

Neural Integration and Psychotherapy

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Daniel J. Siegel, M.D. is a clinical professor of psychiatry at the UCLA School of Medicine and co-director of the Mindful Awareness Research Center at UCLA. An award-winning educator, he is a Distinguished Fellow of the American Psychiatric Association. Dr. Siegel is the executive director of the Mindsight Institute, an educational organization that focuses on how the development of mindsight in individuals, families and communities can be enhanced by examining the interface of human relationships and basic biological processes.

Dr. Siegel received his medical degree from Harvard University and completed his postgraduate medical education at UCLA. He served as a National Institute of Mental Health Research Fellow at UCLA.

Dr. Siegel has published extensively for the professional audience. He is the co-editor of the *Handbook of Psychiatry* and the author of numerous articles, chapters, and the internationally acclaimed text, *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are* (Guilford, 1999). This book introduces the field of interpersonal neurobiology, and has been utilized by a number of clinical and research organizations worldwide, including the U.S. Department of Justice, The Vatican's Pontifical Council for the Family, Microsoft and Google. *The Developing Mind*, Second Edition was published in March 2012.

Dr. Siegel serves as the founding editor for the Norton Professional Series on Interpersonal Neurobiology which contains over two dozen textbooks. He has also authored *Parenting from the Inside Out: How a Deeper Self-Understanding Can Help You Raise Children Who Thrive* with Mary Hartzell, M.ED. (Tarcher/Penguin, 2003), *The Mindful Brain: Reflection and Attunement in the Cultivation of Well-Being* (Norton, 2007) and *Mindsight: The New Science of Personal Transformation* (Random House, 2010), *The Mindful Therapist* (Norton, 2010), *The Whole-Brain Child* (Random House, 2011), and his latest book is *Pocket Guide to Interpersonal Neurobiology: An Integrative Handbook of the Mind* (Norton, 2012).

Dr. Siegel's ability to make complicated concepts exciting as well as easy to understand has led him to be invited to address local, national and international organizations where he speaks to groups of educators, parents, public administrators, healthcare providers, policy-makers, clergy and neuroscientists. He lives in southern California with his family.

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Major Mindsight Principles

- Mind viewed as a self-organizing emergent property, a process that *REGULATES energy and information flow*
- The mind is both EMBODIED and RELATIONAL
- Regulation entails MONITORING and MODIFYING
- Harmony emerges from **integration**—*the linkage of differentiated elements of a system*
- **Chaos and/or Rigidity** result from impaired integration

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A Possible Framework of Health?

- **Health** emerges from Integration
- “**Unhealth**” emerges from impediments to integration in the form of blockages to differentiation and/or linkage.
- **Assessment** evaluates chaos and/or rigidity.
- **Causation** can be genetic, infectious, toxic, and/or experiential (including trauma, developmental challenges).
- **Therapy** is *integrative* and can involve medications, neuroplastic training practices, SNAGging interventions, & fundamental relational elements of psychotherapy.

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The River of Integration



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Differentiation and Linkage → Integration

- Differentiation: Specialization of Function
- Linkage: The Connection of Elements
- Integration: Clustering together into a functional whole while maintaining differences of individual elements (NOT blending)
- Enables Maximal Complexity which provides optimal flexibility and adaptation
- The FLOW between Boredom and Anxiety

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Examples of Impaired Neural Integration

- Developmental Trauma - MRI (Teicher et al)
- Autism, Schizophrenia - rsfMRI (Raichle et al)
- Bipolar Disorder – MRI (Blumberg et al)
- OCD – PET (Baxter, et al)

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A Working Definition of a core aspect of the Mind

An Embodied and Relational
Process that Regulates
The Flow of Energy and Information

(An Emergent Property that arises from the
interactions of elements of a system—i.e.
from the flow of energy within embodied
neural activity and relational communication)

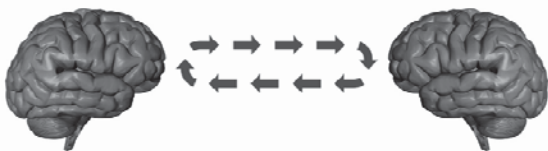
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REGULATION

- Monitoring
- Modifying

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Mindsight and Neural Integration



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Mindfulness Training: Using the focus of attention to transform...

- The Brain (Davidson et al) (Lazar et al)
- The Immune System (Davidson et al)
- Sense of Well-Being (Kabat-Zinn et al)
- Attention (Jha, et al)
- Relational Function (Shapiro, et al)
- Telomerase Levels (Epel, et al)

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Mindfulness, Presence and Attachment

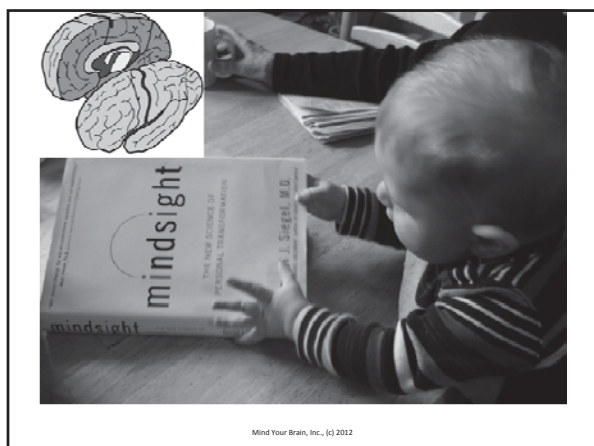
- Mindfulness as a “state of mind” and “way of being”
- Mindfulness Traits:
 - Non-reactive
 - Label internal world
 - Non-judgemental
 - Aware of present experience
 - Self-Observant

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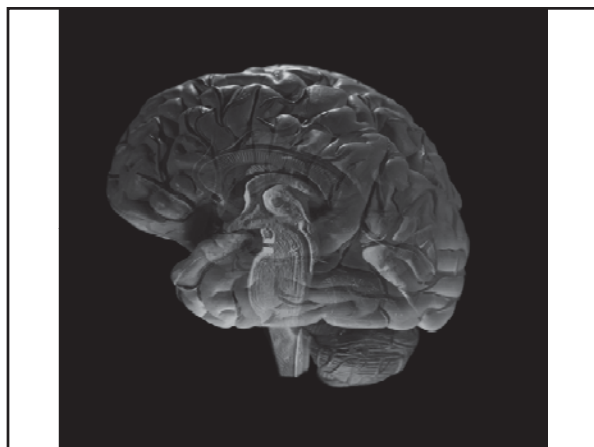
Perceiving the Mind

- A learned skill
- Involves the midline prefrontal regions
- Overlaps with the capacity for sensing self and other
- Me-Maps, You-Maps, We-Maps

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Integration

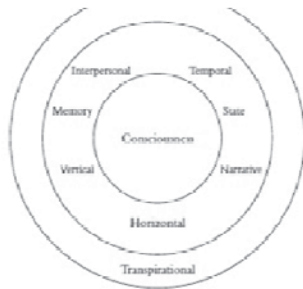
The Linkage of
Differentiated Elements
of a System

Integration, Coherent Narratives, Psychotherapy and Neuroplasticity

- “Effective Therapy Changes the Brain” can be restated as “Effective Therapy Integrates the Brain”
- Integration creates Harmony
- Regions are Differentiated and then Linked
- Impairments to Integration lead to Chaos and/or Rigidity
- A Coherent Narrative reflects Neural Integration
- The Nine Domains of Integration
- Strategies for Enhancing Neuroplasticity

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Domains of Integration



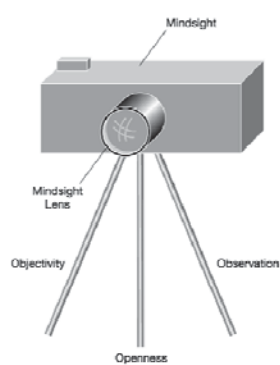
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Nine Domains of Integration

- | | |
|-----------------|-------------------|
| • Consciousness | • State |
| • Bilateral | • Interpersonal |
| • Vertical | • Temporal |
| • Memory | • Transpirational |
| • Narrative | |

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The Integration of Consciousness



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The Wheel of Awareness

