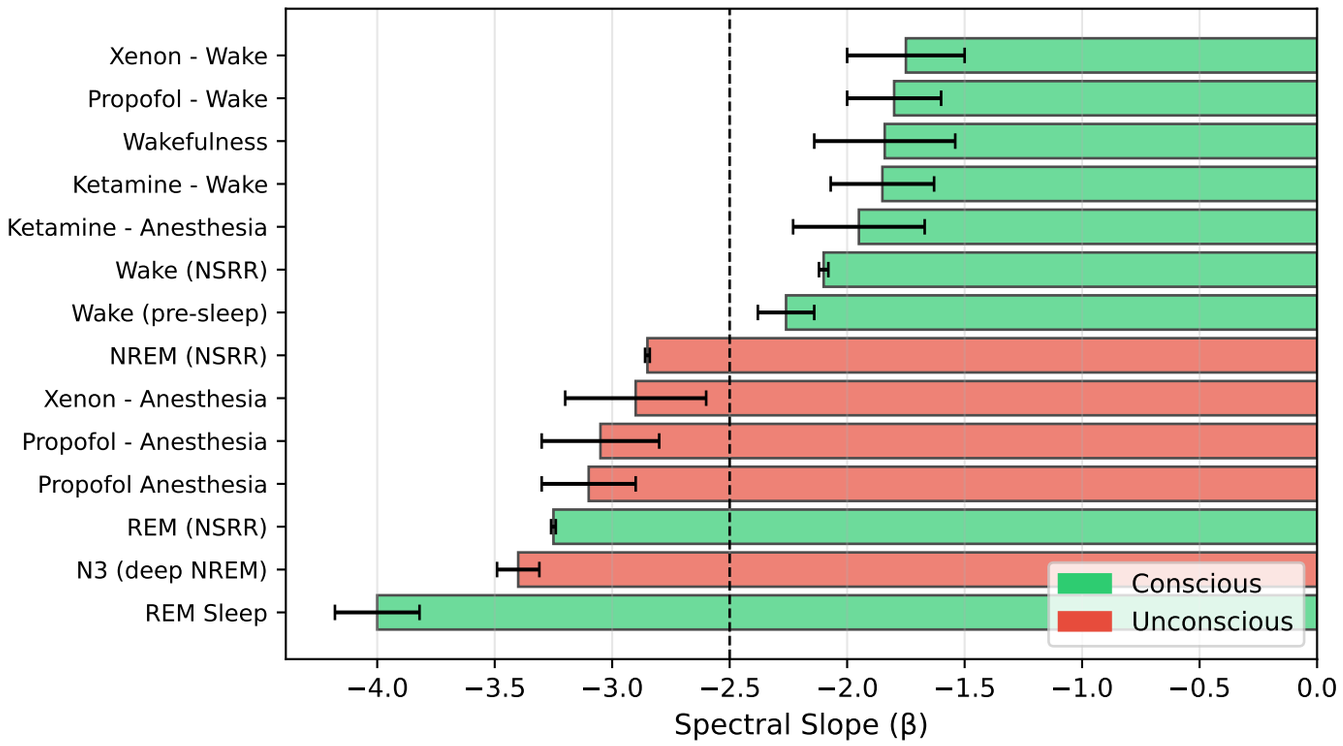

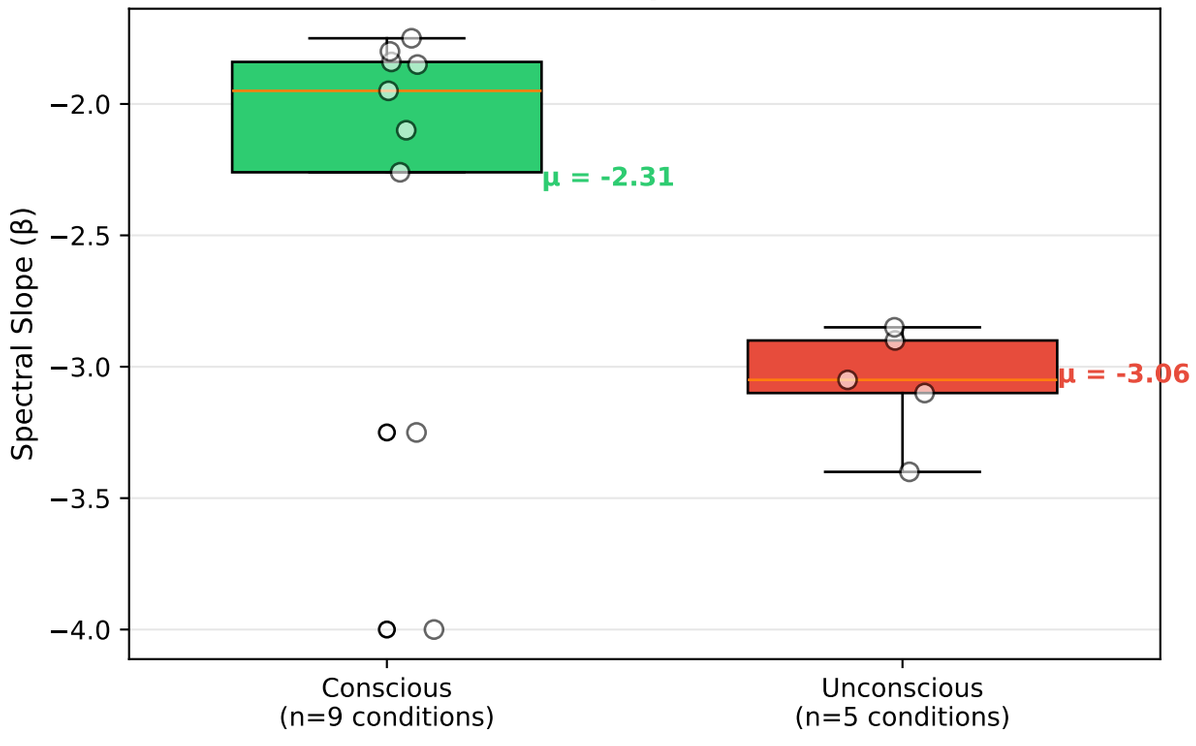

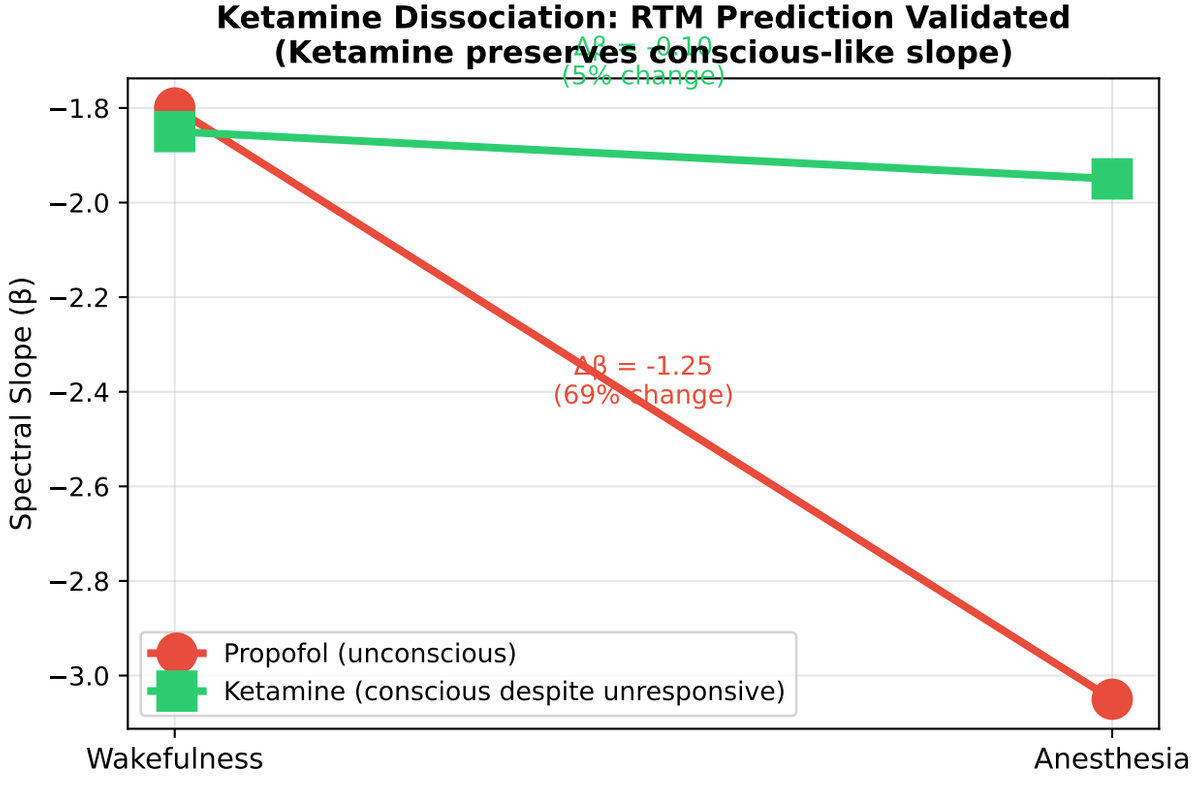

RTM CONSCIOUSNESS VALIDATION: SPECTRAL SLOPE ANALYSIS

DATASET

- Studies: 4 independent sources
- Total subjects: 30,873 (including n=10,255 NSRR)
- Conditions: 14 states across anesthesia and sleep

MAIN RESULTS

Conscious states: β = -1.75 to -2.26 (flatter slope)
Unconscious states: β = -2.85 to -3.40 (steeper slope)

Classification accuracy: 85.7%
AUC: 0.80

RTM PREDICTIONS VALIDATED

✓ H1: α separates conscious from unconscious
✓ H2: Propofol decreases α (steepens slope by 69%)
✓ H3: Ketamine preserves α (only 5% change)
✓ H4: Large-scale replication (n=10,255)

KEY INSIGHT: KETAMINE DISSOCIATION

Ketamine renders subjects unresponsive BUT:
- Preserves conscious-like spectral slope
- Patients report vivid experiences
- RTM correctly predicts this dissociation

This validates RTM's claim that spectral slope indexes CONSCIOUSNESS, not just behavioral responsiveness.

SOURCES

- Lendner et al. (2020) eLife
- Colombo et al. (2019) NeuroImage
- Purcell et al. (2022) eNeuro

VALIDATION STATUS: ✓ VALIDATED