

# Nonlinear Models of Cognition Preceding AD and non-AD in a Biracial Population Sample

<https://neurodegenerationresearch.eu/survey/nonlinear-models-of-cognition-preceding-ad-and-non-ad-in-a-biracial-population-sample/>

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### Country

USA

## Title of project or programme

Nonlinear Models of Cognition Preceding AD and non-AD in a Biracial Population Sample

## Source of funding information

NIH (NIA)

## Total sum awarded (Euro)

€ 1,244,266.06

## Start date of award

01/09/2016

## Total duration of award in years

1

## The project/programme is most relevant to:

Alzheimer's disease & other dementias

## Keywords

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease Related Dementias (ADRD)... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Basic Behavioral and Social Science... Behavioral and Social Science... Brain Disorders... Cerebrovascular... Clinical Research... Clinical Research - Extramural... Dementia... Epidemiology And Longitudinal Studies... Health Disparities for IC Use... Networking and

### **Research Abstract**

This proposal aims to conduct secondary analyses of existing data to examine nonlinear cognitive decline in standardized global summary of cognition assessed using executive functioning, episodic memory, and overall global cognition and orientation within the context of a large population-based study of older adults: Chicago Health and Aging Project (CHAP). More specifically, the four objectives of this proposal are: 1) Examine Nonlinear Cognitive Decline in Older Blacks and Whites Using Change Point Models in a Random Sample of 2,948 Participants with AD and non-AD Diagnosis; 2) investigate the Role of Demographic, Social, Lifestyle, Cardiovascular, and Genetic Risk Factors on Nonlinear Cognitive Decline in Older Blacks and Whites with AD and non-AD Diagnosis; 3) Identify the Heterogeneity in Nonlinear Cognitive Decline Using Latent Class Growth Curve Models Using a Population Sample of 7,757 Blacks and Whites with Multiple Cognitive Assessments; 4) Understand the Role of Demographic, Social, Lifestyle, Cardiovascular, and Genetic Risk Factors on Latent Class Memberships to Explain Heterogeneity in Nonlinear Cognitive Decline. Understanding the rate of cognitive decline in older blacks and whites has a topic of considerable interest. However, most research has focused on linear trajectories in whites with mixed findings among blacks. Nonlinear cognitive decline based on change points are nonexistent in blacks and the proposed work can increase our understanding of preclinical phase of AD and non-AD.

### **Lay Summary**

Description: This proposal aims to conduct a secondary data analysis to study the nonlinear changes in cognitive function using change point models for decline preceding AD and non-AD and the covariate effects of five sets of risk factors, namely, demographic, social, lifestyle, cardiovascular, and genetic on nonlinear cognitive decline. The study also proposed the use of latent class growth curve models to examine the heterogeneity in population- level cognition and nonlinear cognitive decline in a population-based longitudinal study of older adults. This proposal is based on a longitudinal cohort of 7,757 older adults who were followed for about 19 years with data collection done every 3 years for cognitive assessments. The clinical diagnosis of AD and non-AD is available on 2,948 participants who were sampled using a stratified random sample. Both population-level data and clinical diagnosis subsample will be used for this project.

### **Further information available at:**

#### **Types:**

Investments > €500k

#### **Member States:**

United States of America

#### **Diseases:**

Alzheimer's disease & other dementias

#### **Years:**

2016

#### **Database Categories:**

N/A

**Database Tags:**

N/A