Motivation for the preregistered electrode selection

We preregistered the electrodes on the basis of our unpublished manuscript (Eklund, Gerdfeldter, & Wiens, 2019). In this study, a tone discrimination task was used with two tones (low = 900 Hz and high = 1400 Hz). Subjects had to categorize the tone (low or high) and to provide a subjective rating on a perceptual awareness scale ("I did not hear a tone", "I heard the tone weakly", or "I heard the tone clearly").

Electroencephalography was recorded with 64 electrodes. Preprocessing was the same as that in the current paper.

For each tone pitch (low and high), the *aware-correct* event-related potential (ERP) was defined as the average response to tones that were rated as "I heard the tone clearly" or "I heard the tone weakly" and that were correctly categorized. For each tone pitch (low and high), the *unaware-correct* ERP was defined as the average response to tones that were rated as "I did not hear a tone" and that were correctly categorized. For each tone pitch (low and high), a difference wave was calculated by subtracting the unaware-correct ERP from the aware-correct ERP (i.e., aware minus unaware). The two difference waves (low and high pitch) were then averaged to obtain a mean difference wave of aware-correct minus unaware-correct across pitch.

Results (N = 28) suggested that this difference wave across pitch, auditory awareness negativity (AAN) and late positivity (LP) had their peaks at a similar central-parietal location (see Figure 1). For this reason, we decided to preregister the following set of electrodes: C3, C1, Cz, C2, C4, CP3, CP1, CPz, CP2, CP4, P3, P1, Pz, P2, and P4. The positions of these electrodes are marked as black dots in the Figure 1.

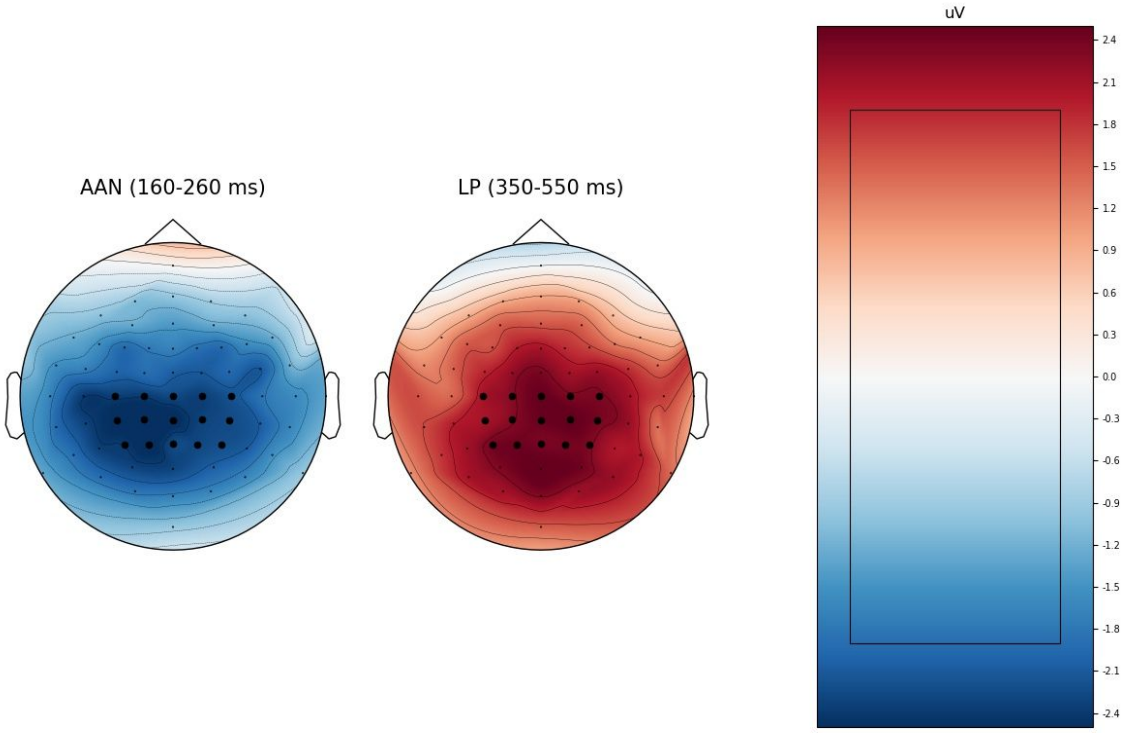

Figure 1. Topographies of AAN and LP. Note that the full scale refers to the AAN and the smaller square in the scale refers to the LP.

References:

Eklund, R., Gerdfeldter, B., & Wiens, S. (2019). Auditory Awareness Negativity in a Pitch Discrimination Task. Unpublished Manuscript.