Supplementary Material: Data Processing Scheme – Table 2

Step	Description
1	Import of EEG data in EDF format
2	Resampling to 250 Hz
3	Notch filtering to remove power line artifacts (45–55 Hz)
4	Channel rejection based on joint probability >3 SD from log power average (1–125 Hz), applied twice
5	Extended independent component analysis (ICA) for artifact detection and removal
6	Interpolation of rejected channels
7	Marking novelty stimulus onset using elapsed time data from a JSON file
8	Epoching the signal from −300 ms to +900 ms relative to novelty stimulus
9	Concatenation of epochs into a unified EEG file
10	Re-referencing to average reference across electrodes
11	High-frequency low-pass filtering at 40 Hz
12	Generation of a plot for visual inspection showing the P300 waveform and mean amplitude (280–450 ms)
13	Manual correction based on visual inspection using external JSON file: redefine onset, reject, or keep the novelty event
14	Calculation of the mean amplitude of the corrected P300 component