ADRC Participant Access Request

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Study and Theme Details

Hypothesis

One's quality of education will evidence stronger and more widespread associations on maintaining brain integrity than quantity of education in middle-aged and older adults.

Specific Aims

1. To assess the association between education level and education quality on structural brain integrity (volume, surface area, cortical thickness).
2. To assess the additional contributions of educational quality on brain integrity after accounting for education quantity.
3. To assess the extent that education quantity and quality evidence the same relationships with brain integrity between different ethnoracial categories.
4. Assess the extent that education mediates the associations between brain integrity and global cognition similar between ethnoracial categories.

Study related to Deep South Disparities

Research has suggested that racial disparities in cognition and brain health might, in part, stem from differences in access and quality of education. Most research, however, assesses educational attainment without considering objective measures of education quality, which has promise to be a much stronger indicator of education. Older racial minorities living in the Deep South have documented lower quality of education as measured by fewer days in the school year, fewer hours in a school day, and fewer economic resources to engage and stimulate cognitive engagement. This study will be the first to show the increased sensitivity of quality of education as measured by word reading scores on brain integrity and investigate racial differences in these associations.

Funding and IRB Details

Funding source - Generate pilot/feasibility data for future application

Entity - NIH funded grant/application

Details - For future NIH/NIA applications for studying social determinants of health on brain function and structure

IRB Contact - Yes, we have IRB approval

IRB Protocol # - UA #19-06-2498, UA #18-07-1348; UA #19-04-2255; UA #19-04-2259

Subject Sample Size and Profile

Sample size by cognitive ability

Normal Controls	50
Preclinical AD	50
MCI	50
Mild Dementia	50
Moderate to Severe	50
Total N	**250**

Additional inclusion/exclusion details

We would like to use all available participants who have high quality brain structure scans and Freesurfer analyses completed and a word reading scaled score.

Racial minorities and other stratifcation

This study tests hypothesis on B/AA disparities or other race issues

Additional stratification details

We will also be including the following variables in the analyses: Age, BiologicalSex, word reading, years of education, Ethnoracial_Group, diagnosis, GlobalCognition (e.g., MMSE, SLUMS, MOCA). We will be harmonizing the ADRC cohort with other cohorts and so stratified analyses will depend on the composition of the total data set. We will likely stratify on diagnosis (normal, MCI, AD) but might also stratify on age and sex.

Requested Resources

Existing data

Demographics	Required
Medical History	Not needed
Social Determinants	If available
Clinical Exam	If available
Cognitive Testing	Required
MRI	Required
Amyloid PET	Not needed
Tau PET	Not needed
CSF	Not needed
Blood Test	Not needed
AD Blood Biomarkers	Not needed
Genetics	Not needed

Banked biospecimen

Blood

Plasma (1)

Serum (12)

DNA

Other fluid

CSF

Urine (15)

Cells

Fibroblasts

Brain tissue

Frozen

Region (Hippoc)

Statistical support

Statistician has already been consulted - Myself