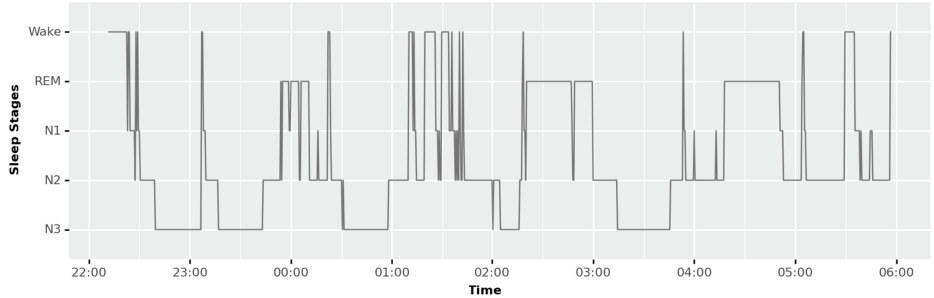


STAGER is a software application that uses **Trivarx** proprietary artificial intelligence, machine learning, and deep learning techniques to analyze Electroencephalogram (**EEG**) and Electrocardiogram (**ECG**) data extracted from European Data Format (**EDF**) files from your existing Polysomnography (**PSG**) software.

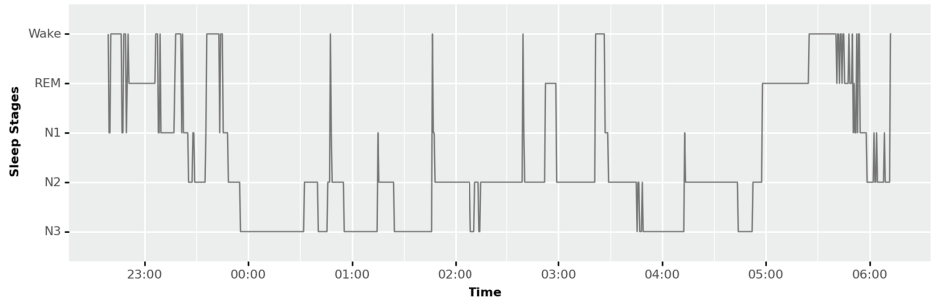
STAGER automatically stages sleep, characterizes critical features of sleep architecture, and calculates standard measures of **Heart Rate Variability** by sleep stage. **STAGER** performs these operations in minutes, staging sleep comparably to expert human raters.

STAGER is intended to be used by researchers in fields including but not limited to behavioral sleep medicine. It is not intended to diagnose a disease or other conditions or cure, mitigate, treat, or prevent disease. Per Section 201(h)(1) of the Food, Drug, and Cosmetic Act. **STAGER** does not meet the definition of a medical device.

Hypnogram - Subject A008 (Reference HRV Data Below)



Hypnogram - Subject A010 (Reference HRV Data Below)



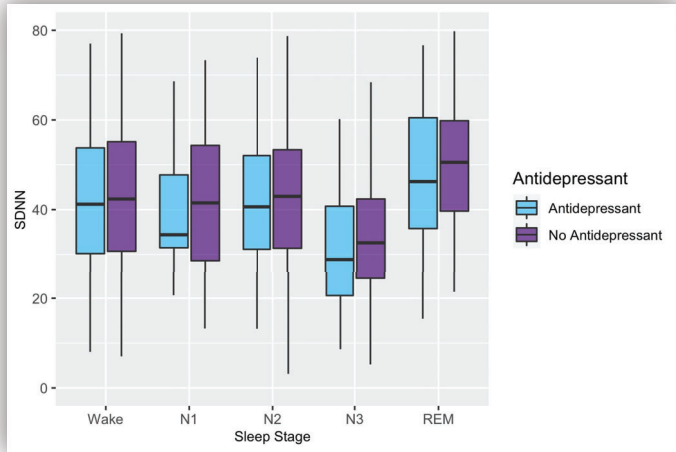
STAGER analyzes right and left hemispheres EEG signal following the International 10-20 System Technical Specifications for adults EEG. These Specifications are supported by the American Academy of Sleep Medicine (AASM) Guidelines recommendations. The Recommended - primary - EEG derivations and montages are: F4-A1, C4-A1, O2-A1 and; Backup - secondary - electrodes and montages are: F3-A2, C3-A2, O1-A2.

Heart Rate Variability is an important measure in the evaluation of autonomic modulation. The mapping of heart rate variability measures to the stages of sleep is of interest in research and clinical settings. **STAGER** reports select time and frequency domain **HRV** measures. NN-intervals refer to the intervals between normal R-peaks. During a measurement, artifacts may arise due to arrhythmic events or faulty sensors, for example. This may lead to abnormal R-peaks, which may in turn distort the statistical measures. **STAGER** implements artifact detection algorithms to avoid compromising of the **HRV** calculations.

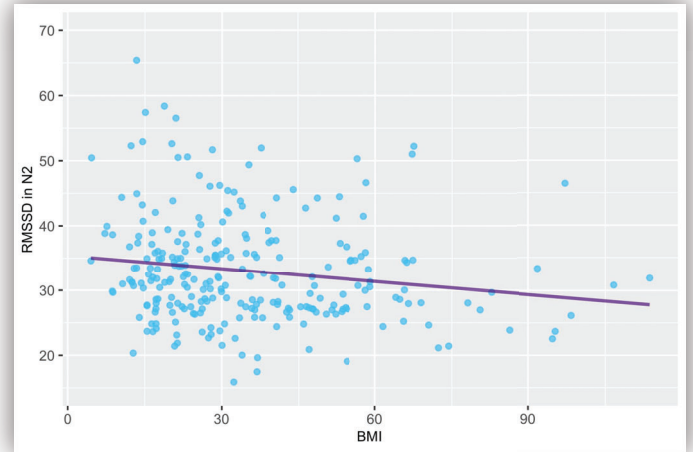
Subject ID	Study ID	Sleep Latency (minutes)	Sleep Efficiency	Number of Waso	Time in Waso (minutes)	% N1	% N2	% in N3	% in REM
A008	A	11.5	0.913	18	29	0.081	0.439	0.274	0.206
A010	A	12.5	0.835	16	62.5	0.075	0.503	0.317	0.106

	Subject ID	HR	SDNN	RMSSD	pNN20	pNN50	LF (ms2)	HF (ms2)	LF (normalized unit)	HF (normalized unit)	LF/HF	Poincare SD1	Poincare SD2	Poincare SD2/SD1	Poincare Ellipse Area	Detrended Fluctuation Analysis alpha1	Detrended Fluctuation Analysis alpha2
N1	A008	62.750	54.322	37.171	54.305	16.887	636.666	700.746	0.476	0.524	0.909	13.126	36.170	2.756	1491.485	0.821	1.389
	A010	71.449	13.235	12.125	5.951	0.073	62.256	72.140	0.463	0.537	0.863	4.415	9.496	2.151	131.700	0.733	1.152
N2	A008	57.891	53.760	46.995	65.509	31.555	837.238	1034.492	0.447	0.553	0.809	15.328	22.843	1.490	1099.989	0.687	1.040
	A010	71.409	22.004	12.511	7.016	0.109	178.409	64.790	0.734	0.266	2.754	4.687	12.041	2.569	177.307	0.815	1.313
N3	A008	59.743	40.861	44.362	65.780	29.229	312.593	969.851	0.244	0.756	0.322	18.377	28.763	1.565	1660.605	0.876	0.682
	A010	71.366	18.976	13.671	10.802	0.143	124.349	72.216	0.633	0.367	1.722	4.054	10.840	2.674	138.057	1.144	0.811
REM	A008	60.143	34.767	26.584	37.573	6.901	263.119	306.904	0.462	0.538	0.857	10.466	20.267	1.936	666.402	0.900	1.140
	A010	71.976	21.446	9.981	3.095	0.148	98.033	35.101	0.736	0.264	2.793	3.604	17.740	4.923	200.843	1.049	1.309
WAKE	A008	61.835	55.899	42.040	56.461	24.010	763.665	726.529	0.512	0.488	1.051	15.943	43.299	2.716	2168.625	0.828	1.153
	A010	70.896	24.375	12.592	6.680	0.305	144.346	68.985	0.677	0.323	2.092	4.554	31.695	6.960	453.470	0.893	1.207

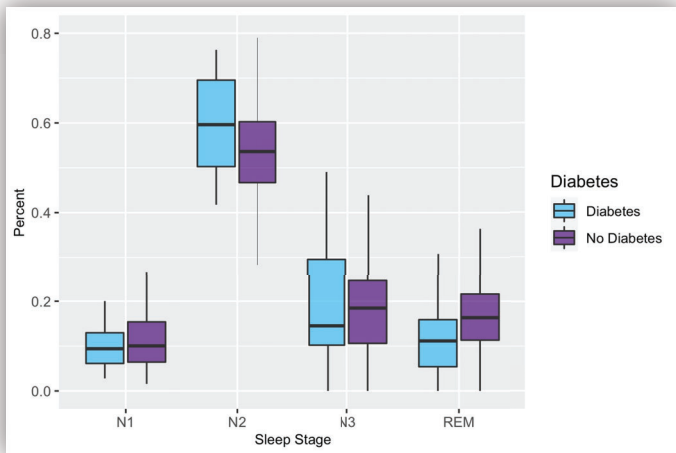
The plots presented below illustrate a range of potential associations that can be analyzed using data computed through the **STAGER** application. The data used for these plots comes from sleep studies conducted on participants sourced from various sleep clinics across the United States. These participants were referred for polysomnography (PSG) investigations due to suspected sleep disorders.



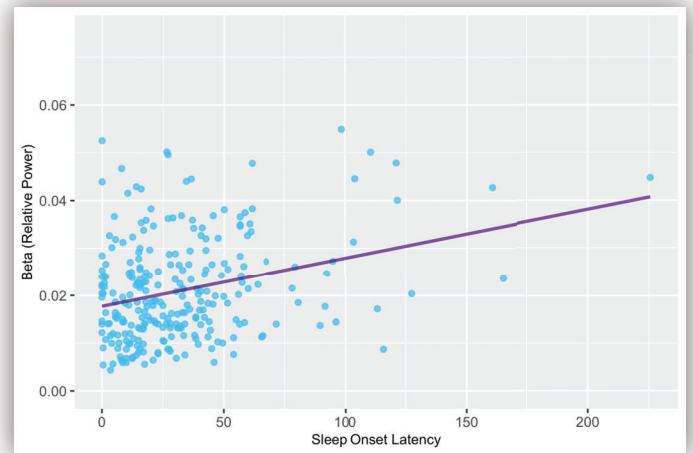
Boxplot illustrating the variation in the SDNN heart rate variability (HRV) parameter across diverse sleep stages, comparing subjects taking antidepressant medications versus those not taking such medications



Scatterplot representing the association between body mass index (BMI) and the RMSSD HRV parameter

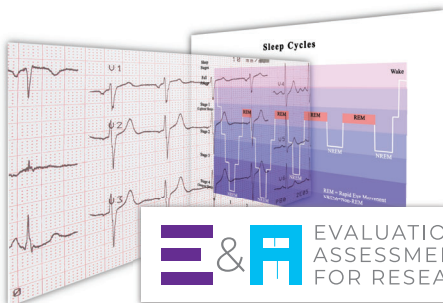


Boxplot illustrating the distribution of the percentage of sleep in the different sleep stages, comparing subjects diagnosed with diabetes versus non-diabetic subjects



Scatterplot representing the association between sleep onset latency and the relative power of EEG Beta frequency

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