Trial #67 — Recognition Potential Analysis

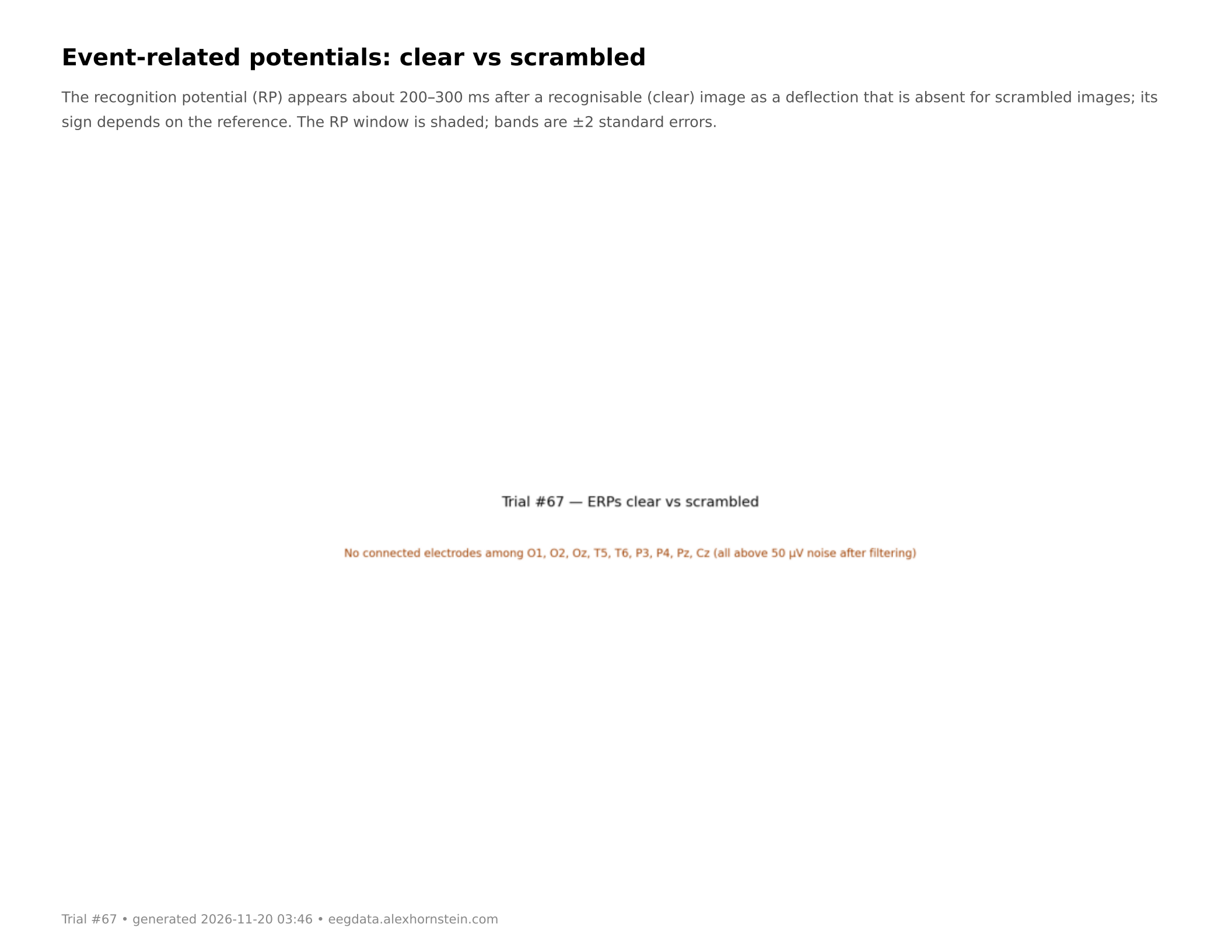
NO CONNECTED ELECTRODES

Subject	NM1 • recorded 07/25/2025 16:26 • dataset Celebrities
Stimuli	501 images: 70 clear, 431 scrambled • 71 keypresses (70 matched to clear images, median RT 465 ms)
EDF file	NM_20250624_033513.edf
Alignment	photodiode on C3 (positive and negative spikes, matched to every image); clock offset 11892 ms (EDF header would give 2724647000 ms); 500/501 images matched; drift -160 ppm; jitter 19.7 ms
Electrodes	noise after filtering — O1 28 µV ✓, O2 35 µV ✓, T5 2043 µV, T6 1641 µV, P3 2050 µV, P4 1945 µV, Pz 2292 µV, Cz 82 µV (✓ = used, threshold 50 µV)
Processing	60 Hz notch, 0.5–15 Hz bandpass, epochs -200 to 800 ms, baseline -200 to 0 ms, reject > 100 µV peak-to-peak

⚠ No connected electrodes among O1, O2, Oz, T5, T6, P3, P4, Pz, Cz (all above 50 µV noise).

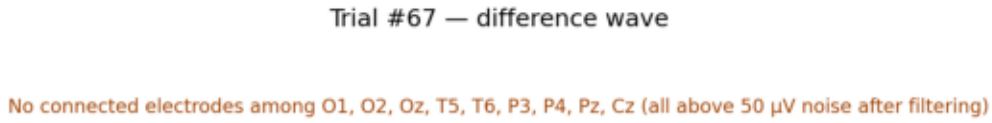
Event-related potentials: clear vs scrambled

The recognition potential (RP) appears about 200–300 ms after a recognisable (clear) image as a deflection that is absent for scrambled images; its sign depends on the reference. The RP window is shaded; bands are ±2 standard errors.



Difference wave (clear − scrambled)

Images arrive every ~330 ms, so each epoch also contains responses to neighbouring images. Subtracting the scrambled average removes that shared part and isolates the RP.



Keypress-locked average

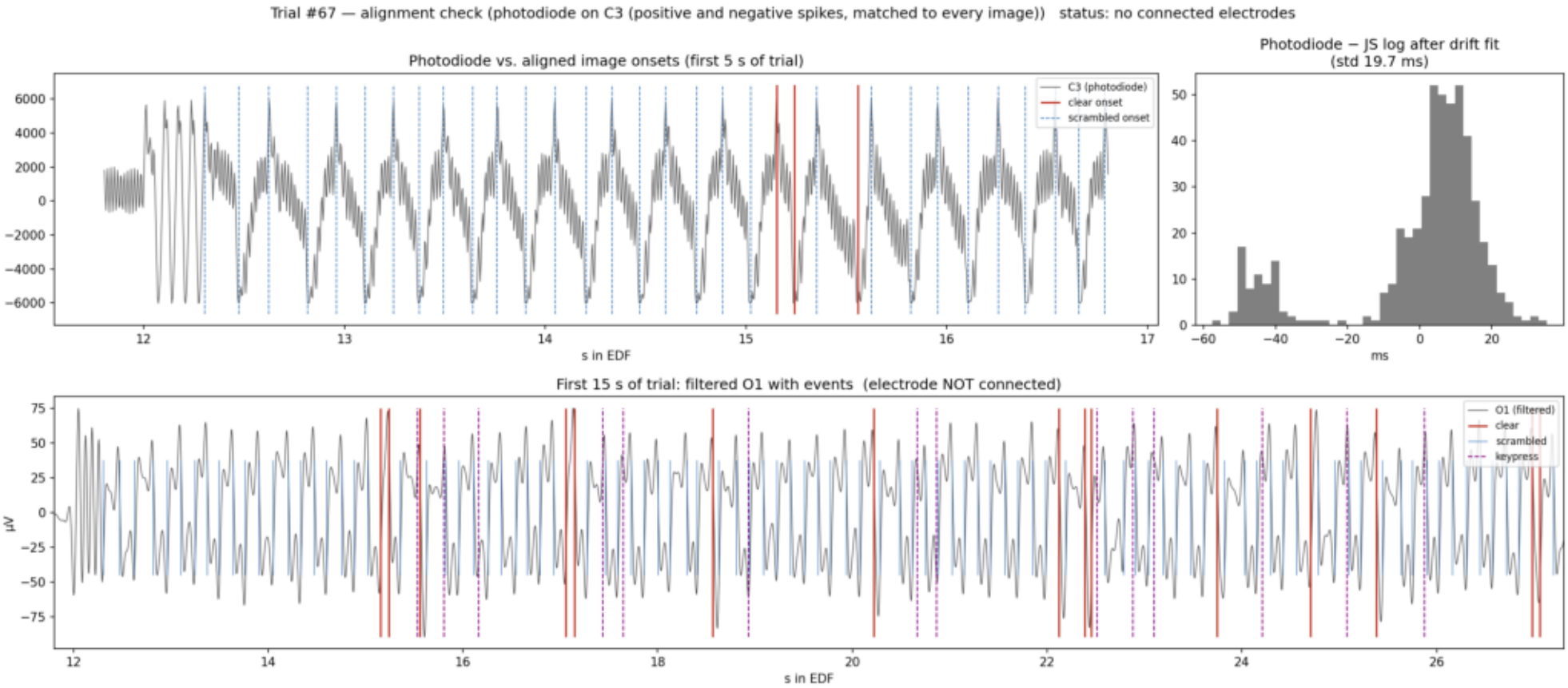
Checks whether activity tied to the button press, rather than recognition, drives the difference between clear and scrambled images.

Trial #67 — keypress-locked average

No connected electrodes among O1, O2, Oz, T5, T6, P3, P4, Pz, Cz (all above 50 µV noise after filtering)

Alignment check and signal overview

Each image onset is snapped to its photodiode spike. Bottom: the first 15 s of the filtered signal with image onsets and keypresses.



Analysis log

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Trial #67 — subject NM1, 07/25/2025 16:26
  EDF: /home/japhy/eegdata/media/trialData/NM_20250624_033513.edf
  250 Hz, 131 s; 501 images (70 clear, 431 scrambled); 71 presses
  alignment: photodiode on C3 (positive and negative spikes, matched to every image)
    offset 11892 ms (EDF header says 2724647000); 98% of images matched (typical 40%); drift -160 ppm; jitter 19.7 ms
  electrode noise (µV): O1 28, O2 35, T5 2043, T6 1641, P3 2050, P4 1945, Pz 2292, Cz 82
  using: O1, O2
  70 of 70 clear images followed by a keypress (median RT 465 ms)
  O1: too few clean epochs, skipped
  O2: too few clean epochs, skipped
  status: no connected electrodes
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