

Supplementary Material

High-Quality Sleep Mitigates ABCA7-Related Generalization Deficits in Healthy Older African Americans

Supplementary Table 1. ANCOVA to Test the Main Effects of ABCA7 Risk and Sleep Quality and ABCA7 x Sleep Quality Interaction Effect on Generalization: Adjusting for Age, Education, Acquisition Errors, and Gender

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	9.77	1	9.77	0.08	0.78
Age (y)	68.03	1	68.03	0.57	0.45
Education (y)	16.36	1	16.36	0.14	0.71
Gender	319.08	1	319.08	2.65	0.11
Acquisition Errors	18186.80	1	18186.80	151.10	<0.001
ABCA7 Risk	1793.69	1	1793.69	14.90	<0.001
Sleep Quality	565.70	2	282.85	2.35	0.10
ABCA7 Risk x Sleep Quality	956.46	2	478.23	3.97	0.02
ABCA7 Risk x Gender	398.67	1	398.67	3.31	0.07
Sleep Quality x Gender	97.74	2	48.87	0.41	0.67
ABCA7 Risk x Sleep Quality x Gender	34.40	1	34.40	0.29	0.59

ABCA7 Risk (0=non-risk, 1=risk); Gender (0=female, 1=male); Sleep Quality (0 = 'very poor and poor sleep quality'; 1 = 'satisfactory sleep quality'; 2 = 'good and very good sleep quality.')

Supplementary Table 2. ANCOVA to Test the Main Effects of ABCA7 Risk and Sleep Quality and ABCA7 x Sleep Quality Interaction Effect on Rey Auditory Verbal Learning Test Delayed Recall

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	5870.554	1	5870.554	57.054	<0.001
Age (y)	129.470	1	129.470	1.258	0.265
Education (y)	3701.452	1	3701.452	35.973	<0.001
ABCA7 Risk	207.580	1	207.580	2.017	0.158
Sleep Quality	265.669	2	132.834	1.291	0.279
ABCA7 Risk x Sleep Quality	237.654	2	118.827	1.155	0.319

ABCA7 Risk (0=non-risk, 1=risk); Gender (0=female, 1=male); Sleep Quality (0 = ‘very poor and poor sleep quality’; 1 = ‘satisfactory sleep quality’; 2 = ‘good and very good sleep quality.’)

Supplemental Table 3. ANCOVA to Test the Main Effects of ABCA7 Risk and Sleep Quality and ABCA7 x Sleep Quality Interaction Effect on Mini-Mental State Examination

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	589.551	1	589.551	215.122	<0.001
Age (y)	20.856	1	20.856	7.610	0.007
Education (y)	47.145	1	47.145	17.203	<0.001
ABCA7 Risk	.003	1	0.003	0.001	0.973
Sleep Quality	8.082	2	4.041	1.475	0.234
ABCA7 Risk x Sleep Quality	11.164	2	5.582	2.037	0.136

ABCA7 Risk (0=non-risk, 1=risk); Gender (0=female, 1=male); Sleep Quality (0 = ‘very poor and poor sleep quality’; 1 = ‘satisfactory sleep quality’; 2 = ‘good and very good sleep quality.’)

Supplementary Table 4. ANCOVA to Test the Main Effects of ABCA7 Risk and Sleep Quality and ABCA7 x Sleep Quality Interaction Effect on WAIS-IV Digit Span Total

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Intercept	243.569	1	243.569	14.100	<0.001
Age (<i>y</i>)	4.009	1	4.009	0.232	0.631
Education (<i>y</i>)	32.799	1	32.799	1.899	0.171
ABCA7 Risk	70.673	1	70.673	4.091	0.064
Sleep Quality	27.890	2	13.945	0.807	0.449
ABCA7 Risk x Sleep Quality	33.339	2	16.669	0.965	0.384

Note. WAIS-IV = Wechsler Adult Intelligence Scale-IV edition; ABCA7 Risk (0=non-risk, 1=risk); Gender (0=female, 1=male); Sleep Quality (0 = ‘very poor and poor sleep quality’; 1 = ‘satisfactory sleep quality’; 2 = ‘good and very good sleep quality.’)