

Background & Objective

- Adversity throughout life can influence late life cognition
- The study of specific types of adversity, timing of exposure, and associations with late life cognition in Asian Americans is sparse
- We investigate adversity in older Vietnamese Americans, a population whose early life exposures caused by war and migration may increase risk of Alzheimer's disease and related dementias (ADRD)

Methods

Study population: Community-based sample of older Vietnamese Americans (N=546) in Northern California



- The Vietnamese Insights into Aging Program (VIP) is a longitudinal cohort study of cognitive aging
- Baseline data were used in the present study

Types of Adversity Exposures

- Illness or discomfort due to **shortage of clean water or food**
- Inability to sleep** due to noise, inhospitable conditions
- Fear** of being injured or killed

Timing of Adversity Exposures

- Early life (ages 0-19)
- Early adulthood (ages 20-49)

Cognitive Outcomes

- Late-life global cognition, episodic memory, language, visuospatial, & executive function

Statistical analysis

- Bayesian regression models were run to test associations of adversity timing with the five cognitive outcomes

In this cross-sectional study of 546 older Vietnamese Americans from the VIP cohort, participants doubly exposed to fear and sleep deprivation had lower late-life cognitive scores

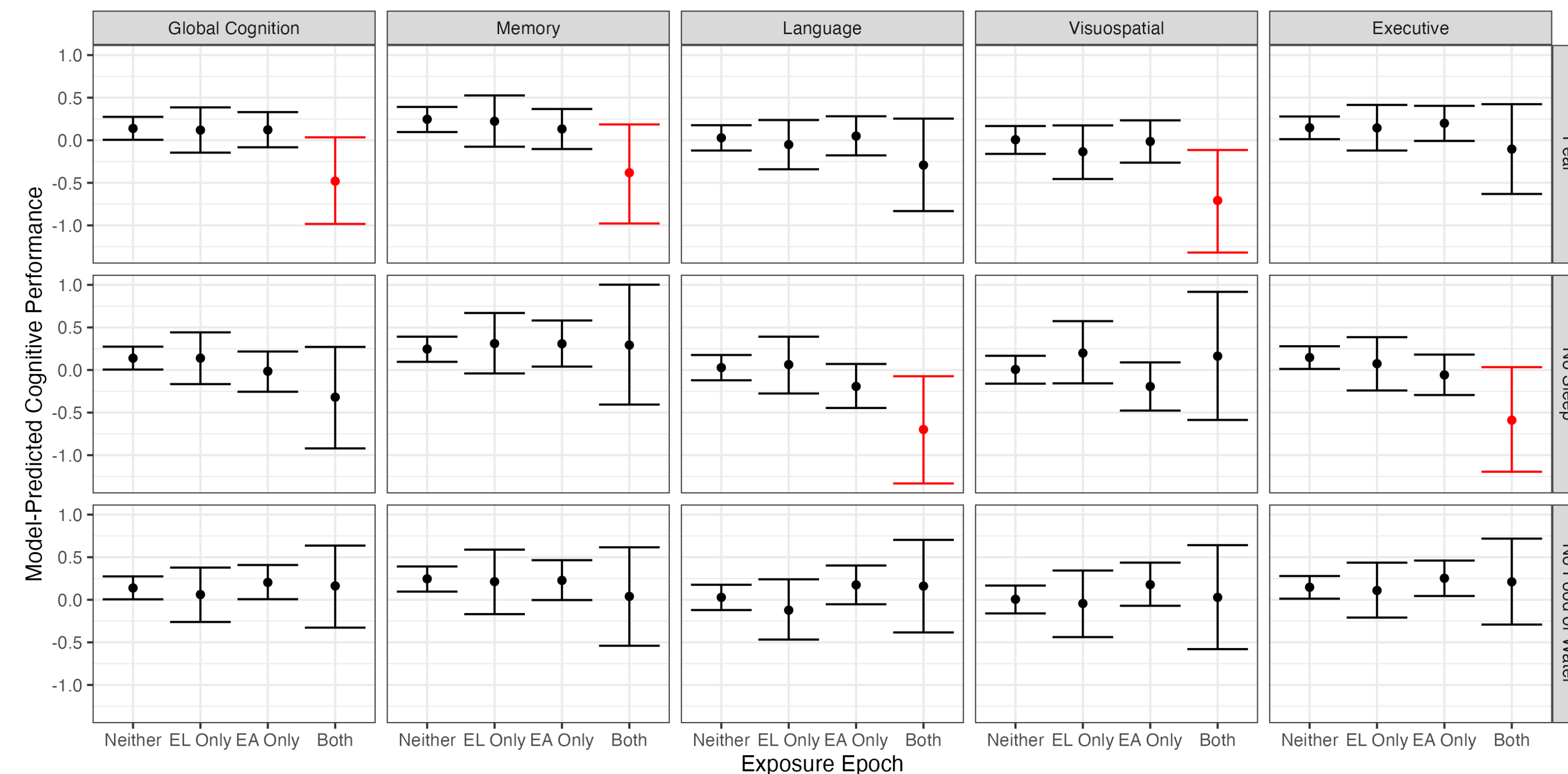


Figure 1. Cross-sectional associations of early adversity with late-life cognitive outcomes. Red line indicates significance.

Models adjusted for age, gender, and education. Reference condition = Neither.

Results

Bivariate associations

- Participants reported different exposures and at varied times throughout the life course (**Table 1**)
- At some point in life -
 - 35% of the sample reported fearing they would be injured or killed
 - 27% reported being unable to sleep
 - 31% reported illness or discomfort due to shortage of clean water or food
- Men reported more adverse exposures in early adulthood (20-49) compared to women, whereas women reported more exposures in early life (0-19)

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Table 1. Select participant characteristics by gender.

	Overall	Female	Male
n	546	300	246
Age (mean (SD))***	72.74 (5.26)	72.01 (5.17)	73.63 (5.25)
Education level (%)			
Didn't go to school	8 (1.5)	6 (2.0)	2 (0.8)
Primary school (1-5)	72 (13.2)	55 (18.3)	17 (6.9)
Middle school (6-9)	74 (13.6)	52 (17.3)	22 (8.9)
High school (10-12)	191 (35.0)	94 (31.3)	97 (39.4)
Some college/Associate degree	129 (23.6)	67 (22.3)	62 (25.2)
College/Graduate degree	72 (13.2)	26 (8.7)	46 (18.7)
Fear of being injured or killed (%)***			
Neither	353 (64.7)	204 (68.0)	149 (60.6)
Early adulthood only	122 (22.3)	43 (14.3)	79 (32.1)
Early life only	61 (11.2)	43 (14.3)	18 (7.3)
Both	10 (1.8)	10 (3.3)	0 (0.0)
Sleep deprivation (%)			
Neither	398 (72.9)	227 (75.7)	171 (69.5)
Early adulthood only	94 (17.2)	40 (13.3)	54 (22.0)
Early life only	45 (8.2)	28 (9.3)	17 (6.9)
Both	9 (1.6)	5 (1.7)	4 (1.6)
Shortage of clean water/food (%)***			
Neither	376 (68.9)	230 (76.7)	146 (59.3)
Early adulthood only	127 (23.3)	46 (15.3)	81 (32.9)
Early life only	29 (5.3)	18 (6.0)	11 (4.5)
Both	14 (2.6)	6 (2.0)	8 (3.3)

Results

Bayesian regressions

- Fear** experienced both in early life and early adulthood was associated with lower global cognition, lower episodic memory, and lower visuospatial scores
- Sleep deprivation** experienced both in early life and early adulthood was associated with lower language and lower executive function scores
- Illness or discomfort due to **shortage of clean water or food** was not associated with late life cognitive outcomes

Discussion

- Type and timing of exposure are differentially related to late life cognition
- Fear and sleep deprivation's nuanced associations with different late-life cognitive domains might have implications for different neurobiological pathways
- Critical time periods of adversity exposures and their mechanisms should be explored in future research