomfortable emotions become progressively minimized with the beginning of cognitive distortions

Emotions become distorted and exaggerated with the beginning of splitting off from reasoning

Early development of false positive affective display

Care Outward - Anger Inward

Anger Outward - Care Inward

(<https://familyrelationsinstitute.org/dmm-model/>)  
(Crittenden, 1995; Crittenden, 2008; Crittenden & Landini, 2011)

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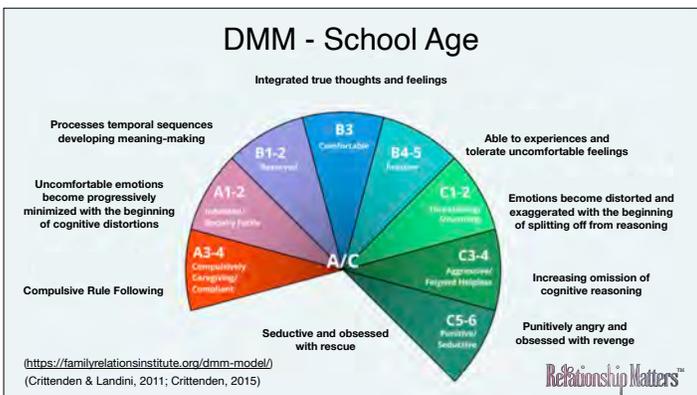
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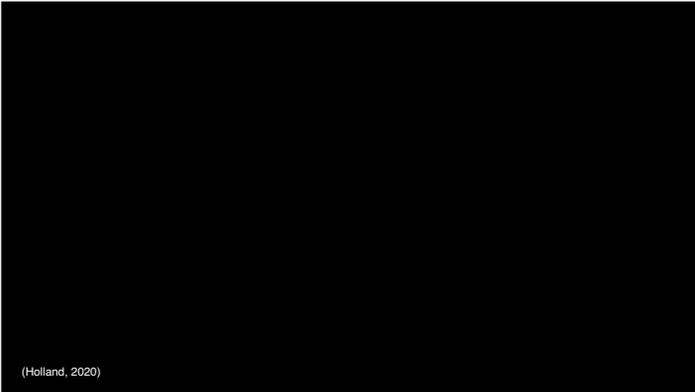
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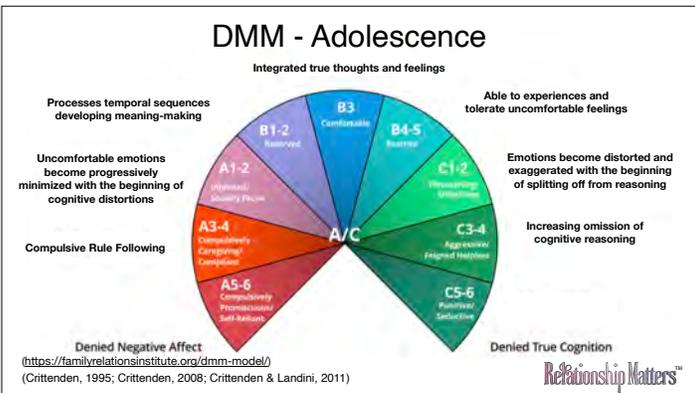
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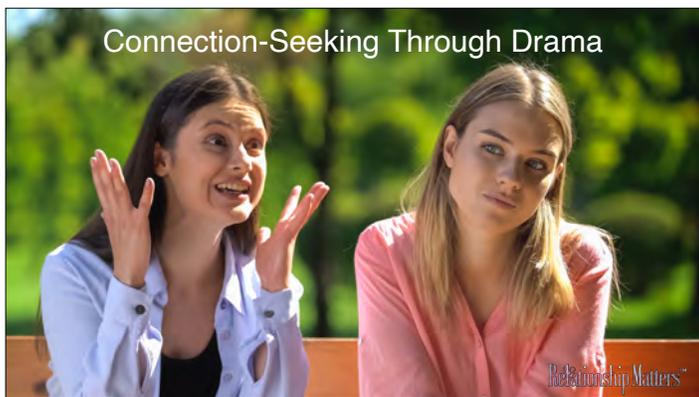
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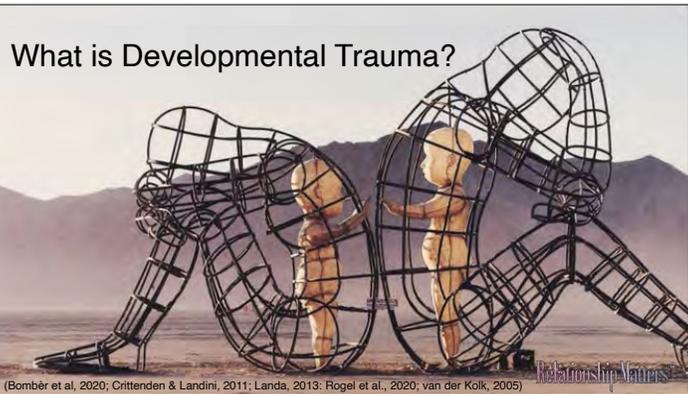
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# What is Developmental Trauma?



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# Disorganized Attachment

(Arancibia et al., 2023; Brown & Elliott, 2016; Main & Solomon, 1986; Silver, 2021; van der Kolk, 2005)

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So when an attachment figure is the source of terror, we become fragmented.

Brainstorm  
Daniel J. Siegel MD  
(2013)



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### Disorganized Attachment and Interoception

(Arancibia et al., 2023; Borelli & Vrtička, 2020; Ferraro & Taylor, 2021; Spitoni et al., 2020)

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### A/C and A-C Attachment Adaptation

(Crittenden, 1995; Crittenden & Landini, 2011; Brown & Elliott, 2016)

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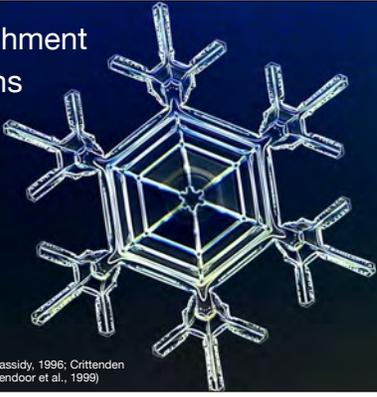
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How Attachment Adaptations Unfold Over Time



(Alexander, 2015; Belsky & Cassidy, 1996; Crittenden & Landini, 2011; van IJzendoorn et al., 1999)

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Gangs and Conduct Disorders



(Brown & Elliott, 2016; Crittenden, 2015; Crittenden & Landini, 2011)

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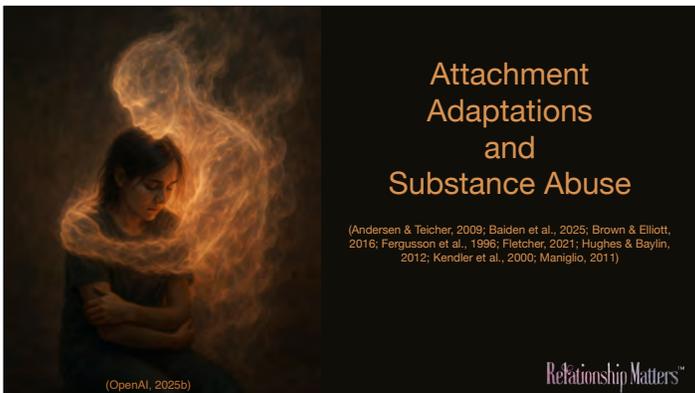
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Attachment Adaptations and Substance Abuse



(Andersen & Teicher, 2009; Baiden et al., 2025; Brown & Elliott, 2016; Fergusson et al., 1996; Fletcher, 2021; Hughes & Baylin, 2012; Kendler et al., 2000; Maniglio, 2011)

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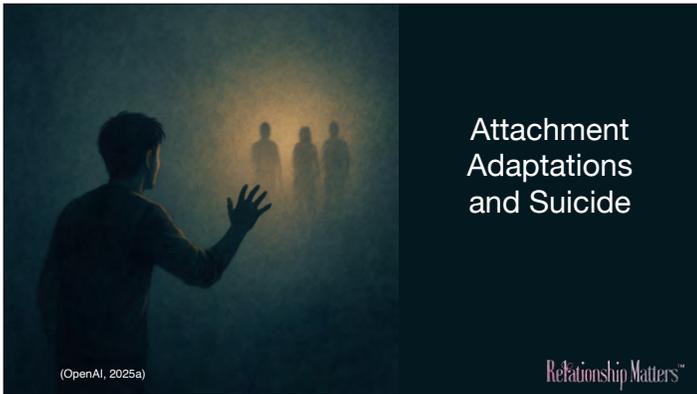
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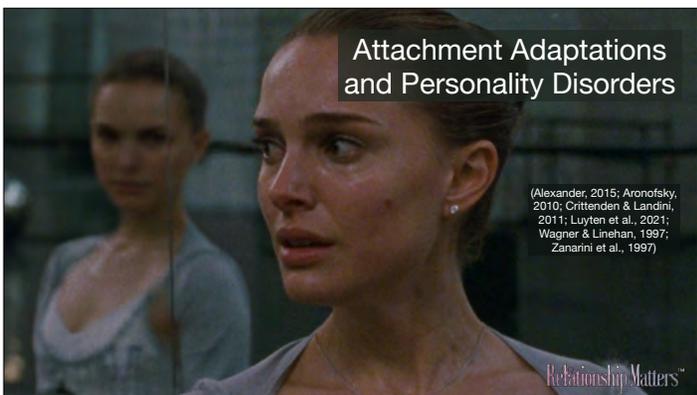
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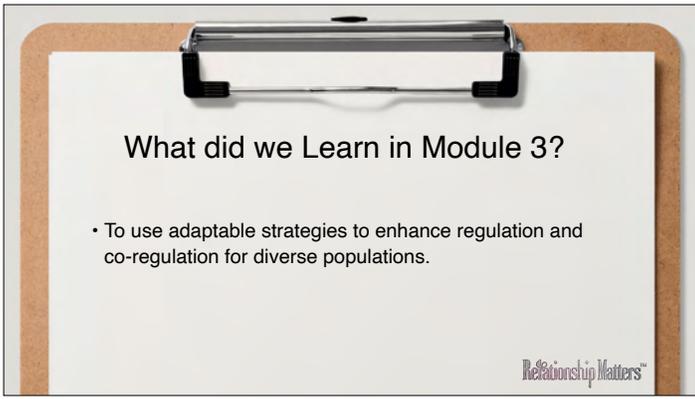
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**What did we Learn in Module 3?**

- To use adaptable strategies to enhance regulation and co-regulation for diverse populations.

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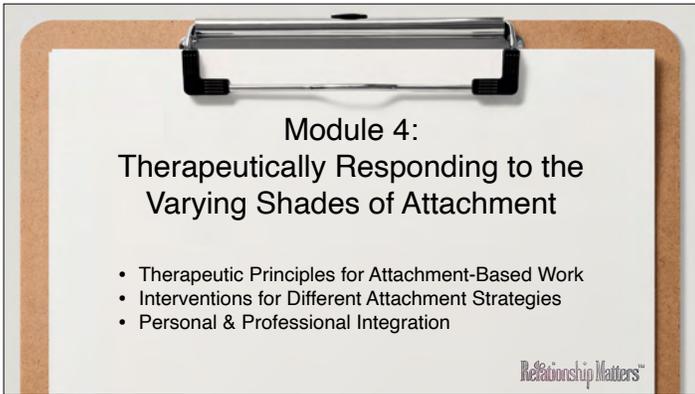
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**Module 4:  
Therapeutically Responding to the  
Varying Shades of Attachment**

- Therapeutic Principles for Attachment-Based Work
- Interventions for Different Attachment Strategies
- Personal & Professional Integration

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**Self-Regulation Emerges  
from Co-Regulation**

(Marriott & Kelley, 2024)

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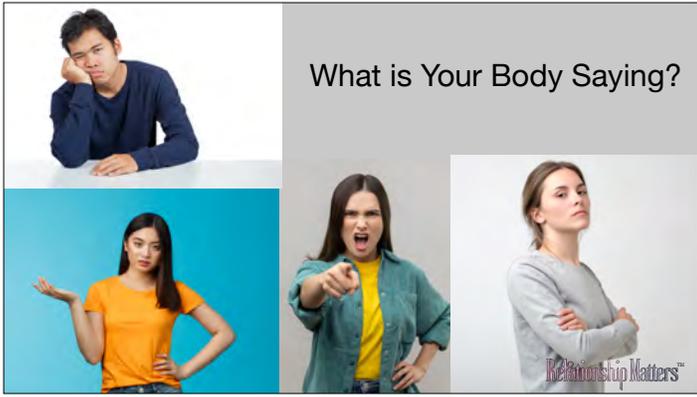
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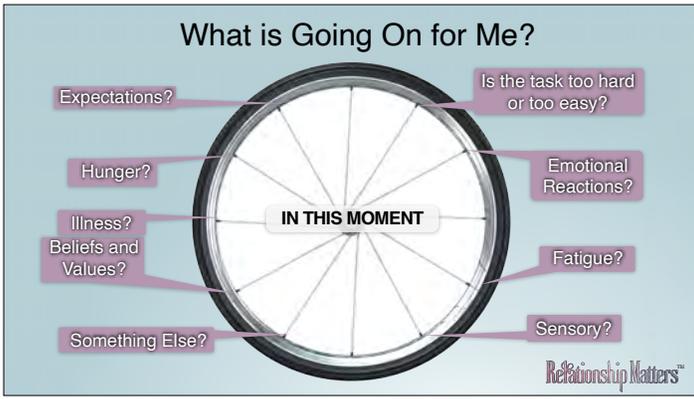
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## What is Going On for Me?

163



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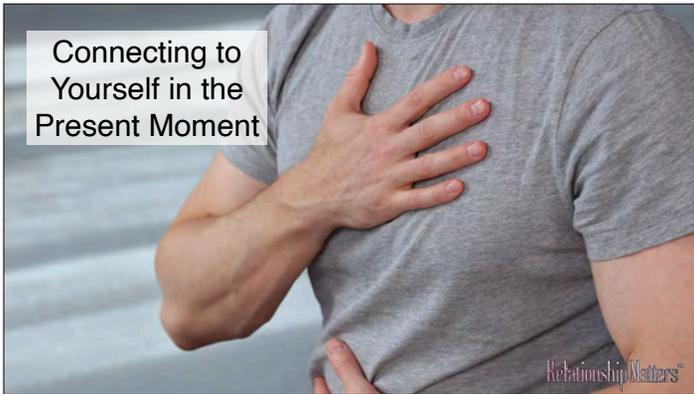
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## Connecting to Yourself in the Present Moment

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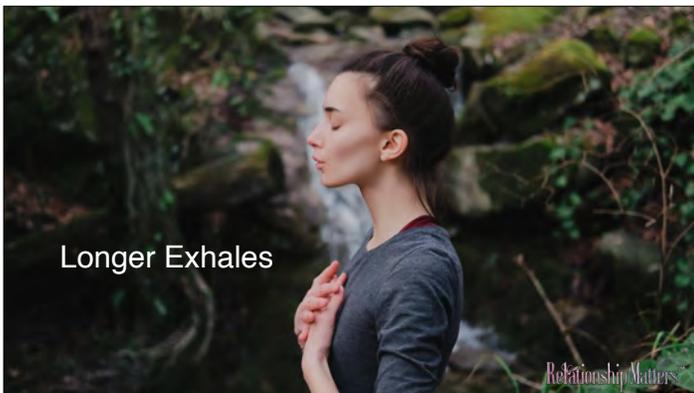
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## Longer Exhales

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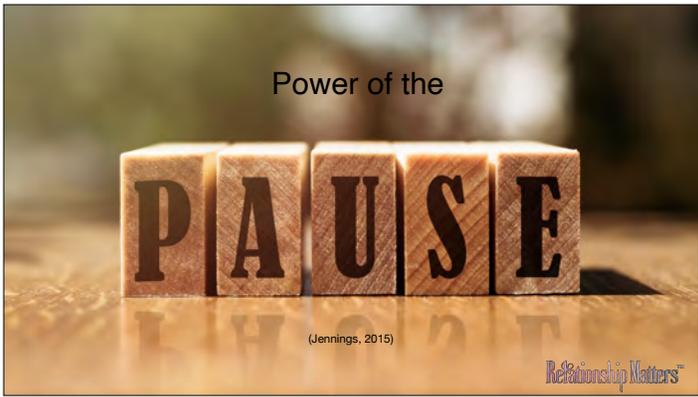
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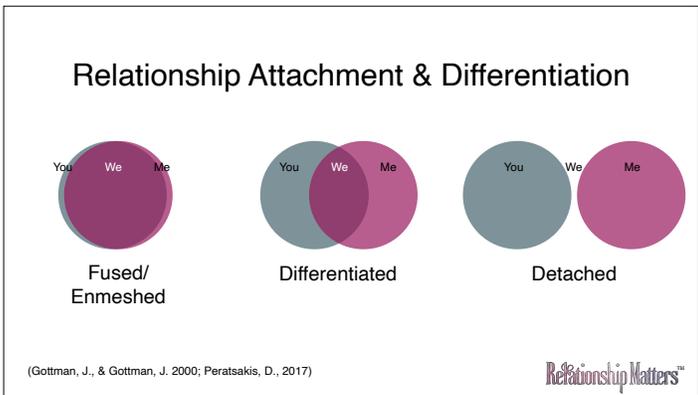
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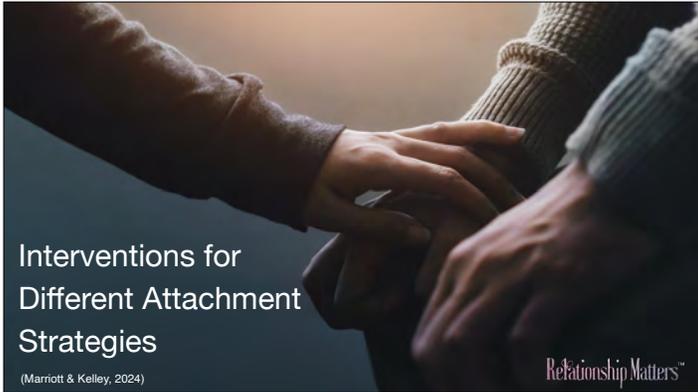
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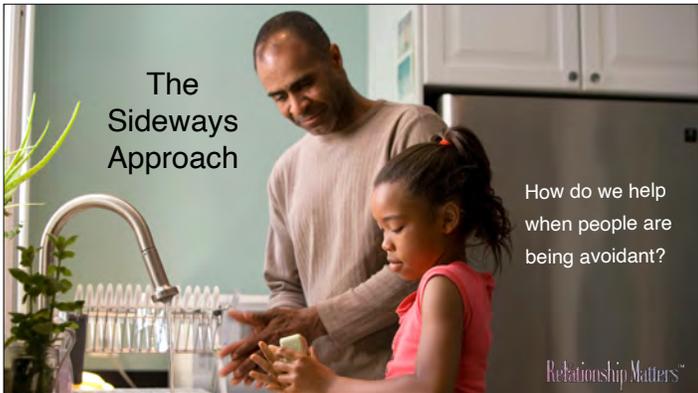
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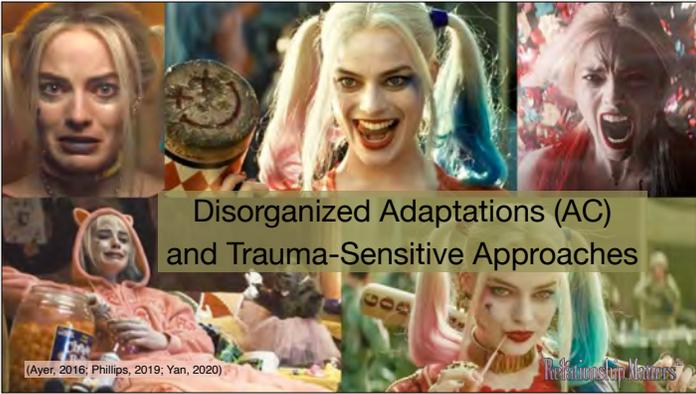
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Blended Interventions for the Child in front of You

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Personal and Professional Integration

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SELF  
CARE  
ISN'T  
SELFISH

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*Healing is Being in a  
State of Alignment  
with What Is,  
with Hope for Change*

Relationship Matters™

187

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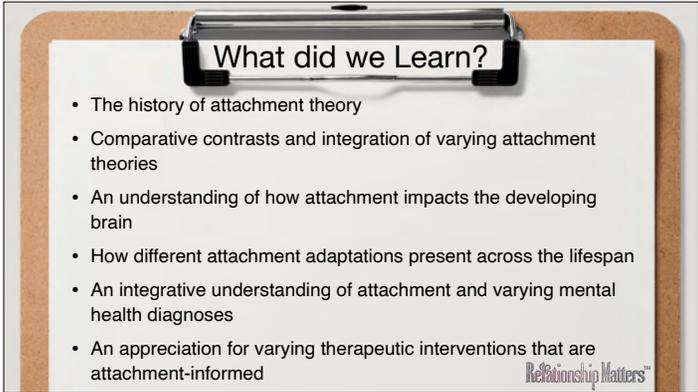
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**What did we Learn?**

- The history of attachment theory
- Comparative contrasts and integration of varying attachment theories
- An understanding of how attachment impacts the developing brain
- How different attachment adaptations present across the lifespan
- An integrative understanding of attachment and varying mental health diagnoses
- An appreciation for varying therapeutic interventions that are attachment-informed

Relationship Matters™

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**Thank You**

Relationship Matters™

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