

Supplementary Table S1. Interaction analysis

Recording method	Sleep measure	Cognitive outcome	β (95% CI)	p-value
PSQI	TST	MoCA	-0.005 (-0.019, 0.010)	.539
		HVLT-R total recall	0.002 (-0.006, 0.011)	.617
		HVLT-R delayed recall	0.000 (-0.006, 0.006)	.918
		BVMT-R total recall	-0.003 (-0.011, 0.004)	.396
		BVMT-R delayed recall	-0.007 (-0.014, 0.000)	.053
	SOL	MoCA	-0.018 (-0.069, 0.032)	.479
		HVLT-R total recall	0.031 (0.002, 0.059)	.035
		HVLT-R delayed recall	0.000 (-0.021, 0.020)	.981
		BVMT-R total recall	-0.024 (-0.071, 0.023)	.313
		BVMT-R delayed recall	-0.009 (-0.054, 0.035)	.673
	Sleep Efficiency	MoCA	-0.024 (-0.109, 0.061)	.571
		HVLT-R total recall	0.010 (-0.039, 0.059)	.690
		HVLT-R delayed recall	0.001 (-0.033, 0.035)	.952
		BVMT-R total recall	0.001 (-0.044, 0.045)	.978
		BVMT-R delayed recall	-0.003 (-0.043, 0.037)	.878
PSG	TST	MoCA	0.009 (-0.002, 0.019)	.097
		HVLT-R total recall	0.003 (-0.003, 0.008)	.397
		HVLT-R delayed recall	0.006 (0.002, 0.010)	.004
		BVMT-R total recall	0.003 (-0.003, 0.009)	.277
		BVMT-R delayed recall	0.004 (-0.001, 0.010)	.091
	Sleep Efficiency	MoCA	0.038 (-0.060, 0.136)	.441
		HVLT-R total recall	0.010 (-0.046, 0.066)	.721
		HVLT-R delayed recall	0.012 (-0.027, 0.051)	.545
		BVMT-R total recall	0.016 (-0.037, 0.069)	.554
		BVMT-R delayed recall	0.009 (-0.038, 0.057)	.706
	WASO	MoCA	0.003 (-0.013, 0.020)	.694
		HVLT-R total recall	-0.001 (-0.010, 0.009)	.864
		HVLT-R delayed recall	0.003 (-0.004, 0.010)	.383
		BVMT-R total recall	-0.002 (-0.010, 0.007)	.733
		BVMT-R delayed recall	0.002 (-0.006, 0.009)	.660
	SOL	MoCA	0.033 (-0.013, 0.078)	.155
		HVLT-R total recall	0.018 (-0.007, 0.044)	.161
		HVLT-R delayed recall	0.017 (-0.001, 0.035)	.060
		BVMT-R total recall	0.028 (0.005, 0.052)	.019
		BVMT-R delayed recall	0.021 (0.000, 0.043)	.047
	Awakenings	MoCA	0.063 (0.009, 0.117)	.022
		HVLT-R total recall	0.008 (-0.024, 0.039)	.627
		HVLT-R delayed recall	0.016 (-0.006, 0.038)	.142

Supplementary Table S1 Continued.

Recording method	Sleep measure	Cognitive outcome	β (95% CI)	p-value
PSG	Awakenings	BVMT-R total recall	-0.011 (-0.040, 0.017)	.432
		BVMT-R delayed recall	0.000 (-0.025, 0.026)	.975
Actigraphy	TST	MoCA	-0.006 (-0.017, 0.005)	.311
		HVLT-R total recall	0.001 (-0.005, 0.007)	.799
		HVLT-R delayed recall	0.001 (-0.003, 0.006)	.512
		BVMT-R total recall	-0.001 (-0.007, 0.005)	.825
		BVMT-R delayed recall	-0.003 (-0.008, 0.002)	.283
	SOL	MoCA	0.028 (-0.011, 0.068)	.159
		HVLT-R total recall	-0.009 (-0.032, 0.013)	.425
		HVLT-R delayed recall	-0.010 (-0.025, 0.006)	.221
		BVMT-R total recall	-0.013 (-0.034, 0.007)	.208
		BVMT-R delayed recall	-0.014 (-0.032, 0.005)	.138
	Sleep Efficiency	MoCA	-0.019 (-0.098, 0.060)	.632
		HVLT-R total recall	0.032 (-0.013, 0.077)	.164
		HVLT-R delayed recall	0.034 (0.004, 0.064)	.027
		BVMT-R total recall	0.019 (-0.023, 0.061)	.369
		BVMT-R delayed recall	0.017 (-0.020, 0.053)	.366
	WASO	MoCA	-0.019 (-0.057, 0.019)	.324
		HVLT-R total recall	-0.022 (-0.044, -0.001)	.045
		HVLT-R delayed recall	-0.024 (-0.038, -0.009)	.001
		BVMT-R total recall	-0.015 (-0.035, 0.005)	.130
		BVMT-R delayed recall	-0.015 (-0.033, 0.002)	.092
	Awakenings	MoCA	-0.092 (-0.180, -0.003)	.042
		HVLT-R total recall	-0.053 (-0.104, -0.002)	.041
		HVLT-R delayed recall	-0.048 (-0.082, -0.015)	.005
		BVMT-R total recall	-0.035 (-0.082, 0.012)	.146
		BVMT-R delayed recall	-0.067 (-0.107, -0.026)	.001

Note. Values represent unstandardized coefficients for the living status $\times$ sleep variable interaction.

MoCA was scored 0-30. HVLT-R scores were converted to age-, sex-, and education-corrected z-scores, whereas BVMT-R scores were converted to age- and sex-corrected z-scores. All models included the main effects of living status and the respective sleep variable and were adjusted for age, years of education, AHI, PLM index, and nervous system medication use. Bold values indicate statistically significant interactions.

Abbreviations. BVMT-R, Brief Visuospatial Memory Test-Revised; HVLT-R, Hopkins Verbal Learning Test-Revised; MoCA, Montreal Cognitive Assessment; PSG, polysomnography; PSQI,

Pittsburgh Sleep Quality Index; SOL, sleep-onset latency; TST, total sleep time; WASO, wake after sleep onset; AHI, apnea hypopnea index; PLMs, periodic limb movements.