**Table S1** Summary of a linear mixed model fit by REML, t-tests use Satterthwaite's method ['lmerModLmerTest'], formula (significance levels: ‘\*\*\*’ < .001, ‘\*\*’ < .01, ‘\*’ < .05)

lmer(F1L~Consonant+(Consonant|Speaker)+(1|Item), data=lateral),

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effect** | **Estimate** | **Std. Error** | **df** | ***t* value** | **Pr(>|t|)** |
| (Intercept) | 3.75 | 0.08 | 21.62 | 47.53 | <.0001\*\*\* |
| Consonant ɭ | -0.23 | 0.03 | 27.94 | -6.54 | <.0001\*\*\* |

lmer(F2L~Consonant+(Consonant|Speaker)+(1|Item), data=lateral)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effect** | **Estimate** | **Std. Error** | **df** | ***t* value** | **Pr(>|t|)** |
| (Intercept) | 11.18 | 0.15 | 21.03 | 73.80 | <.0001\*\*\* |
| Consonant ɭ | 0.03 | 0.04 | 22.30 | 0.85 | =.4070 |

lmer(F3L~Consonant+(Consonant|Speaker)+(1|Item), data=lateral)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effect** | **Estimate** | **Std. Error** | **df** | ***t* value** | **Pr(>|t|)** |
| (Intercept) | 15.21 | 0.13 | 21.01 | 114.21 | <.0001\*\*\* |
| Consonant ɭ | -0.07 | 0.04 | 21.22 | -1.86 | =.0775 |

lmer(DR~Consonant+(Consonant|Speaker)+(1|Item), data=lateral)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effect** | **Estimate** | **Std. Error** | **df** | ***t* value** | **Pr(>|t|)** |
| (Intercept) | 1.45 | 0.09 | 21.33 | 16.78 | <.0001\*\*\* |
| Consonant ɭ | 1.08 | 0.11 | 21.42 | 10.19 | <.0001\*\*\* |

lmer(F1V~Vowel+(Vowel|Speaker)+(1|Item), data=schwa)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effect** | **Estimate** | **Std. Error** | **df** | ***t* value** | **Pr(>|t|)** |
| (Intercept) | 6.80 | 0.17 | 21.01 | 40.85 | <.0001\*\*\* |
| Schwa (ɭ) | -1.18 | 0.05 | 21.24 | -23.70 | <.0001\*\*\* |

lmer(F2V~Consonant+(Vowel|Speaker)+(1|Item), data=schwa)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effect** | **Estimate** | **Std. Error** | **df** | ***t* value** | **Pr(>|t|)** |
| (Intercept) | 10.75 | 0.15 | 21.05 | 74.13 | <.0001\*\*\* |
| Schwa (ɭ) | 0.11 | 0.07 | 21.47 | 1.64 | =.1170 |

lmer(F3V~Vowel+(Vowel|Speaker)+(1|Item), data=schwa)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effect** | **Estimate** | **Std. Error** | **df** | ***t* value** | **Pr(>|t|)** |
| (Intercept) | 15.06 | 0.14 | 21.03 | 107.10 | <.0001\*\*\* |
| Schwa (ɭ) | 0.14 | 0.06 | 21.38 | 2.42 | =.0246\* |

**List S1** Coefficients of the linear mixed models (random intercept and random slope on the random factor ‘*Speaker*’)

**F1 (lateral)**

Speaker Intercept Consonant\_ ɭ

F01 3.716160 -0.37765483

F02 3.965700 -0.07890468

F03 3.834420 -0.14653592

F04 4.318390 -0.35797453

F05 3.889895 -0.22041113

F06 4.167609 -0.05307247

F07 3.854211 -0.26888388

F08 4.042699 -0.24742439

F09 3.749880 -0.20086974

F10 4.424059 -0.37177939

F11 3.470171 -0.15476032

M01 3.725248 -0.12227822

M02 3.519568 -0.13143218

M03 3.587351 -0.25534548

M04 3.502048 ***0.03439152***

M05 2.980917 -0.14248935

M06 3.192344 -0.35723713

M07 3.830105 -0.50393054

M08 4.040855 -0.32733330

M09 3.951669 -0.20595903

M10 3.368764 -0.30501635

M11 3.283438 -0.14831562

**F2 (lateral)**

Speaker Intercept Consonant\_ ɭ

F01 10.588821 -0.070051213

F02 11.541935 0.080919601

F03 11.721157 -0.033624568

F04 11.752454 0.068189916

F05 11.558111 -0.044386058

F06 11.408746 -0.185942051

F07 11.570172 0.080382075

F08 12.328877 0.089236786

F09 12.313944 -0.257190116

F10 11.570091 0.056108866

F11 12.211391 0.225361558

M01 9.828647 0.050938200

M02 11.170419 -0.022684528

M03 10.995428 0.035286031

M04 10.565710 0.028710595

M05 10.620397 0.077332426

M06 10.927178 0.103260701

M07 10.108176 0.397077809

M08 10.532074 -0.198586389

M09 10.176199 0.262237332

M10 10.992533 -0.085844004

M11 11.397289 -0.005232969

**F3 (lateral)**

Speaker Intercept Consonant\_ ɭ

F01 16.03605 -0.30224976

F02 15.43343 -0.15741557

F03 15.76401 -0.01366724

F04 15.41211 0.16595999

F05 15.93453 0.03274175

F06 15.20894 -0.22747011

F07 15.92498 -0.07078021

F08 16.24475 -0.18337233

F09 16.09457 -0.10966002

F10 15.14216 0.04352614

F11 15.68618 0.08861304

M01 14.83865 -0.12566903

M02 14.84063 -0.24951024

M03 14.91662 0.01553056

M04 14.06961 0.17160920

M05 14.83487 0.02550956

M06 14.89361 -0.47238293

M07 14.28970 -0.09645435

M08 15.01598 0.06047781

M09 15.11526 0.16828109

M10 14.79813 -0.33179628

M11 14.21721 -0.04207108

**DR (lateral)**

Speaker Intercept Consonant\_ ɭ

F01 1.0438693 0.7386988

F02 1.2869883 0.9302635

F03 2.4460739 1.7529033

F04 1.6754202 1.8356219

F05 1.1867377 0.9740176

F06 1.3609788 0.8325226

F07 1.3522985 1.2428590

F08 1.3042331 1.4258402

F09 1.2578947 0.4648055

F10 0.9913929 0.8877242

F11 1.2520580 0.9938633

M01 1.7838755 1.4105362

M02 2.0165174 1.1049565

M03 1.2112922 2.0625202

M04 1.2397347 1.5289860

M05 1.1329187 0.2960575

M06 1.9118131 1.3337549

M07 1.4280071 0.7698513

M08 1.5025058 0.7168552

M09 0.9720522 1.0176678

M10 1.9896625 0.9682256

M11 1.4911753 0.4989690

**F1 (schwa)**

Speaker Intercept Vowel\_schwa(ɭ)

F01 7.945520 -1.3547209

F02 7.572883 -1.0467034

F03 7.486583 -1.2682629

F04 7.697245 -1.4698578

F05 7.454286 -1.1301236

F06 7.374782 -1.6384882

F07 7.508920 -1.0756882

F08 6.984373 -1.2142343

F09 7.773394 -1.3860914

F10 7.345976 -1.3599787

F11 7.382492 -1.3948405

M01 6.234717 -1.1433028

M02 5.788079 -1.0258068

M03 6.229783 -1.2718955

M04 5.729554 -1.0566738

M05 5.546658 -0.8054819

M06 6.067847 -1.1333652

M07 6.575600 -1.1714144

M08 6.718743 -0.7817135

M09 6.452629 -1.2152056

M10 5.954408 -0.8017083

M11 5.875279 -1.1456926

**F2 (schwa)**

Speaker Intercept Vowel\_schwa(ɭ)

F01 11.180921 -0.1409090798

F02 11.078625 0.1840327461

F03 11.324923 0.1238835571

F04 10.912696 0.0266758352

F05 11.487929 -0.0707830829

F06 10.938281 -0.0885497615

F07 11.491060 -0.0008783694

F08 11.696097 -0.1574228162

F09 11.315308 -0.0236760500

F10 11.207335 0.1682510458

F11 11.940149 -0.5555177893

M01 9.755125 -0.0051284740

M02 10.661936 0.1897916819

M03 9.979064 0.7646924642

M04 10.047960 0.2915973885

M05 10.100645 0.4007956147

M06 10.544312 0.1317035662

M07 9.425700 0.2521483943

M08 10.454371 -0.2530888756

M09 10.087799 0.2549538183

M10 10.492969 0.0895067481

M11 10.366046 0.7651714381

**F3 (schwa)**

Speaker Intercept Vowel\_schwa(ɭ)

F01 16.38071 -0.280549857

F02 15.69995 -0.226657455

F03 16.03591 0.061720424

F04 14.98474 0.487604681

F05 15.44992 0.606174662

F06 14.99803 0.012671105

F07 15.54050 0.441228771

F08 16.24813 -0.120246597

F09 15.05945 0.291949989

F10 14.87959 0.585533438

F11 15.33344 0.137294045

M01 14.84029 -0.221311824

M02 14.54852 0.009124081

M03 14.70450 0.162203823

M04 13.75424 0.151439095

M05 14.99010 0.057750016

M06 15.01182 0.237107028

M07 14.20641 -0.211999227

M08 14.89611 0.148859018

M09 14.90004 0.243652773

M10 14.74763 0.276747691

M11 14.03845 0.134954321