



Wisconsin Alzheimer's Institute  
UNIVERSITY OF WISCONSIN  
SCHOOL OF MEDICINE AND PUBLIC HEALTH



Wisconsin Alzheimer's  
Disease Research Center  
UNIVERSITY OF WISCONSIN  
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# Social-environmental barriers and facilitators in the cognitive health of older adults

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# Social Disparities in Cognitive Aging

- Globally, social factors (e.g., lower education, lower income, rural residence) associate with risk for cognitive impairment and dementia

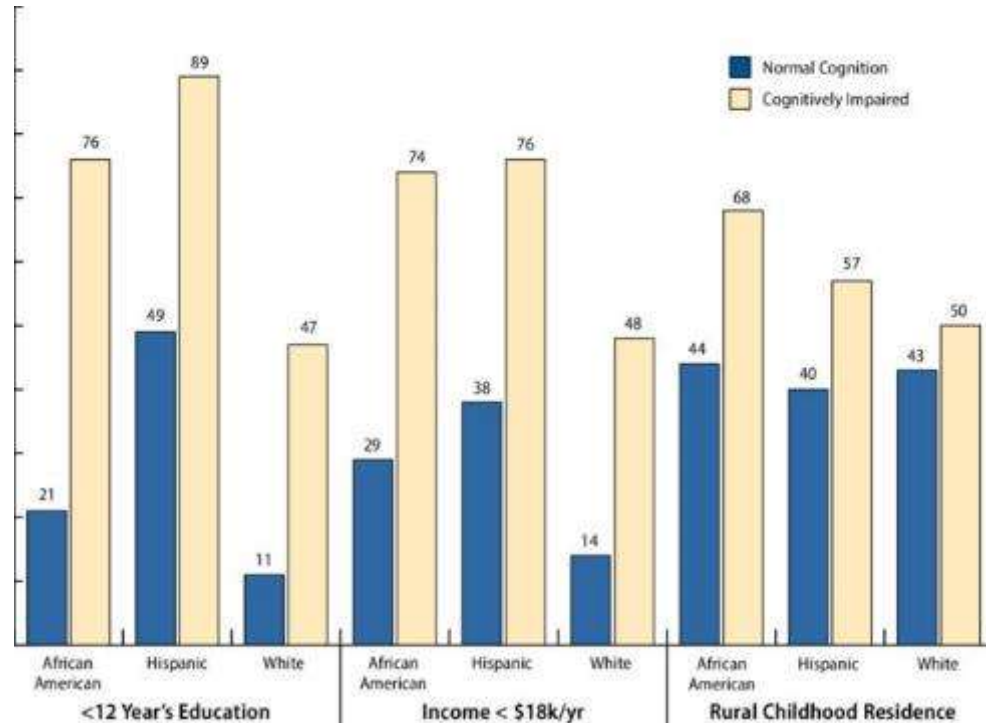
Weden et al, *AJPM*, 2018; Suemoto et al, *ADJ*, 2023

- In the U.S., racial disparities are most frequently studied, and are unexplained by cardiovascular and “lifestyle” factors

Tang et al, *Neurology*, 2001; Mayeda et al, *ADJ*, 2016

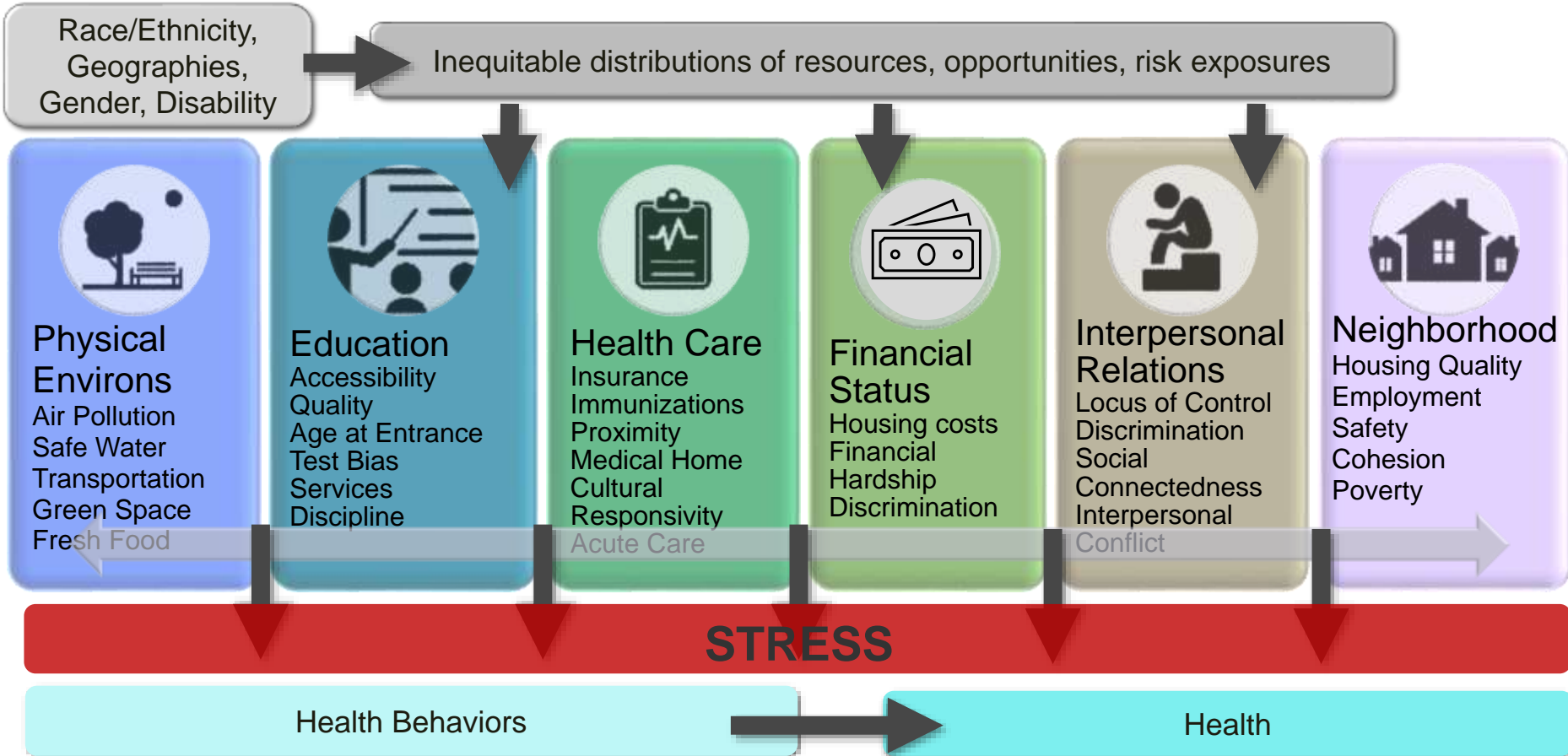
- But: social-contextual variables (e.g, educational experiences, wealth) help explain racial differences

Sisco et al, *J Gerontol B*, 2015; Chen and Zissimopoulos, *Alz Dement*, 2018

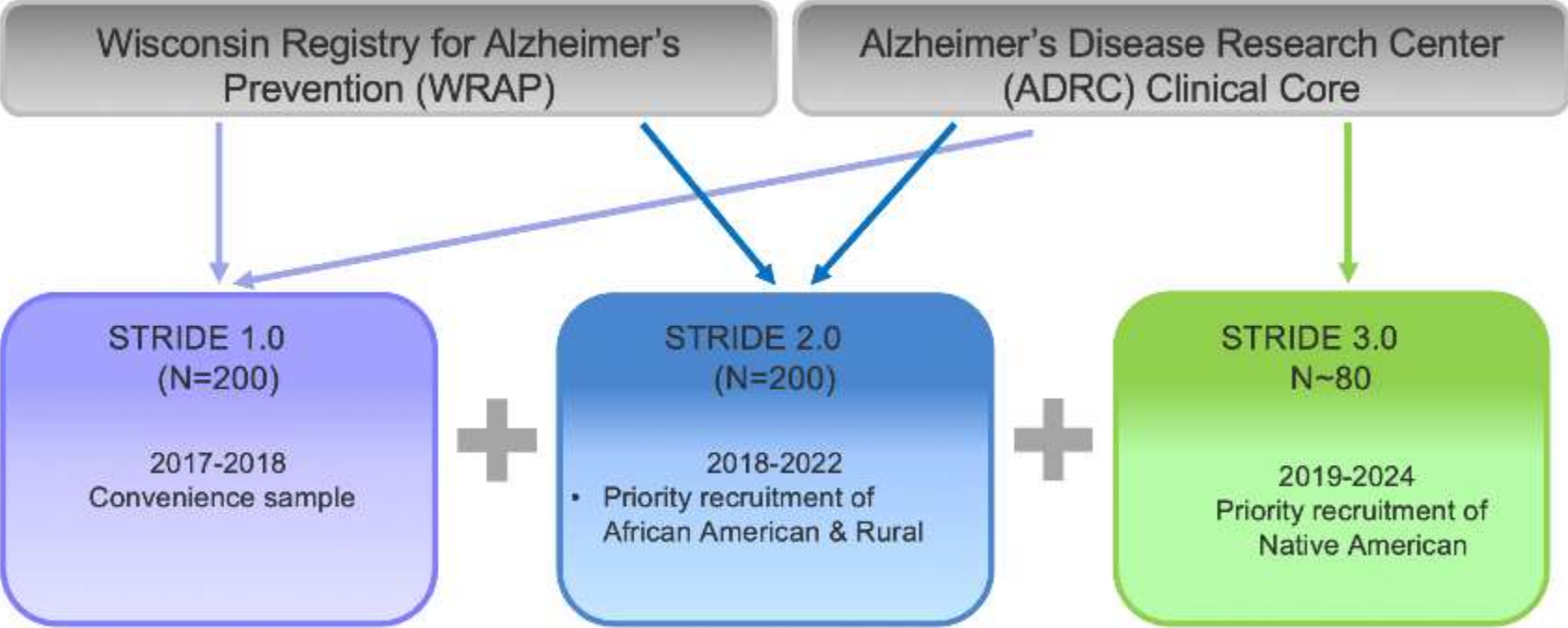


HRS data, *Alzheimer's and Dementia*, 2011;

# Contextualizing Cognitive Health



# Stress and Resilience in Dementia (STRIDE)



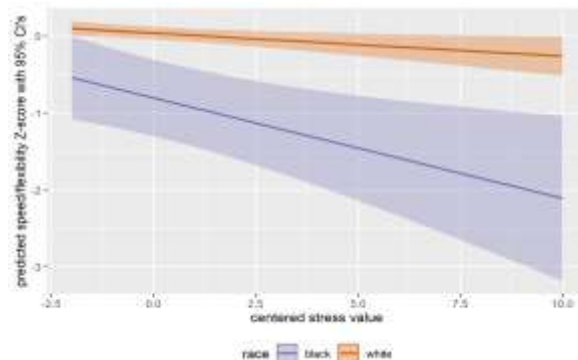
# Stress, cognitive aging, and role in disparities

Stressful living conditions impact brain and cognitive health via multiple mechanisms

- Neurotoxicity
- Peripheral system dysfunction (“weathering”)
- Reduced health behaviors

In the regional STRIDE cohort, cumulative stress accounted for ~10% of racial disparity in executive function

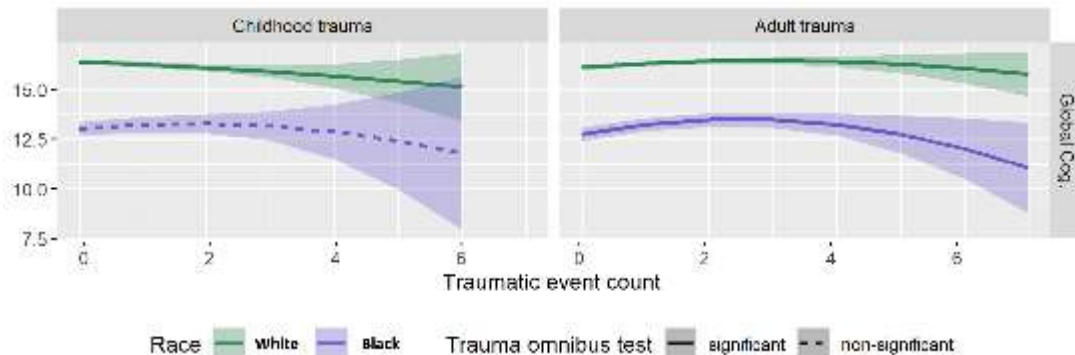
Black participants report more chronic stressors and each stressful experience is associated with greater cognitive detriment



**Study 1:** Lifetime stressors and cognitive health in a volunteer-based Black and white Wisconsin cohort

Zuelsdorff et al, *J Alzheimer Dis*, 2020

**Study 2:** Lifetime trauma and cognitive health in a national, population-based Black and white cohort



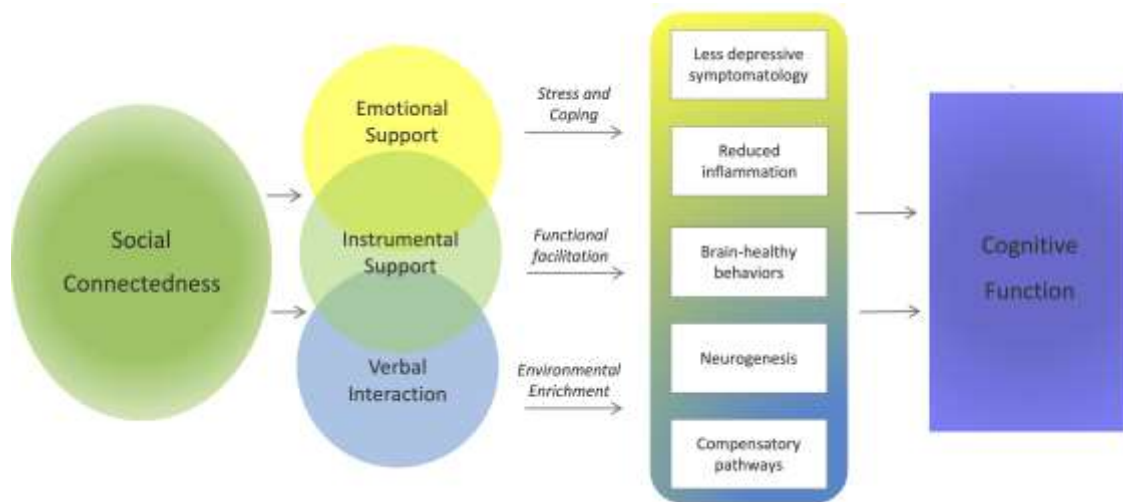
Zuelsdorff et al, *Am J Geriatr Psychiatry*, 2023

# Social Connectedness: Protection and resilience

Social connectedness benefits brain and cognitive health via multiple mechanisms

- Buffers stress and sequelae
- Facilitates health behaviors
- Cognitive stimulation

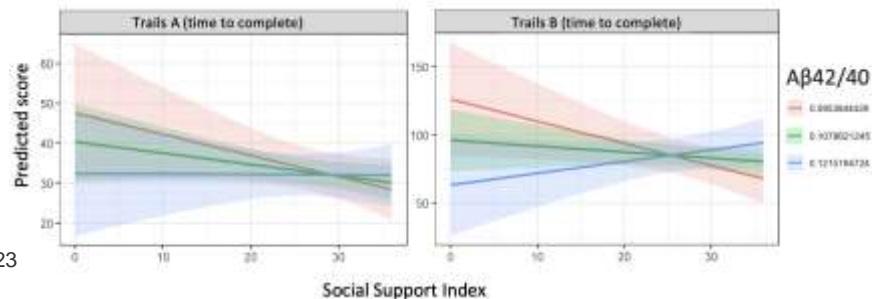
Social support and verbal interaction associate with performance on tests for distinct cognitive domains



Zuelsdorff et al, *Neuropsychol Dev Cogn B Aging Neuropsychol*, 2019

In a Black/African American cohort, social support predicted better cognition and cognitive resilience in the presence of elevated amyloid burden

Zuelsdorff et al, presented at AAIC 2023



Social support and executive function at 10<sup>th</sup>, 50<sup>th</sup>, and 90<sup>th</sup> percentiles of Aβ42/40

# Measuring social data across diverse communities

## Measurement-related gaps in equitable cognitive aging research

- Traditional measurement tools may be inadequate in underrepresented populations
- Community-specific socioenvironmental data are needed to tailor interventions

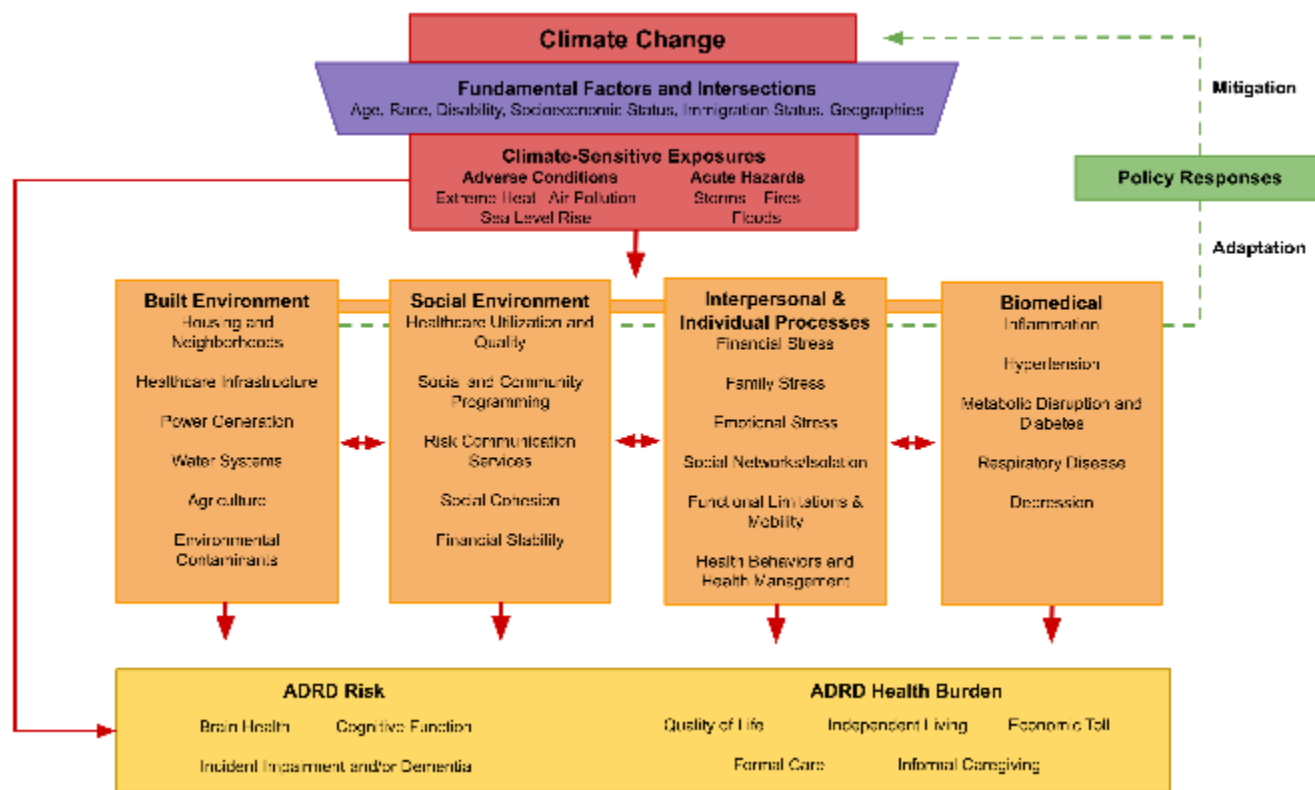
## Universal Measures

- Validated instrumentation and generalizable constructs (eg stressful life events, perceived stress, perceived social support)
- *Can be paired with within-group analytic approaches*

## Community-Specific Measures

- Constructs uniquely or differently salient within populations (eg discrimination, caregiving experiences, enculturation)
- *Protocols can be co-designed and potentially adapted with community partners*

# Social conditions in a context of climate crises





# Thank you!

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