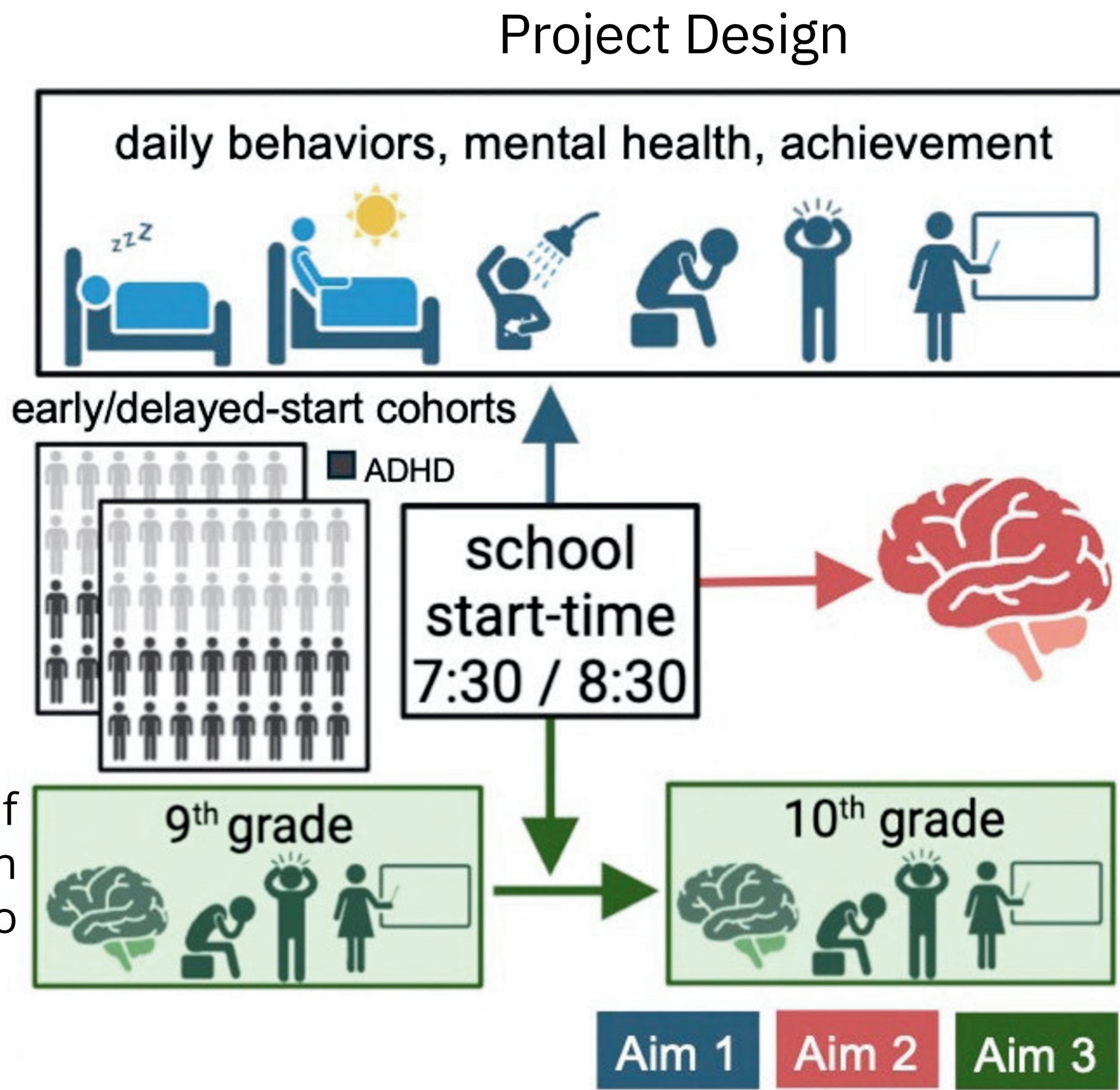


Project Overview

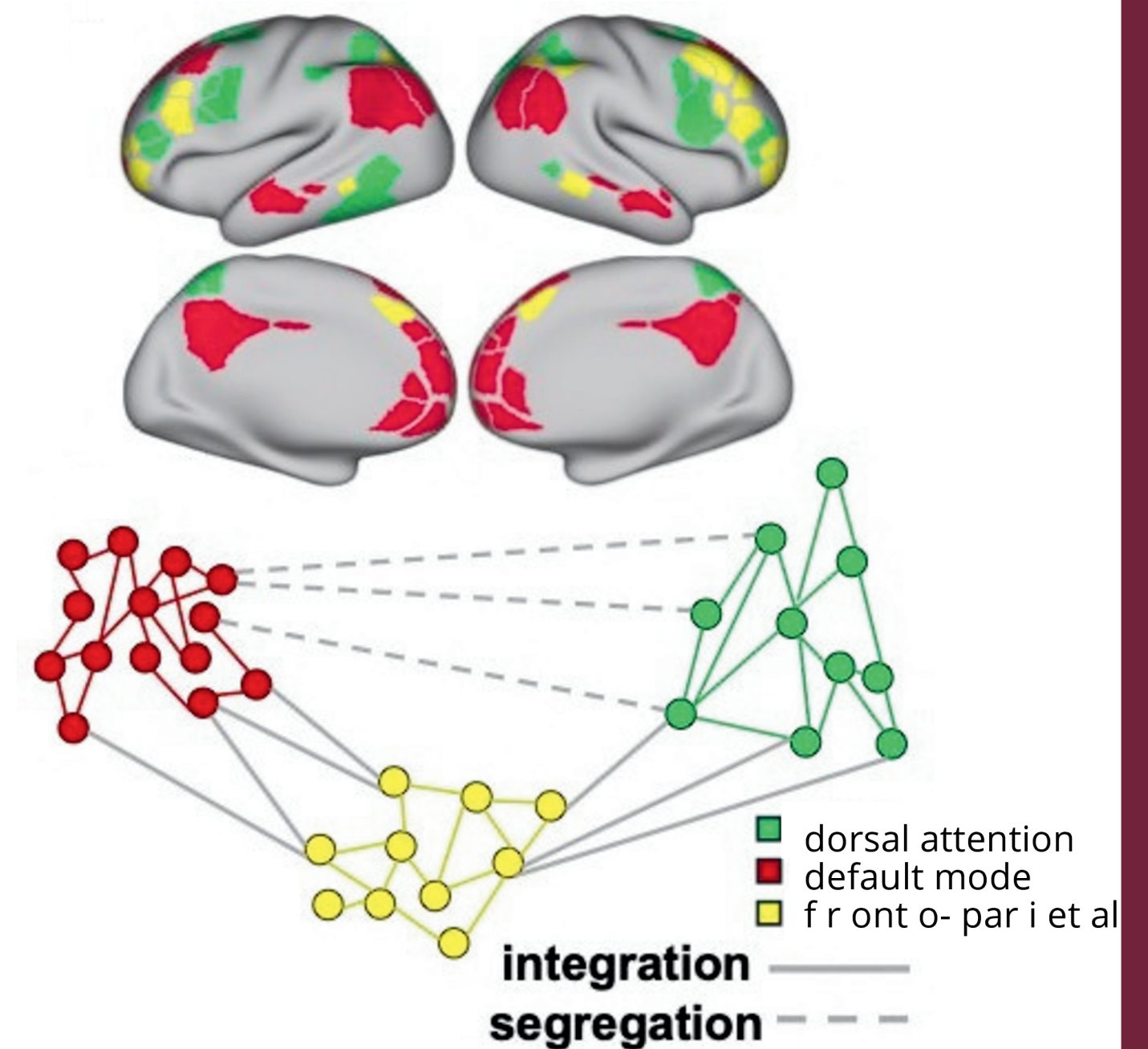
- Youth starting high school, especially those with ADHD, tend to not get enough sleep, which is a critical issue during a time that is characterized by new academic challenges and increased risk for mental health problems.
- This project will leverage the onset of a Florida state law (HB733) mandating a delay in high school start times by studying two cohorts of 9th grade students with and without ADHD, one cohort starting school at 7:30 (early start) and one cohort starting school at 8:30 (delayed start).

Aim 1. Test the effect of delayed school start time on daily behaviors, mental health, and academic achievement in 9th grade students with and without ADHD.

Aim 3. Test the effects of delayed school start time on the transition from 9th to 10th grade.



Aim 2. Test the effect of delayed school start time on functional brain networks supporting internally and externally directed attention.

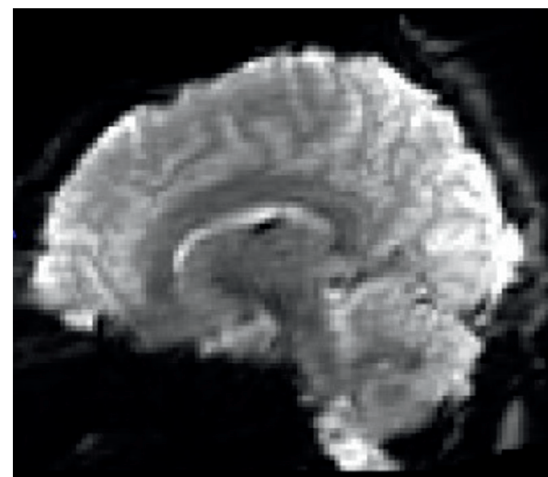


Summer 2024 FYAP period piloting and testing functional MRI protocols at the Magnetic Resonance Imaging Facility

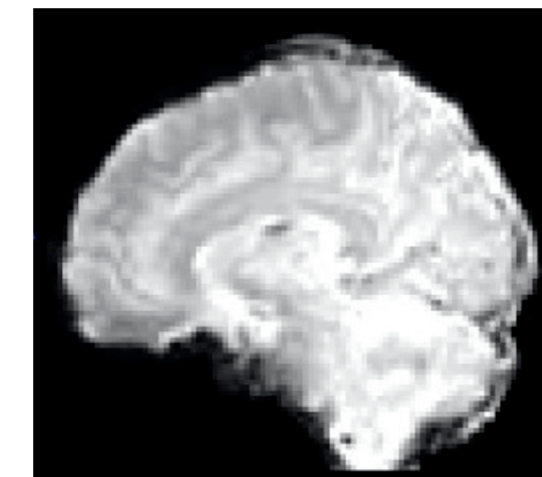


fMRI scanner sequence testing – how many echos to include?
 Number of echos = the number of data points per radiofrequency pulse
 More echos = better signal but more data is expensive

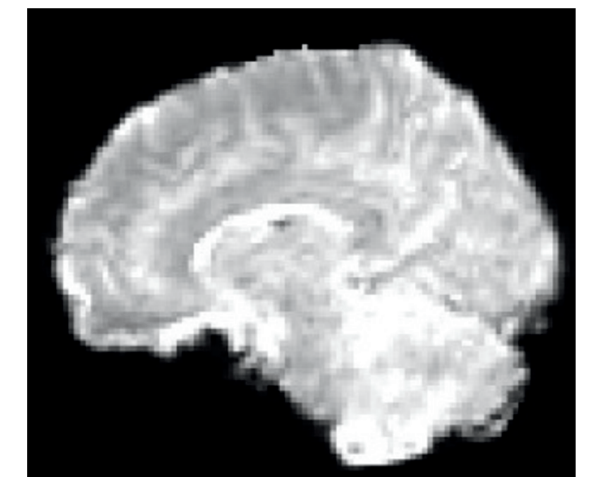
Single - echo



3 - echo



5 - echo



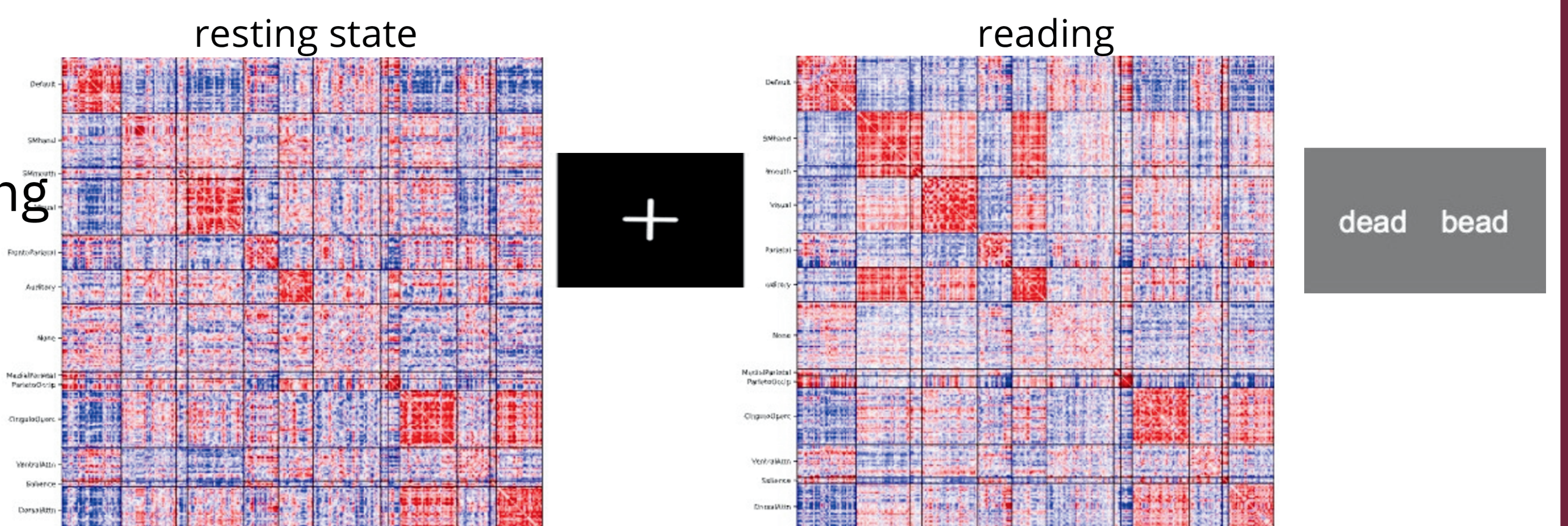
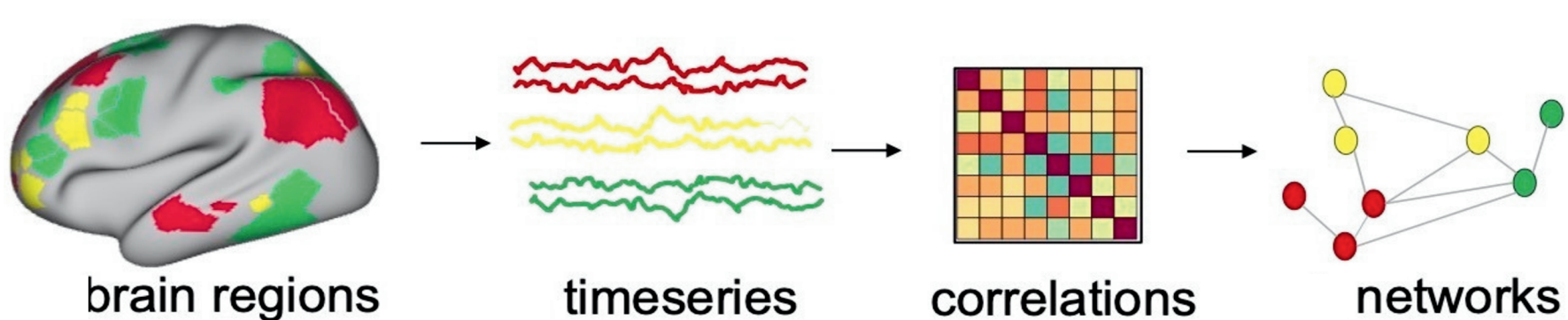
fMRI reading task development

dead bead rhyme

shoe semantic

testing cognitive state-based differences in functional connectivity

functional connectivity analysis pipeline testing



Next Steps Fall 2024:

- Collect the early-start 7:30 am cohort including 1/2 with ADHD
- Examine objective and subjective sleep related to mental health and achievement
- Test the proposed neurobiological mechanisms linking sleep to functional brain networks supporting internally and externally directed attention and test for the moderating role of ADHD

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