Results

One-Way ANOVA

One-Way ANOVA (Welch's)
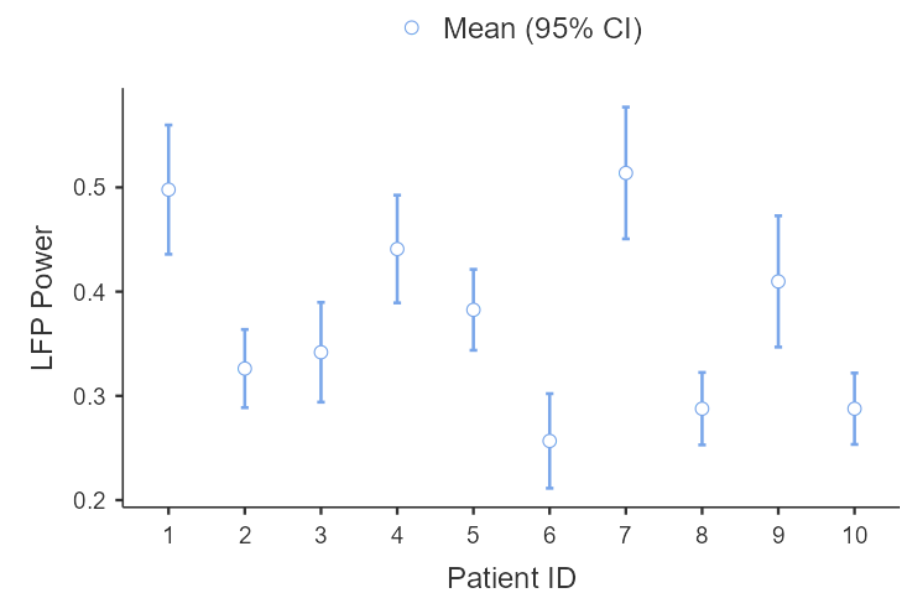
	F	df1	df2	p
LFP Power	12.6	9	99.5	< .001

Group Descriptives

	Patient ID	N	Mean	SD	SE
LFP Power	1	24	0.498	0.1468	0.0300
	2	30	0.326	0.1004	0.0183
	3	24	0.342	0.1133	0.0231
	4	30	0.441	0.1384	0.0253
	5	24	0.383	0.0919	0.0188
	6	24	0.257	0.1075	0.0219
	7	30	0.514	0.1693	0.0309
	8	30	0.288	0.0931	0.0170
	9	18	0.410	0.1266	0.0298
	10	30	0.288	0.0917	0.0167

Plots

LFP Power

Post Hoc Tests

Games-Howell Post-Hoc Test – LFP Power

		1	2	3	4	5	6	7	8	9	10
1	Mean difference	—	0.172 ***	0.1560 **	0.0570	0.1153	0.2411 ***	-0.0160	0.2101 ***	0.0881	0.2102 ***
	t-value	—	4.89	4.121	1.45	3.26	6.49	-0.371	6.10	2.082	6.12
	df	—	39.1	43.2	48.1	38.6	42.2	51.6	37.1	39.1	36.8
	p-value	—	< .001	0.006	0.903	0.063	< .001	1.000	< .001	0.550	< .001
2	Mean difference		—	-0.0157	-0.1147 *	-0.0564	0.0694	-0.1876 ***	0.0385	-0.0836	0.0385
	t-value		—	-0.530	-3.67	-2.15	2.43	-5.222	1.54	-2.386	1.55
	df		—	46.4	52.9	51.0	47.9	47.2	57.7	29.8	57.5
	p-value		—	1.000	0.018	0.504	0.333	< .001	0.870	0.369	0.865
3	Mean difference			—	-0.0990	-0.0407	0.0851	-0.1720 **	0.0541	-0.0679	0.0542
	t-value			—	-2.89	-1.37	2.67	-4.455	1.89	-1.799	1.90
	df			—	52.0	44.1	45.9	50.6	44.3	34.4	43.9
	p-value			—	0.134	0.931	0.217	0.002	0.677	0.731	0.671
4	Mean difference				—	0.0583	0.1841 ***	-0.0729	0.1532 ***	0.0311	0.1532 ***
	t-value				—	1.85	5.50	-1.827	5.03	0.795	5.06
	df				—	50.5	52.0	55.8	50.8	38.5	50.4
	p-value				—	0.699	< .001	0.715	< .001	0.998	< .001
5	Mean difference					—	0.1258 **	-0.1313 *	0.0949 *	-0.0272	0.0949 *
	t-value					—	4.36	-3.631	3.75	-0.772	3.77
	df					—	44.9	46.4	49.7	29.7	49.4
	p-value					—	0.003	0.022	0.015	0.999	0.014
6	Mean difference						—	-0.2571 ***	-0.0309	-0.1530 **	-0.0309
	t-value						—	-6.784	-1.12	-4.131	-1.12
	df						—	49.7	45.8	33.2	45.4
	p-value						—	< .001	0.981	0.008	0.980
7	Mean difference							—	0.2261 ***	0.1040	0.2261 ***
	t-value							—	6.41	2.422	6.43
	df							—	45.1	43.6	44.7
	p-value							—	< .001	0.339	< .001
8	Mean difference								—	-0.1221 *	1.78e-5
	t-value								—	-3.555	7.45e-4
	df								—	28.1	58.0
	p-value								—	0.037	1.000
9	Mean difference									—	0.1221 *
	t-value									—	3.57
	df									—	27.8
	p-value									—	0.037
10	Mean difference										—
	t-value										—
	df										—
	p-value										—

Note. * p < .05, ** p < .01, *** p < .001

One-Way ANOVA

One-Way ANOVA (Welch's)

	F	df1	df2	p
LFP Power	58.0	5	120	< .001

Group Descriptives

	Band ID	N	Mean	SD	SE
LFP Power	delta (0-3 Hz)	44	0.539	0.1232	0.0186
	theta (4-7 Hz)	44	0.453	0.1128	0.0170
	alpha (8 - 12 Hz)	44	0.403	0.0942	0.0142
	low beta (13 - 20 Hz)	44	0.337	0.0924	0.0139
	high beta (21 - 30 Hz)	44	0.294	0.1080	0.0163
	gamma (31 - 50 Hz)	44	0.215	0.0787	0.0119

Plots

LFP Power

Post Hoc Tests

Games-Howell Post-Hoc Test – LFP Power
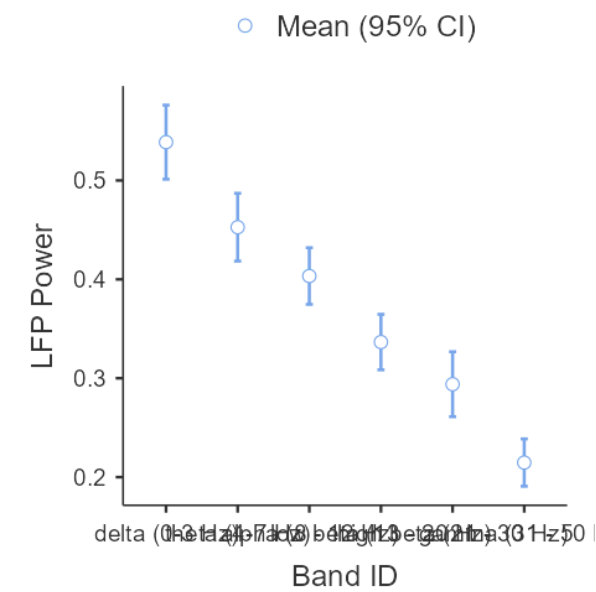
		delta (0-3 Hz)	theta (4-7 Hz)	alpha (8 - 12 Hz)	low beta (13 - 20 Hz)	high beta (21 - 30 Hz)	gamma (31 - 50 Hz)
delta (0-3 Hz)	Mean difference	—	0.0860 *	0.1354 ***	0.2022 ***	0.2448 ***	0.3240 ***
	t-value	—	3.42	5.79	8.71	9.91	14.70
	df	—	85.3	80.5	79.7	84.5	73.1
	p-value	—	0.012	< .001	< .001	< .001	< .001
theta (4-7 Hz)	Mean difference		—	0.0494	0.1162 ***	0.1588 ***	0.2380 ***
	t-value		—	2.23	5.29	6.75	11.48
	df		—	83.4	82.8	85.8	76.9
	p-value		—	0.235	< .001	< .001	< .001
alpha (8 - 12 Hz)	Mean difference			—	0.0668 *	0.1094 ***	0.1886 ***
	t-value			—	3.36	5.06	10.19
	df			—	86.0	84.4	83.4
	p-value			—	0.014	< .001	< .001
low beta (13 - 20 Hz)	Mean difference				—	0.0426	0.1219 ***
	t-value				—	1.99	6.66
	df				—	84.0	83.9
	p-value				—	0.357	< .001
high beta (21 - 30 Hz)	Mean difference					—	0.0792 **
	t-value					—	3.93
	df					—	78.6
	p-value					—	0.002
gamma (31 - 50 Hz)	Mean difference						—
	t-value						—
	df						—
	p-value						—

Note. * p < .05, ** p < .01, *** p < .001

One-Way ANOVA

One-Way ANOVA (Welch's)

	F	df1	df2	p
LFP Power	1.32	4	119	0.267

Group Descriptives

	Sleep Stage	N	Mean	SD	SE
LFP Power	W	60	0.397	0.114	0.0147
	N1	60	0.377	0.144	0.0186
	N2	60	0.360	0.163	0.0211
	N3	36	0.330	0.173	0.0288
	R	48	0.389	0.142	0.0205

Plots

LFP Power

Mean (95% CI)
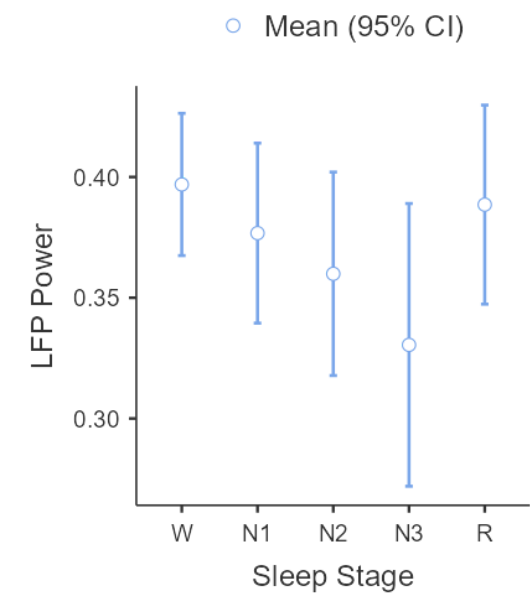
Post Hoc Tests

Games-Howell Post-Hoc Test – LFP Power

		W	N1	N2	N3	R
W	Mean difference	—	0.0202	0.0370	0.0664	0.00835
	t-value	—	0.849	1.440	2.052	0.331
	df	—	112	106	53.5	89.1
	p-value	—	0.914	0.603	0.256	0.997
N1	Mean difference		—	0.0168	0.0463	-0.01181
	t-value		—	0.599	1.348	-0.426
	df		—	116	63.7	101.5
	p-value		—	0.975	0.663	0.993
N2	Mean difference			—	0.0294	-0.02865
	t-value			—	0.824	-0.975
	df			—	70.4	105.2
	p-value			—	0.922	0.866
N3	Mean difference				—	-0.05808
	t-value				—	-1.642
	df				—	66.6
	p-value				—	0.477
R	Mean difference					—
	t-value					—
	df					—
	p-value					—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

One-Way ANOVA (Non-parametric)

Kruskal-Wallis

	χ²	df	p	ε²
LFP Power	84.4	9	< .001	0.321

Dwass-Steel-Critchlow-Fligner pairwise comparisons

Pairwise comparisons - LFP Power

		W	p
1	2	-5.7114	0.002
1	3	-4.9865	0.015
1	4	-1.6740	0.975
1	5	-4.0825	0.109
1	6	-6.8236	< .001
1	7	0.5662	1.000
1	8	-6.7947	< .001
1	9	-2.6239	0.700
1	10	-6.8439	< .001
2	3	0.5416	1.000
2	4	4.7880	0.025
2	5	2.7080	0.659
2	6	-3.3973	0.325
2	7	6.0216	< .001
2	8	-2.0281	0.917
2	9	3.2225	0.403
2	10	-2.0281	0.917
3	4	3.8651	0.161
3	5	2.0412	0.914
3	6	-3.2951	0.370
3	7	5.1452	0.010
3	8	-2.3387	0.821
3	9	2.4802	0.765
3	10	-2.4126	0.793
4	5	-2.7326	0.647
4	6	-6.2038	< .001
4	7	2.4672	0.770
4	8	-5.7707	0.002
4	9	-1.3251	0.995
4	10	-5.7707	0.002
5	6	-5.2197	0.008
5	7	4.2097	0.086
5	8	-4.6529	0.034
5	9	1.0424	0.999
5	10	-4.7021	0.030
6	7	6.9177	< .001
6	8	1.5756	0.983
6	9	4.8525	0.021
6	10	1.6494	0.977
7	8	-7.0043	< .001
7	9	-2.9213	0.552
7	10	-7.0461	< .001
8	9	4.4573	0.052
8	10	0.0209	1.000
9	10	-4.5778	0.040

One-Way ANOVA (Non-parametric)

Kruskal-Wallis

	χ²	df	p	ε²
LFP Power	142	5	< .001	0.540

Dwass-Steel-Critchlow-Fligner pairwise comparisons

Pairwise comparisons - LFP Power

		W	p
delta (0-3 Hz)	theta (4-7 Hz)	-4.76	0.010
delta (0-3 Hz)	alpha (8 - 12 Hz)	-6.88	< .001
delta (0-3 Hz)	low beta (13 - 20 Hz)	-9.35	< .001
delta (0-3 Hz)	high beta (21 - 30 Hz)	-9.75	< .001
delta (0-3 Hz)	gamma (31 - 50 Hz)	-11.40	< .001
theta (4-7 Hz)	alpha (8 - 12 Hz)	-2.94	0.299
theta (4-7 Hz)	low beta (13 - 20 Hz)	-6.76	< .001
theta (4-7 Hz)	high beta (21 - 30 Hz)	-7.90	< .001
theta (4-7 Hz)	gamma (31 - 50 Hz)	-10.73	< .001
alpha (8 - 12 Hz)	low beta (13 - 20 Hz)	-4.71	0.011
alpha (8 - 12 Hz)	high beta (21 - 30 Hz)	-6.59	< .001
alpha (8 - 12 Hz)	gamma (31 - 50 Hz)	-10.02	< .001
low beta (13 - 20 Hz)	high beta (21 - 30 Hz)	-3.35	0.167
low beta (13 - 20 Hz)	gamma (31 - 50 Hz)	-7.75	< .001
high beta (21 - 30 Hz)	gamma (31 - 50 Hz)	-4.85	0.008

One-Way ANOVA (Non-parametric)

Kruskal-Wallis

	χ²	df	p	ε²
LFP Power	8.37	4	0.079	0.0318

Dwass-Steel-Critchlow-Fligner pairwise comparisons

Pairwise comparisons - LFP Power

		W	p
W	N1	-1.462	0.840
W	N2	-2.568	0.364
W	N3	-3.703	0.067
W	R	-0.673	0.990
N1	N2	-1.128	0.931
N1	N3	-2.387	0.442
N1	R	0.647	0.991
N2	N3	-1.423	0.853
N2	R	1.792	0.712
N3	R	2.876	0.250

References

[1] The jamovi project (2022). *jamovi*. (Version 2.3) [Computer Software]. Retrieved from https://www.jamovi.org.

[2] R Core Team (2021). *R: A Language and environment for statistical computing*. (Version 4.1) [Computer software]. Retrieved from https://cran.r-project.org. (R packages retrieved from MRAN snapshot 2022-01-01).