

Social risk and resilience factors in relation to cognition among older Asian Americans in the ARISE Study

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BACKGROUND

- Studies on the effects of social risk (neighborhood deprivation and everyday discrimination experiences - EDE) and resilience factors (social support and neighborhood cohesion) in relation to cognitive performance are limited, particularly among Asian Americans.
- We examined these associations among older ethnic Chinese, Korean, and Vietnamese Americans in California

METHODS

- Cross-sectional study of Asian Americans in California; recruited from May 2024–March 2026
- Participants completed a survey that included demographic questions and self-reported social support, neighborhood cohesion, and discrimination experiences.
- Cognition was evaluated using CASI-I, CASI-II, and 3MS and modeled as a standardized Z-score within each test.
- EDEs modeled as none, low, high; social support and neighborhood cohesion modeled as continuous variables.
- Neighborhood deprivation estimated at the census block level and modeled in quintiles.
- Linear regression estimating changes in standard deviation (SD) and 95% confidence intervals (CI) per unit change in the risk and resilience factors, adjusting for age, gender, income, cultural group, diabetes, hypertension, body mass index, and smoking.

DISCUSSION

- The association with neighborhood deprivation is consistent with a significant body of literature linking neighborhood-level disadvantage to worse cognitive outcomes.
- The positive association between discrimination and standardized cognitive score was contrary to initial hypotheses, and contrary to findings among other minority groups
- The observed association may reflect that Asians who experience higher levels of perceived discrimination use coping strategies, which may improve cognition. Future studies should evaluate this mechanism.
- Higher cognition may shape how discrimination is being perceived and reported; a limitation of this cross-sectional study design.
- Other potential limitations include selection bias and survivor bias.

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Everyday discrimination experiences, but not major lifetime discrimination experiences, were associated with cognitive score, with *higher* cognitive scores among those experiencing *high* levels of discrimination, even after controlling for education.

Participants living in the most deprived neighborhoods had lower cognitive scores than those in the least deprived neighborhoods.

Social support and neighborhood cohesion were not associated with cognitive scores.

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RESULTS

Table 1: Participant Characteristics, ARISE Study

	Overall (N = 427)	Cognitive Z-Score			p-value ¹
		Below Average (N = 56)	Average (-1.0 to 1.0) (n = 337)	Above Average (>1.0) (n = 36)	
Age, years	Mean (sd): 74.1(5.6) Range: 64 – 91	75.7 (6.1) 66.0 – 89.0	74.0 (5.5) 64.0 – 91.0	71.8 (4.8) 64.0 – 83.0	0.01
65 – 69	76 (17.7)	9 (11.8)	57 (75)	10 (15.2)	0.03
70 – 74	129 (30.1)	11 (8.6)	104 (80.6)	14 (10.9)	
75 – 79	138 (32.2)	17 (12.3)	113 (81.9)	8 (5.8)	
80+	86 (20.1)	19 (33.9)	63 (18.7)	4 (11.1)	
Gender					
Female	265 (61.9)	36 (13.6)	208 (78.5)	21 (7.9)	0.78
Male	163 (38.1)	19 (11.7)	129 (79.1)	15 (9.2)	
Cultural Group					
Chinese	151 (35.3)	17 (11.3)	134 (88.7)	0 (0)	<0.001
Korean	78 (18.2)	16 (20.5)	48 (61.5)	14 (18.0)	
Vietnamese	199 (46.5)	22 (11.1)	155 (77.9)	22 (11.1)	
BMI, kg/m ²					
< 25	239 (55.5)	28 (12.6)	181 (78.4)	20 (9.0)	0.05
25 – <30	136 (31.8)	11 (8.1)	112 (82.4)	13 (9.6)	
30+	61 (14.3)	16 (26.2)	42 (68.9)	3 (4.9)	
Education					
< High School	122 (28.6)	36 (29.5)	83 (68.0)	3 (2.5)	<0.001
Graduated HS	88 (20.6)	7 (8.0)	76 (86.4)	5 (5.7)	
Some college	70 (16.4)	7 (10.0)	55 (78.6)	8 (11.4)	
Bachelor's	99 (23.2)	4 (4.0)	81 (81.8)	14 (14.1)	
Masters/Doctorate	48 (11.2)	1 (2.0)	41 (85.2)	6 (12.5)	
Hypertension					
No	189 (44.1)	23 (12.2)	153 (81.0)	13 (6.9)	0.50
Yes	240 (55.9)	33 (13.8)	184 (76.7)	23 (9.6)	
Diabetes					
No	300 (69.9)	40 (13.3)	236 (78.7)	24 (8.0)	0.88
Yes	129 (30.1)	16 (12.4)	101 (78.3)	12 (9.3)	
Percent of life in US	Mean (sd): 41.8(19.4) Range: 0.46 – 100	41.7 (17.8) 4.5 – 68.3	41.5 (19.4) 0.5 – 100.0	44.7 (22.1) 7.2 – 75.1	0.64
< 25	106 (42.8)	10 (9.4)	86 (81.1)	10 (9.4)	0.44
25 – < 50	158 (36.9)	24 (15.2)	126 (79.8)	8 (5.1)	
50+	164 (20.3)	21 (13.1)	125 (76.3)	18 (10.6)	
Social Support	Mean (sd): 25.2 (4.8) Range: 6 – 30	25.0 (4.6) 16.0 – 30.0	25.2 (4.8) 6.0 – 30.0	24.7 (4.2) 13.0 – 30.0	0.81
Neighborhood Cohesion	Mean (sd): 16.0 (3.6) Range: 4.0 – 20.0	16.5 (4.0) 4.0 – 20.0	16.0 (3.6) 4.0 – 20.0	16.2 (2.9) 4.0 – 20.0	0.28
Everyday discrimination experiences	Mean: 4.0 (3.6) Range: 0 – 43.0	2.3 (4.8) 0.0 – 22.0	4.1 (5.6) 0.0 – 43.0	6.1 (8.3) 0.0 – 37.0	0.01
Major lifetime discrimination experiences	Mean: 0.6 (1.0) Range: 0.0 – 8.0	0.3 (0.7) 0.0 – 3.0	0.5 (1.0) 0.0 – 8.0	1.1 (1.8) 0.0 – 8.0	<0.01

¹p-values are from chi-squared tests for categorical variables and ANOVA for continuous variables

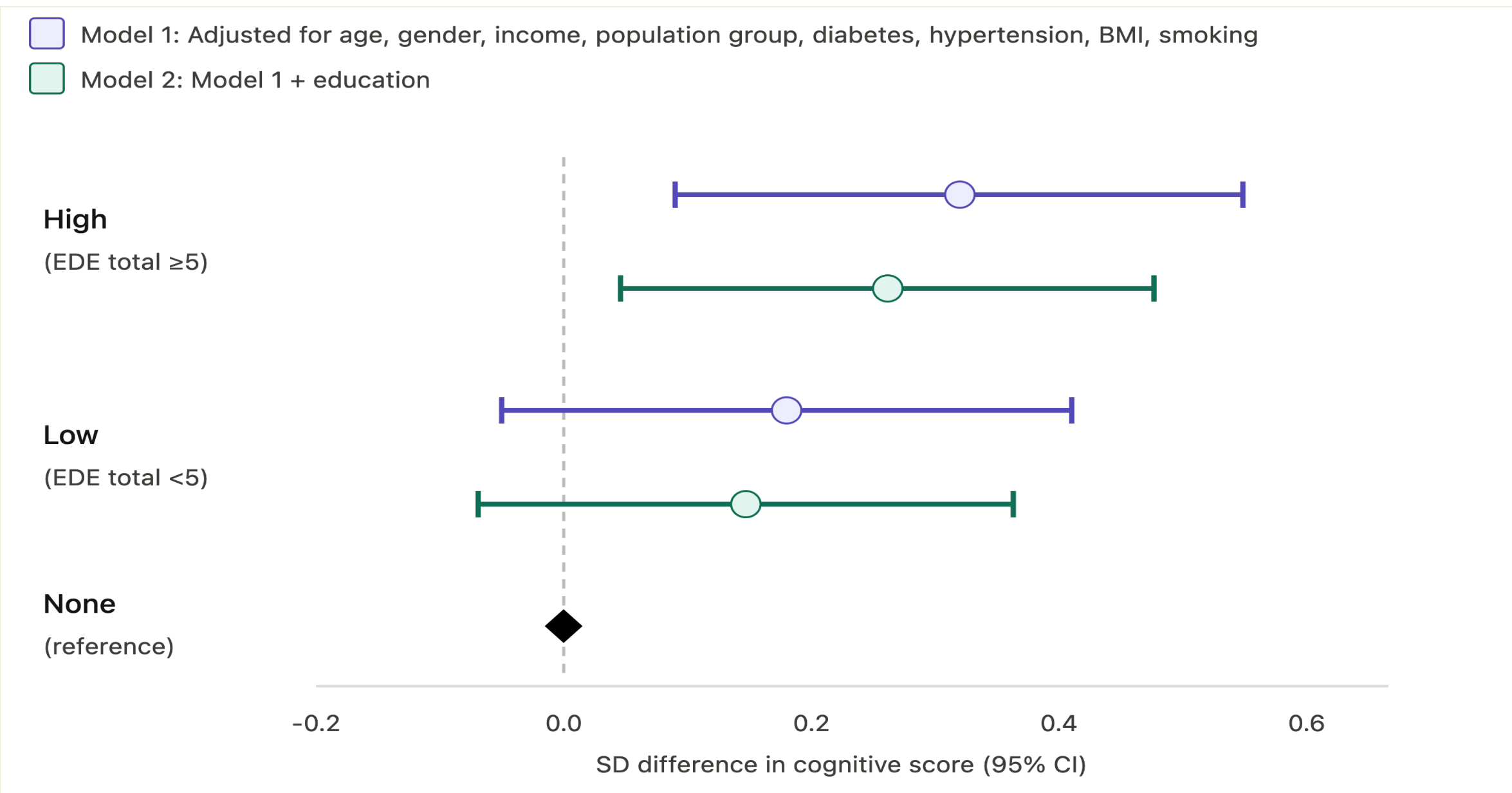


Figure 1: Forest plot showing standard deviation (SD) differences in cognitive score by discrimination exposure, relative to no discrimination. High discrimination (EDE total ≥5) was associated with a 0.32 SD higher cognitive score in Model 1 (95% CI 0.09–0.55) and 0.26 SD higher in Model 2 (95% CI 0.05–0.48. Low discrimination (EDE total <5) showed smaller, non-significant associations in both models.

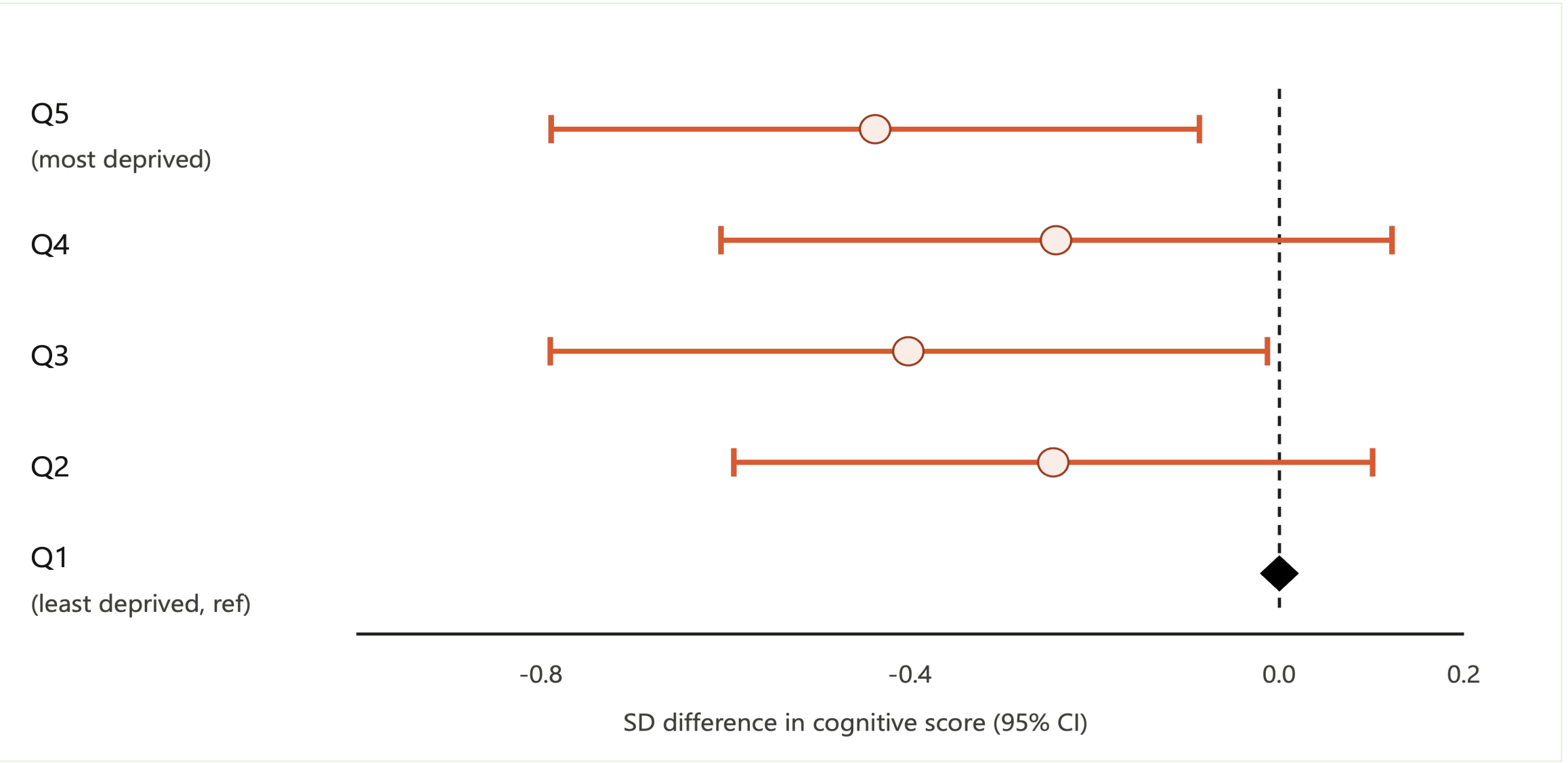


Figure 2: Forest plot showing SD differences in cognitive score by neighborhood deprivation quintile, relative to Q1 (least deprived, reference). Compared to Q1, cognitive score was 0.44 SD lower in Q5, the most deprived quintile (95% CI -0.79 to -0.09), and 0.40 SD lower in Q3 (95% CI -0.79 to -0.01. Q4 (-0.24 SD, 95% CI -0.61 to 0.12) and Q2 (-0.25 SD, 95% CI -0.59 to 0.10) showed non-significant associations.