The 6R's of Effective Therapeutic Interventions

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Objectives

- Participants will gain knowledge on the principles of brain development.
- Participants will understand the impact of childhood trauma and neglect on brain development.
- Participants will be introduced to the 6 R's of effective therapeutic interventions.

Special thanks to the work of Dr. Bruce D Perry, MD, PhD and The ChildTrauma Academy, who have granted their permission for the use of their slides.

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PRINCIPLES OF BRAIN DEVELOPMENT

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Principle 1

The brain is organized in a hierarchical fashion such that all incoming sensory input first enters the lower part of the brain.

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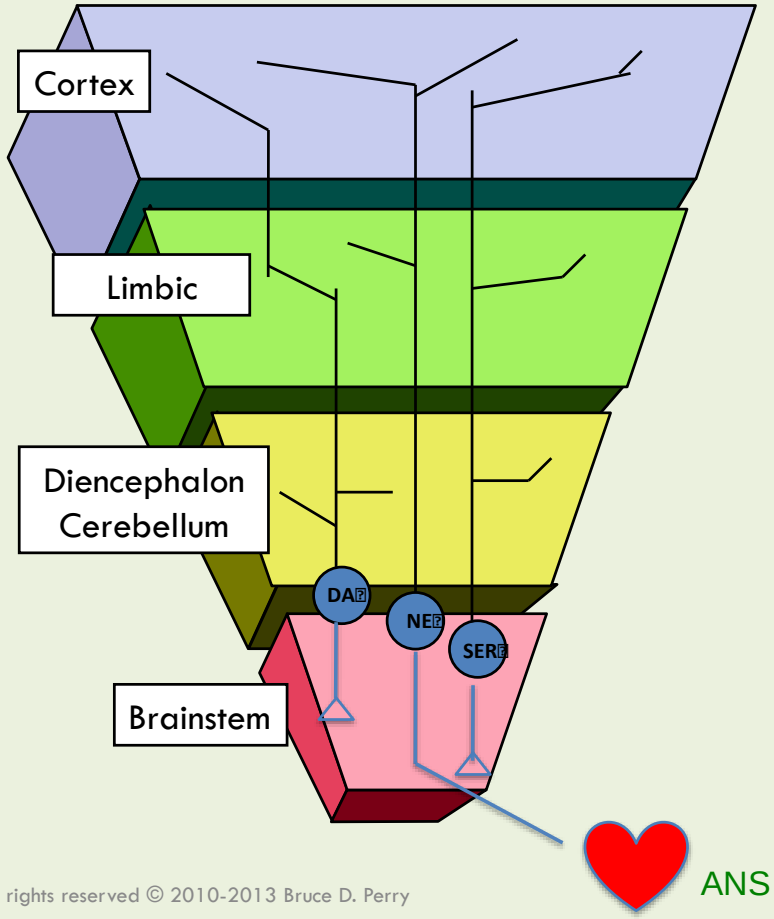
Efferent Distribution of Primary Regulatory Networks



Abstract & Reflective Cognition

Concrete Cognition

Affiliation

Attachment/Reward

Sexual Behavior

Emotional Reactivity

Motor Regulation

Arousal

Appetite/Satiety

Sleep

Blood Pressure

Heart Rate

Body Temperature

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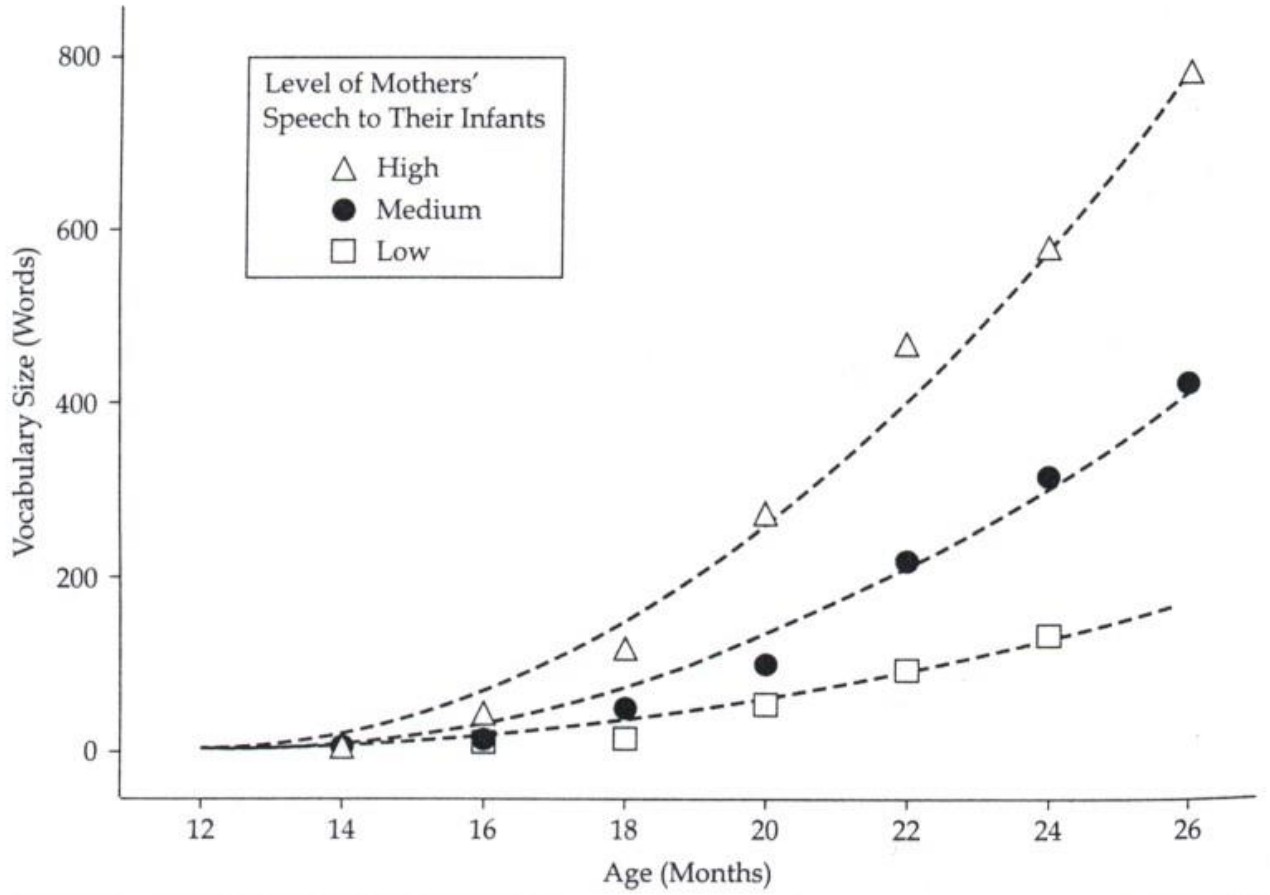
Principle 2

Neurons and neural systems are designed to change in a “use dependent” fashion.

Mothers' Speech and Child Vocabulary



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Windows of Opportunity

Patterned, Repetitive Activity Changes the Brain…….

Patterned, Repetitive Activity Changes the Brain…….

Patterned, Repetitive Activity Changes the Brain…….

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Principle 3

The brain develops in a sequential pattern.

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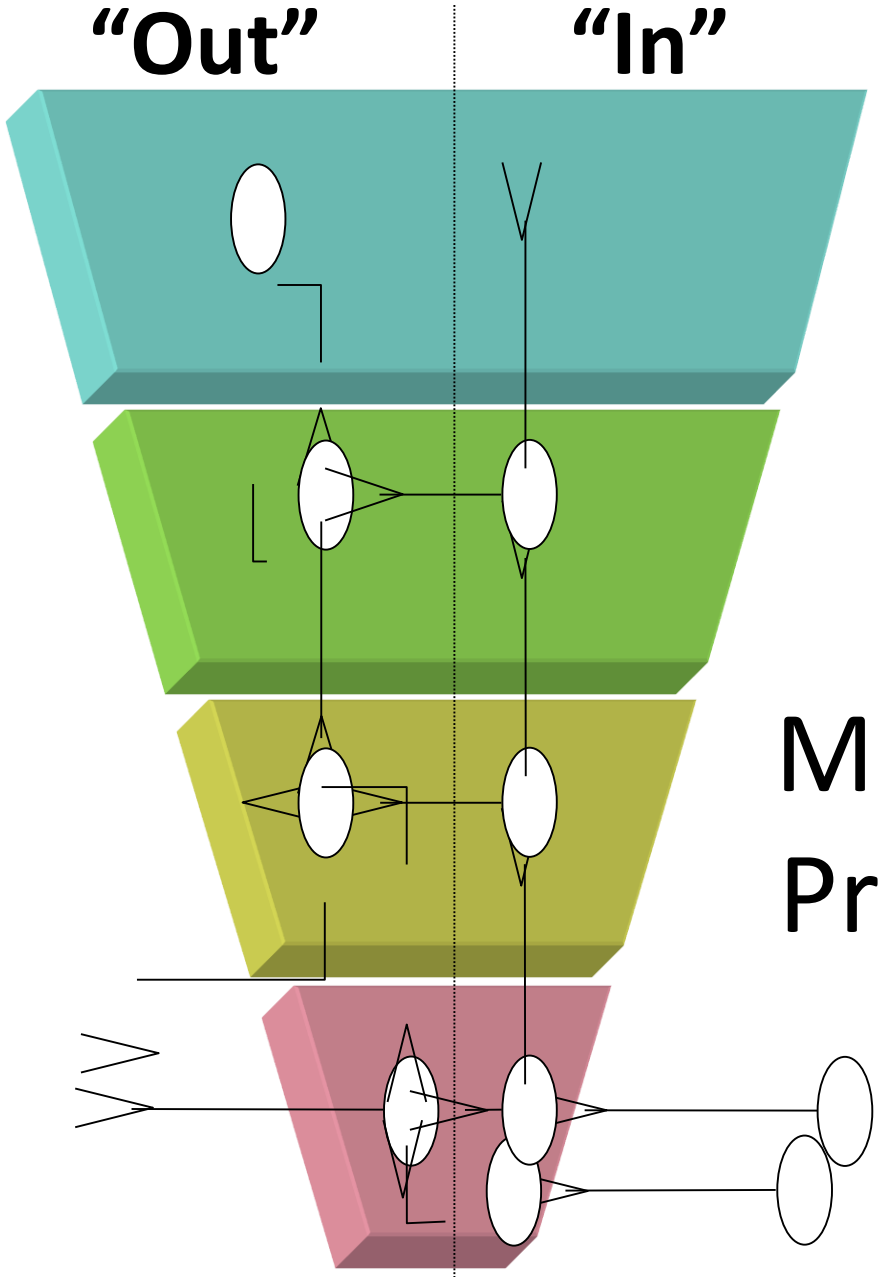

Multi-level Processing

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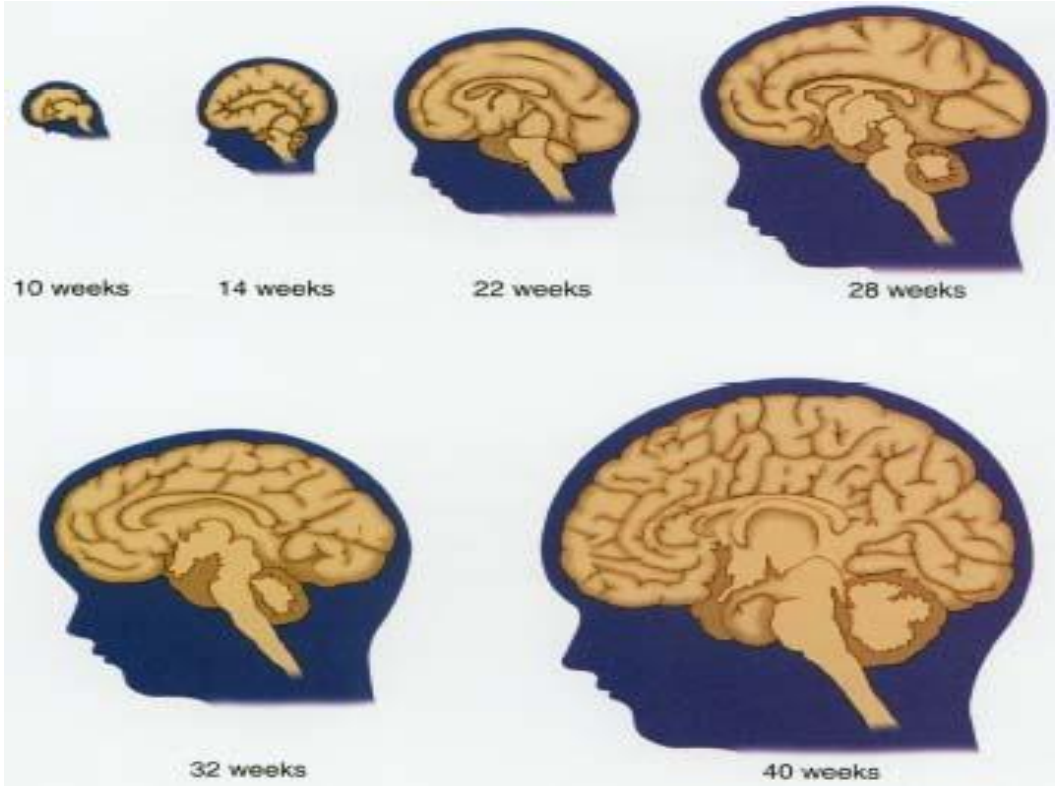
Principle 4

The brain develops most rapidly early in life.



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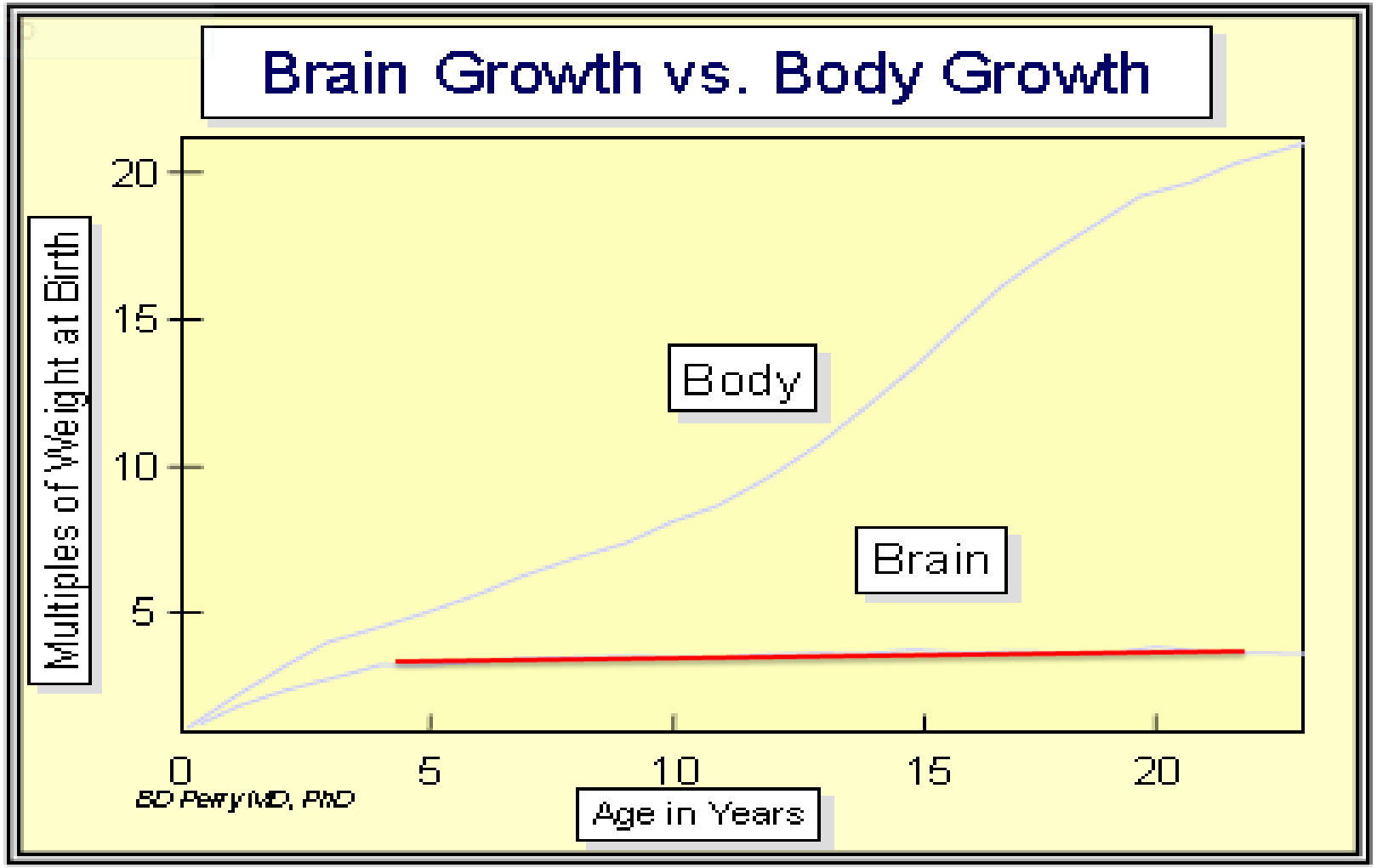

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Principle 5

Neural systems can be changed but some systems are easier to change than others.

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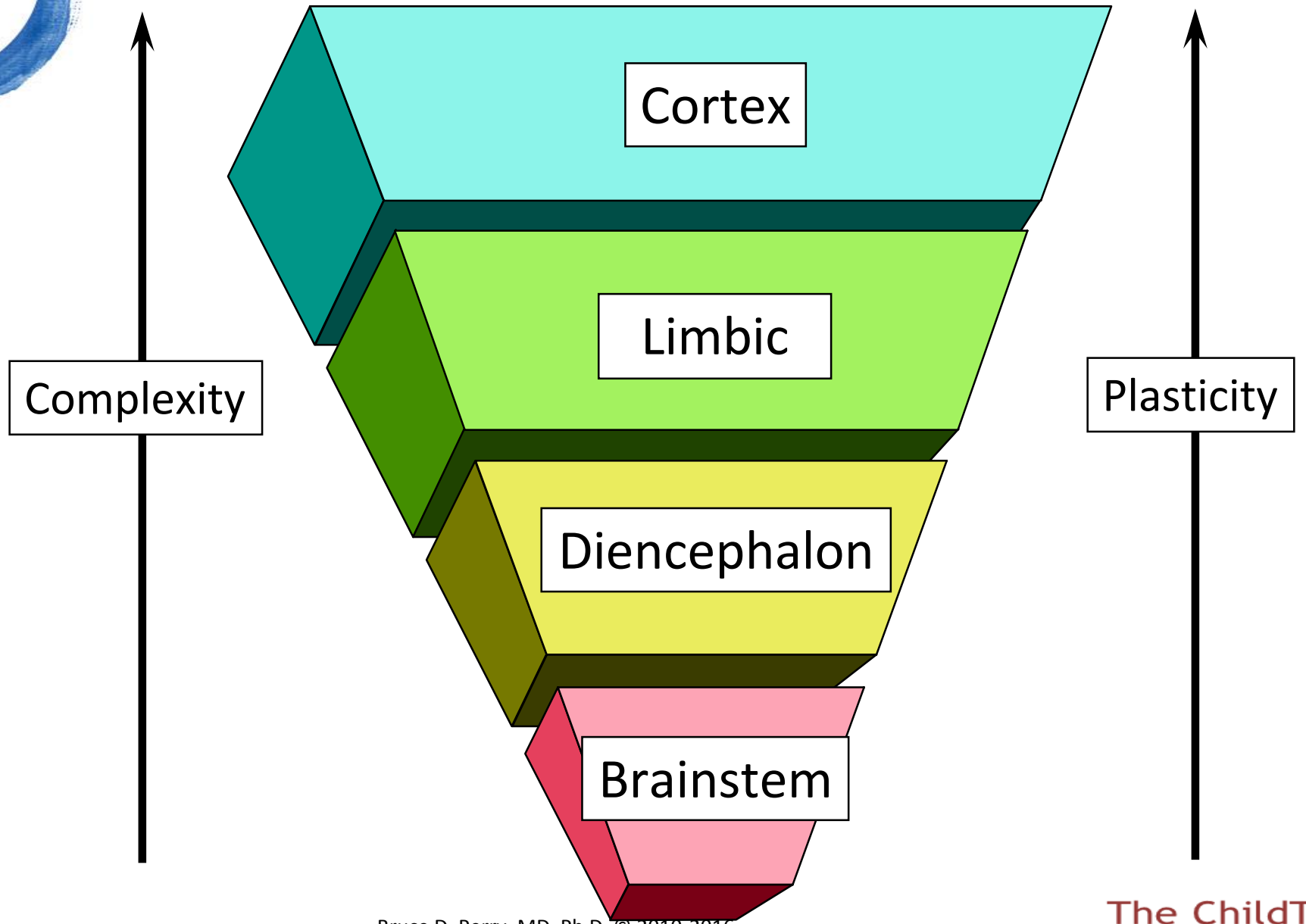

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Principle 6

The human brain is designed for a different world.

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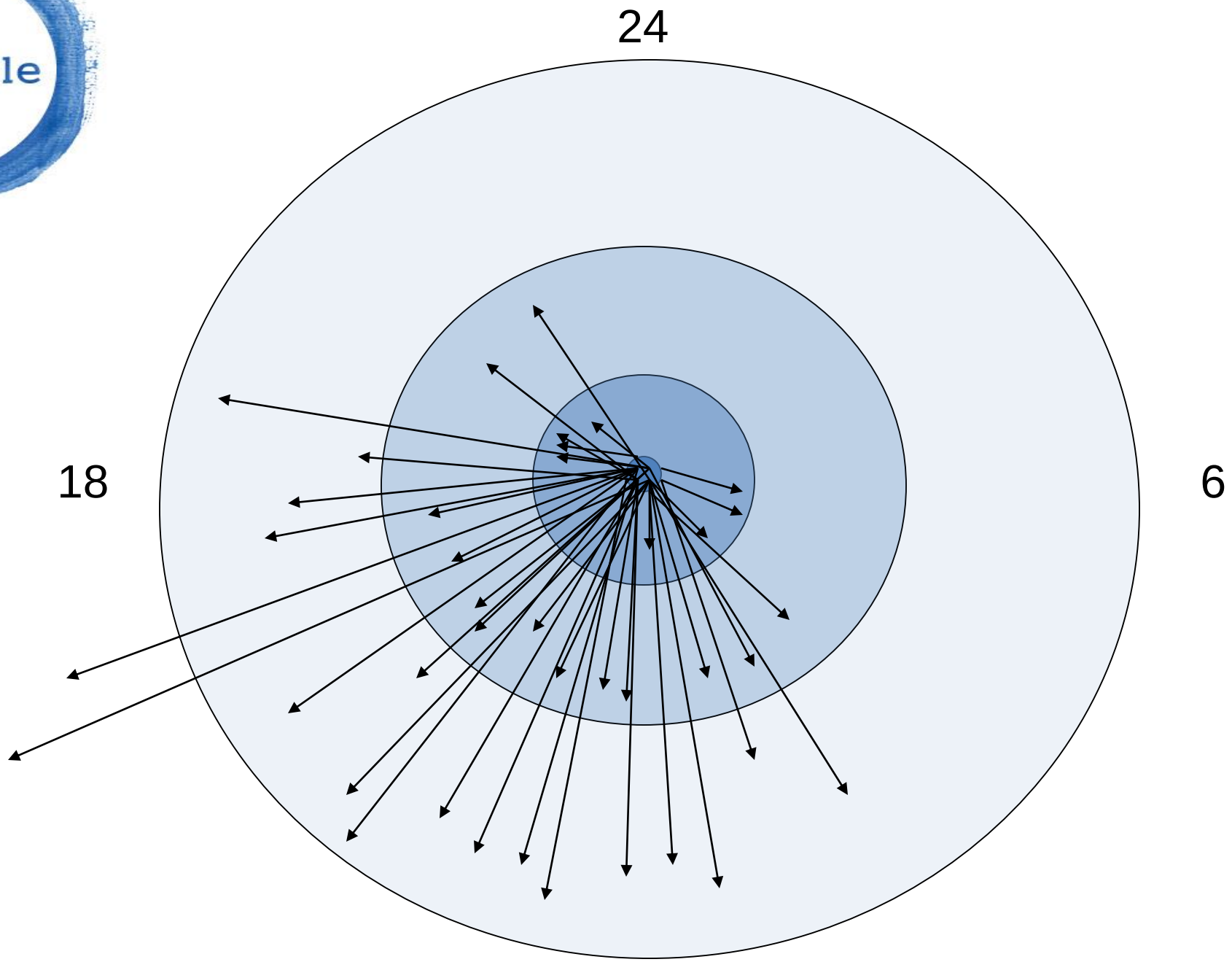

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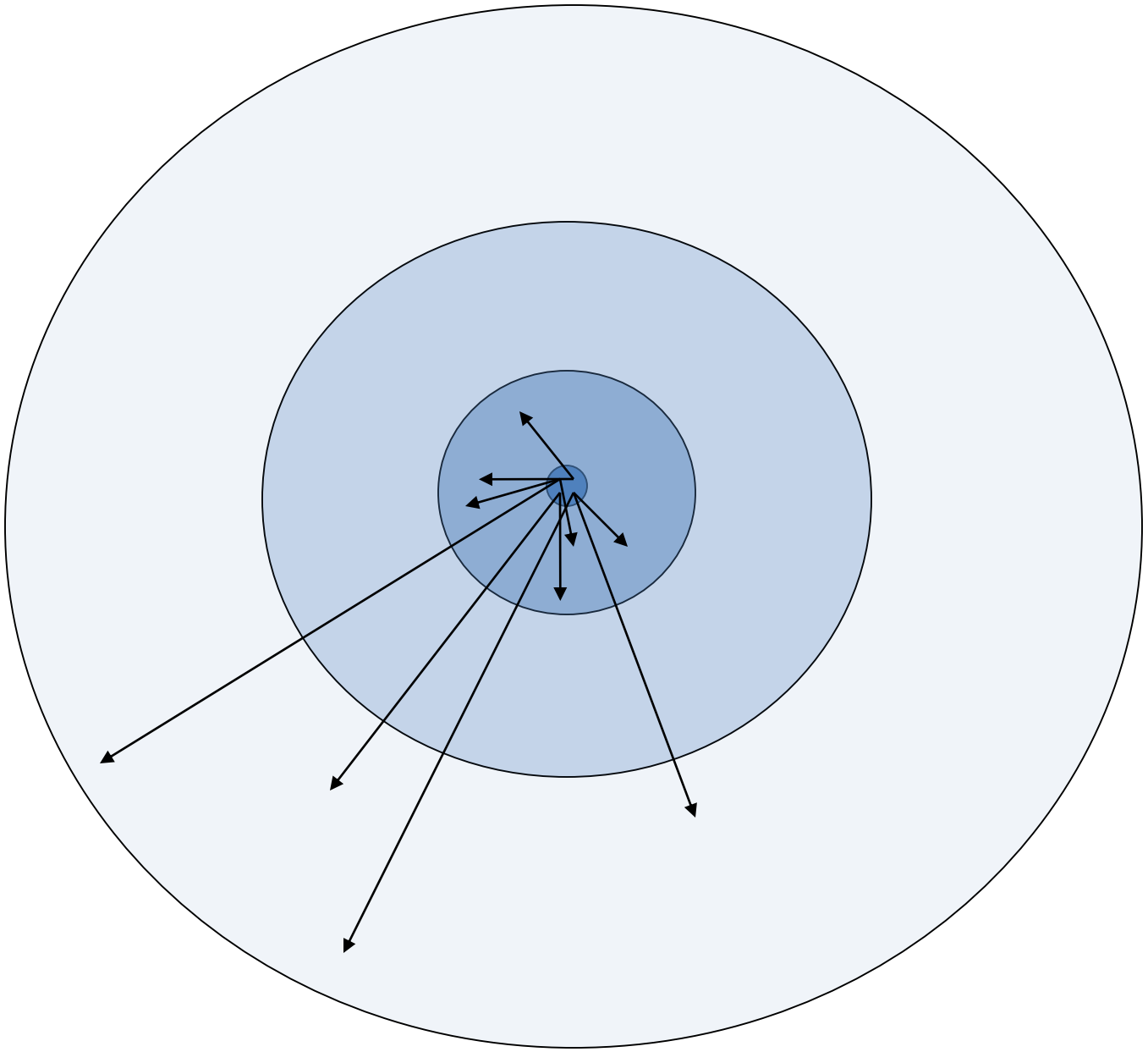

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THE IMPACT OF EARLY CHILDHOOD TRAUMA AND NEGLECT

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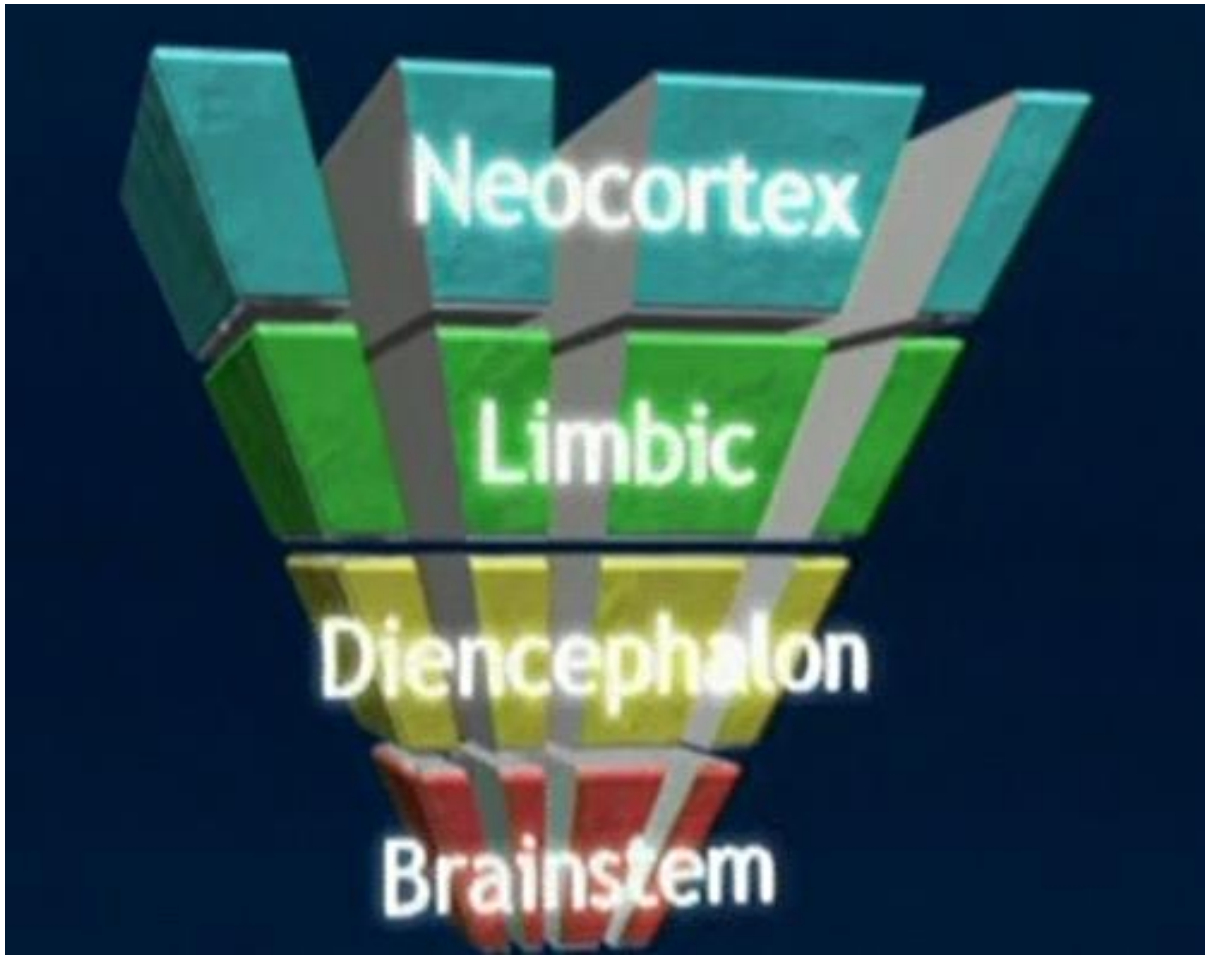
Intrauterine Insults to Development



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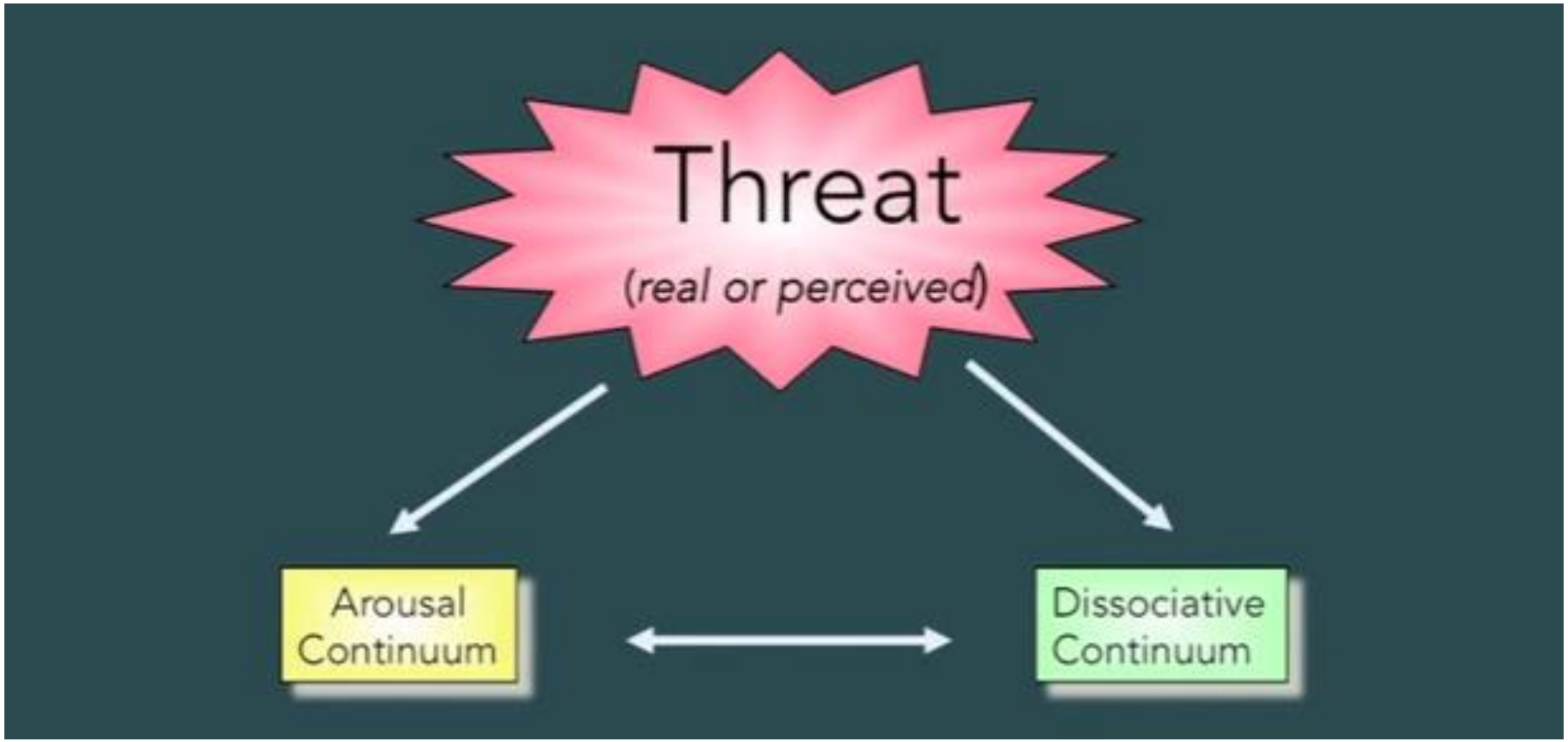
The Adaptive Response



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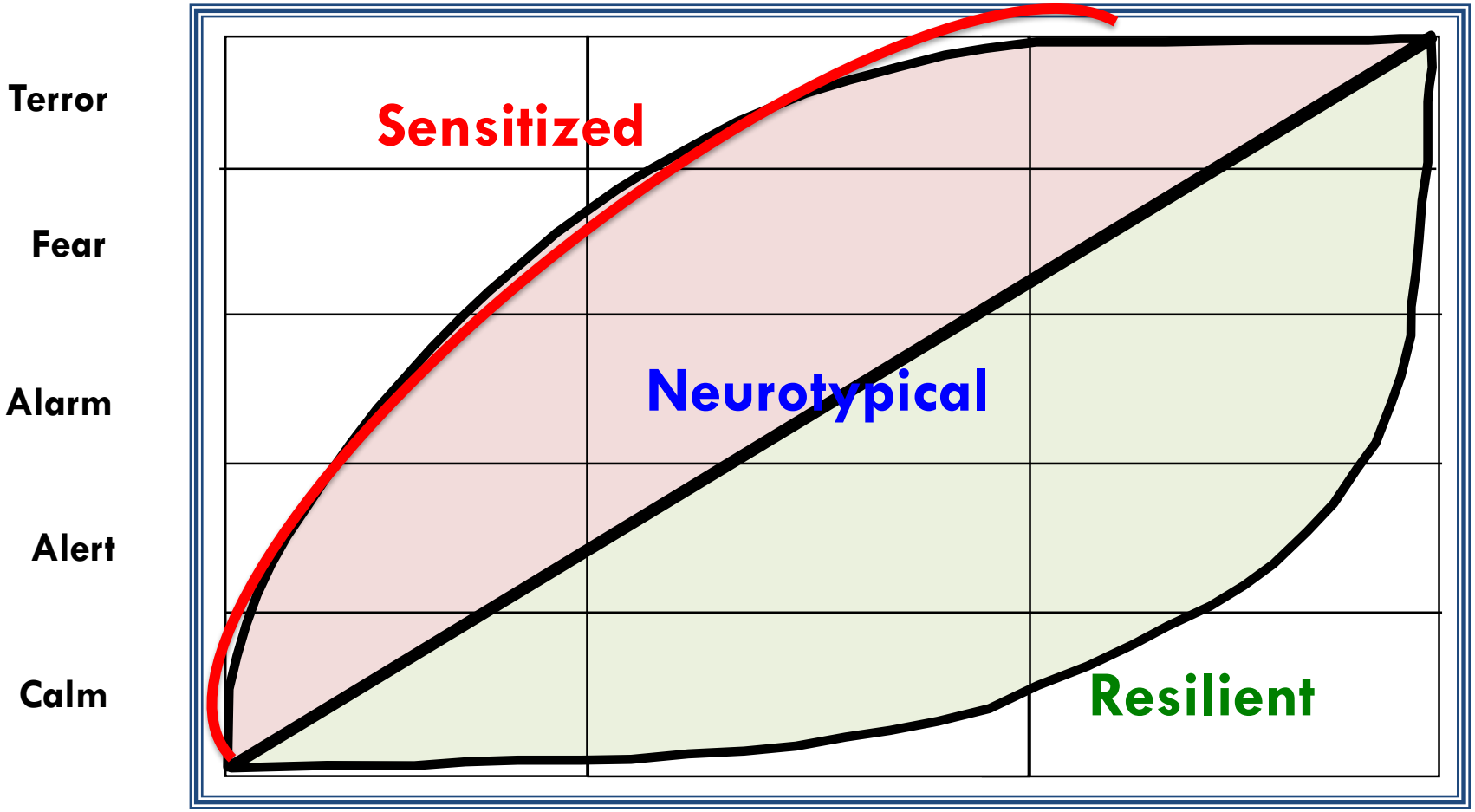
Differential "State" Reactivity



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State Dependent Functioning Glance Chart

Functional IQ	110-100	100-90	90-80	80-70	70-60
Sense of Time	Extended Future	Days Hours	Hours Minutes	Minutes Seconds	Loss of Sense of Time
Heart Rate	70-90	90-100	101-110	111-135	135-160
Hyperarousal Continuum	Rest	Vigilance	Resistance	Defiance	Aggression
Dissociative Continuum	Rest	Avoidance	Compliance	Dissociation	Fainting
Primary Secondary Brain Areas	**NEOCORTEX** Subcortex	**SUBCORTEX** Limbic	**LIMBIC** Midbrain	**MIDBRAIN** Brainstem	**BRAINSTEM** Autonomic
Cognition	Abstract	Concrete	Emotional	Reactive	Reflexive
Mental State	Calm	Alert	Alarm	Fear	Terror

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THE NEUROSEQUENTIAL MODEL OF THERAPEUTICS

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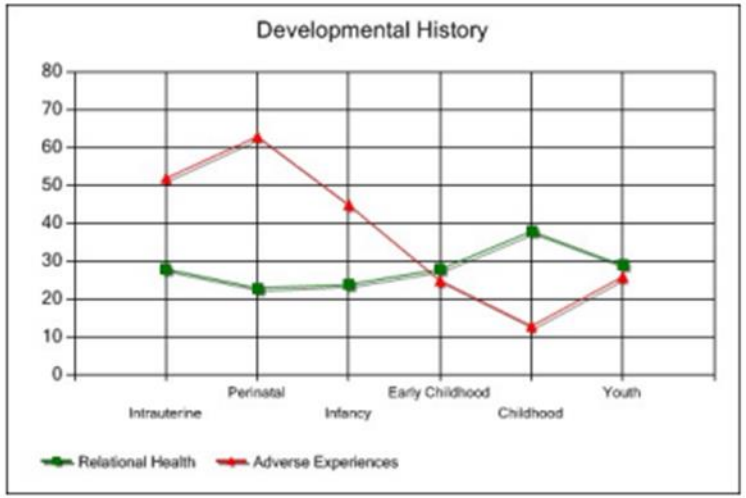
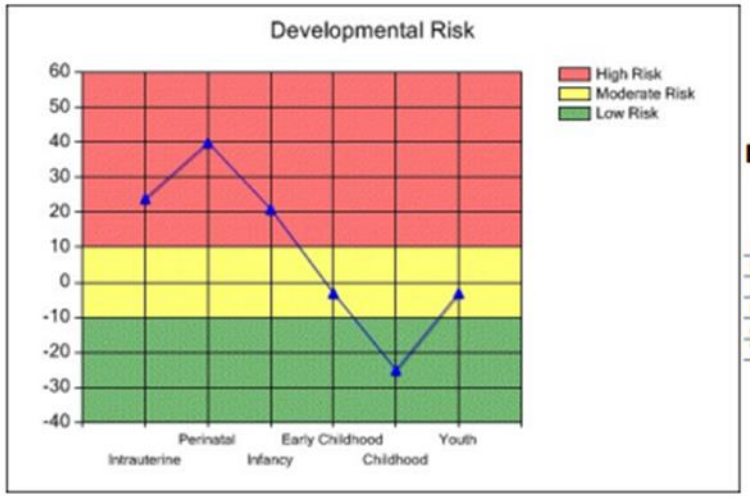
Developmental History

This section illustrates estimates of the degree and timing of risk (AE: red) and resilience (RH: green) related experiences. The balance between risk and resilience factors provides the developmental risk curve (blue line in bottom graph).





Developmental History Values

	Adverse Events	Relational Health	Developmental Risk
Intrauterine	52	28	24
Perinatal	63	23	40
Infancy	45	24	21
Early Childhood	25	28	-3
Childhood	13	38	-25
Youth	26	29	-3

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Metrics

Client (13 years, 0 months) Report Date: 4/25/2015

4	6	7	5	9	6
11	5	9	7	6	8
6	6	9	6	8	8
	10	8	4	10	
	9	10	9	7	
		10	6		
		12	10		
		9	10		

Client (14 years, 4 months) Report Date: 11/1/2015

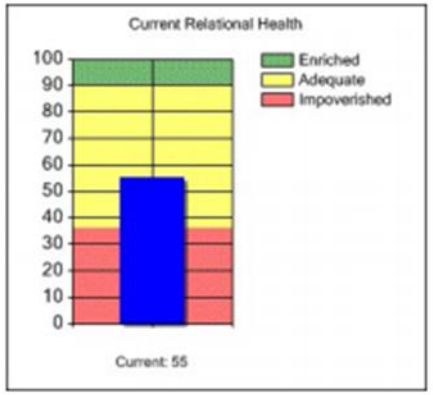
4	7	6	3	9	5
9	5	7	6	7	8
5	5	9	5	5	9
	10	6	4	6	
	9	12	9	7	
		10	6		
		12	10		
		8	9		

Age Typical - 14 to 16

10	10	10	10	10	10
12	12	12	10	10	11
11	11	12	11	10	12
	11	11	11	12	
	12	12	12	11	
		12	12		
		12	12		
		12	12		

Current CNS Functionality

		Time 1	Current	Typical
	Brainstem			
1	Cardiovascular/ANS	9	8	12
2	Autonomic Regulation	10	9	12
3	Temperature regulation/Metabolism	12	12	12
4	Extraocular Eye Movements	10	10	12
5	Suck/Swallow/Gag	10	10	12
6	Attention/Tracking	6	6	12
	DE/Cerebellum			
7	Feeding/Appetite	10	12	12
8	Sleep	9	9	12
9	Fine Motor Skills	9	9	12
10	Coordination/Large Motor Functioning	7	7	11
11	Dissociative Continuum	8	6	11
12	Arousal Continuum	4	4	11
13	Neuroendocrine/Hypothalamic	10	10	11
14	Primary Sensory Integration	10	6	12
	Limbic			
15	Reward	9	9	12
16	Affect Regulation/Mood	6	5	11
17	Attunement/Empathy	6	5	11
18	Psychosexual	8	5	10
19	Relational/Attachment	6	5	11
20	Short-term memory/Learning	8	9	12
	Cortex			
21	Somato/Motorsensory Integration	9	7	12
22	Sense Time/Delay Gratification	7	6	10
23	Communication Expressive/Receptive	5	5	12
24	Self Awareness/Self Image	6	7	10
25	Speech/Articulation	11	9	12
26	Concrete Cognition	8	8	11
	Frontal Cortex			
27	Non-verbal Cognition	7	6	10
28	Modulate Reactivity/Impulsivity	5	3	10
29	Math/Symbolic Cognition	6	7	10
30	Reading/Verbal	9	9	10
31	Abstract/Reflective Cognition	4	4	10
32	Values/Beliefs	6	5	10
	Total	**250**	**232**	**358**



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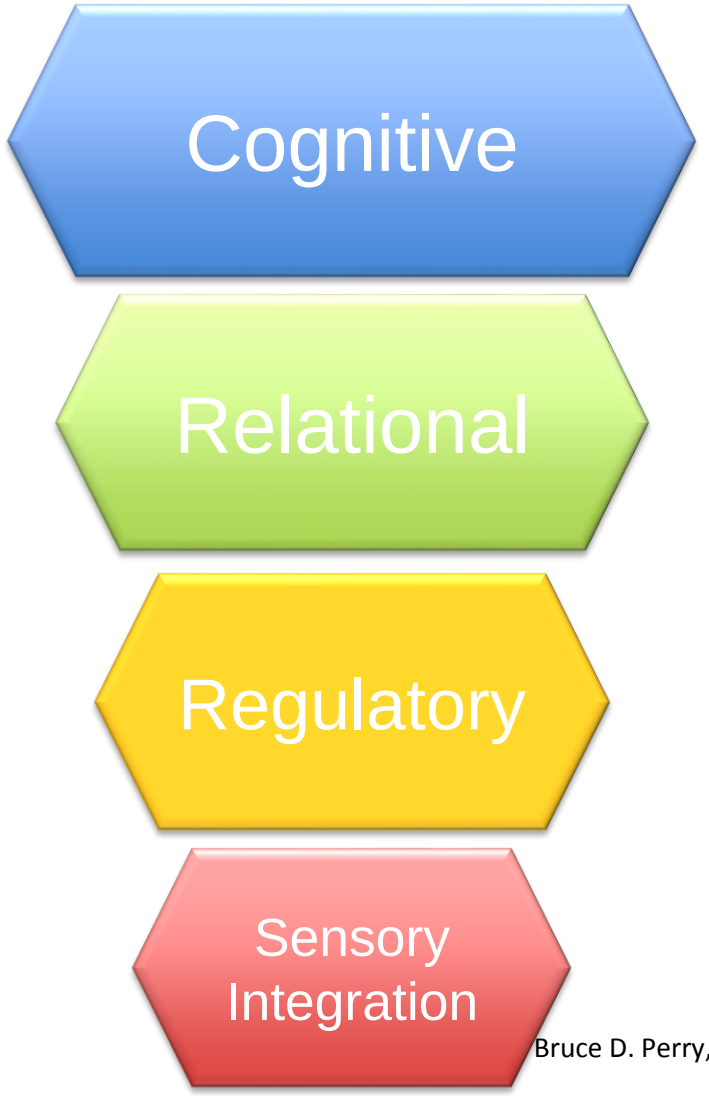
Stage-Focused Interventions



- Four Functional Domains
- Because the brain develops sequentially, early trauma can affect subsequent stages of neurodevelopment.
- Dysregulation “shuts down” the upper part of the brain making cognitive (“top-down”) strategies ineffective.

THE 6R'S

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Positive Education and Therapeutic Experiences

Relational

Relevant

Repetitive

Rewarding

Rhythmic

Respectful

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Relational

- Human beings are relational creatures
- Most information we learn is the result of human interactions, in traditionally relationally-rich environments
- Early childhood interaction with adults plays a significant part as children grow in their opinions, or "template," of people in general

Relevant

- Learning must be developmentally relevant
- Adults must meet children at their developmental level
- This can be difficult to remember when a child is chronologically older and may possess some age-appropriate skills but have “gaps” in other areas
- *Know the stage*

Repetitive

- Learning requires repetition
- Neural connections are created, "sculpted," and strengthened
- New "templates" take time to form
- Learning must be even more repetitive when learning skills for which the developmental window has passed. (e.g. learning to self-regulate or to trust adults as an adolescent)

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Rewarding

- Learning must be in some way rewarding for a child to want to do it
- For the typical student, relational rewards are the most powerful (i.e. positive verbal or non-verbal affirmations from teacher or parent)

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Rhythmic

- Rhythm is regulating (down-up regulation)
- First exposure in-utero, guided by a mother's heartbeat
- Rhythm becomes associated with the feelings of being calm and cared for
- Can help move children to a state in which learning can take place
- Information is more easily absorbed in rhythmic form

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Respectful

- Educational and therapeutic success requires that an adult be respectful of the child, her family, her culture, and her background
- Respectful care-givers acknowledge and celebrate differences in backgrounds and are conscious of these differences in their instruction

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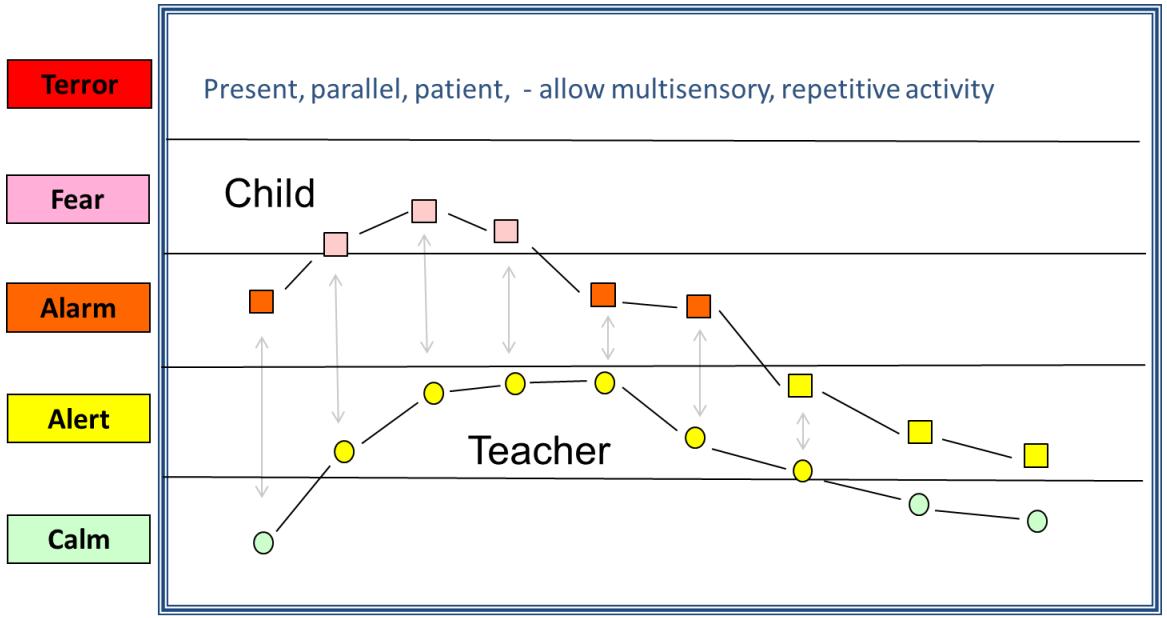

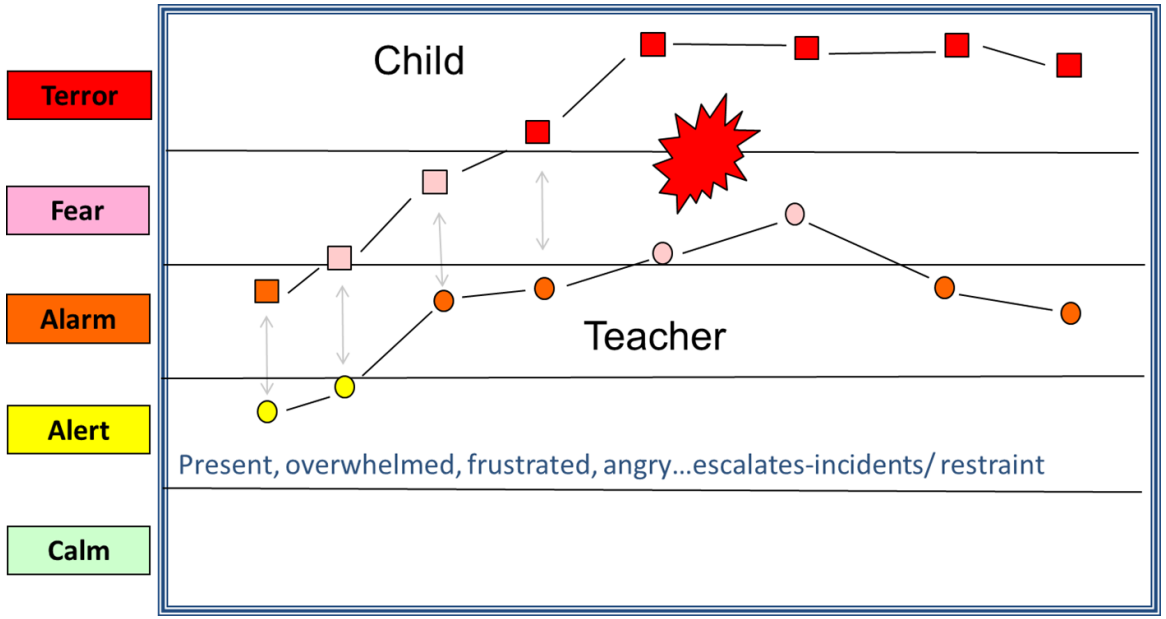

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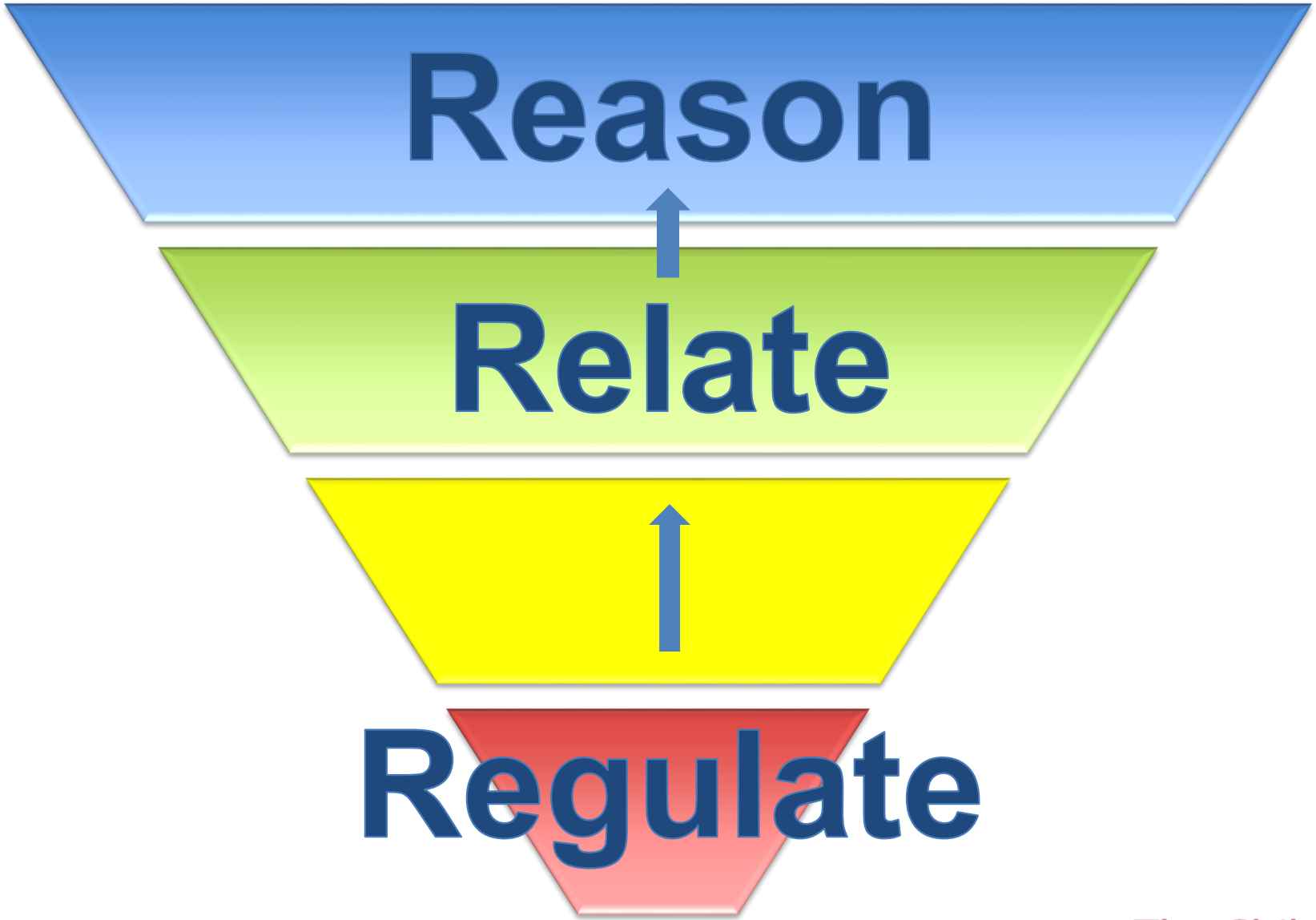

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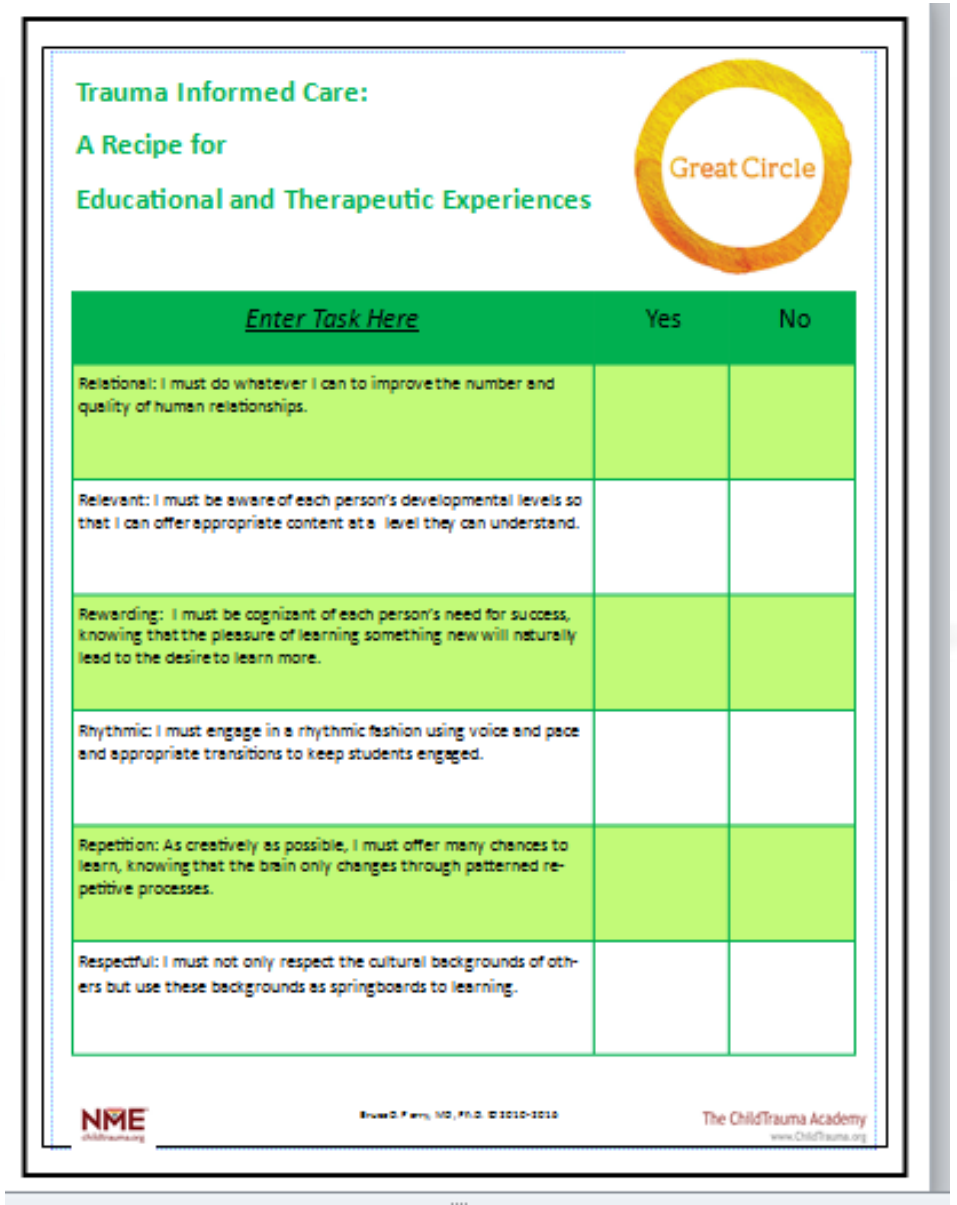
Check Your Approach!



Trauma Informed Care:

A Recipe for

Educational and Therapeutic Experiences

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Enter Task Here	Yes	No
Relational: I must do whatever I can to improve the number and quality of human relationships.		
Relevant: I must be aware of each person's developmental levels so that I can offer appropriate content at a level they can understand.		
Rewarding: I must be cognizant of each person's need for success, knowing that the pleasure of learning something new will naturally lead to the desire to learn more.		
Rhythmic: I must engage in a rhythmic fashion using voice and pace and appropriate transitions to keep students engaged.		
Repetition: As creatively as possible, I must offer many chances to learn, knowing that the brain only changes through patterned repetitive processes.		
Respectful: I must not only respect the cultural backgrounds of others but use these backgrounds as springboards to learning.		

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Questions and Comments