Neuroscience, Neuroplasticity and Neural Integration: A Pathway to Resilience and Well-Being

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WHAT CONNECTS MIND, BRAIN, AND RELATIONSHIPS?
Four Facets of MIND:

Subjective Experience
Consciousness
Information Processing
Self-Organization
Integration and Health: A “FACES Flow”:

Flexible
Adaptive
Coherent
Energized
Stable
Integration:
A simple but powerful framework

Integration is:
The LINKAGE of DIFFERENTIATED Parts

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The River of Integration
Integration, Presence and Health

1. Studies of Well-Being reveal the interconnected connectome, or the linkage of differentiated regions best predictor;

2. Studies of impaired well-being reveal impaired integration in the brain;

3. Neural integration is the mechanism beneath regulation (mood, emotion, thought, attention, behavior, relationships, morality)

4. Integrated Relationships → Neural Integration → Health
Trauma and Impaired Integration

Trauma induces neural effects on the capacity for integration:

- Linking fibers compromised in their growth
- Epigenetic changes
- Self-reinforcing interpersonal behaviors
- A “Trapped Mind” potentially caught in a neurally and interpersonally reinforcing loop of potentially maladaptive, destructive, and addictive behaviors.
REGULATION

- Monitoring
- Modifying
If Consciousness is needed for change, and integration is the basis for well-being, how can we integrate consciousness?
The Wheel of Awareness
Implications and Applications of the Wheel of Awareness

- 10,000 person study: Universal findings across wide range of backgrounds;
- Shift in relationships with others and self;
- Reduction in Chaos and Rigidity;
- Illumination of Nature of Awareness itself:
  - Quotes: “Clarity, Joy, Expansiveness, the infinite, eternity, God, Love, Peace, Sense of being a fundamental part of the whole, connected to others, the world, the universe”

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The Plane of Possibility

Subjective Experience

Degree of Probability (y)

Peaks of Activation

Plateaus of Probability

Open Plane of Possibility

Neural Firing

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A No-Brain and a Yes-Brain

Reactivity (NO!) versus Receptivity (Yes…)

Threat state of REACTIVITY: Four F’s

- Fight
- Flight
- Freeze
- Faint
Strategies of Cultivating Integration and Resilience:

“Where Attention Goes, Neural Firing Flows, and Neural Connection Grows

Reflective Practices “SNAG” the brain toward integration:

S timulates
N euronal
A ctivation &
G rowth
The Brain in the Palm of Your Hand
Integrative Prefrontal Functions

- Bodily Regulation
- Attuned Communication
- Emotional Balance
- Fear Extinction
- Flexibility

- Insight
- Empathy
- Morality
- Intuition

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An Example: The Low Road

- Temporarily Disengaging the Prefrontal Cortex dissolves any or all of its nine functions
- Shame shuts down efforts at Repair
- Disconnection socially mediated in same anterior cingulate region as bodily pain
- Cycle of Rupture → Disconnection → Shame → Denial → Disconnection
The “Four S’s” of Attachment: Children Need to be:

- Seen
- Safe
- Soothed
- In order to develop “Secure Attachment”

Remembering REPAIR is essential, as ruptures may be common!
The **PART** we play as parents

- **Presence**
- **Attunement**
- **Resonance**
- **Trust**

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Presence and “Mindful Awareness”

• “A form of awareness that comes from paying attention, on purpose, non-judgmentally to the present moment” (Kabat-Zinn)

• Mindful Practice involves:
  • A Loving Awareness and a Kind Attention (Goodman-Kornfield/Kornfield; Shapiro)
  • Focusing Attention on Intention
  • Awareness of Awareness itself
  • “Training the Mind” to focus on inner experience
  • Fundamentally Integrative: Differentiating Sensory Awareness from Observing/Narrating Awareness and Linking with Attentional Practice
Mindfulness: Using awareness & the focus of attention to transform:

- The Brain (Davidson et al) (Holzel, et al)
- The Immune System (Davidson et al)
- Sense of Well-Being (Kabat-Zinn et al)
- Physician Burn-Out (Reduction: Epstein, et al)
- Attention (Jha, et al)
- Relational Function (Shapiro, et al)
- Epigenetic Regulation (Fredrickson, et al)
- Telomerase Levels (Epel, et al)
Mindfulness, Mindsight, & Integration

“Mindfulness”: Training Focused Attention, Open Awareness, and Kind Intention

Self-Compassion: Mindfulness, Self-Kindness, and our Interconnected Humanity (K. Neff)

Mindsight: Perceiving energy and information flow within and between people and moving that flow toward integration

- Insight
- Empathy
- Integration.
Integration
Made Visible
Is
Kindness and
Compassion