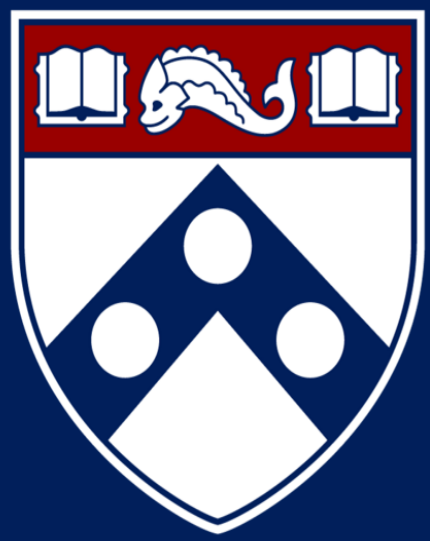
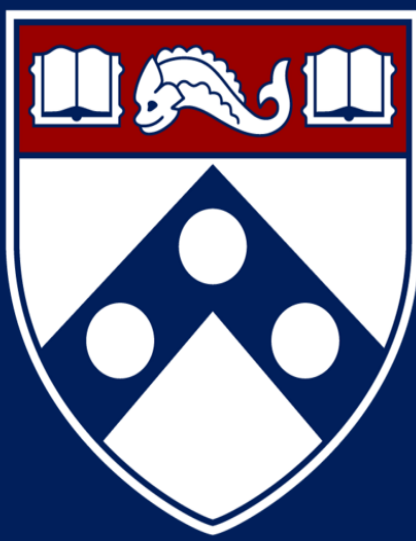




Education And Socioeconomic Status Predict Self-rated Cognition Except Ratings Of Cognitive Decline



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Introduction

- Subjective cognition refers to individuals' perception of their cognitive functioning and is increasingly recognized as an important indicator of well-being in older adults.
- Subjective cognition may be influenced not only by underlying cognitive function, but also social and environmental experiences.
- The study's goal was to examine how education, socioeconomic status, health literacy, stress, childhood adversity, subjective social status, and neighborhood characteristics were associated with subjective cognition.

Methods

- 103 cognitively unimpaired older adults (65+) enrolled in the Penn Alzheimer's Disease Research Center's clinical core cohort completed the Memory Function Questionnaire and measures assessing social determinants of health.

TABLE 1. Description of Study Measures

Domain	Measure
Subjective Cognition	Memory Function Questionnaire (MFQ): Measuring 5 domains: General Memory, Retrospective Functioning, Frequency of Forgetting, Forgetting During Reading, and Remembering Past Events.
Education	Participant reported total years of formal education completed.
Socioeconomic Status and Strain	Socioeconomic Status and Strain Scale: 3-item index with ranges from 2-14, which assesses financial resources and financial strain.
Health Literacy	Calgary Charter on Health Literacy Scale: 5-item likert scale with responses ranging from <i>never</i> to <i>always</i> , which evaluates participants ability to access, understand, and communicate health information.
Stress	Perceived Stress Scale: A 10-item scale with answer options ranging from 0-4 which assessed how stressed the participant felt during the last month.
Childhood Adversity	Adverse Childhood Experiences Scale: 20-item yes or no questionnaire, with scores ranging from 0-7, to gauge childhood exposure to abuse.
Subjective Social Status	MacArthur Scale of Subjective Social Status: A 10-point scale where participants ranked themselves from <i>Worst off</i> to <i>Best off</i> relative to education, income, and occupation.
Neighborhood Characteristics	Life Course Sociodemographic and Neighborhood Questionnaire: 19-item multiple choice, fill-in-the-blank, and 10-point rating scale evaluating neighborhood safety (crime and graffiti), social cohesion, and conditions, including physical manifestations of pain from stress.

- Multivariable models adjusted for age, years of education, gender, and Montreal Cognitive Assessment (MoCA) score.
- Higher scores across all assessments indicate higher levels of the measured construct.

Results

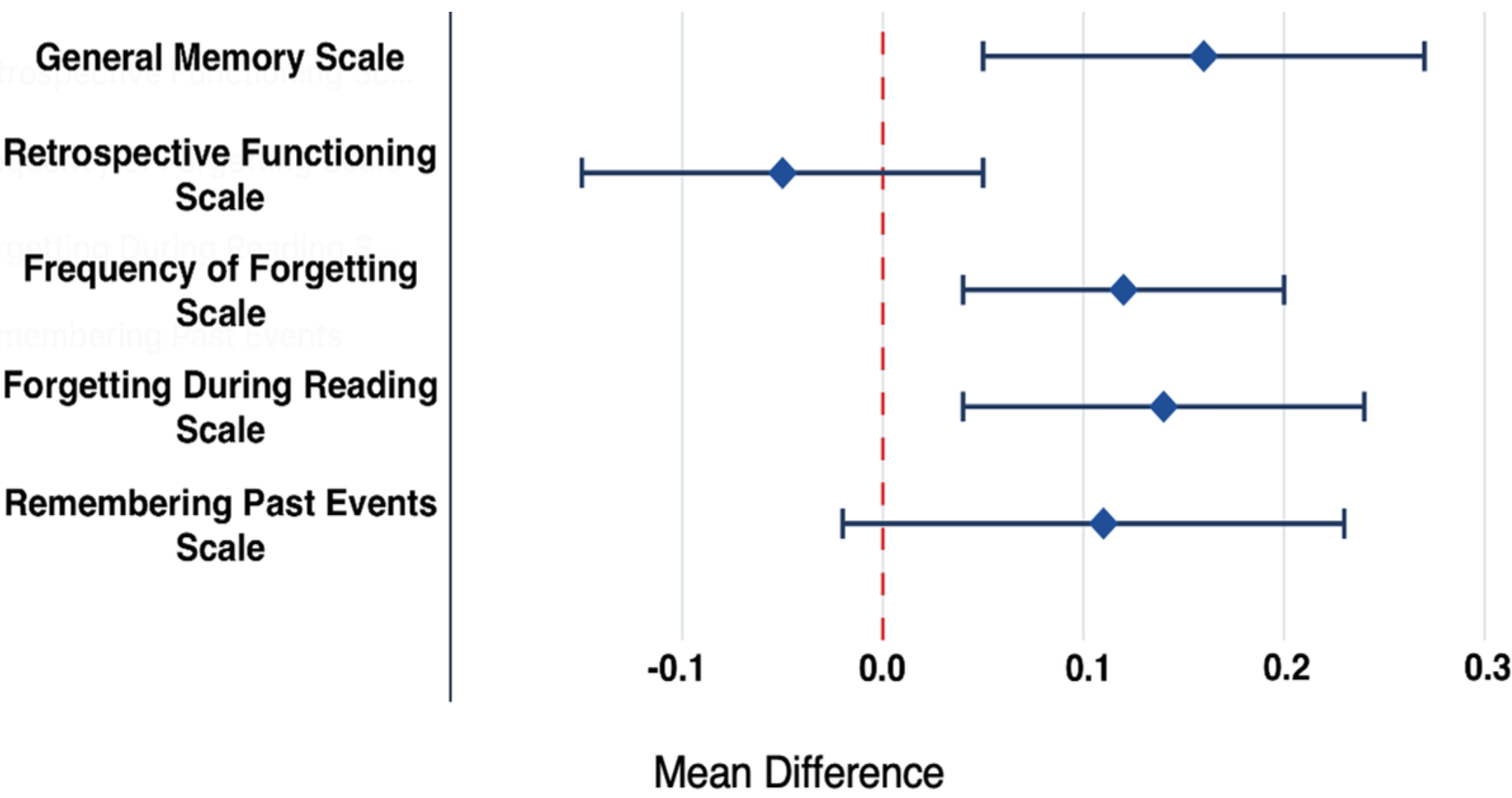
- Participants demonstrated generally intact cognitive functioning, with a mean MoCA score of 26.9 (SD = 2.09).

TABLE 2. Summary of Sample Characteristics

Participant Characteristics	Sample (N=103)			
Age, Mean (SD)	74.4 (6.4)			
Women, % (n)	59.2 (58)			
Education, Mean (SD)	17.07 (2.3)			
Race, % (n) (White, Black, Multiracial, Latino)	84.5 (87)	13.6 (14)	1.9 (2)	1.9 (2)
MoCA, Mean (SD)	26.9 (2.09)			

- In the multivariable models, higher education predicted better ratings in general memory, frequency of forgetting, and forgetting during reading (Figure 1).

FIGURE 1. Impact of Years of Education on MFQ Domains



- Lower Socioeconomic Status and Strain scale scores predicted worse subjective cognition on 3 of 5 MFQ domains in the adjusted model. The strongest association was observed for poor recall of past events (MD = -0.56, 95% CI: -0.87, -0.26, Figure 2).

FIGURE 2. Impact of Socioeconomic Status and Strain on MFQ Domains

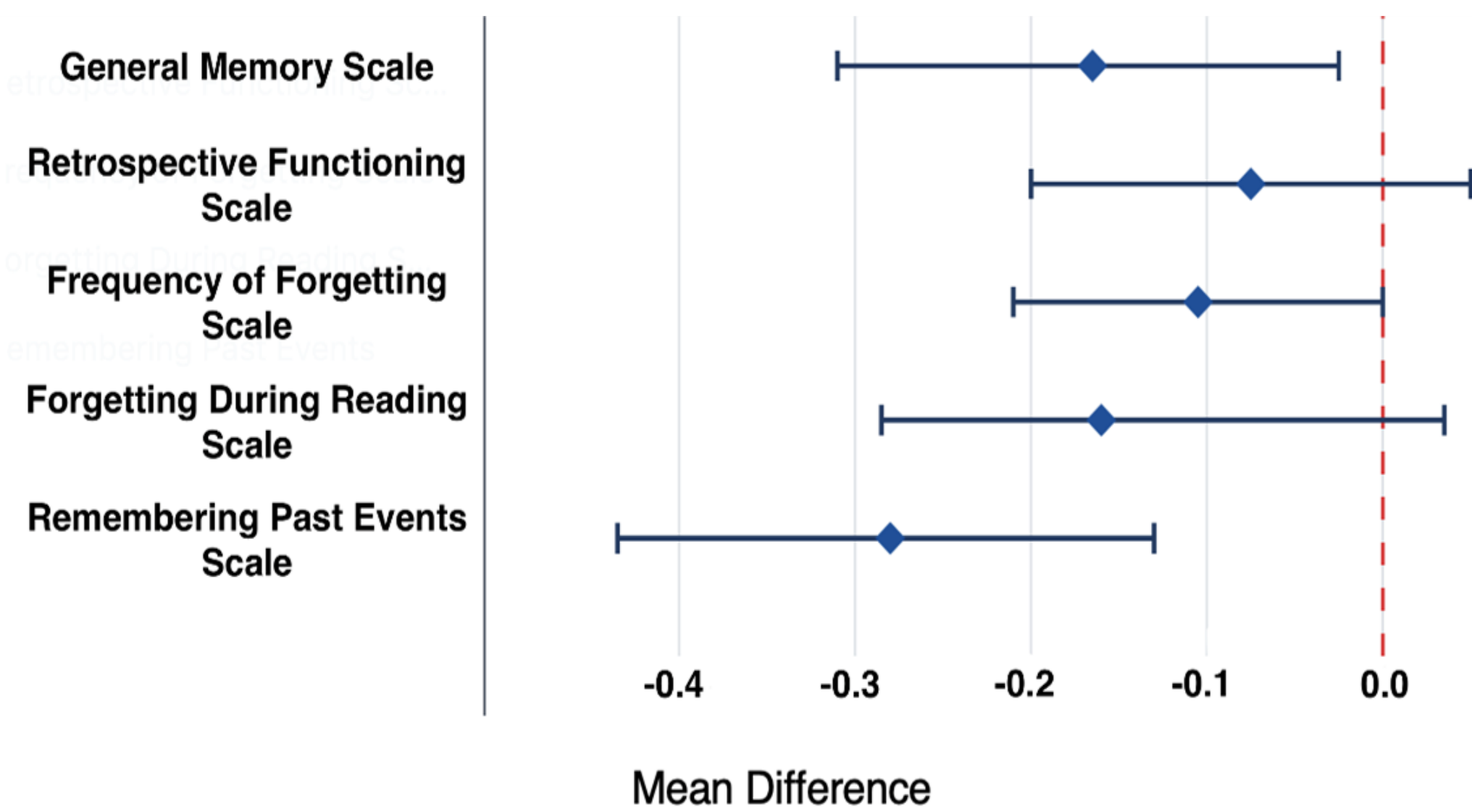


FIGURE 3. Predictors of Subjective Cognition Across MFQ Domains

	General Memory	Retrospective Functioning	Frequency of Forgetting	Forgetting During Reading	Remembering Past Events
Education	+0.16	-0.05	+0.12	+0.14	+0.11
Socioeconomic Status and Strain	-0.33	-0.15	-0.21	-0.32	-0.56
Health Literacy	-0.04	-0.09	+0.01	0.00	+0.16
Childhood Adversity	+0.05	+0.03	+0.06	+0.04	+0.09
Subjective Social Status	-0.06	-0.08	-0.01	-0.03	0.00
Stress	+0.79	-0.05	-0.39	-0.62	+0.29
Neighborhood Characteristics	-0.02	-0.03	-0.01	0.00	+0.01

Note. Blue cells indicate positive associations, and red cells indicate negative associations at $P < .05$ in multivariable models.

- Results of the bivariate analyses:**
 - Higher education and higher socioeconomic status were associated with better ratings across 3 MFQ domains: General Memory, Forgetting During Reading, and Frequency of Forgetting. Meaning less forgetfulness.
 - Health literacy, subjective social status, childhood adversity, and perceived stress were not associated with MFQ outcomes (all $p > .05$).
 - Higher socioeconomic strain was associated with worse subjective cognition, including more frequent Forgetting During Reading.
- Results from multivariable models:**
 - Education remained associated with better General Memory, Forgetting During Reading, Frequency of Forgetting (Figure 3).
 - Physical manifestations of stress were associated with lower subjective cognitive ratings.
 - Neighborhood crime and graffiti were associated with lower subjective cognitive ratings.

Conclusions

- Our findings offer evidence that education and socioeconomic status are important predictors of subjective cognition among cognitively unimpaired older adults.
- Physical manifestations of stress may have a differential influence on how individuals evaluate their cognitive abilities.
- Understanding how social factors can influence subjective cognition may improve assessment and intervention strategies aimed at promoting cognitive health in aging populations.
- Future studies are needed to replicate these findings in larger and more diverse samples and to identify the mechanisms linking social determinants of health to subjective cognition.