

Positive Niche Construction: Incorporating Facilitative Microhabitat into Mechanistic Niche Modeling

Supplementary Material

<https://doi.org/10.26443/msurj.v1i1.216>

Tables

Supplementary Table 1. Sedation Dose Selection by Participant.

Participant	GOS-E	Sedation type	Dose selected for sedation analysis	Range of doses included in sedation randomization
1	1	Midazolam	1 µg/kg/min	1 µg/kg/min
2	3	Midazolam	6 µg/kg/min	6 µg/kg/min
3	4	Midazolam	4 µg/kg/min	1-4 µg/kg/min
4	3	Midazolam	6 µg/kg/min	1-6 µg/kg/min
5	3	Midazolam	6 µg/kg/min	2-6 µg/kg/min
6	7	Midazolam	5 µg/kg/min	1-5 µg/kg/min
7	8	Midazolam	3 µg/kg/min	1-3 µg/kg/min
8	8	Propofol	1 mg/kg/hr	1 mg/kg/hr
9	7	Midazolam	6 µg/kg/min	2-6 µg/kg/min
10	8	Midazolam	6 µg/kg/min	1-6 µg/kg/min
11	8	Propofol	4 mg/kg/hr	4 mg/kg/hr
12	8	Midazolam	6 µg/kg/min	1.5-6 µg/kg/min

Supplementary Table 2. Statistical Results for Key EEG Power Features of the Sedated State.

Metric	Pearson's r	R ²	R ² Validated	p-value (Pearson's)	U Statistic	p-value (Mann-Whitney)
Relative Delta Power	-0.515	0.265	0.045	0.087	5.0	0.048
Relative Theta Power	0.325	0.106	-0.238	0.303	21.0	0.639
Relative Alpha Power	0.270	0.073	-0.198	0.396	25.0	0.268
Relative Beta Power	0.446	0.199	-0.048	0.146	30.0	0.048
Relative Low-Gamma Power	0.109	0.012	-0.445	0.735	21.0	0.639
Absolute Delta Power	-0.223	0.050	-0.326	0.487	13.0	0.530
Absolute Theta Power	0.350	0.122	-0.234	0.265	24.0	0.343
Absolute Alpha Power	0.288	0.083	-0.186	0.365	27.0	0.149
Absolute Beta Power	0.412	0.170	-0.069	0.183	33.0	0.010
Absolute Low-Gamma Power	0.191	0.036	-0.399	0.553	21.0	0.639
Aperiodic Slope	-0.366	0.134	-0.247	0.241	11.0	0.343
Aperiodic Offset	-0.180	0.032	-0.194	0.575	13.0	0.530

Supplementary Table 3. Statistical Results for Key EEG Complexity Features of the Sedated State.

Metric	Pearson's r	R ²	R ² Validated	p-value (Pearson's)	U Statistic	p-value (Mann-Whitney)
Shannon Entropy	0.568	0.323	-0.426	0.054	29.0	0.073
Approximate Entropy	-0.326	0.106	-0.332	0.301	16.0	0.876
Rate Entropy	0.794	0.630	0.503	0.002	35.0	0.003
Permutation Entropy	0.812	0.660	0.485	0.001	34.0	0.005
HC - LMC	-0.832	0.693	0.566	0.001	0.0	0.003
Lempel-Ziv Complexity	0.770	0.594	0.427	0.003	31.0	0.034
Permutation LZC	0.766	0.586	0.396	0.004	30.0	0.048
LZC - Phase Shuffled Normalized	0.662	0.438	0.066	0.019	29.0	0.073