Individual Sleep Analysis Report

Subject ID: 61 | Healthy Control Study

Analysis Date: August 16, 2025 | Nights Analyzed: 2 | Report Generated by: Sleep-EDF Analysis System

Subject Information

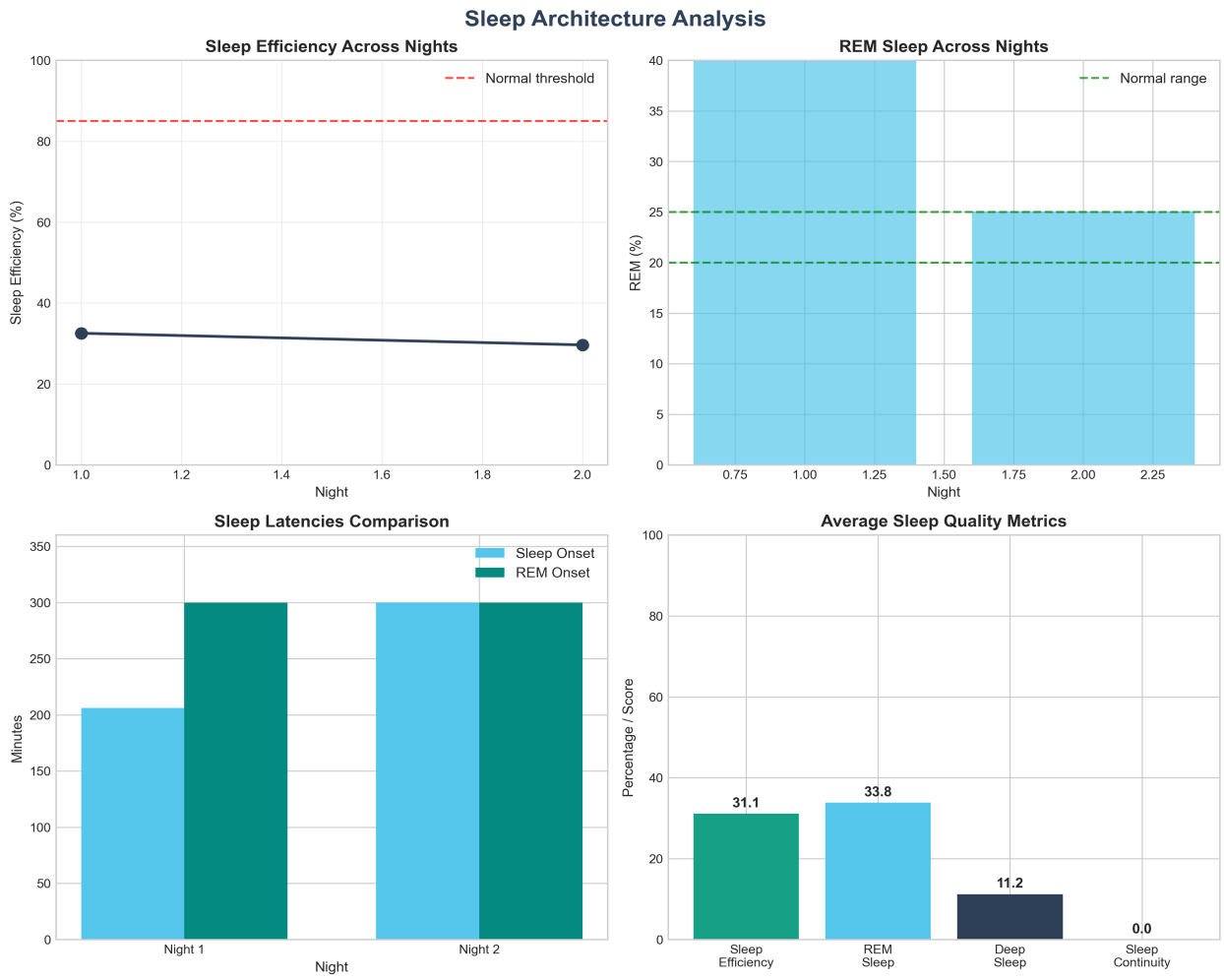
Subject ID	61
Age	101 years
Sex	F
Study Type	Healthy Controls
Number of Nights	2
Recording Dates	Multiple nights

Executive Summary

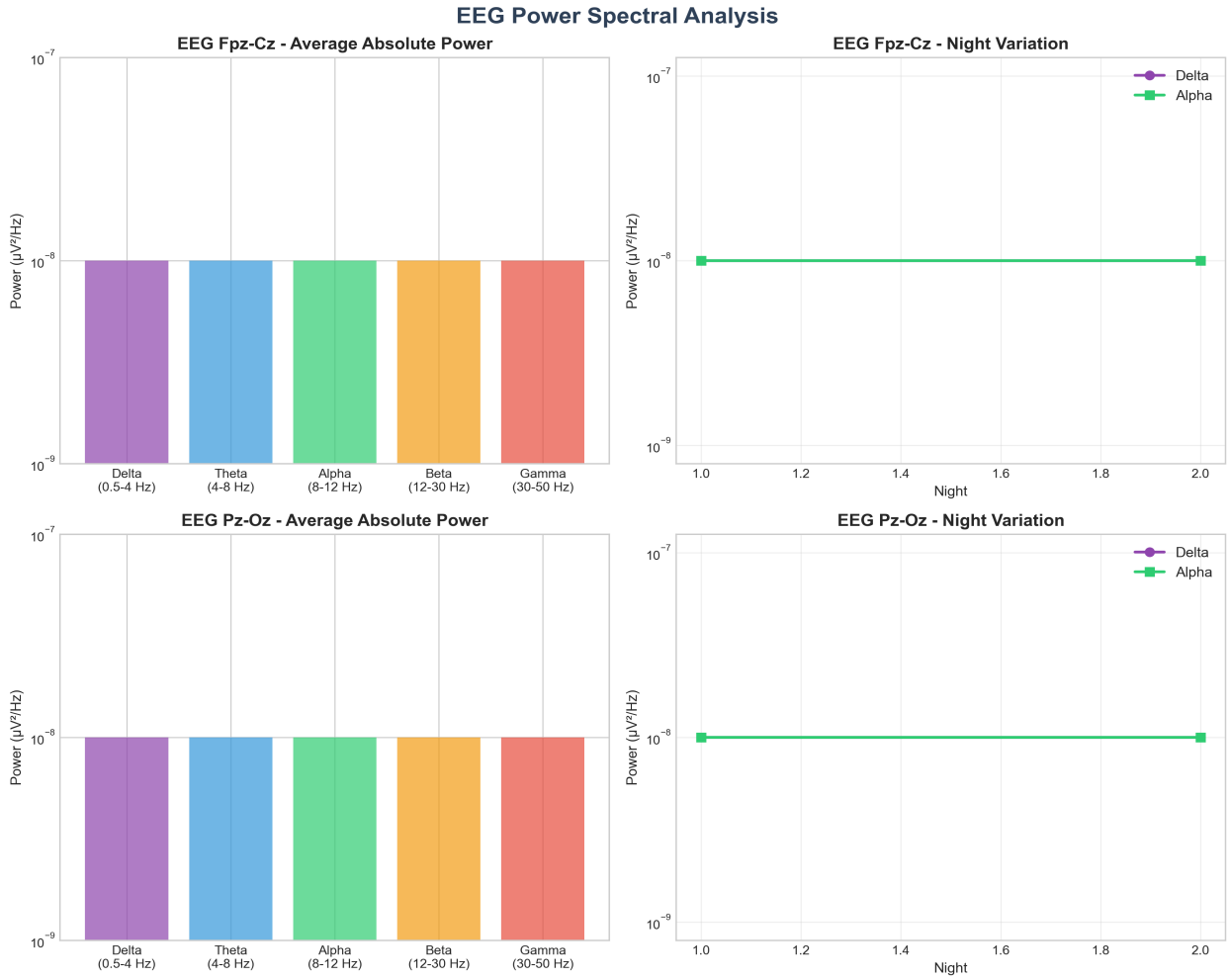
This report presents a comprehensive analysis of 2 night polysomnographic recordings for Subject 61, a 101-year-old F participant from the Sleep Cassette (healthy controls) study under nan condition.

Metric	Value	Clinical Interpretation
Sleep Efficiency	31.1%	Below Normal (<85%)
Sleep Latency	375.0 min	Prolonged (>30min)
REM Latency	560.8 min	Atypical
REM Sleep	33.8%	Atypical
Wake After Sleep Onset	520.8 min	Elevated (>30min)

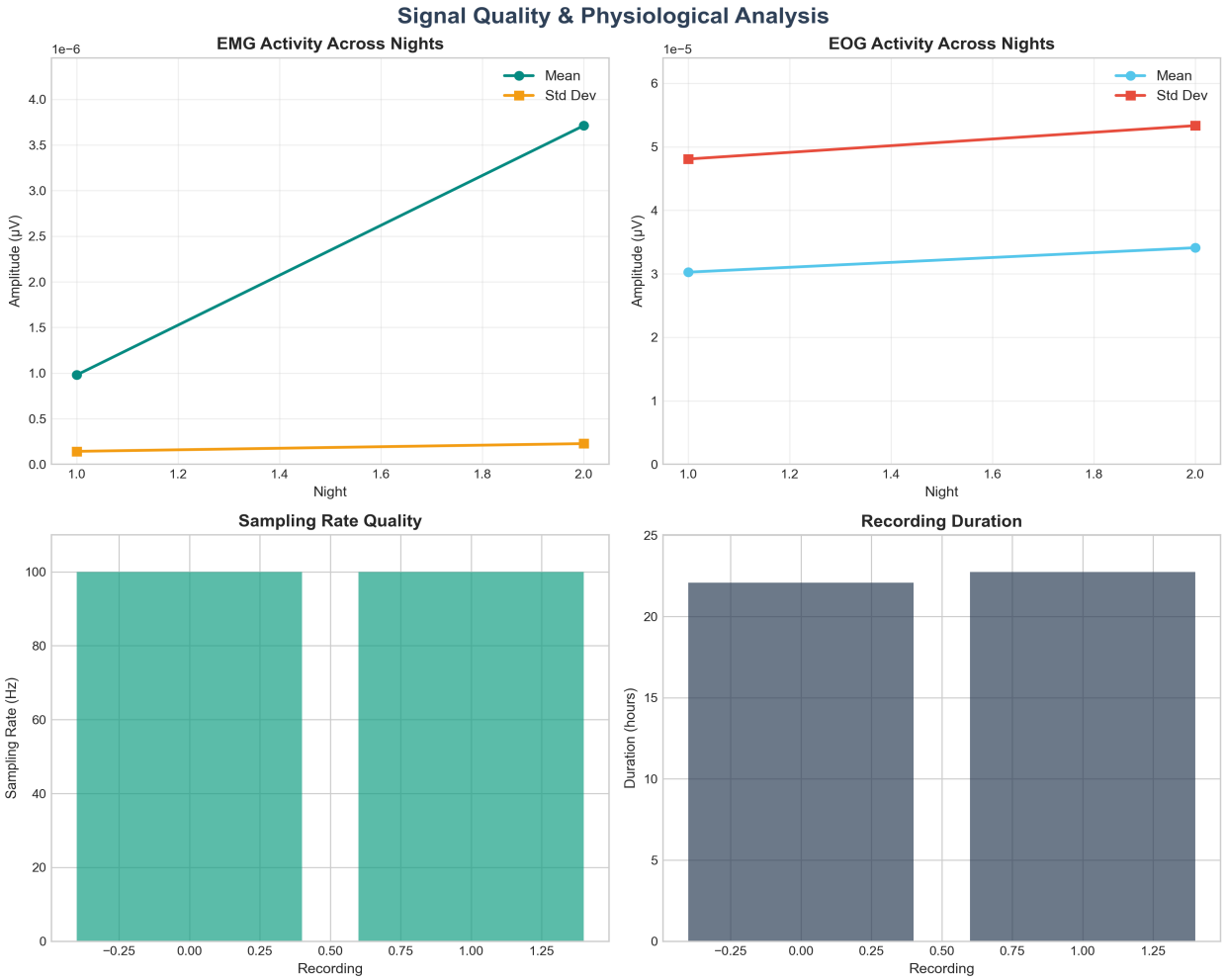
Sleep Architecture Analysis



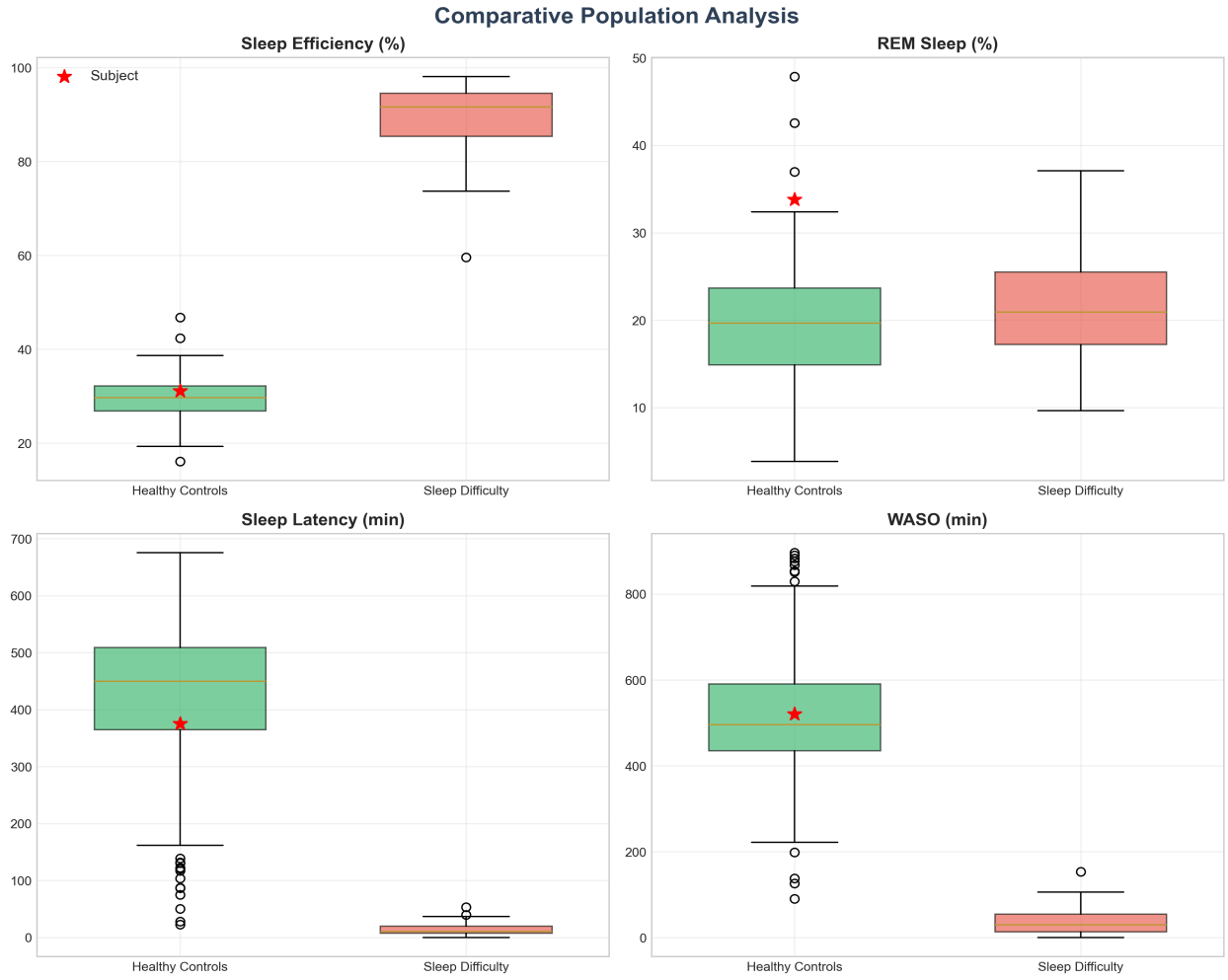
Neurophysiological Analysis - EEG Power Spectrum


EEG Power Spectral Analysis
EEG Fpz-Cz - Average Absolute Power
EEG Fpz-Cz - Night Variation
EEG Pz-Oz - Average Absolute Power
EEG Pz-Oz - Night Variation
Power (µV²/Hz)
Delta (0.5-4 Hz)
Theta (4-8 Hz)
Alpha (8-12 Hz)
Beta (12-30 Hz)
Gamma (30-50 Hz)
Night
Delta
Alpha

Signal Quality & Physiological Assessment



Population Comparative Analysis


Comparative Population Analysis
Sleep Efficiency (%)
Subject
100
80
60
40
20
Healthy Controls
Sleep Difficulty
REM Sleep (%)
50
40
30
20
10
Healthy Controls
Sleep Difficulty
Sleep Latency (min)
700
600
500
400
300
200
100
0
Healthy Controls
Sleep Difficulty
WASO (min)
800
600
400
200
0
Healthy Controls
Sleep Difficulty

Clinical Interpretation & Recommendations

Overall Sleep Health Assessment

Sleep Quality Level: POOR

Poor sleep quality with multiple metrics outside normal ranges. The subject's sleep architecture shows:

• Sleep Efficiency: 31.1% (Below normal)
• REM Sleep: 33.8% (Atypical)
• Deep Sleep: 11.2% (Reduced)
• Sleep Continuity: Fragmented (WASO: 520.8 min)

Key Findings

• **Reduced Sleep Efficiency**: At 31.1%, sleep efficiency is below the normal threshold of 85%, indicating potential sleep quality issues.
• **Elevated REM Sleep**: REM sleep comprises 33.8% of total sleep, which is above the typical range of 20-25%.
• **Reduced Deep Sleep**: Deep sleep stages (N3+N4) comprise 11.2% of sleep, which may indicate reduced sleep restoration.

Recommendations

• Consider sleep hygiene counseling and evaluation of factors affecting sleep quality
• Assess sleep environment and factors that may be disrupting deep sleep stages
• Investigation of factors causing sleep fragmentation may be beneficial

Report Analysis and Generation:
Report Analysed and created by the following students of IIIT Allahabad,
Part of Big Data Analytics Course:
• Aditya Singh Mertia (IIT2022125) - [iit2022125@iiita.ac.in]
• Rishabh Kumar (IIT2022131) - [iit2022131@iiita.ac.in]
• Karan Singh (IIT2022132) - [iit2022132@iiita.ac.in]
• Tejas Sharma (IIT2022161) - [iit2022161@iiita.ac.in]

Report Version: 1.0 | Generated: August 16, 2025 at 09:00 PM