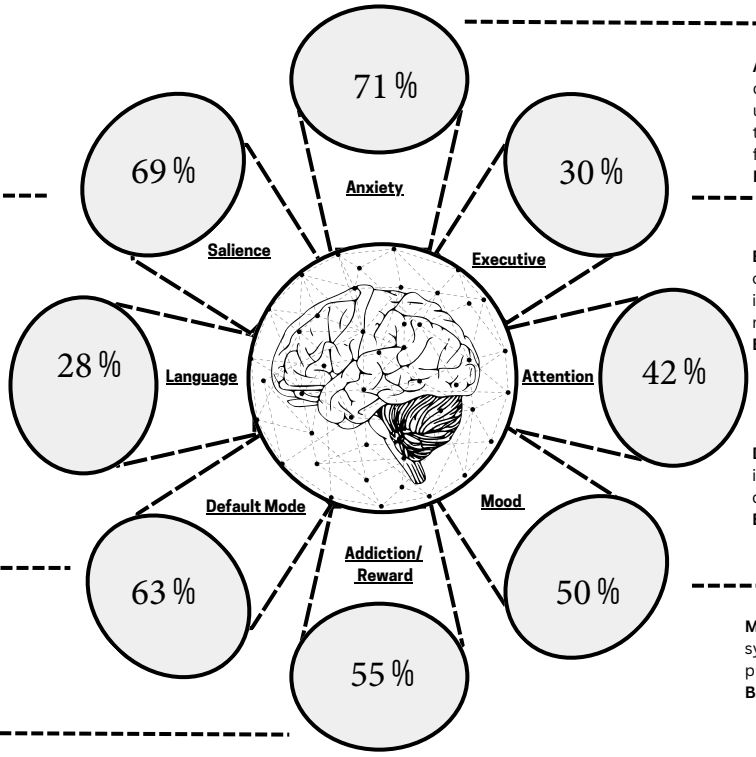
Brain Health Baseline℠

Network Efficiency



Salience Network, is a collection of regions of the brain that select which stimuli are deserving of our attention
BA: 8, 9, 10, 13, 22, 23, 24, 25, 29, 30, 31, 32, 33

Language Network, is responsible for articulating one's thoughts into verbal and written words, and comprehending and processing those of others
BA: 22, 39, 40, 41, 42, 44, 45

Default Mode Network (DMN), is best known for being active when a person is not focused on the outside world and the brain is at wakeful rest, such as during daydreaming and mind-wandering.
BA: 2, 7, 10, 11, 19, 29, 30, 31, 35, 39, 40

Addiction/Reward Network, is a natural process during which the brain associates diverse stimuli (substances, situations, events, or activities) with a positive or desirable outcome.
BA: 13, 24, 35, 32, 34, 44, 45, 46, 47

Anxiety Network, can be activated by mental disorders characterized by significant and uncontrollable feelings of anxiety and fear such that a person's social, occupational, and personal function are significantly impaired.
BA: 4, 6, 7, 10, 13, 21, Amygdala

Executive functions(EFs), include high-order cognitive abilities such as working memory, inhibitory control, cognitive flexibility, planning, reasoning, and problem solving.
BA: 7, 8, 9, 10, 11, 19, 22, 37, 40, 46

Dorsal Attention Network (DAN) is a set of regions in frontoparietal cortex that reliably activate during attentional tasks.
BA: 6, 7, 8, 9, 19, 39, 40

Mood Network, is a set of regions activated when symptoms within depressive and manic moods are present.
BA: 10, 11, 13, 23, 24, 32, 33, 44, 45, 47

Biomarker Data Summary

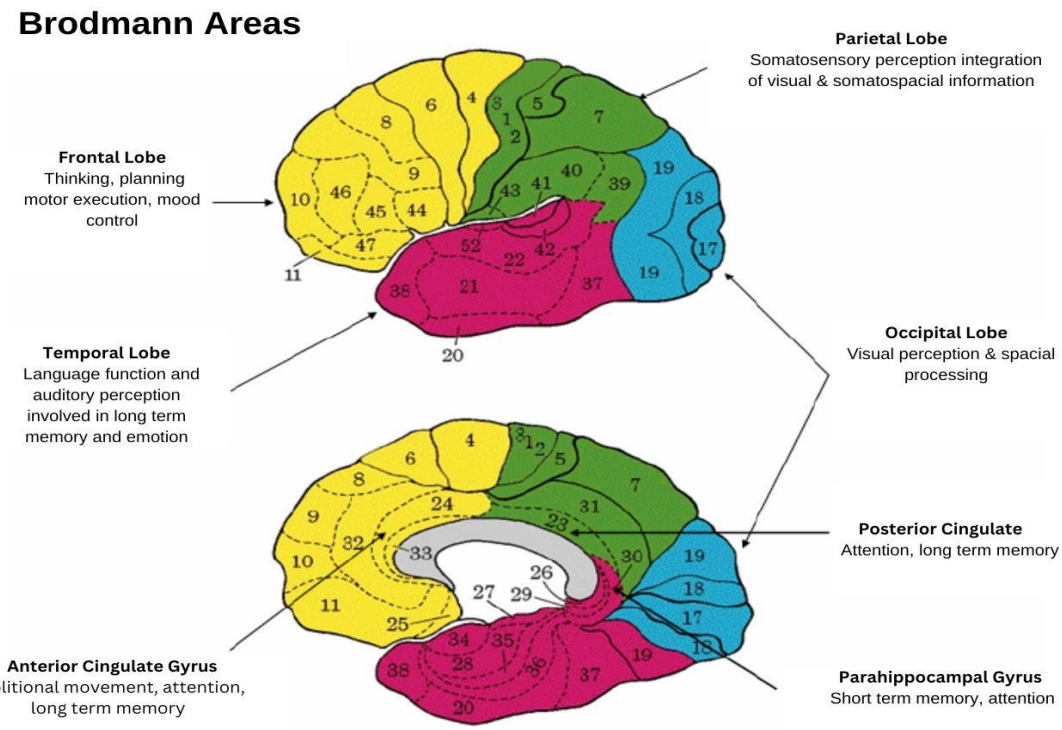
Eyes Closed Atypical Findings

See Reverse For Explanation

sLORETA

Eyes Closed: Brain Map - Atypical Findings

Network Efficiency



- Network health is dependent on the health of each associated Brodmann area.
- Networks are comprised of Brodmann area hubs and nodes.
- Network efficiencies are determined by their relationship to *actual* functional deficits – if there is a symptom associated with a particular network and we observe dysregulation in the maps then we have an overlap of symptoms with observed dysregulation.
- Compensatory networks are those where we have observed dysregulation in the maps, but no symptoms associated with that dysregulation.

Biomarker Data Summary

- Peak Frequency – reliable and stable biomarker for cognitive processing (information processing speed) and attention.
- Theta/Beta ratio – biomarker of attention, particularly in children, adolescents, and young adults. CAUTION: medications (stimulants and/or sedative/hypnotics) will affect this biomarker (consult both linked ears and Laplacian T/B ratios).
- Frontal Alpha Asymmetry – reliable biomarker for *some* types of depression when left frontal alpha amplitude is elevated over right frontal alpha amplitude. When frontal midline alpha is significantly elevated, attentional issues are common, with or without mood issues.
- Auditory and visual evoked potentials are reliable and stable biomarkers for TBI, mood disorders, and substance use disorders, among others.