

Supplementary Figures

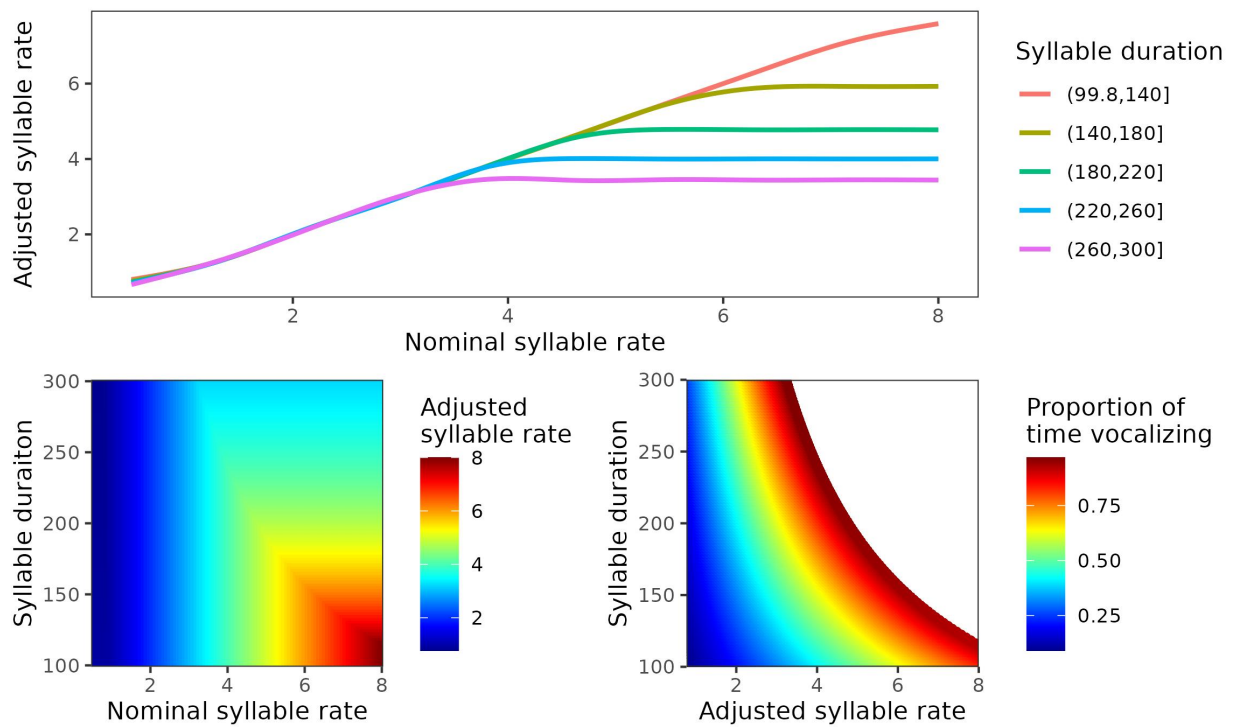


Fig. S1 The adjustment of effective call rate to avoid impossible combinations of call rate and duration in Exp. 1, 2a, and 2b. All rates are in Hz and durations in ms.

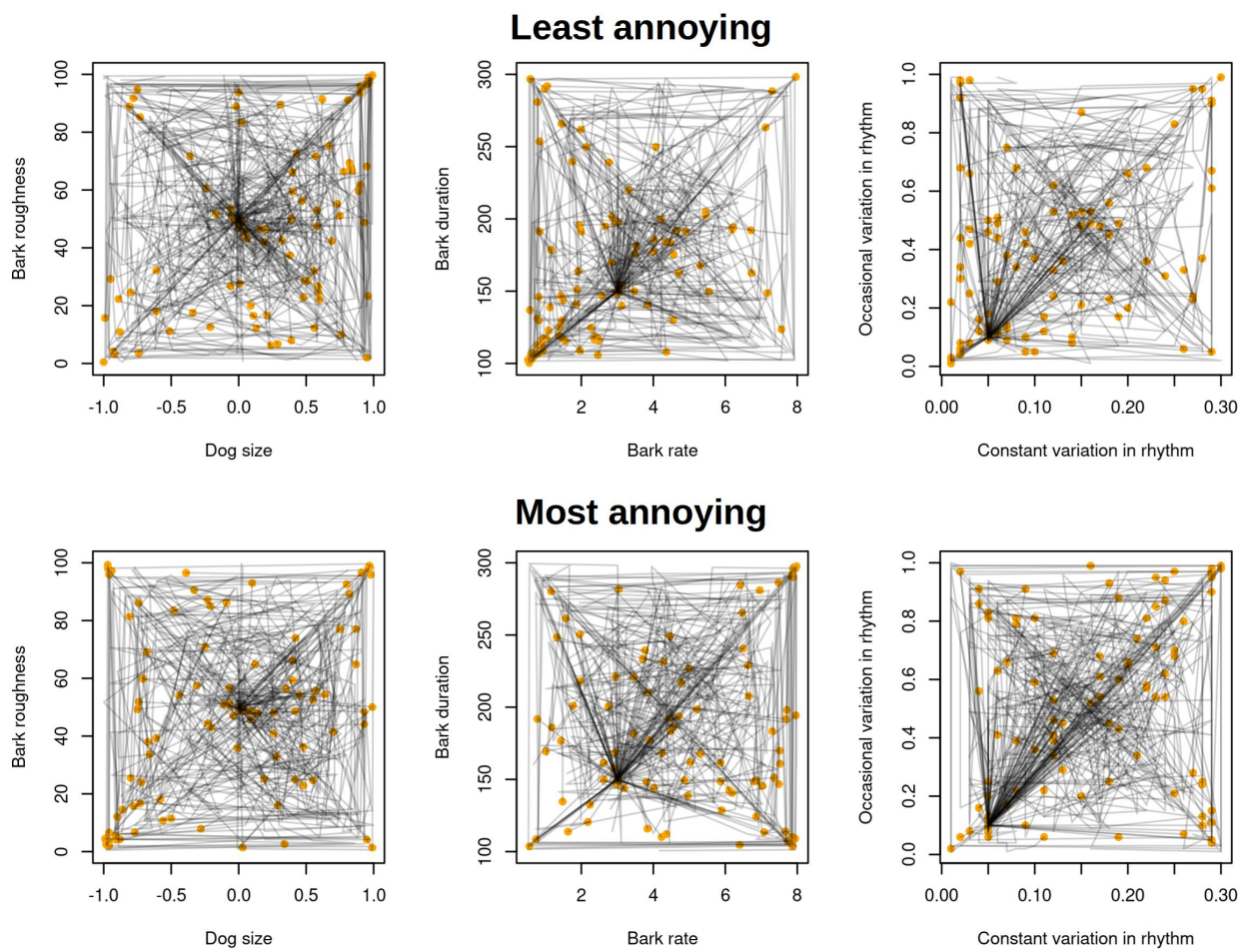


Fig. S2 Trajectories (lines) and final settings (points) selected by participants in Exp. 1 for two tasks: most and least annoying vocalizations. Shown in the original coordinates, without adjusting the bark rate.

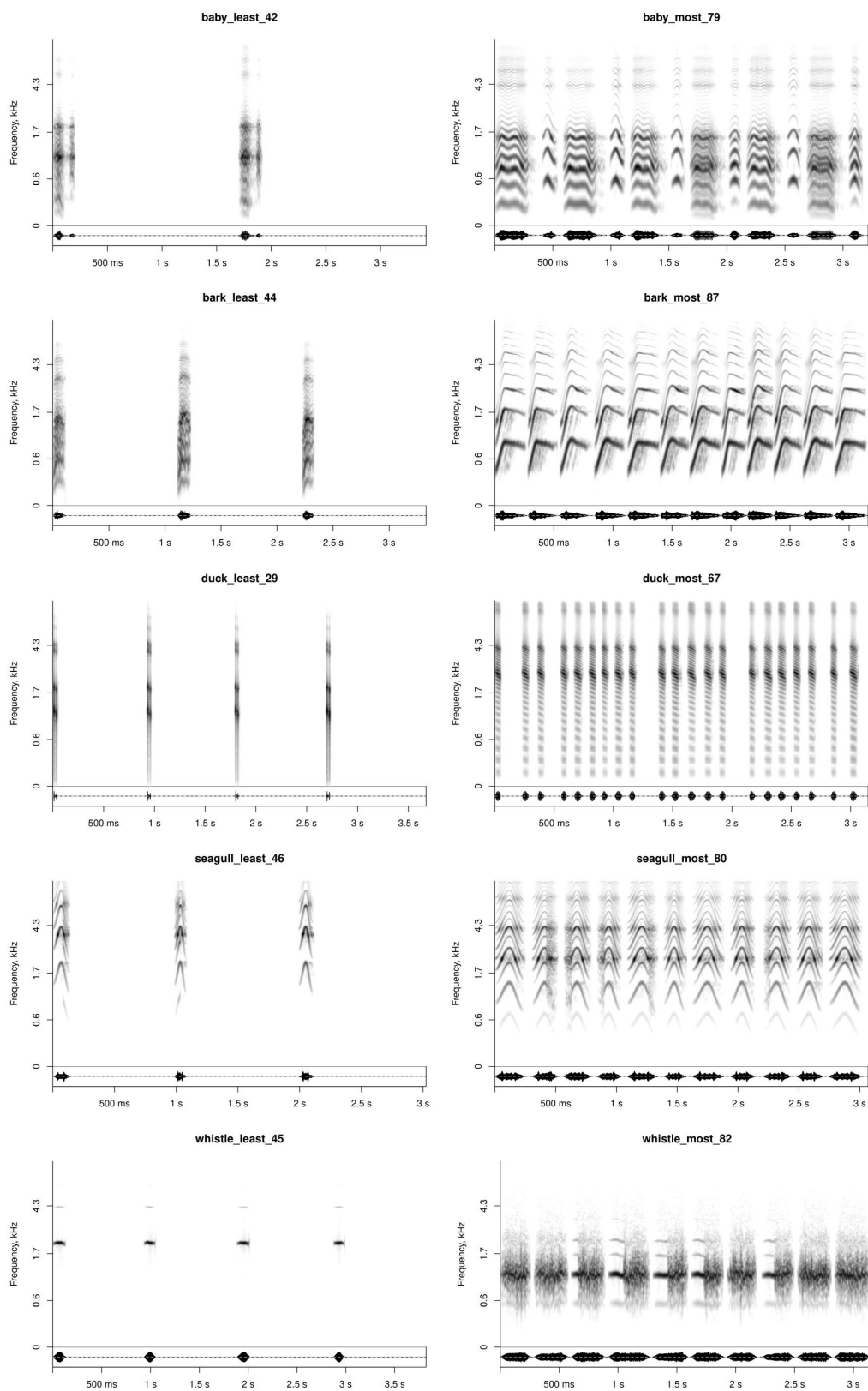


Fig. S3 Examples of stimuli created in Exp. 2. For each prototype, two tokens are shown that were rated as least and most annoying in Exp. 2c. The titles are: {prototype}_{task - least or most annoying}_{annoyance rating}. The ratings are fitted values per sound from the model of responses in Exp. 2c (file “so2r.rds”).

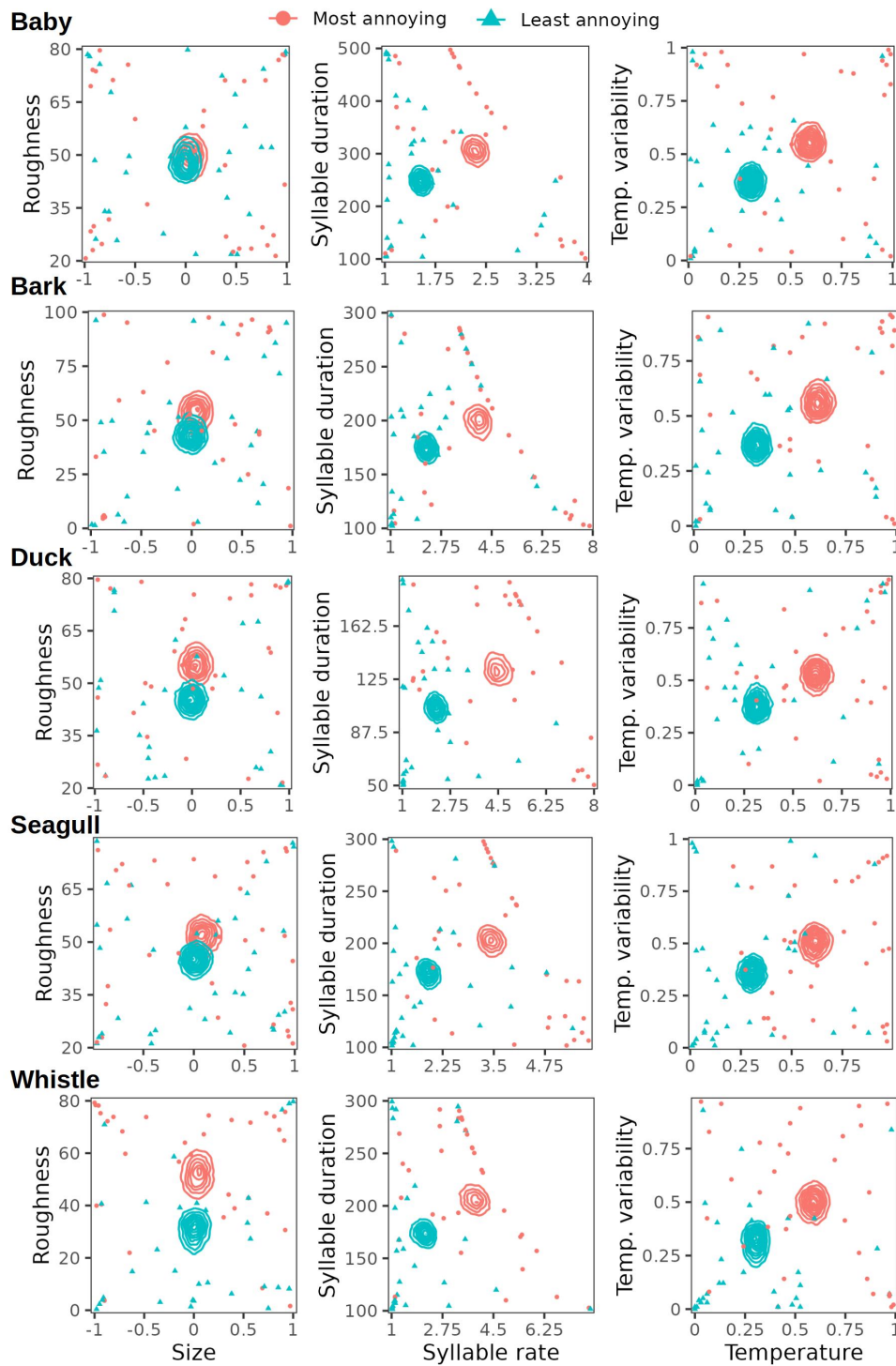


Fig. S4 Increased call rate and irregularity were most consistently chosen to make each vocal prototype maximally annoying in Exp. 2a. The points are observed values, and the contour lines show the density of posterior distributions from a multivariate Gaussian model predicting responses in the 6D parameter space. $N = 323$ trials by 37 participants.

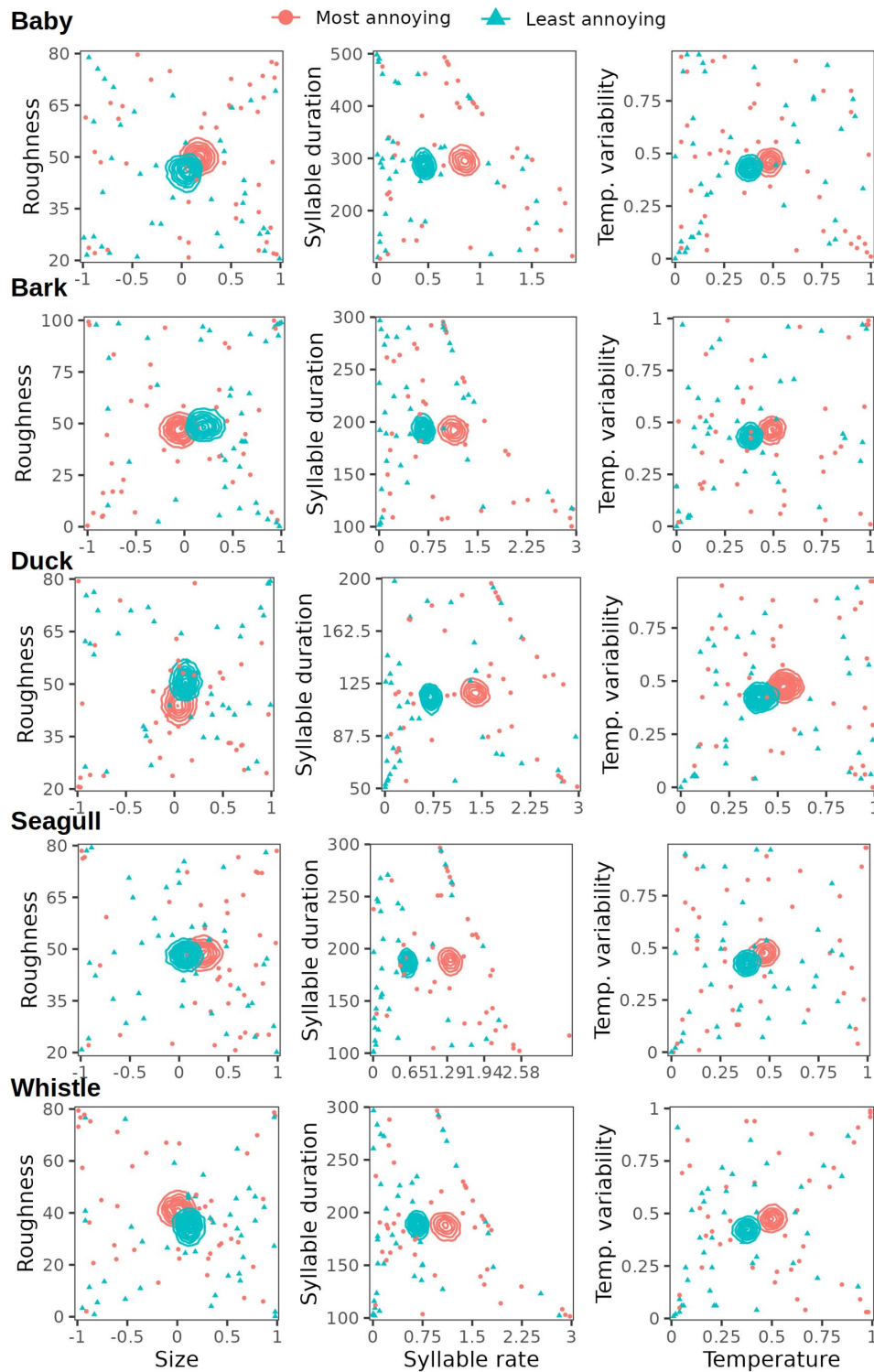


Fig. S5 Increased call rate and irregularity were most consistently chosen to make each vocal prototype maximally annoying in Exp. 2b. The points are observed values, and the contour lines show the density of posterior distributions from a multivariate Gaussian model predicting responses in the 6D parameter space. $N = 415$ trials by 41 participants.

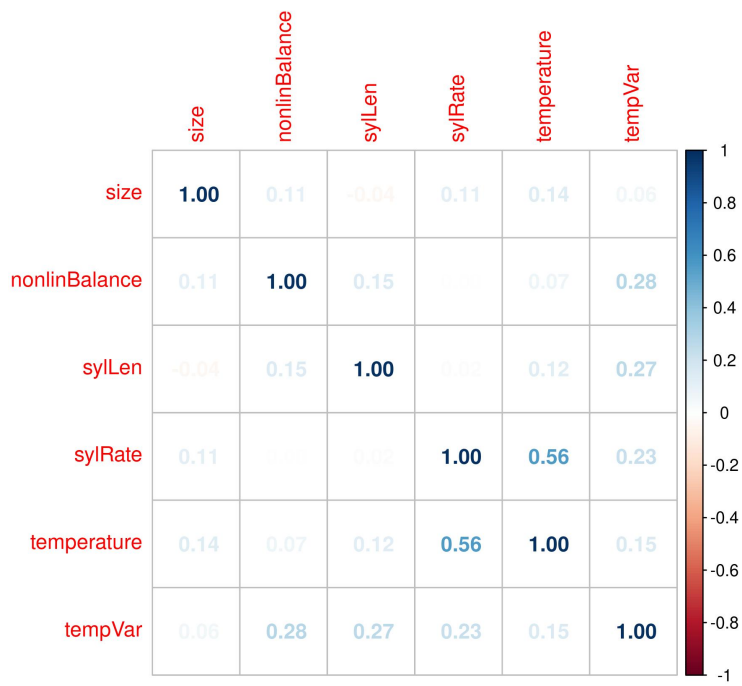


Fig. S6 Correlations between the six control parameters in Exp. 2a.

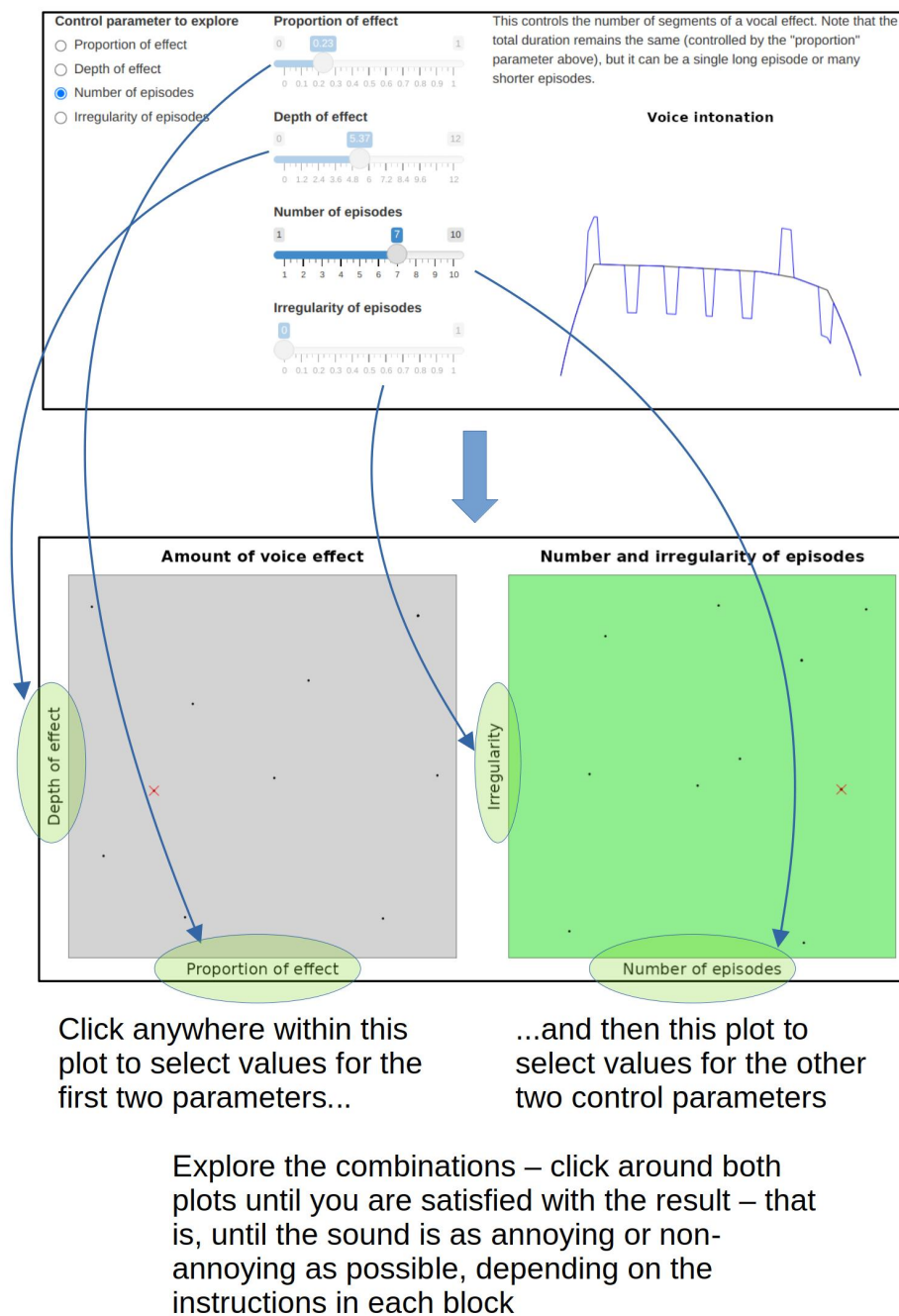


Fig. S7 The training module (above) and additional instructions (below) presented after this training in Exp. 3a.

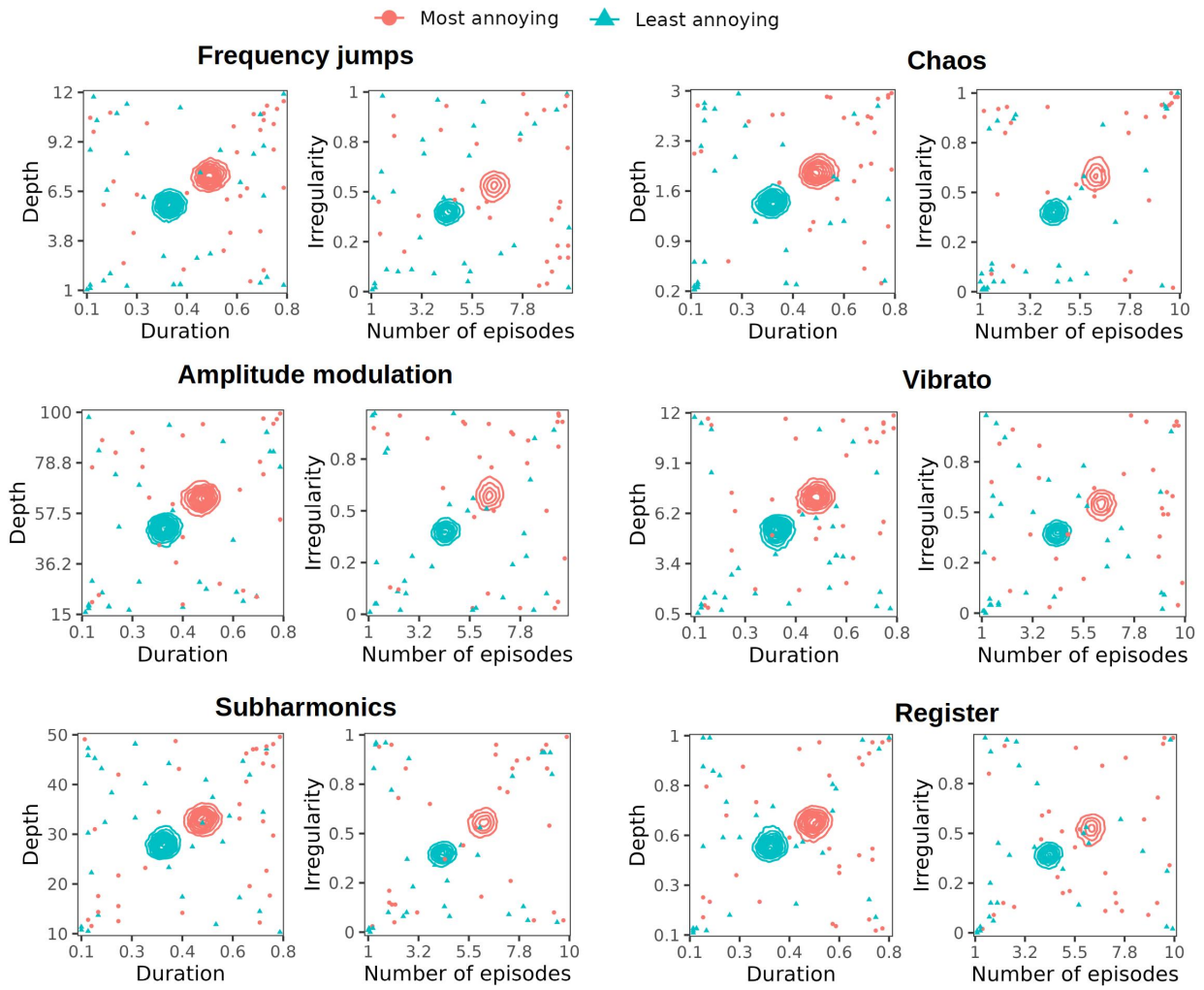


Fig. S8 To make synthetic vocalizations more annoying, participants in Exp. 3a tended to increase the duration and depth of all NLP, as well as the number of irregularity of their episodes. Responses in individual trials (points) and contour lines showing the density of posterior distributions from a multivariate Gaussian model predicting responses in the 4D parameter space.

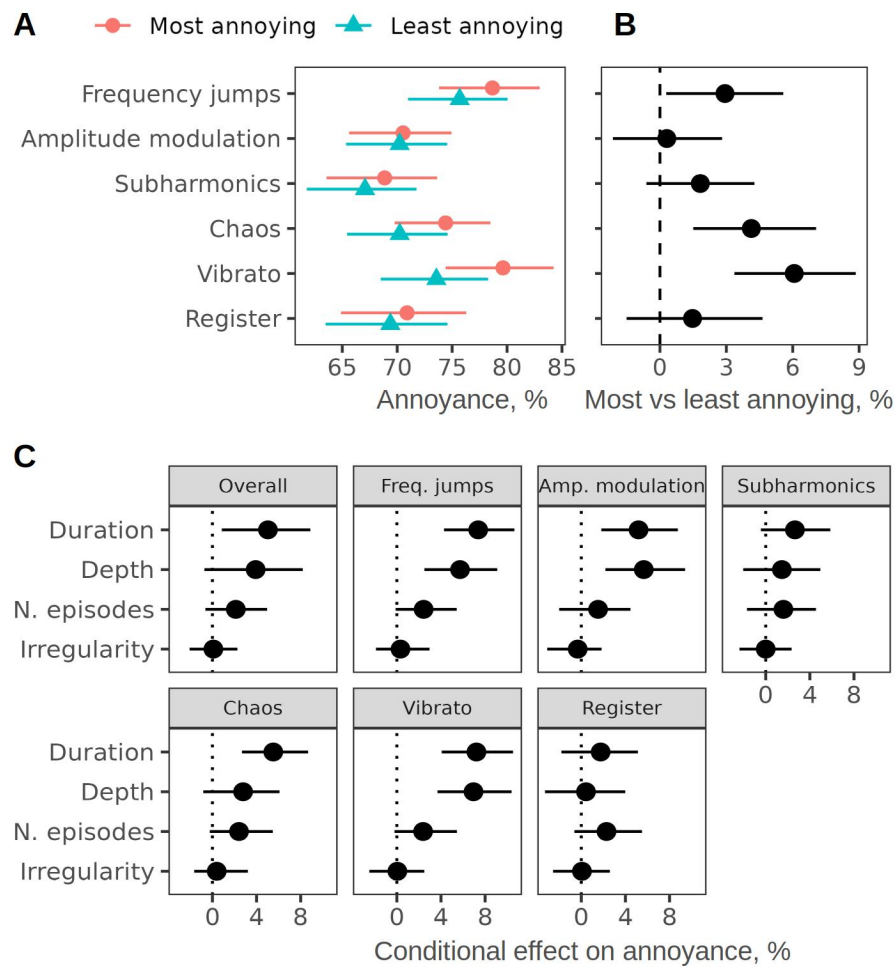


Fig. S9 Sensitivity analysis of the effectiveness of manipulations of nonlinear phenomena in Exp. 3a for making these sounds annoying to listeners in the rating Experiment 3b: the same as Fig. 6, but for the full sample with 3955 ratings by 50 listeners.

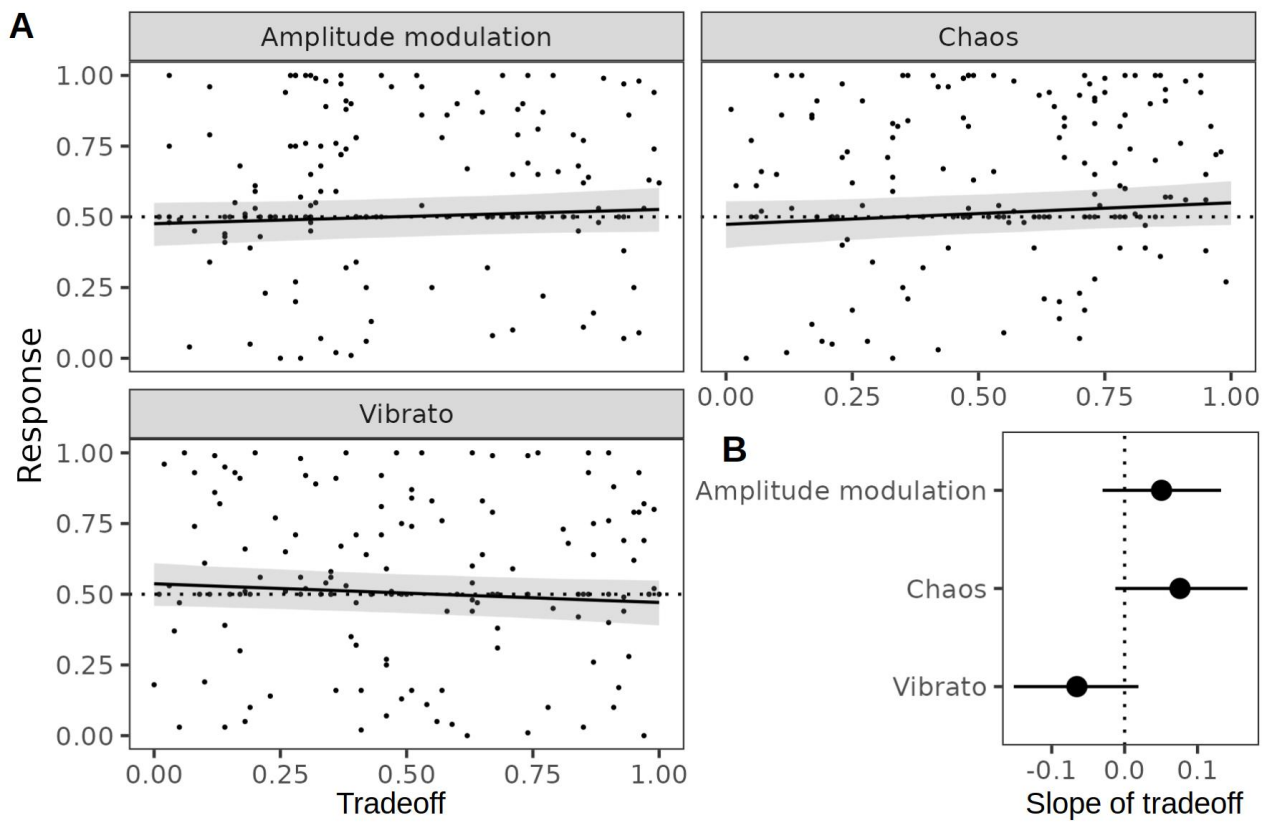


Fig. 10 Sensitivity analysis for Exp. 4: the same as Fig. 7, but using the full sample of 956 trials by 109 participants. Observe the large number of trials in which the slider was not moved from the neutral central position (0.5), suggesting random responses.