

Neural Integration and MI Conversations

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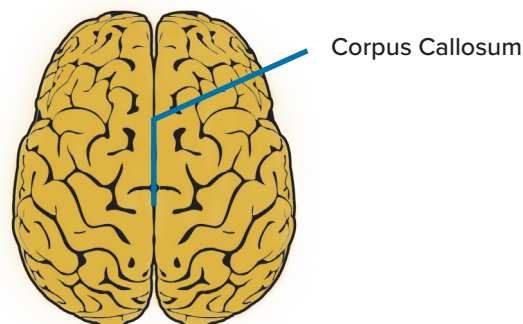
Our Brain Structure, Neural Connections & Ambivalence

The human brain has evolved as a social brain, it responds to interactions with others in ways that help the person think, make decisions, grow and develop. The brain has plasticity, it strengthens connections, adapts and grows based on its use, not unlike our muscles. It is organized bi-laterally and has designated regions in the two hemispheres with assigned dominance to help deal with the various tasks and roles that are required. It is common knowledge that right-handed people's motor skill dominance is in the left hemisphere allowing for the performance of fine motor skills with that hand and opposite for those who are left-handed.

Interconnectedness leading to integration in the brain is required all the time and is essential for healthy brain processes and coherent thought. Making connections requires effort, particularly when there are conflicting pressures, like when there is ambivalence regarding a decision. It takes work to make connections between the hemispheres requiring pathways through the corpus callosum, the neural super highway that is between them.

Ambivalence is when we cannot decide, a conflict in our mind's executive functioning process that can remain unresolved. This is often between emotions and cognitive thoughts or with our reward circuitry in place for survival (like in addictions). The dominance for different functions are centered in one or the other hemisphere and the idea presented here is that the reason MI helps resolve ambivalence is likely because the MI provider acts as an "alternative corpus callosum."

A comparison of the specialization or lateralized dominance and an understanding of the MI approach with its specific skills may hint at how MI may be supporting the processes of the mind to help resolve ambivalence. Here is a chart that depicts some of the lateralized dominance in most humans (1/3 of left-handed people have these reversed):



Dominance Related To Brain Function

Left Cortex	Right Cortex
<ul style="list-style-type: none">• Executive functioning related to cognition• Responsible for verbal-linguistic (processes what is heard & helps control what is said)• Focuses on facts, logical, linear thinking, planning, organization and self-regulation• Approach state allowing us to face challenges, activated when appraisal is positive• Outwardly focused to the world• Is responsible for social display rules and moral decisions.• Monitors culturally sanctioned way we communicate• More activated when having feelings of a positive outlook	<ul style="list-style-type: none">• Executive functioning related to emotions• Interprets non-verbal communication• Stores autobiographical memory• Holds emotional feelings & needs• Withdrawal response to new things (status quo), activated when appraisal is negative• Inward focused of oneself and others (empathy)• Source of intuition and receives signals that arise from our bodies• Dominant connections to the lower subcortical parts (survival & reward circuitry)• Interprets non-verbal communication• Withdrawal response to new things• Active when changing action planning

Siegel, Daniel (2012); Siegel, Daniel (2013)

Davidson, Richard & Begley, Sharon (2012)

MI & Neural Integration

By using reflections, a core skill of MI that tells the person what they said, think or feel, as interpreted verbally or nonverbally (Miller and Rollnick, 2013) the person is helped in making the connection that would normally require going through their corpus callosum. Instead the information comes externally from the MI provider. When they talk about themselves and their emotions, they are speaking by integrating their right-dominant autobiographical side, yet they hear you tell them what they said or how they feel in their left-dominant verbal linguistic side. That left hemisphere is the one that is also dominant for planning and goal setting, making it an easier to process decisions for resolving the ambivalence, since the brain activity is already there.

The MI conversation helps them make the connections and integrate their thought process. Daniel Segal, author and leader of Interpersonal Neurobiology explains:

“Telling a story is the linear telling of a sequence of events involving the left hemisphere’s linguistic, logical, linear drive to explain the cause-effect relationships of things in life. Autobiographical storage and the ability to understand our mental lives are predominately right-sided affairs, suggesting that to tell a coherent story of our lives we need collaboration between these two differentiated, lateralized ways of seeing and being in the world.” (Siegel, 2012)

Helping people tell their story helps create the connections necessary for a coherent narrative of who they are and want to be.

So when a teacher or other MI provider has a conversation with a student about an issue regarding a behavior change, the student tells their story which requires them to make connections between their hemispheres and their decision about change is reinforced when they hear it back which activates the same region of the brain that is the future-oriented, executive functioning and planning area. In this way, the ambivalence that was due to the difficulty of neural integration is helped to becoming resolved.

Because of the Spirit of MI (including non-judgmental, autonomy supporting type of presence), the person feels accepted. The relationship that is created in the conversation helps to build relationships and reduce anxiety. This helps to counter threat response and reduce stress, both which can impair logical thought process and learning.

Louis Cozolino, a psychology professor and author reminds us, that “...teachers who can respect children’s vulnerability and help them express their thoughts and feelings in words can increase their ability to express, share and regulate their anxiety while building positive self-narratives. There is no more important developmental or educational goal.” (Cozolino, 2013)

What this explanation of the value of MI for the brain-mind function and development suggests is that its use helps make the connections necessary for decisions to change and in so doing supports neural integration. By strengthening neural integration, there is enhanced connection between the executive decision-making prefrontal regions and the broader emotional and memory centers which are critical to healthy development and as a result the person can be less rigid and more open to change. Neural integration ultimately is what makes for better learning, happier and more resilient individuals and an improved ability to problem-solve (Cozolino, 2013).

References

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