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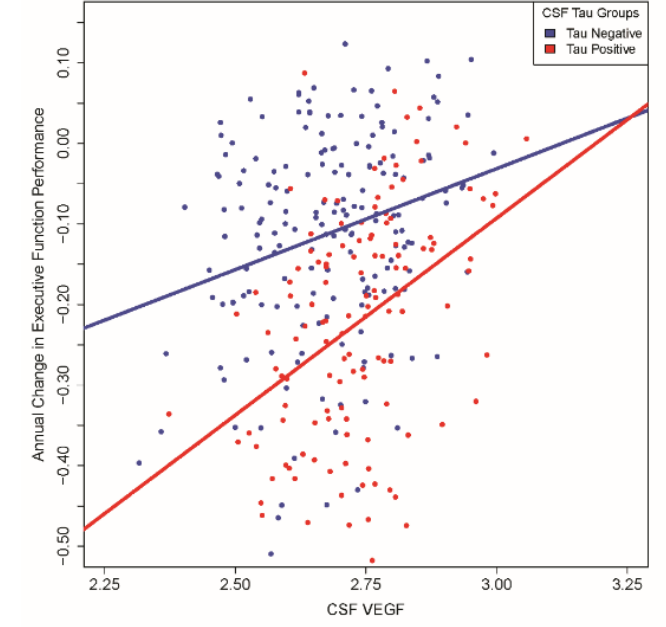
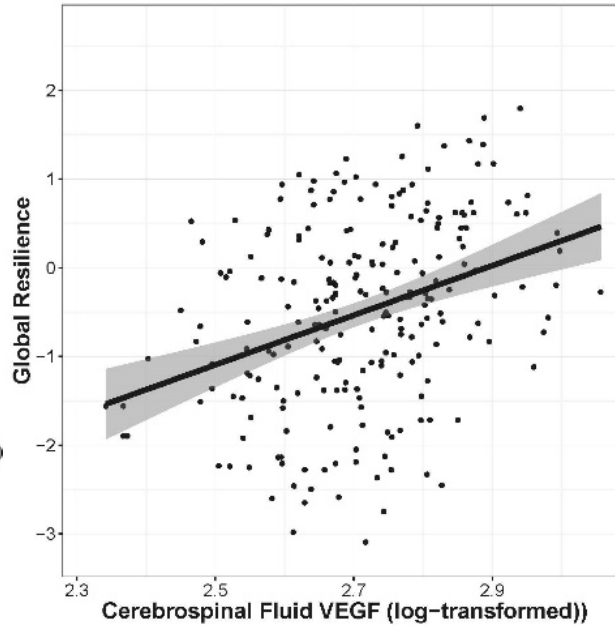
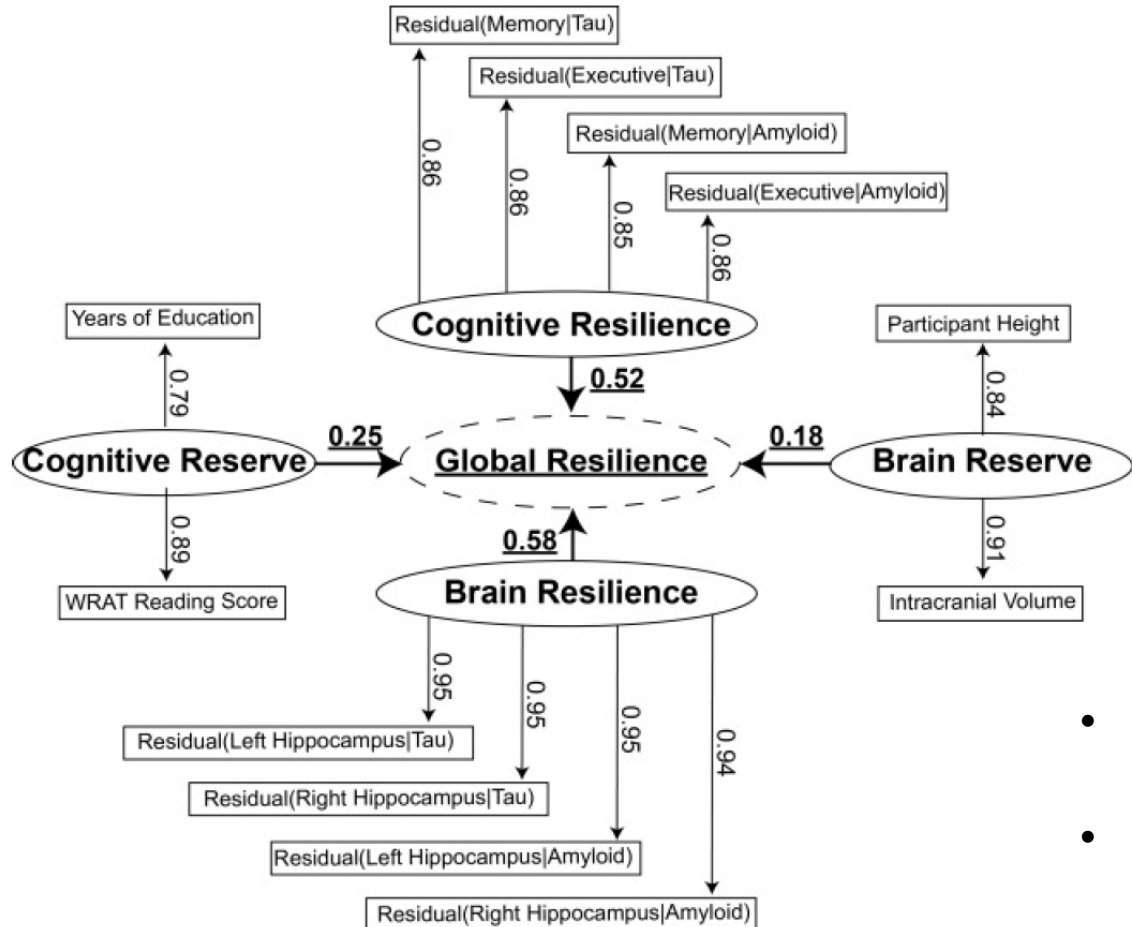
Genetic and Proteomic Markers of Resilience

- Population Studied: Older adults across the AD spectrum
- Methods: Genomics, Proteomics, Neuroimaging
- My work seeks to characterize the molecular architecture of resilience, focusing on neuroprotection against the downstream consequences of Alzheimer's disease pathology.

Concepts Used In Research

- **Cognitive Reserve** → Premorbid cognitive ability that provides a buffer against the consequences of neuropathology.
- **Brain Reserve** → Premorbid brain structural integrity that provides a buffer against the neurodegenerative consequences of pathology.
- **Cognitive Resilience** → The degree to which cognitive performance deviates from that predicted by the level of neuropathology (i.e., residual cognitive performance).
- **Brain Resilience** → The degree to which brain structure deviates from that predicted by the level of neuropathology (i.e., residual brain structure).
- **Global Resilience** → Second order variable integrating proxy and residual measures of reserve and resilience

- Concept: Global Resilience
- Measure: MRI, Neuropsychological Performance, CSF biomarkers of AD



- Higher levels of cerebrospinal fluid Vascular Endothelial Growth Factor A (VEGF-A) are associated with more global resilience.
- Higher baseline levels also predict a slower rate of future cognitive decline and a slower rate of hippocampal atrophy.
- The protective effect is particularly strong among AD biomarker positive individuals, highlighting the utility for identifying neuroprotective factors.