Appendix B: Non-penalized regressions

A logistic mixed-effects regression was fit corresponding to each of the elastic net models presented in the main text. The model for flapping included only the fixed effects which were retained in the elastic net model, namely `Conditional Probability`, `Pause`, and `Underlying t/d`. The fixed effects for the glottalization model were selected in the same way, and included `Conditional Probability`, observed/expected `Duration`, and `Pause`. The random effect structure for both models included a random intercept by speaker and by target word. The fixed effects estimates are reported in Tables 1 and 2. Additional analyses which included all fixed-effects terms, and maximal identifiable random effects structures, were also carried out. The results remain qualitatively similar.

Table 1. Fixed-effects estimates for logistic mixed model of **flapping**. *P*-values are estimated with Satterthwaite's degrees of freedom method from the `lmerTest` package.

Fixed Effects	β	se(β)	z	Pr($|z|$)
Intercept	0.653	0.109	6.007	<0.001
Conditional Probability	0.390	0.060	6.469	<0.001
Pause	-4.945	0.264	-18.756	<0.001
Underlying t/d	0.449	0.121	3.719	<0.001

Table 2. Fixed-effects estimates for logistic mixed model of **glottalization**. P-values are estimated with Satterthwaite's degrees of freedom method from the `lmerTest` package.

Fixed Effects	β	se(β)	z	Pr($|z|$)
Intercept	0.653	0.109	6.007	<0.001
Conditional Probability	0.390	0.060	6.469	<0.001
Pause	-4.945	0.264	-18.756	<0.001
Underlying t/d	0.449	0.121	3.719	<0.001