Supplemental information

Recalibration of the auditory continuity illusion: sensory and decisional effects

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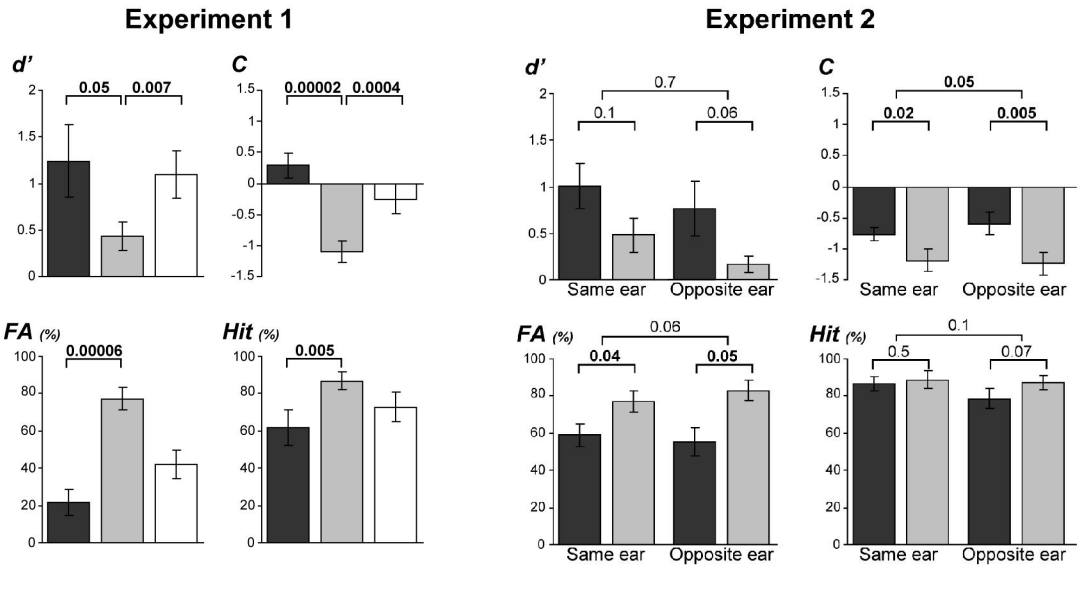
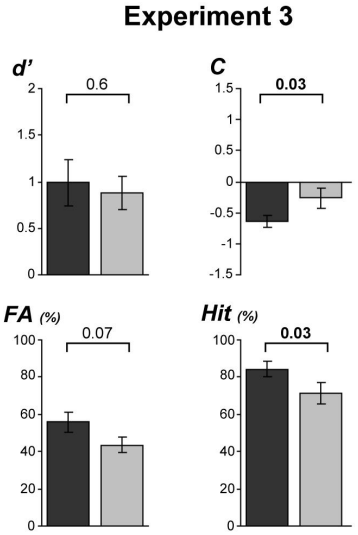
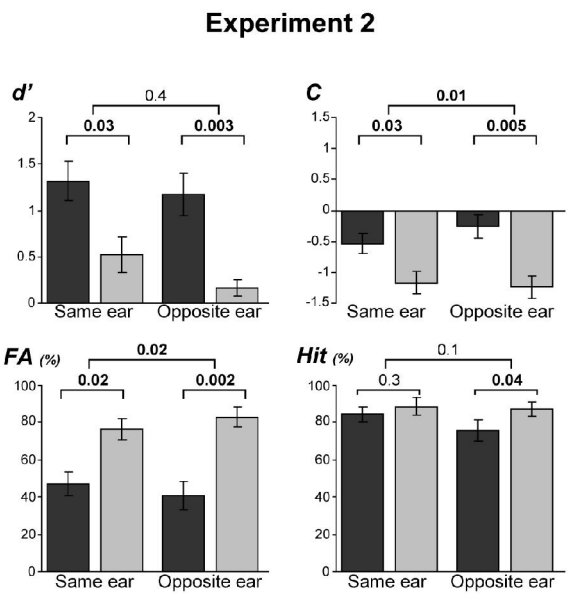
Supplemental results

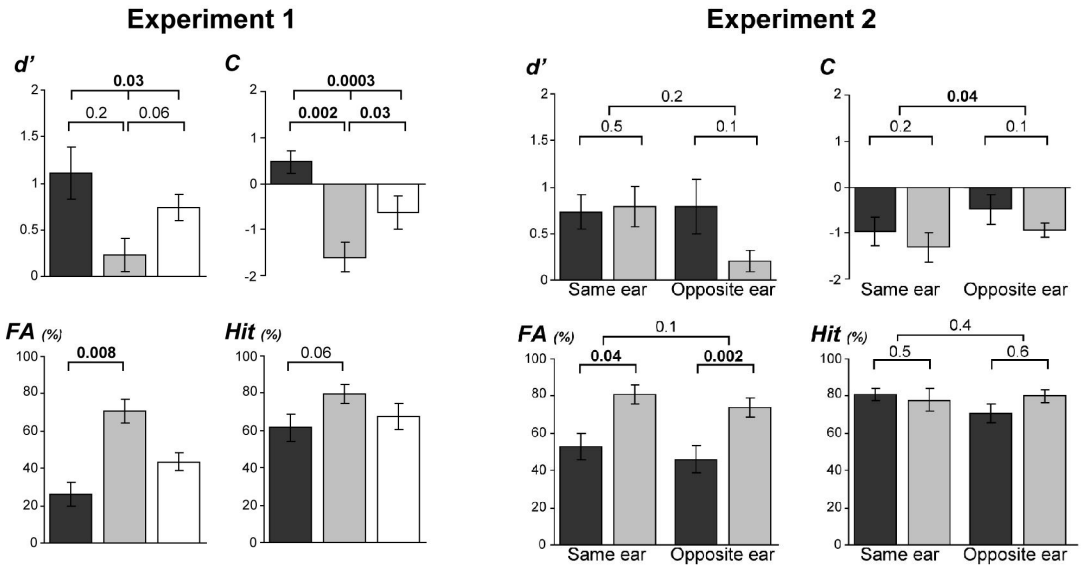


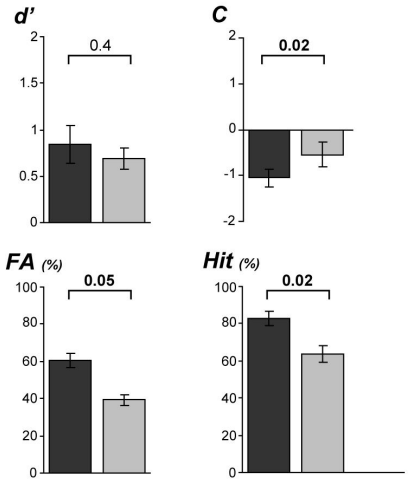


Supplemental figure S1. Results from control analyses for experiments 1–3. To assess influences of potential experimenter biases, additional analyses were conducted in which data from two participants who were informed about the study background were excluded. Despite the reduced sample size, the results from these control analyses were overall consistent with the results reported in the manuscript (for comparison, see Figures 3–5), indicating that potential experimenter biases had no significant influence. Bold numbers indicate significant *P*-values.



Supplemental figure S2. Results from control analyses for experiment 2. To assess influences of potential age-related hearing deficits, additional analyses were conducted in which data from two relatively old participants (aged 57 and 39) were excluded. Despite the reduced sample size, the results from these control analyses were overall consistent with the results reported in the manuscript (for comparison, see Figure 4) indicating that potential age-related hearing deficits had no significant influence. Bold numbers indicate significant *P*-values.





Supplemental figure S3. Results from control analyses for experiments 1–3. To assess potential influences of ceiling effects, additional analyses were conducted in which potential ceiling cases were omitted and most-likelihood estimates of *d'* and *C* were considered. The results from these analyses were slightly less significant, but overall consistent with the results of experiments 1 and 3 reported in the manuscript (for comparison, see Figures 3 and 5). For experiment 2, several effects did not reach significance, which may be explained by insufficient statistical power due to fewer cases in this experiment. In sum, these data indicate that ceiling cases, although present, could not account for the main results of experiments 1 and 3 reported in the manuscript. Bold numbers indicate significant *P*-values.

Supplemental text

To identify potential ceiling cases in our dataset, we computed likelihood functions and 95% confidence intervals for each estimate of *d'* and *C* (for each condition and for each listener separately). This statistical analysis revealed for which cases a ceiling effect could not be excluded (as indicated by an undefined upper limit of the confidence interval), taking into account the number of trials on which the corresponding estimates were based (for more details, see Miller, 1996). The most-likely values of *d'* and *C* that we estimated this way corresponded well with the values considered in our main analyses. Exclusion of potential ceiling cases and re-analysis using non-parametric statistical tests revealed outcomes (see supplemental Figure S3) that were consistent with the main results reported in the manuscript. In experiment 1, main effects on *d'* (χ^2 = 6.00, *dF* = 2, *P* < 0.03) and *C* (χ^2 = 13.00, *dF* = 2, *P* < 0.0003) were observed, whereas in experiment 3, only an effect on *C* (*Z* = 2.27, *P* < 0.02) was observed. For experiment 2, several effects did not reach significance which may be explained by a lack of statistical detection power due to a smaller sample size.

Miller, J. 1996. The sampling distribution of d'. *Percept Psychophys* 58, 65-72.