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McGowan Award

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EMORY
UNIVERSITY

How does the environment we live in affect our risk for Alzheimer's disease? Understanding the neighborhood exposome

My research focuses on how the environmental and social exposures around us jointly impact neuropsychiatric outcomes. Currently, I am focusing in particular on Alzheimer's disease and examining how the neighborhood exposome relates to early indicators of Alzheimer's disease.

Background and Current State of Alzheimer's Research

- **Individual-level (Lifestyle) Risk Factors**
 - Diet, sleep, exercise, smoking, alcohol consumption
- **Population-level Risk Factors**
 - Air pollution
 - Socioeconomic disadvantage
- **Disease Etiology**
 - Tau tangles and beta-amyloid plaques
 - White matter burden



Research Gaps and Aims

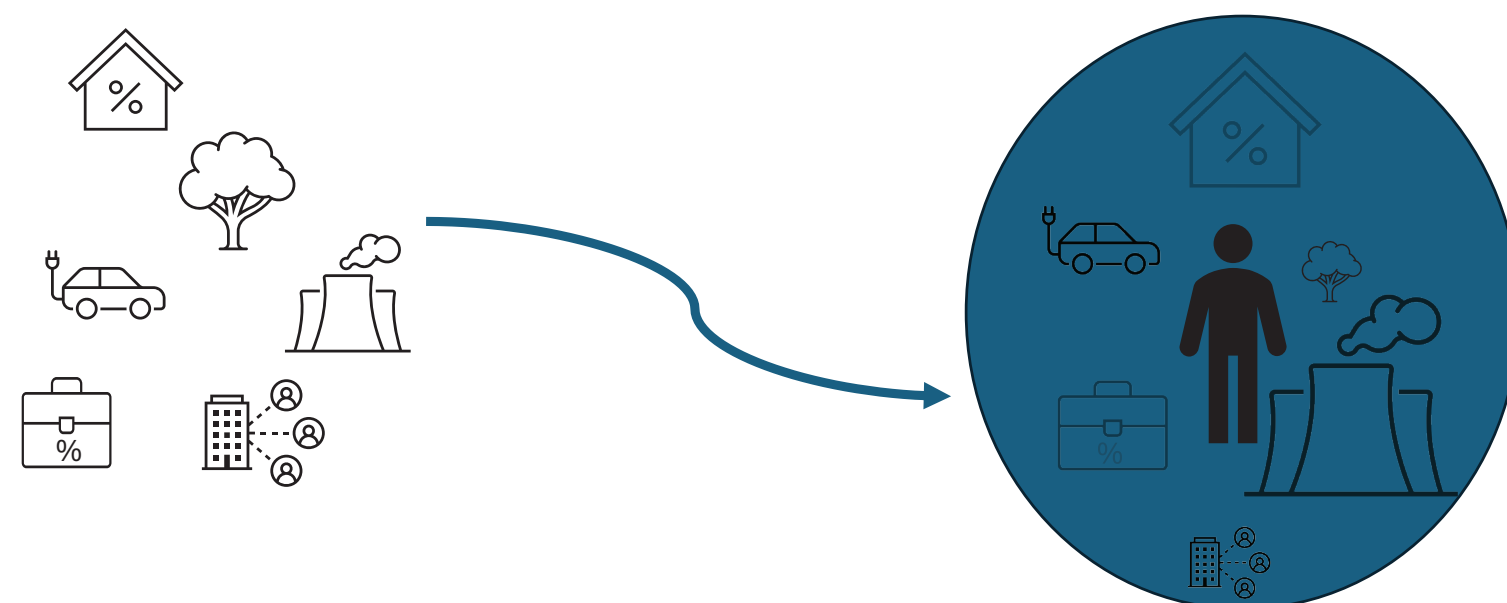


Joint effects of **environmental** exposures and **socioeconomic disadvantage**?

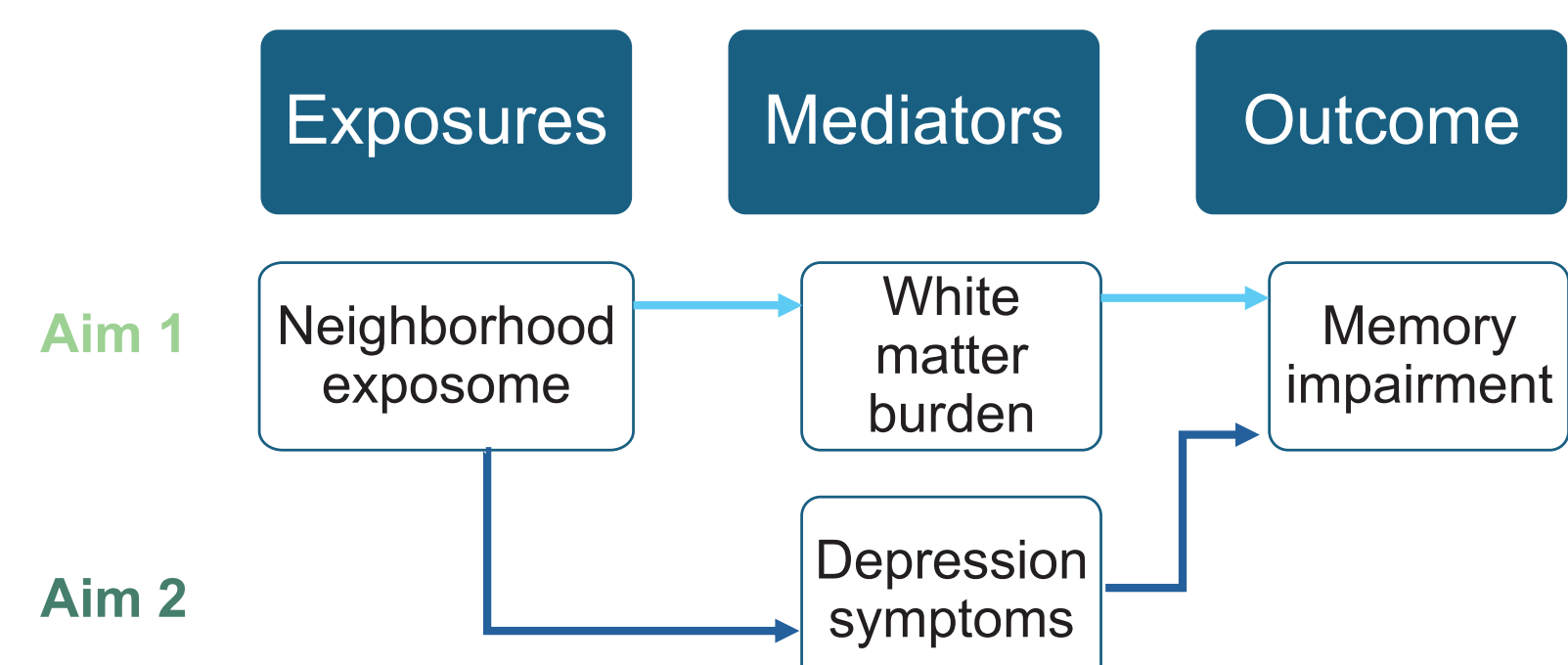
Effects of **population-level** factors in the context of **individual** risk factors?

Unidentified **mediating pathways**?

Neighborhood Exposome as the Exposure of Interest



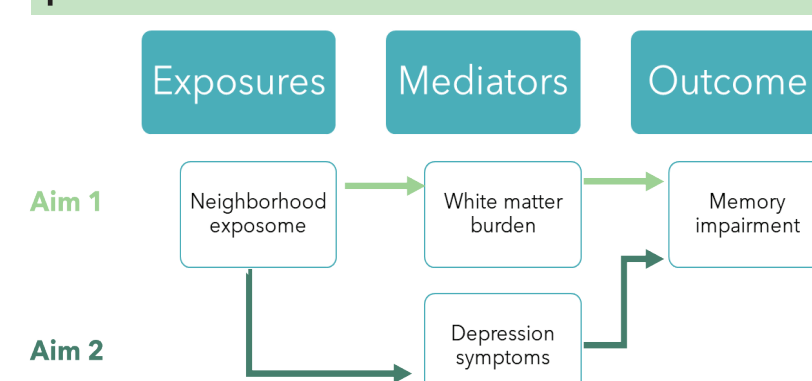
Overview of Analysis Plan and Aims



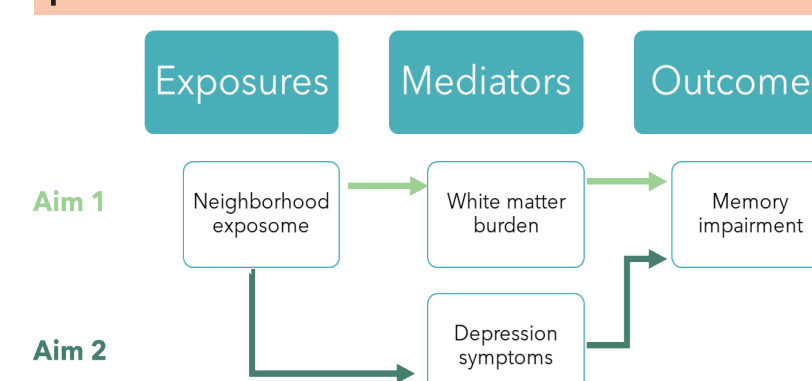
Effect Measure Modification (EMM)

How do these associations change based on individual's lifestyle factors (e.g. diet, exercise habits)?

For those that exercise 3+ days per week



For those that exercise <3 days per week



Scholar Awards Celebration
November 12, 2025



Igniting
Innovation
in Georgia