**Method**

**Participants**

The Memory and Aging Project (MAP) is a longitudinal study that began in 1997 with an ongoing enrollment (Bennett et al., 2005). The study was approved by the Institutional Review Board of Rush University Medical Center and funded by the National Institute on Aging. The broad aim of the study was to “identify factors associated with the maintenance of cognitive health despite the accumulation of AD and other pathology” (Bennett et al., 2012). Participant recruitment was focused on retirement communities in northeastern Illinois. Continuous care retirement communities, ranging from independent living to unskilled and skilled nursing care, were specifically targeted because these types of facilities enabled better rates of follow up. Frail elderly who might otherwise be unable to participate could still be visited for assessment and facility staff could be contact persons for participants and inform study coordinators if participants became ill or moved (Bennett et al., 2005). Participants were also encouraged to speak to family members about their involvement in the study. Because residents of continuing care facilities are more likely to be white and affluent, an effort was made to include residents of subsidized retirement homes, and recruit from local churches and social service agencies to ensure low-income and minority elderly were included. Individuals were required to be free from dementia at study enrollment, to participate in annual clinical evaluations, and agree to donation of their spinal cord, muscle and nerve tissues, and brain at the time of death. There were no other exclusion criteria and all clinical evaluations were all conducted as home visits. This enabled a more inclusive study sample where common conditions and multiple comorbidities are represented and minimized participant drop out due to health.

**Measures**

**Demographics**

Education and race and ethnicity were gathered from what was reported in the 1990 U.S. Census. Participants were additionally asked if they considered themselves of Spanish, Hispanic or Latino origin. Age was calculated from date of birth.

**Cognitive Performance Tests**

*Mental Status*

The Mini-Mental State Exam (MMSE) is a commonly used screening measure for mental status (Folstein, Folstein, & McHugh, 1975). Participants respond to items assessing orientation to time and place, attention, memory, working memory, and object naming.

Judgment of line orientation is a 15-item test of visual perception although considered here to be mental status because cognitively intact individuals typically perform near ceiling (Benton, Varney, & deS Hamsher, 1978). The task is for participants to judge the angle subtended by two lines by matching the item line angle to samples.

**Covariates**

Self- report information about various health conditions was gathered via a structured questionnaire. Participants were asked if they had ever been told by a doctor, nurse or therapist that they have had a heart attack or coronary, coronary thrombosis, coronary occlusion, or myocardial infarction during the baseline interview and then asked if any of these events had occurred since the last assessment at subsequent interview. A score of 0 was assigned if none were ever reported and 1 if the participant ever responded yes to the question. Participants were asked about their history of smoking at the baseline interview as part of a structured questionnaire. Values were assigned from 0 (never smoked), 1 (former smoker), or 2 (current smoker). A diagnosis of diabetes was based on self-report and medication use (e.g., insulin). Participant’s height was measured (meters) as part of the baseline clinical examination.

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