

Sleep Quality and Depressive Symptoms Among Korean Older Adults

Supplementary Materials



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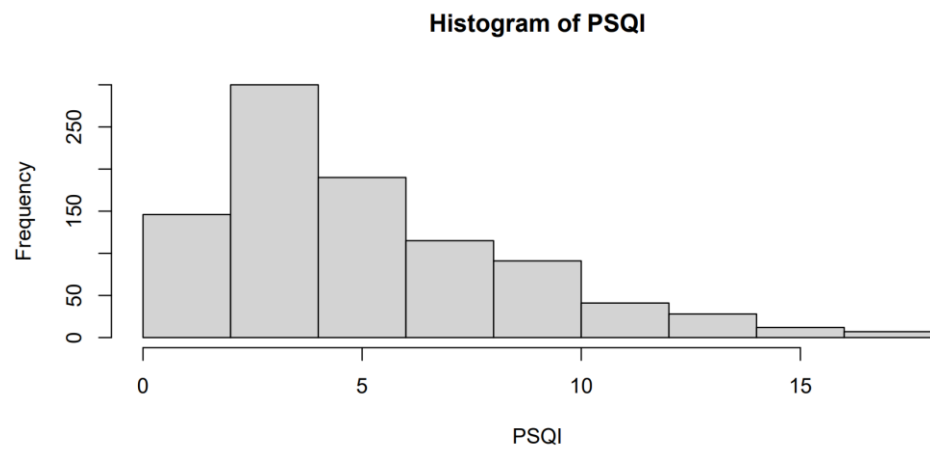
Supplementary Figures

Supplementary Figure 1. Distribution of (a) age, (b) PSQI, and (c) GDS in Aging Cognition Cohort

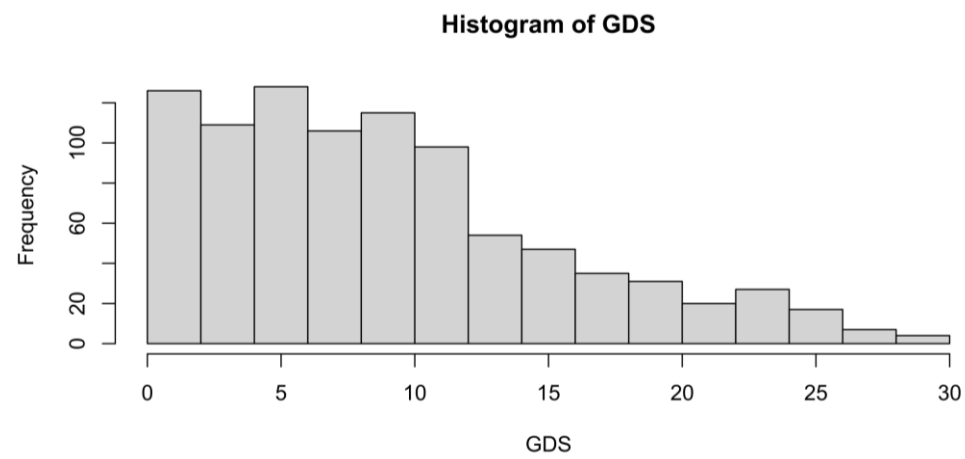
(a)



(b)

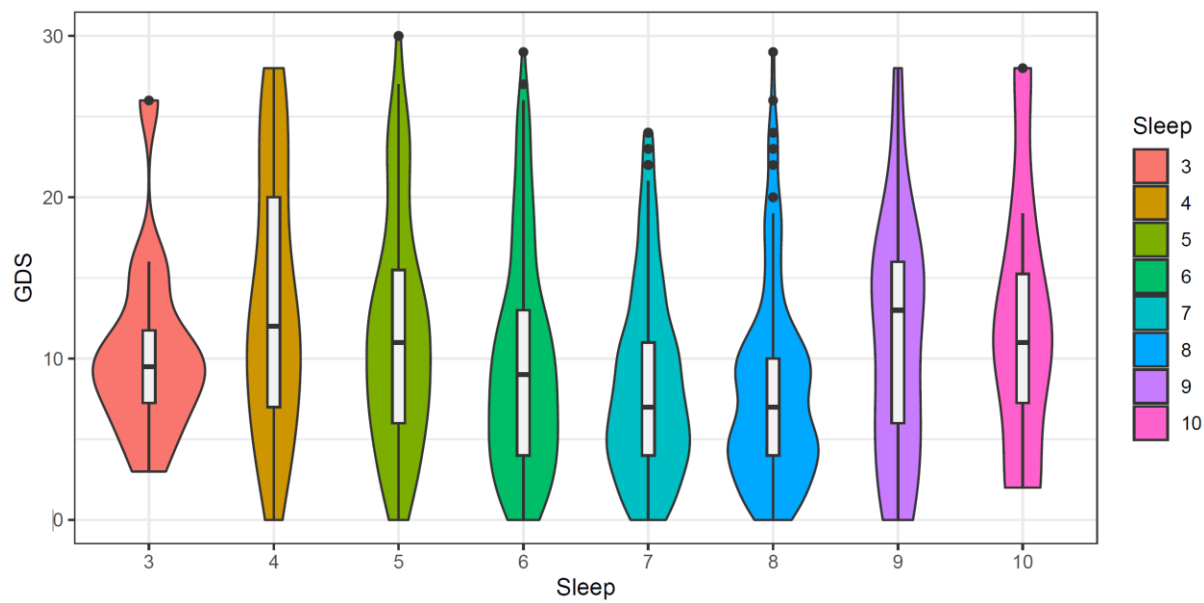


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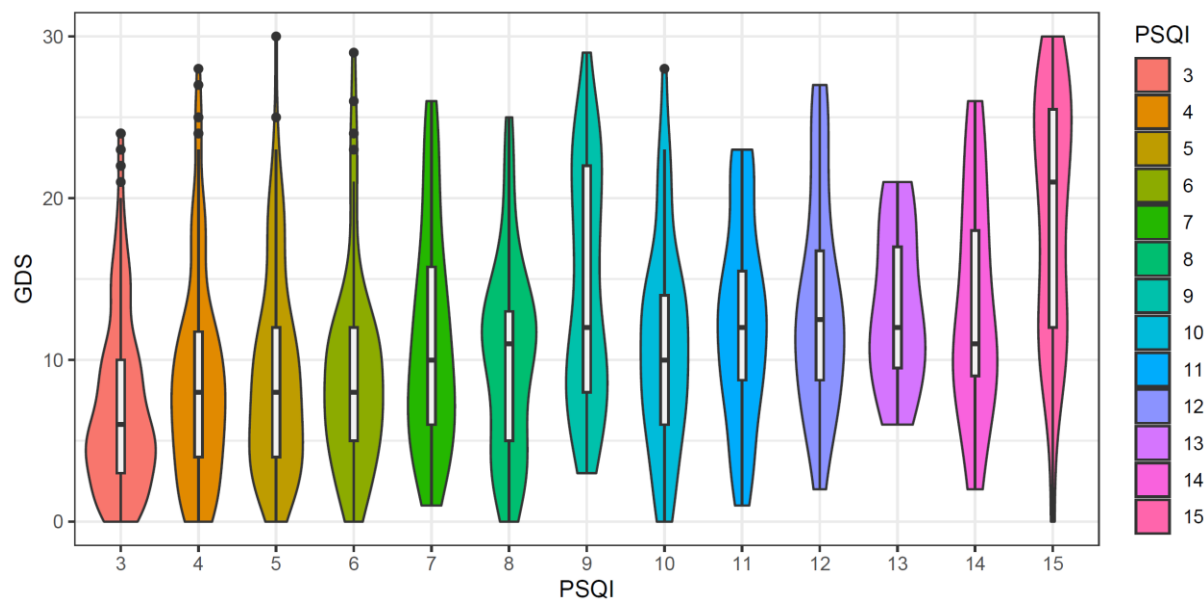


Supplementary Figure 2. Distribution of GDS according to (a) sleep hour and (b) PSQI

(a)



(b)



Supplementary Tables

Supplementary Table 1. Participants' general characteristic based on GDS score

	Total	Normal (GDS 0-9)	Mild Depressive (GDS 10-19)	Severe Depressive (GDS 20-30)	P for trend
N	930	530	309	91	
Age	67.8 ± 0.21	66.8 ± 0.28	68.9 ± 0.34	69.9 ± 0.65	<0.001
Sex (Female)	576 (61.9)	300 (56.6)	210 (68)	66 (72.5)	<0.001
Education	10.6 ± 0.14	11.4 ± 0.17	9.7 ± 0.24	8.5 ± 0.48	<0.001
Marry	816 (87.7)	480 (90.6)	268 (86.7)	68 (74.7)	<0.001
Alcohol	308 (33.1)	189 (35.7)	98 (31.7)	21 (23.1)	0.051
Smoking	45 (4.8)	24 (4.5)	15 (4.9)	6 (6.6)	0.698
Sleep	6.5 ± 0.04	6.7 ± 0.05	6.5 ± 0.08	6 ± 0.15	<0.001
Activity (METS)	2684.1 ± 128.83	2998 ± 189.61	2307.5 ± 177.54	2134.9 ± 372.63	0.007
HTN	420 (45.2)	214 (40.4)	165 (53.4)	41 (45.1)	0.001
DM	376 (40.4)	187 (35.3)	144 (46.6)	45 (49.5)	0.001
ALM	184 (19.8)	90 (17)	66 (21.4)	28 (30.8)	0.007
BMI	24.6 ± 0.1	24.6 ± 0.12	24.6 ± 0.18	25 ± 0.35	0.278
WC	85.7 ± 0.28	85.5 ± 0.36	85.9 ± 0.49	86.1 ± 0.99	0.444
SBP	130.1 ± 1.42	128.5 ± 0.66	130.9 ± 2.95	137.1 ± 9.71	0.088
DBP	78.4 ± 1.43	77.2 ± 0.42	78.7 ± 3.03	84.5 ± 10.2	0.177
TC	184.2 ± 1.33	187.4 ± 1.78	181.6 ± 2.33	174.2 ± 3.61	0.001
HDL	53.3 ± 0.45	53.6 ± 0.6	53.3 ± 0.78	51.8 ± 1.41	0.275
TG	126.6 ± 2.15	124.2 ± 2.89	127.4 ± 3.66	137.4 ± 6.56	0.096
Glc	99 ± 0.63	98.6 ± 0.76	99.1 ± 1.18	101.1 ± 2.49	0.286
HbA1c	6 ± 0.02	5.9 ± 0.03	6 ± 0.04	6.2 ± 0.09	0.002
BUN	17.4 ± 0.2	17.2 ± 0.25	17.5 ± 0.36	18.3 ± 0.6	0.148
Cr	0.8 ± 0.01	0.8 ± 0.02	0.8 ± 0.02	0.8 ± 0.02	0.533
AST	26.5 ± 0.36	26.4 ± 0.53	26.9 ± 0.57	25.8 ± 0.68	1
ALT	23.3 ± 0.43	23.5 ± 0.54	23.3 ± 0.81	22.7 ± 1.39	0.651
GGT	18.4 ± 0.83	17.8 ± 0.83	19.2 ± 1.88	18.6 ± 2.94	0.554
WBC	5.5 ± 0.05	5.3 ± 0.06	5.6 ± 0.09	5.7 ± 0.19	0.004
Hb	13.6 ± 0.04	13.8 ± 0.05	13.5 ± 0.08	13.3 ± 0.13	<0.001
MMSE	27.3 ± 0.08	27.7 ± 0.09	27 ± 0.14	26.3 ± 0.35	<0.001
CDR	0 ± 0	0 ± 0	0 ± 0	0 ± 0.02	<0.001
PWI	16.5 ± 0.27	12.6 ± 0.26	19.4 ± 0.37	28.9 ± 0.89	<0.001
GDS	9.5 ± 0.22	4.9 ± 0.12	13.3 ± 0.16	23.5 ± 0.27	<0.001
CES	9.5 ± 0.3	5.5 ± 0.27	12.5 ± 0.43	23.1 ± 1.15	<0.001
MSPSS	47.7 ± 0.28	49.3 ± 0.34	46.3 ± 0.48	43.1 ± 1.07	<0.001
UCLA	36.3 ± 0.29	33.7 ± 0.34	38.3 ± 0.46	44.4 ± 1.17	<0.001
PSQI	5.6 ± 0.11	4.7 ± 0.12	6.2 ± 0.19	8.4 ± 0.46	<0.001
ADL	20 ± 0.01	20 ± 0	20 ± 0.01	19.9 ± 0.07	<0.001
IADL	0 ± 0.01	0 ± 0.01	0.1 ± 0.01	0.1 ± 0.02	0.002

Supplementary Table 2. Correlation analysis of the PSQI components and global score with other variables.

	PSQI	PSQI C1	PSQI C2	PSQI C3	PSQI C4	PSQI C5	PSQI C6	PSQI C7	Age	Sex	Edu	Sleep	Hb	GDS	PWI	UCLA
PSQI	0	0.69	0.72	0.64	0.59	0.43	0.39	0.56	0	0.18	-0.04	-0.57	-0.09	0.34	0.39	0.18
Age	0	0.01	0.02	-0.04	0.01	-0.04	0.08	-0.02	0	-0.15	-0.2	0.02	-0.1	0.21	0.06	0.14
Sex	0.18	0.13	0.18	0.12	0.13	0.03	0.15	0.01	-0.15	0	-0.23	-0.15	-0.51	0.18	0.15	-0.04
Edu	-0.04	-0.01	-0.08	0.01	-0.01	0.05	-0.04	-0.03	-0.2	-0.23	0	0.04	0.19	-0.3	-0.21	-0.12
Sleep	-0.57	-0.36	-0.31	-0.82	-0.46	-0.12	-0.13	-0.19	0.02	-0.15	0.04	0	0.08	-0.17	-0.2	-0.1
Hb	-0.09	-0.1	-0.08	-0.05	-0.05	0.03	-0.12	-0.01	-0.1	-0.51	0.19	0.08	0	-0.15	-0.12	-0.02
GDS	0.34	0.28	0.29	0.15	0.11	0.19	0.19	0.32	0.21	0.18	-0.3	-0.17	-0.15	0	0.67	0.42
PWI	0.39	0.32	0.31	0.16	0.1	0.22	0.17	0.35	0.06	0.15	-0.21	-0.2	-0.12	0.67	0	0.44
UCLA	0.18	0.13	0.15	0.08	0.04	0.13	0	0.22	0.14	-0.04	-0.12	-0.1	-0.02	0.42	0.44	0

Supplementary Table 3. Multivariate analysis (a) GDS ~ Sleep hour, (b) GDS ~ PSQI

(a)

Model	beta	SE	p	95% CI lower bound	95% CI upper bound
Non-adjusted	-0.913	0.167	<0.001	-1.24	-0.586
Model1	-0.773	0.163	<0.001	-1.092	-0.454
Model2	-0.682	0.159	<0.001	-0.993	-0.37
Model3	-0.693	0.159	<0.001	-1.005	-0.381

(b)

Model	beta	SE	p	95% CI lower bound	95% CI upper bound
Non-adjusted	0.715	0.059	<0.001	0.6	0.831
Model1	0.661	0.058	<0.001	0.547	0.775
Model2	0.639	0.057	<0.001	0.528	0.75
Model3	0.632	0.057	<0.001	0.521	0.743

Supplementary Table 4. Subgroup analysis

Group		95% CI lower bound	beta	95% CI upper bound
Age	Old	0.45	0.59	0.73
	Young	0.55	0.74	0.92
Sex	Men	0.55	0.76	0.98
	Women	0.43	0.56	0.69
Education	Edu>9	0.57	0.72	0.87
	Edu<9	0.38	0.55	0.71
Marital status	Married	0.52	0.64	0.76
	Single	0.24	0.55	0.85