

## Supplementary analyses

### Nose reference

Table 1 shows the descriptive and inferential statistics for the mean amplitudes of the analysis with tip of the nose as reference electrode. Figures 1 and 2 show the results of the analyses for AAN and LP.

Table 1: Descriptive and inferential statistics for the mean amplitudes ( $\mu\text{V}$ ) of the difference waves (aware [correct] minus unaware [correct and incorrect])

ERP	Condition	<i>N</i>	<i>Mean</i>	<i>SD</i>	95%CI	<i>BF</i> <sub>10</sub>
AAN	Overall	26	−1.2	1.2	[−1.7, −0.7]	654.2
	Contralateral	26	−1.4	1.2	[−1.9, −0.9]	1117.4
	Ipsilateral	26	−1.0	1.2	[−1.5, −0.5]	194.8
	Difference	26	−0.3	0.4	[−0.5, −0.2]	50.5
LP	Overall	26	1.5	0.7	[ 1.2, 1.8]	510 906.5
	Contralateral	26	1.5	0.7	[ 1.2, 1.7]	585 275.2
	Ipsilateral	26	1.5	0.8	[ 1.2, 1.8]	295 411.9
	Difference	26	−0.1	0.3	[−0.2, 0.1]	0.1

*Note.* The difference condition refers to contralateral minus ipsilateral. AAN = auditory awareness negativity; LP = late positivity; *BF* = Bayes Factor

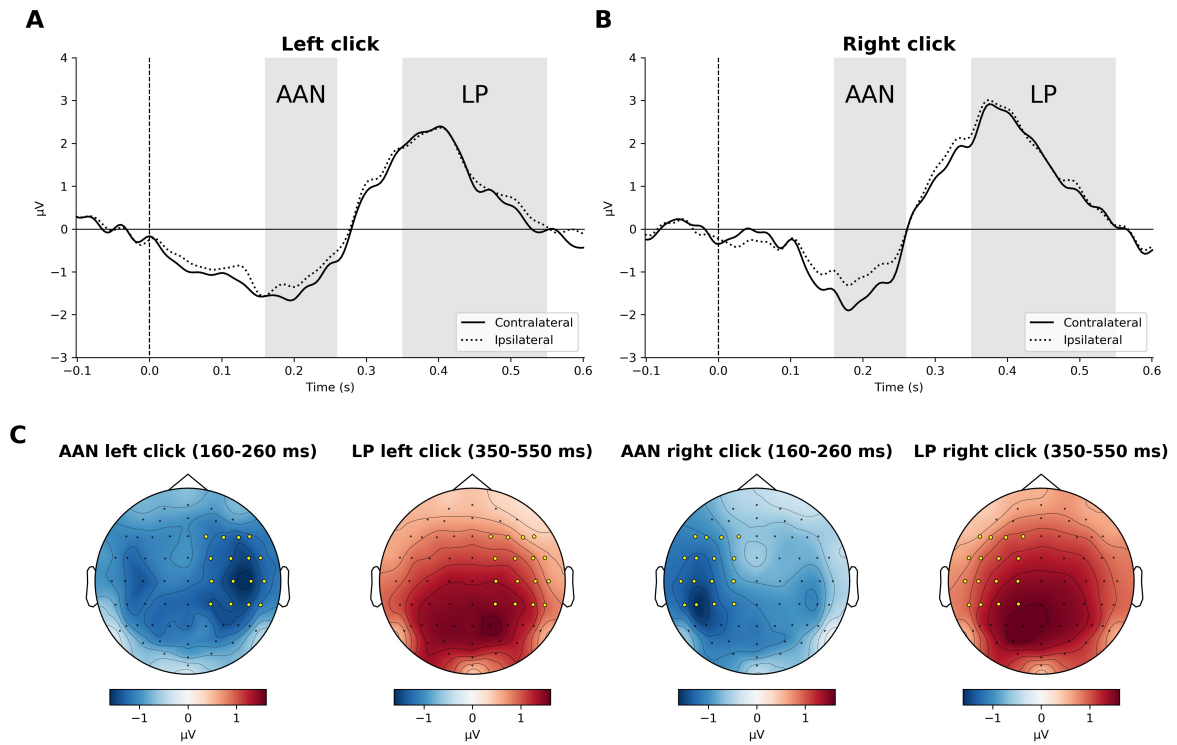


Figure 1: **A** and **B**: Grand mean ( $N = 26$ ) difference waves between aware (correct) trials and unaware (correct and incorrect) trials, separately for each click side. **A**: The response to left clicks from contralateral (right) and ipsilateral (left) electrodes. **B**: The response to right clicks from contralateral (left) and ipsilateral (right) electrodes. Auditory awareness negativity (AAN) was measured between 160 and 260 ms after click onset, and late positivity (LP) was measured between 350 and 550 ms after click onset. These intervals are marked in gray. **C**: Topographies of mean amplitudes for AAN and LP for left and right clicks (preregistered electrodes are marked). **The data were referenced to the tip of the nose.** In the plots, the data were low-pass filtered at 30 Hz.

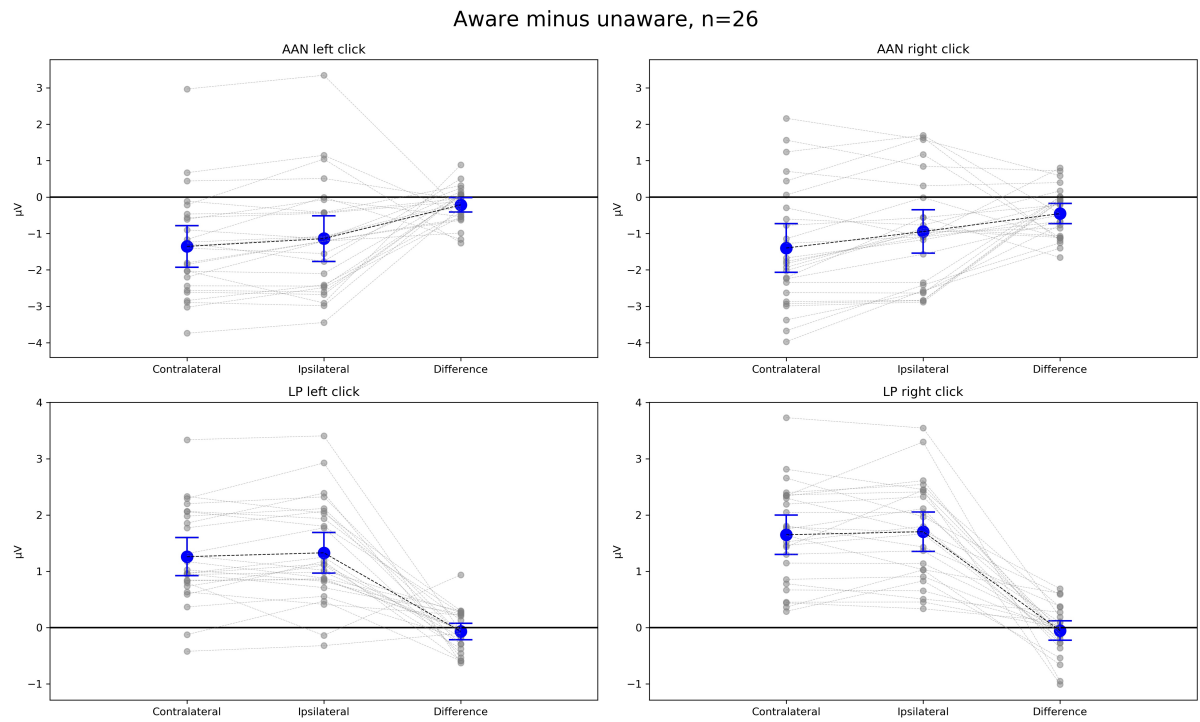


Figure 2: Mean amplitudes ( $N = 26$ ) for the AAN-relevant electrodes and interval (top row) and for the LP-relevant electrodes and interval (bottom row), separately for left clicks (left column) and right clicks (right column). Electrodes were either contralateral to the click side or ipsilateral to the click side. The difference refers to contralateral minus ipsilateral. **The data were referenced to the tip of the nose.**

## Average reference

Figure 2 in the manuscript shows an early difference immediately after stimulus onset for the aware-unaware difference wave for left clicks. Also, the baselines seem to suggest a drift. This early difference/drift may be caused by the ERPs to the onset of the fixation cross that preceded the tone by a fixed interval. This effect may have been driven by only a few subjects.

Figure 3 shows a butterfly plot of aware/correct minus unaware trials. The figure supports two conclusions. First, the nose electrode (in green) deviates substantially from the other electrodes. Because the nose electrode was the preregistered reference electrode, it may have biased the results. Second, although the prestimulus ERPs are clearly visible in aware trials (top row) and unaware trials (middle row), they are not apparent in the difference wave (bottom row). This suggests that the fixed interval between fixation cross and tone onset did not cause the early difference/drift. To examine whether any bias from the nose was driven by only a few subjects, we plotted the mean amplitudes (0-100 ms) of the aware minus unaware difference for the preregistered electrodes with nose as reference. Figure 4 shows that there was only one extreme value for right clicks. Importantly, for most subjects, the mean amplitudes differed considerably ( $> 0.5 \mu\text{V}$ ) between preregistered electrodes and nose.

Taken together, these findings suggest that the nose electrode may have distorted the analyses. The nose was recorded separately with a flat electrode. It may be that the separate cable was more movement sensitive or that the electrode was at the end of its lifetime. To reduce effects of the nose electrode, we excluded the nose and preprocessed the data again with an average reference. Figure 5 shows the data without the nose electrode.

Changing the reference electrode from nose to average can have substantial effects on the latency and topography of an effect. Therefore, we generated an aware minus unaware difference wave across left and right clicks to determine whether the preregistered selection of electrodes and intervals was appropriate to capture AAN and LP. As shown in Figure 3 in the manuscript, we had to adjust electrodes and intervals slightly. For subsequent analyses, different electrode clusters were used for AAN and LP.

Figure 6 shows aware minus unaware difference waves separately for each click side for the AAN-relevant interval and electrodes. The early difference/drift problem for AAN is reduced. Notably, the ERPs and topographies suggest that effects on AAN were driven only by activity over contralateral electrodes.

Figure 7 shows aware minus unaware difference waves separately for each click side for the LP-relevant interval and electrodes. The figure suggests a clear LP that was similar for contralateral and ipsilateral electrodes.

Figure 8 shows the mean amplitudes for AAN and LP, separately for each click side. The figure shows contralateral and ipsilateral electrodes, as well as their difference.

To conclude, the apparent early difference/drift in the original results was reduced when the data were reanalyzed after excluding the nose electrode and using an average reference.



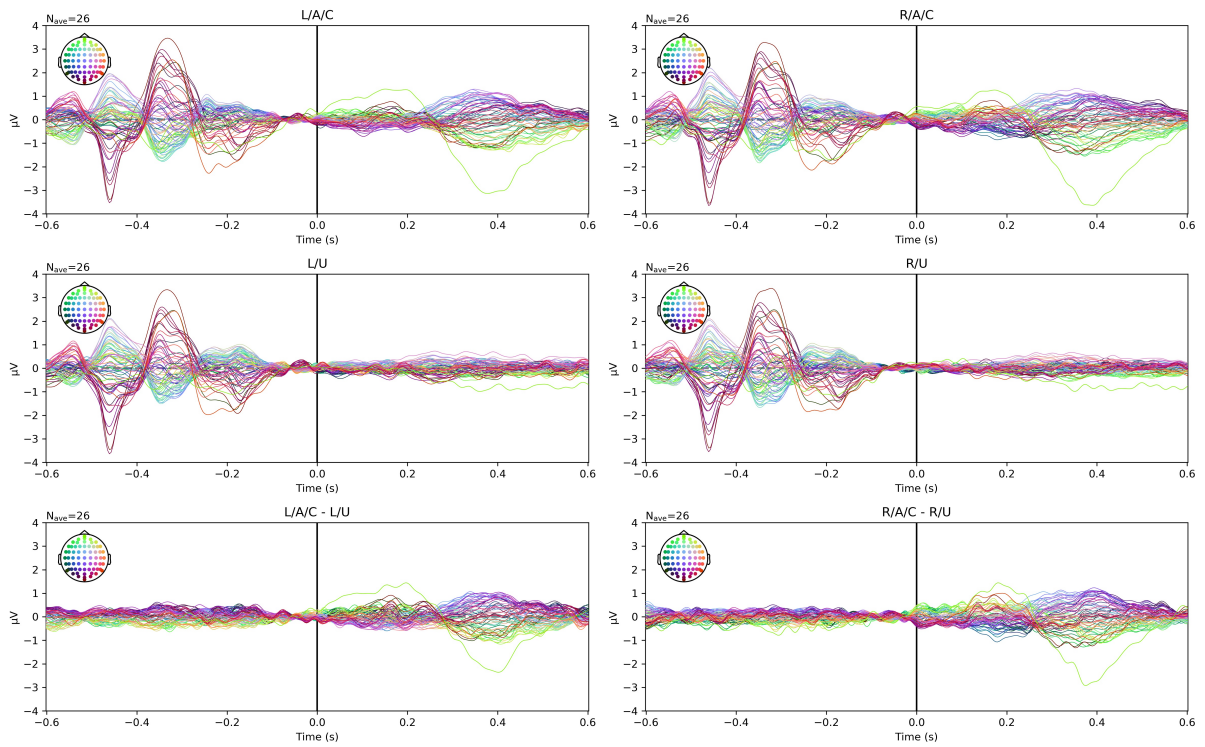


Figure 3: Grand mean butterfly plots ( $N = 26$ ). **Left** column shows left clicks, **right** column shows right clicks, the **top** row shows aware trials, the **middle** row shows unaware trials, and the **bottom** row shows the difference of aware minus unaware trials. The nose (green) deviates considerably. **The data were average referenced.** In the plots, the data were low-pass filtered at 30 Hz.

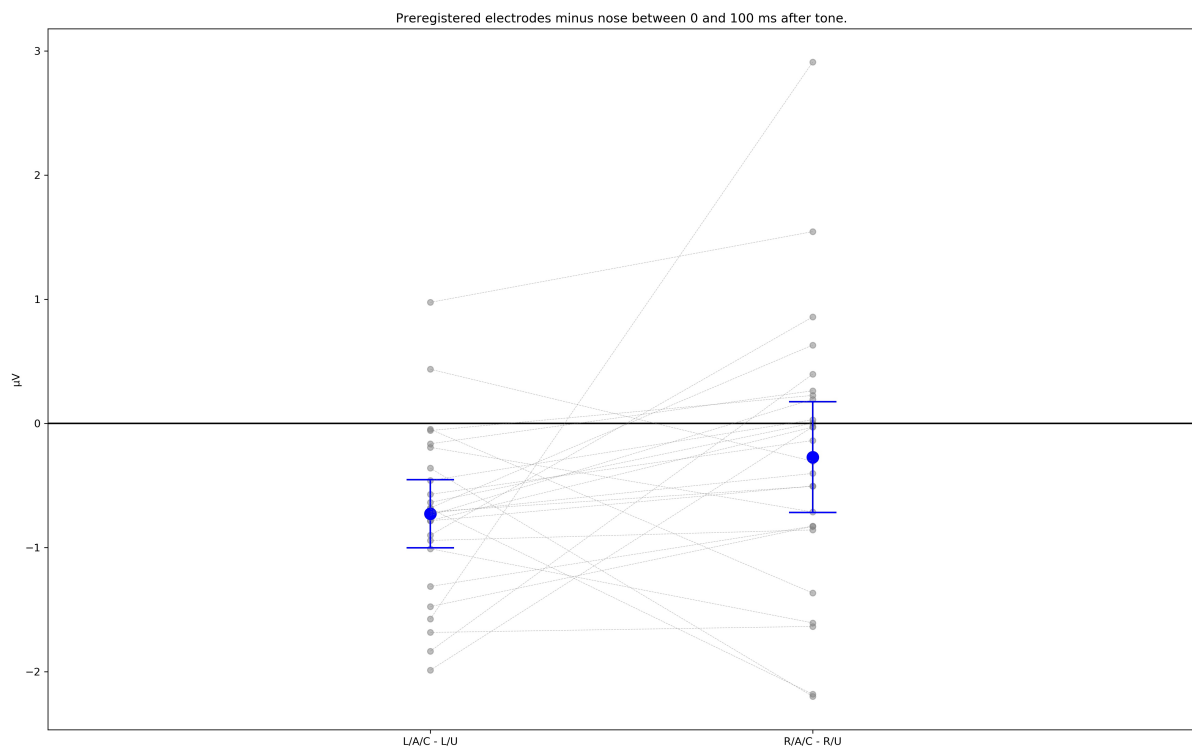


Figure 4: Mean amplitudes (0-100 ms) of the aware minus unaware difference for the preregistered electrodes. **The data were referenced to the tip of the nose.**

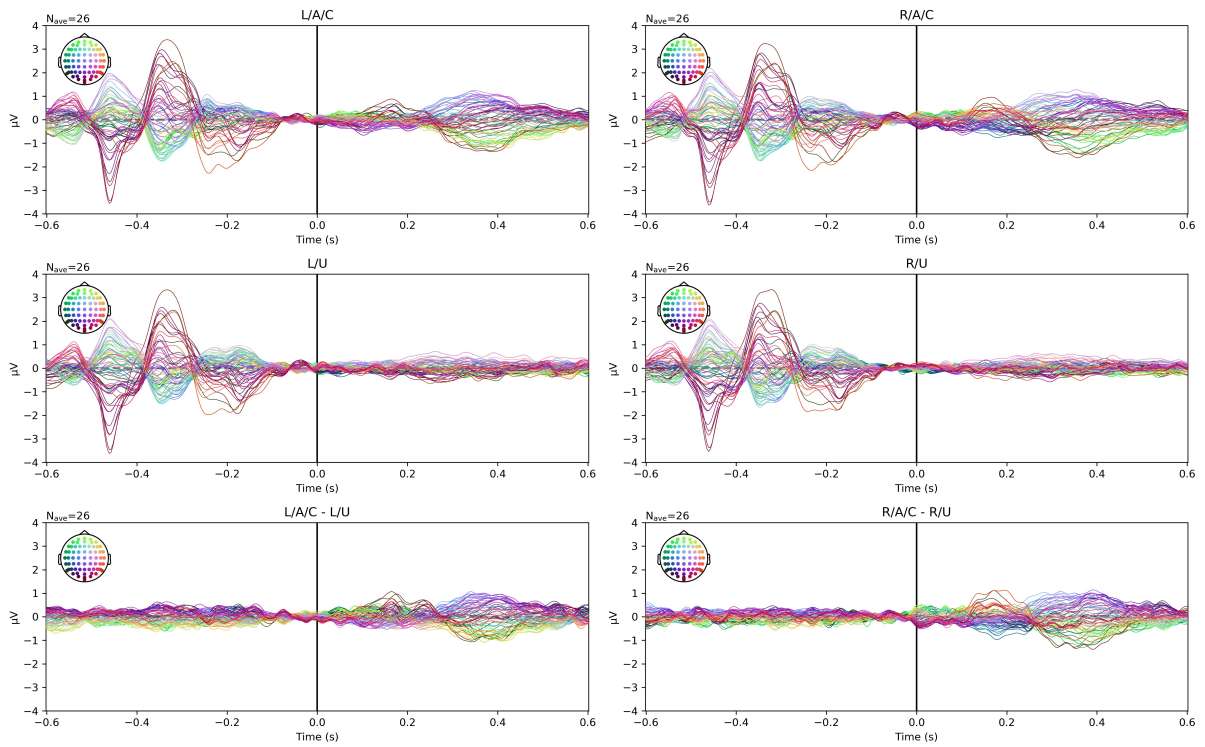


Figure 5: Grand mean butterfly plots ( $N = 26$ ). **Left** column shows left clicks, **right** column shows right clicks, the **top** row shows aware trials, the **middle** row shows unaware trials, and the **bottom** row shows the difference of aware minus unaware trials. **The data were average referenced.** In the plots, the data were low-pass filtered at 30 Hz.

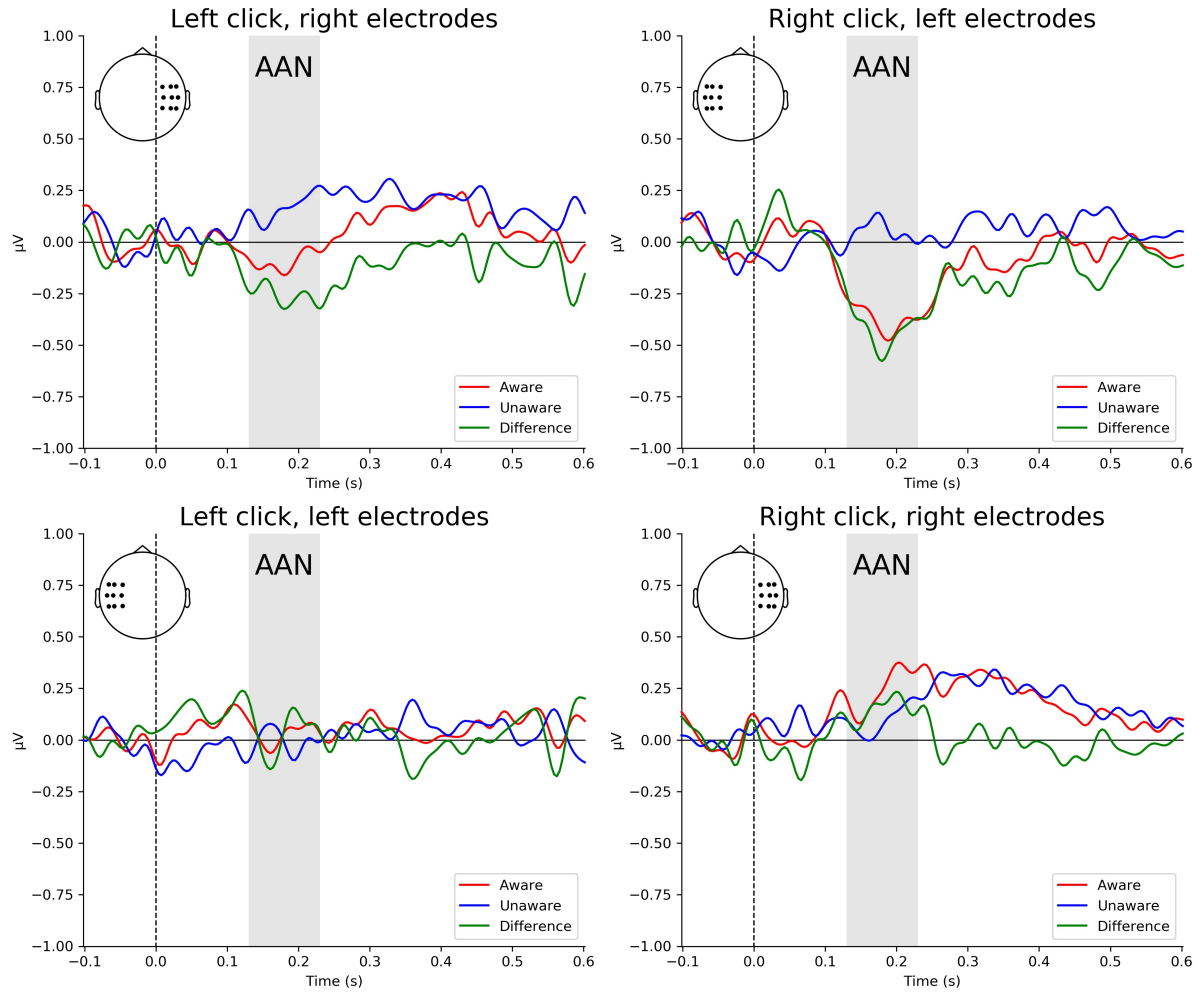


Figure 6: AAN-relevant electrodes: Grand mean ( $N = 26$ ) waves for aware (correct) trials, unaware (correct and incorrect) trials, and their difference (aware minus unaware), separated by click side and electrode laterality. Click side is organized by column, and electrode laterality is organized by row (contralateral on top and ipsilateral on bottom). Auditory awareness negativity (AAN) was measured between 130 and 230 ms after click onset. This interval is marked in gray. Used electrodes are depicted in each subplot. **The data were average referenced.** In the plots, the data were low-pass filtered at 30 Hz.

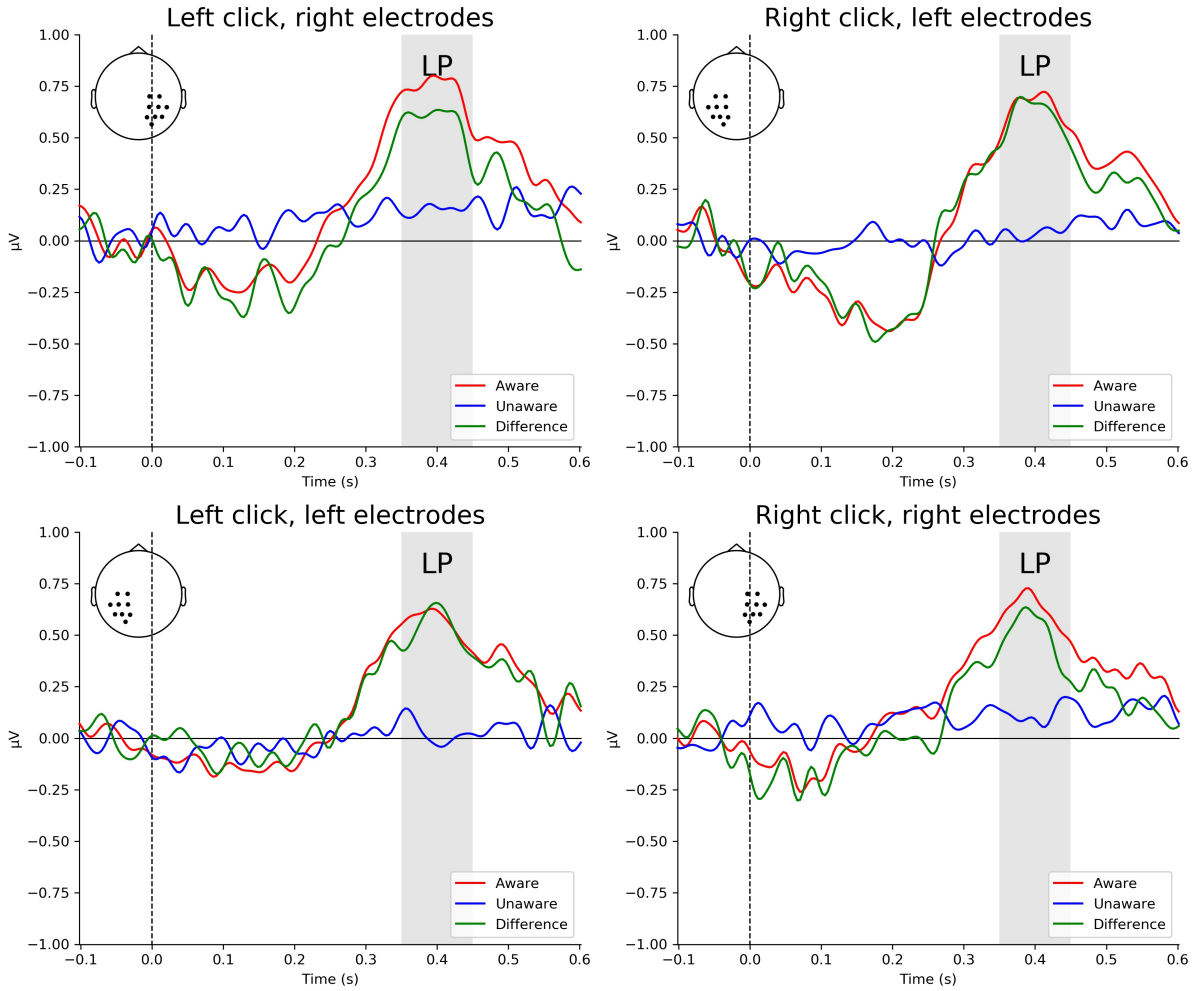


Figure 7: LP-relevant electrodes: Grand mean ( $N = 26$ ) waves for aware (correct) trials, unaware (correct and incorrect) trials, and their difference (aware minus unaware), separated by click side and electrode laterality. Click side is organized by column, and electrode laterality is organized by row (contralateral on top and ipsilateral on bottom). Late positivity (LP) was measured between 350 and 450 ms after click onset. This interval is marked in gray. Used electrodes are depicted in each subplot. **The data were average referenced.** In the plots, the data were low-pass filtered at 30 Hz.

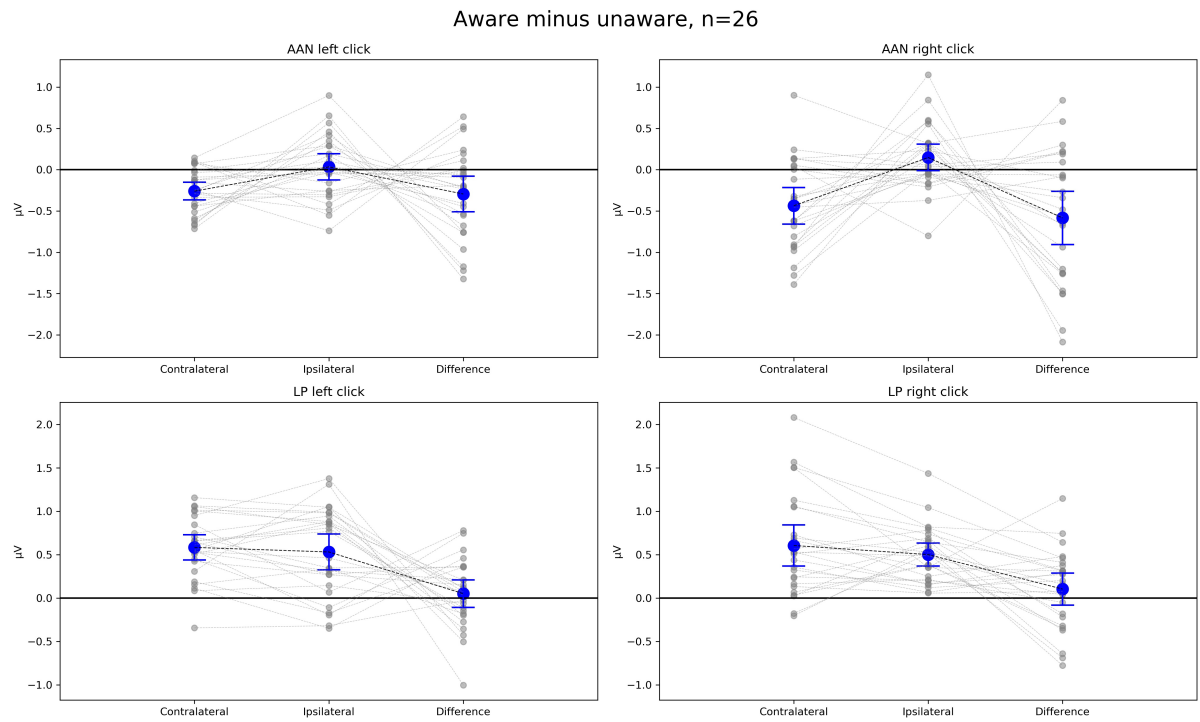


Figure 8: Mean amplitudes ( $N = 26$ ) for the AAN-relevant electrodes and interval (top row) and for the LP-relevant electrodes and interval (bottom row), separately for left clicks (left column) and right clicks (right column). Electrodes were either contralateral to the click side or ipsilateral to the click side. The difference refers to contralateral minus ipsilateral. **The data were average referenced.**