

Supplemental Material S3: Union maps of electroglottographic parameters for all participants per group, from the voice range profile task

For all three groups in the experiment, this file contains per-group union voice maps for the voice range profile task on the vowel /a/. The groups are M: adult males (N=13), F: adult females (N=13), C: children aged 4-8 (N=20).

The top row shows the union voice maps for the three groups M, F and C. A cell is included if at least three participants in the group have contributed to it. The maps show the average of the Cell-Means of all contributing participants. These averages are the dependent variables for the overlap comparison.

The bottom row shows the cell-by-cell difference maps taken between the maps in the top row, where green indicates a positive and red indicates a negative difference. The value "Mean diff." is the mean of all differences in the corresponding panel. The **overlap region** in which the dependent variables were compared statistically is the set of 831 cells that appears in the "Difference C-M" plots. (All cells that were reached by both C and M were also reached by F.)

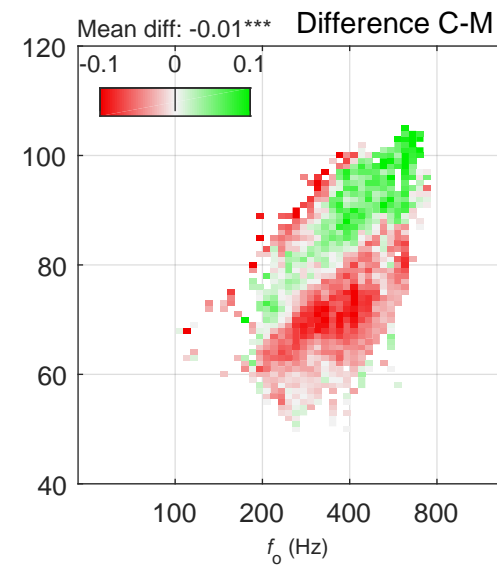
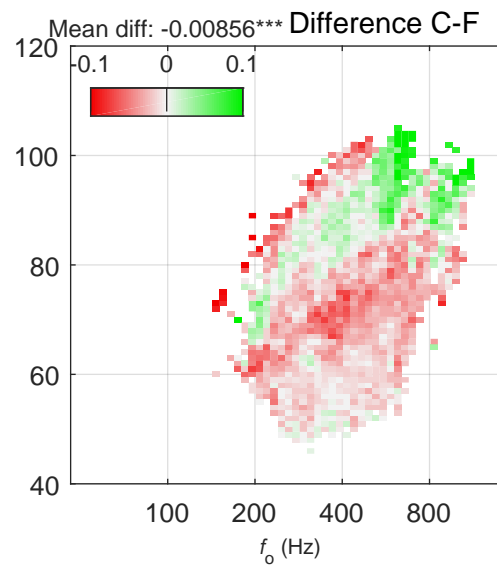
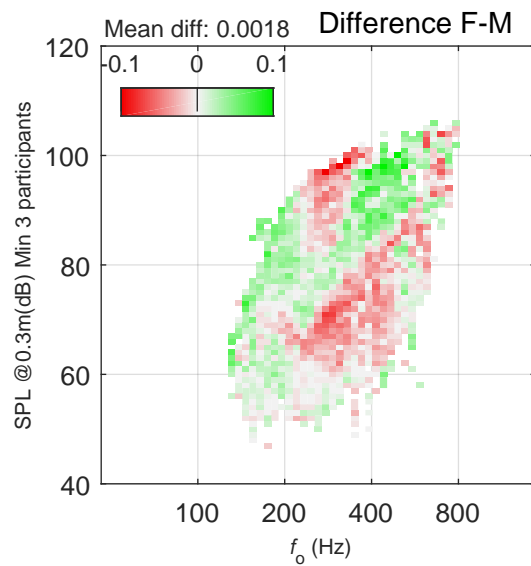
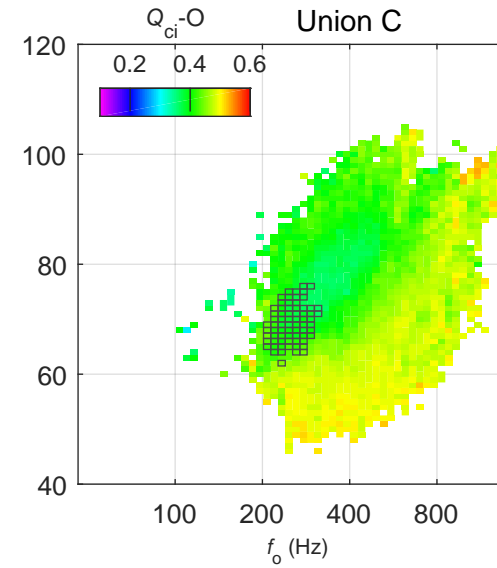
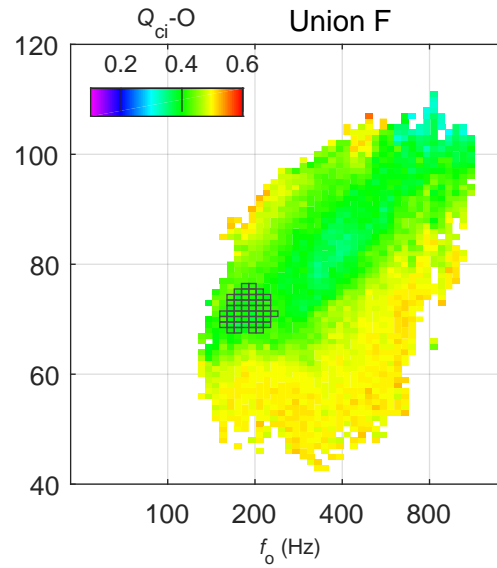
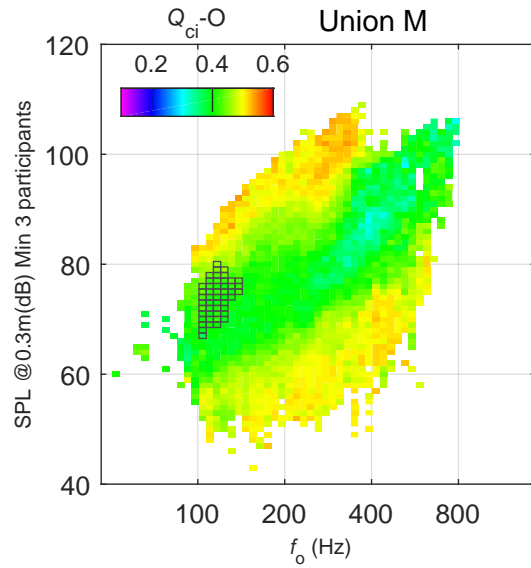
Each page shows the data for the dependent variable corresponding to one EGG parameter.

1. The EGG quotient of contact by integration Q_{ci-O} , a measure of the relative amount of contacting.
2. The peak dEGG amplitude quotient $Q_{\Delta-O}$, a measure of the maximum rate of change in contact area over a cycle. The minimum is 1, corresponding to a sinusoidal EGG.
3. The EGG quotient of speed by integration Q_{si-O} , a measure of the asymmetry of the contact phase. > 1 means skewed to the left.
4. The cycle-rate sample entropy CSE-O, a measure of the disorder in successive EGG wave shapes, i.e. instability of phonation. The pale cyan color signifies that all cycles in the cell received the value zero; they were below the threshold of the Sample Entropy computation. This indicates very stable phonation. The unit is arbitrary.

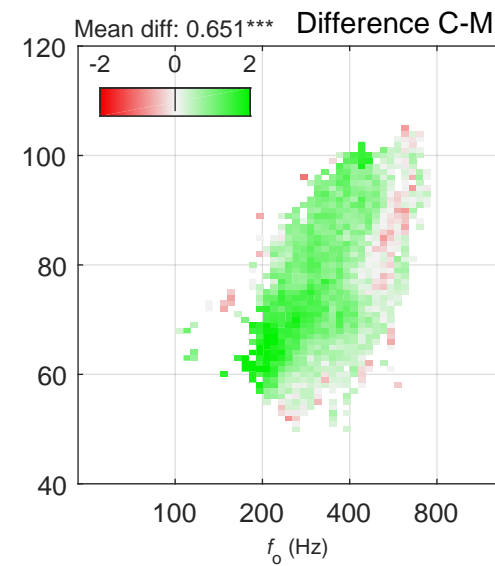
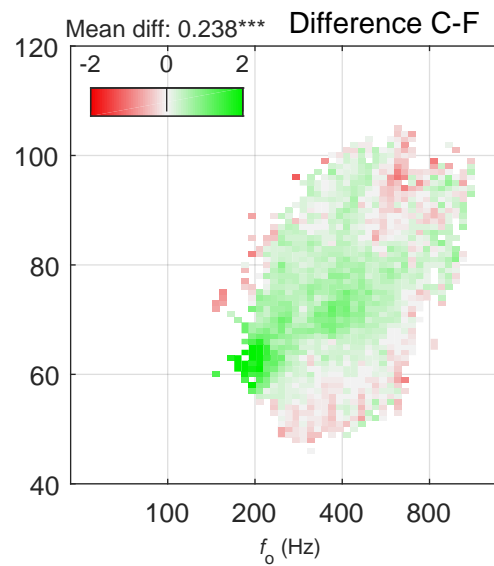
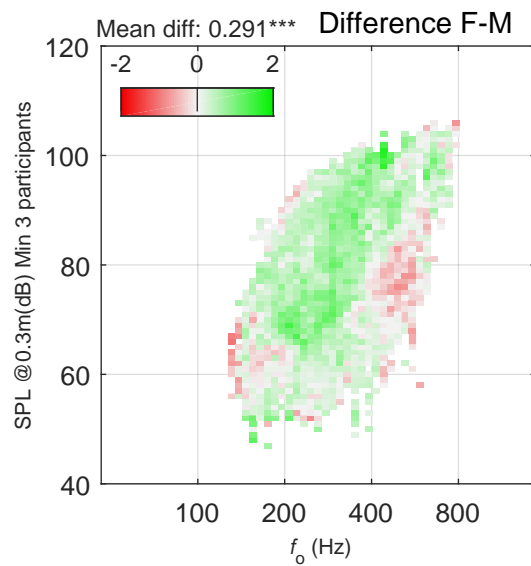
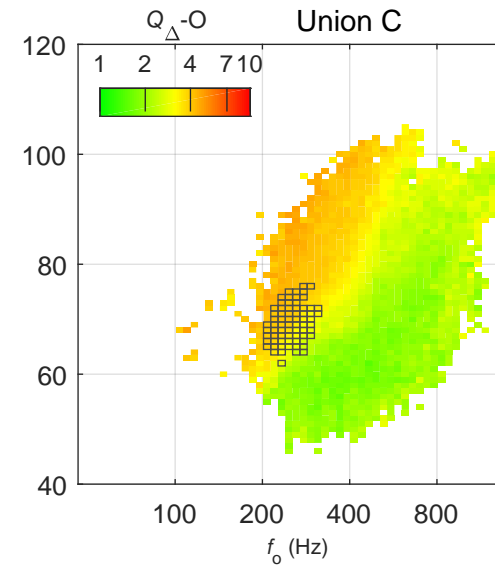
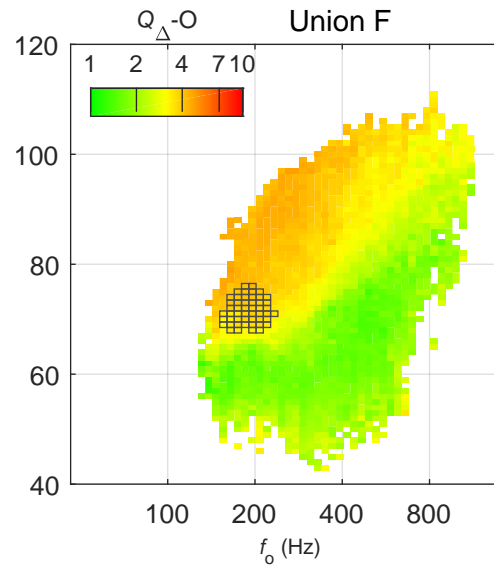
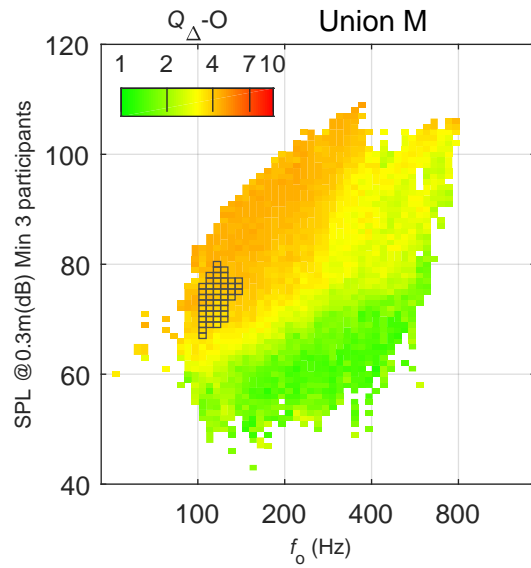
For visual reference, **black grids** show the union of the group members' gamma (Γ) regions (the core of the habitual speech range), with the constraint that at least nine members of the group must have contributed.

The color scale tick values show how the group Cell-Mean of the parameter is mapped to a color. For the Q_{Δ} and Q_{si} parameters, the tick spacing is logarithmic only to provide visual contrast.

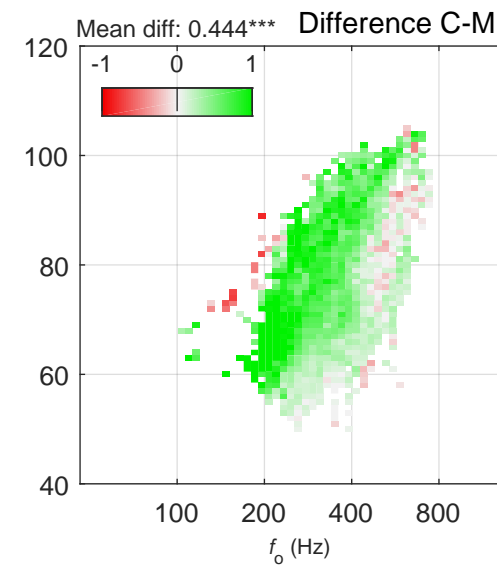
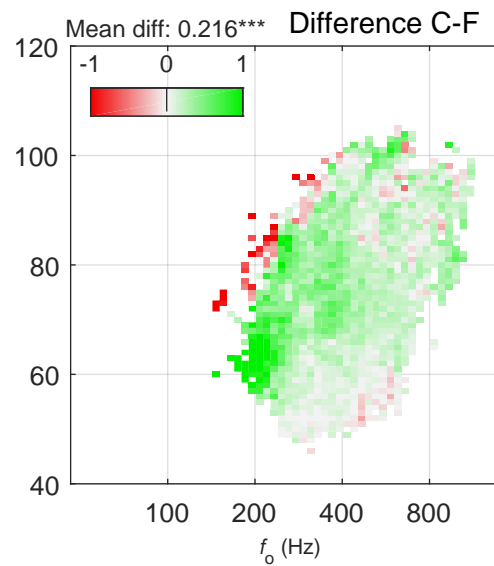
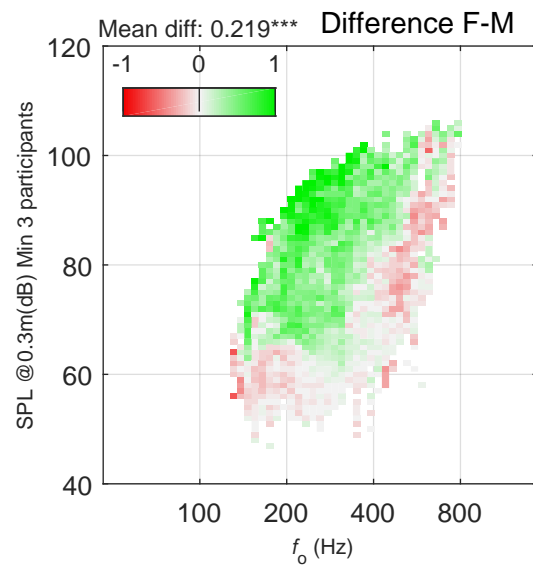
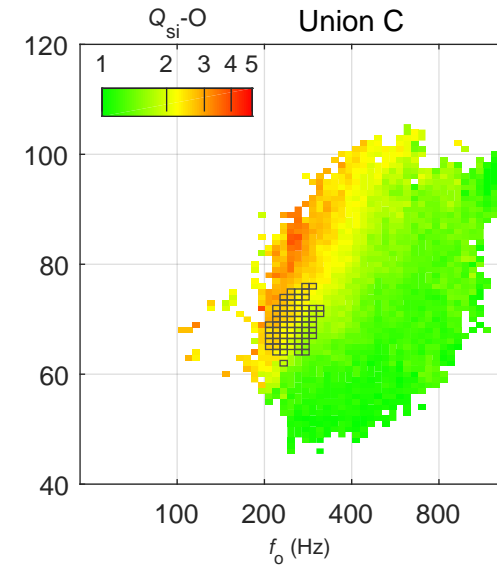
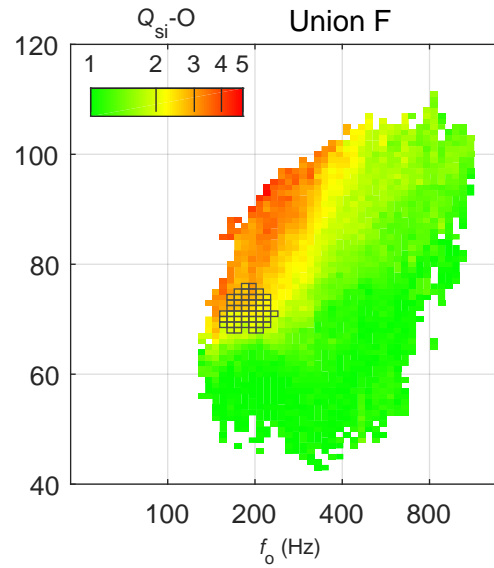
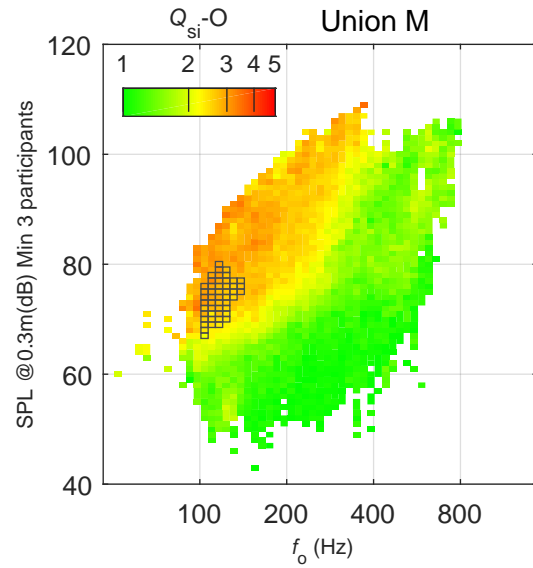
Dependent variable $Q_{ci}-O$



Dependent variable $Q_{\Delta}-O$



Dependent variable $Q_{si} - O$



Dependent variable CSE-O

