

BACKGROUND

- Larger social networks (Holtzman et al., 2004), more frequent participation in social activities (Krueger et al., 2009), and more perceived social support (Seeman et al., 2001) have been linked to better cognitive functioning in older adulthood, but samples are largely non-Hispanic White (NHW)
- Non-Hispanic Black (NHB) older adults exhibit different patterns of social engagement than NHW (Barnes et al., 2004a), but few studies have examined race as a moderator of links between social engagement and cognitive functioning (Barnes et al., 2004b; Sharifian et al., 2019)
- Understanding the role of social engagement in more diverse samples may lead to culturally-relevant interventions to reduce racial disparities in cognitive aging

AIMS

1. Test the unique associations of different aspects of social engagement (i.e., social network size, social activity, and social support) with episodic memory performance
2. Examine race as a moderator of the relationship between each of the social engagement variables and episodic memory functioning

METHOD

Participants

- 248 non-Hispanic Black (NHB) and non-Hispanic White (NHW) older adults without dementia in Wayne & Washtenaw Counties from the Michigan Cognitive Aging Project (Table 1)

Predictors (Self-Reported)

- **Social Network Size:** Number of family, friends, and relatives talked to at least once a month
- **Social Activities:** Sum of the frequency of participation in 15 activities weighted from 1 (*mildly social*) to 3 (*highly social*)
- **Social Support:** Average frequency of confiding in various social network members, ranging 0 (*never*) to 2 (*always*)

Covariates (Self-Reported)

- **Age, sex, education, wealth, depressive symptoms (CES-D), chronic health conditions, race** (Aim 1)

Cognitive Outcomes

- **Episodic Memory (EM):** Z-score composite of immediate, delayed, and recognition trials of a 10-word list learning task

Statistical Analyses

Aim 1: Hierarchical linear regression with the three social engagement variables (network size, activity, and support) predicting episodic memory (Table 2)

Aim 2: Three separate models testing interactions between race and each social engagement variable, followed by race-stratified models (Figures 1 and 2)

RESULTS

Summary of Statistical Model:



Table 1: Participant Characteristics

	Whole Sample <i>N</i> = 248	NHW <i>n</i> = 128	NHB <i>n</i> = 120
Age (55-82)	64.19 (2.92)	64.69 (3.26)**	63.65 (2.39)
% Female	56.4%	53.9%	61.7%
Education (7-20 years)	14.27 (2.82)	15.35 (2.50)**	13.37 (2.80)
Health Conditions (0-9)	3.12 (1.86)	2.73 (1.76)	3.53 (1.88)**
Wealth (-120000 – 9500000)	247535.12 (819265.36)	425269.76** (1082369.10)	43948.17 (158869.49)
Depressive Symptoms (0-27)	7.81 (6.21)	6.78 (5.97)	8.90 (6.30)**
Social Activities (8-105)	55.75 (21.10)	59.11 (19.58)*	52.32 (22.11)
Social Network Size (0-50 people)	8.45 (6.144)	8.39 (4.50)	8.51 (7.54)
Social Support (0-2)	1.77 (0.34)	1.80 (0.30)	1.73 (0.36)
Immediate Recall (5-28)	17.90 (3.98)	19.46 (3.52)**	16.24 (3.77)
Delayed Recall (0-10)	3.91 (2.25)	4.64 (2.13)**	3.12 (2.11)
Recognition (11-20)	18.26 (1.86)	18.80 (1.41)**	17.66 (2.10)

p*<0.05 *p*<0.01

Aim 1

Table 2: Associations between Social Engagement and Episodic Memory

	β	<i>p</i>
Age	-0.108	0.075
Gender (Female)	0.274	< 0.001
Wealth	0.078	0.199
Education	0.138	0.043
Chronic Health	-0.015	0.808
Depressive Symptoms	-0.138	0.033
Race (NHB)	-0.324	< 0.001
Social Activities	0.211	0.001
Social Support	0.083	0.174
Social Network	-0.090	0.135

Aim 2

Figure 1: Interaction between Race and Social Support on EM ($\beta=0.806$; *p* < .05)

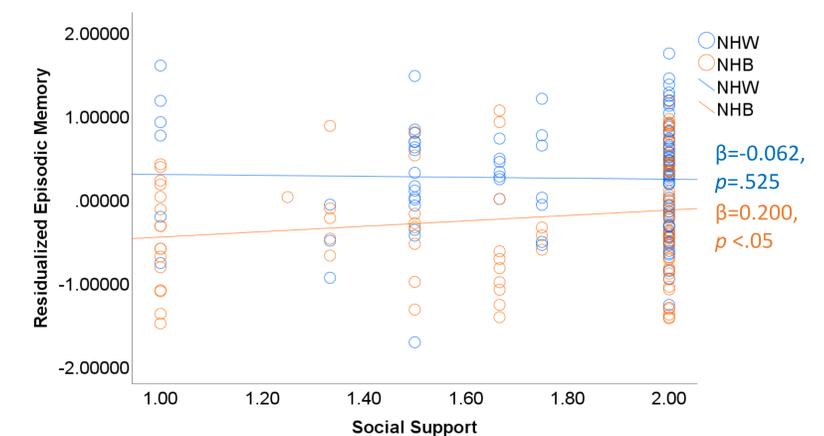
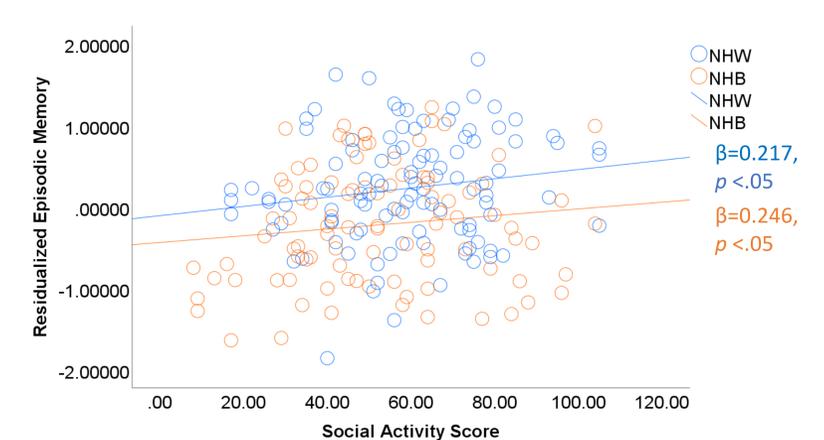


Figure 2: Interaction between Race and Social Activity on EM ($\beta=-0.154$, *p* = .502)



DISCUSSION

- Higher levels of social activity may confer cognitive benefits in both NHB and NHW older adults via greater cognitive stimulation, which helps to build more resilient neural networks
- Social support may be particularly beneficial for NHB and exert cognitive benefits via stress-buffering pathways
 - Social support may be especially impactful in the context of acute and chronic stress associated with belonging to a marginalized group

Limitations & future directions:

- Given this study's cross-sectional design, longitudinal evidence is needed to clarify temporal associations
- Examining objective and subjective stress levels in racially diverse samples may clarify mechanisms underlying racial differences in the relationship between social support and EM

References are viewable at: <https://tinyurl.com/hamlinthesis>