**APPENDIX**

**1. Statistical modelling**

A. Dependent variables:

(i) Left eyebrow movement

(ii) Right eyebrow movement

(iii) Lip Opening

(iv) Word duration

(v) rms Intensity Difference between Stressed and Unstressed Vowel

B. Factors with levels:

(i) Visibility [visible, invisible]

(ii) Speech mode [normal , whispered]

(iii) Sentence type [statement, question]

(iv) Vowel [a, e, i]

C. Significance

p<.001***, p<.01**, p<.05* (p<.025 after Bonferroni correction)

## 1.1 Left eyebrow

### 1.1.1 Initial and final models

Initial_model <- lmer(left_eyebrow ~ (visibility +speech_mode+ sentence_type)^3+vowel+ (1+visibility+speech_mode+sentence_type|informant)+(1+visibility+speech_mode+ sentence_type |word), data = data)

Final_model <- lmer(left_eyebrow ~ visibility*speech_mode+ visibility*sentence_type+ speech_mode*sentence_type +vowel+ (1+visibility+speech_mode+ sentence_type |informant)+ (1|word), data = data)

**Table I: Left eyebrow: final model outputs**

| | estimate | std. error | df | t-value | p-value | p-value corrected |
|---|---|---|---|---|---|---|
| Intercept | 3.062e-02 | 6.933e-04 | 1.507e+01 | 44.157 | < 2e-16 | |
| visibility [invisible] | 6.535e-04 | 2.742e-04 | 1.593e+01 | 2.383 | 0.02995* | n.s. |
| speech_mode [whispered] | -8.187e-05 | 2.127e-04 | 1.688e+01 | -0.385 | 0.704976 | |
| sentence_type [question] | 2.549e-04 | 1.789e-04 | 1.919e+01 | 1.423 | 0.170741 | |
| vowel e | 5.058e-07 | 5.943e-05 | 2.244e+03 | 0.009 | 0.993210 | |
| vowel i | 2.280e-05 | 5.216e-05 | 2.243e+03 | 0.437 | 0.662096 | |
| visibility:speech_mode | -8.217e-05 | 9.320e-05 | 2.261e+03 | -0.882 | 0.378072 | |
| visibility:sentence_type | -8.867e-05 | 9.165e-05 | 2.258e+03 | -0.967 | 0.333419 | |
| speech_mode:sentence_type | 3.281e-04 | 9.145e-05 | 2.256e+03 | 3.588 | 0.000341 *** | *** |

**Table II: Left eyebrow: descriptive statistics**

| | range | mean | median | st. dev. |
|---|---|---|---|---|
| [normal, statement] | 0.0248-0.0409 | 0.0308 | 0.0309 | 0.0029 |

| | | | | |
|---|---|---|---|---|
| [whispered, statement] | 0.0247-0.0386 | 0.0305 | 0.0309 | 0.0026 |
| [normal, question] | 0.0248-0.0405 | 0.0310 | 0.0311 | 0.0030 |
| [whispered, question] | 0.0248-0.0389 | 0.0310 | 0.0314 | 0.0030 |

**Table III: Left eyebrow: multiple comparisons**

| | estimate | standard error | df | t-ratio | p-value |
|---|---|---|---|---|---|
| [whispered, statement] vs. [whispered, question] | -0.000538 | 0.000175 | 17.5 | -3.081 | 0.0305 |

## 1.2 Right eyebrow

### 1.2.1 Initial and final models

Initial_model <- lmer(right_eyebrow ~ (visibility +speech_mode+ sentence_type)^3+vowel+ (1+visibility+speech_mode+ sentence_type|informant)+ (1+visibility+speech_mode+ sentence_type |word), data = data)

Final_model <- lmer (right_eyebrow ~ (visibility+speech_mode+ sentence_type)^3+vowel+ (1+visibility+speech_mode+ sentence_type |informant)+ (1|word), data = data)

**Table IV: Right eyebrow: final model outputs**

| | estimate | std. error | df | t-value | p-value | p-value corrected |
|---|---|---|---|---|---|---|
| Intercept | 3.233e-02 | 9.112e-04 | 1.504e+01 | 35.485 | **6.48e-16 *** ** | *** |
| visibility [invisible] | -1.010e-04 | 1.837e-04 | 1.690e+01 | -0.550 | 0.58972 | |
| speech_mode [whispered] | -2.404e-04 | 1.571e-04 | 1.971e+01 | -1.530 | 0.14180 | |
| sentence_type [question] | 1.476e-04 | 1.278e-04 | 2.340e+01 | 1.155 | 0.25985 | |
| vowel e | 5.582e-05 | 4.510e-05 | 3.532e+02 | 1.238 | 0.21662 | |
| vowel i | 4.220e-05 | 3.973e-05 | 3.279e+02 | 1.062 | 0.28899 | |
| visibility:speech_mode | 5.847e-04 | 9.936e-05 | 2.143e+03 | 5.885 | **4.60e-09 *** ** | *** |
| visibility:sentence_type | 2.842e-04 | 9.902e-05 | 2.139e+03 | 2.871 | **0.00414 ** ** | ** |
| speech_mode:sentence_type | 4.262e-04 | 9.504e-05 | 2.142e+03 | 4.485 | **7.68e-06 *** ** | *** |
| visibility:speech_mode: sentence_type | -3.656e-04 | 1.384e-04 | 2.140e+03 | -2.641 | **0.00834 ** ** | ** |

**Table V: Right eyebrow: descriptive statistics**

| | range | mean | median | st. dev. |
|---|---|---|---|---|
| [normal, invisible, question] | 0.0239- 0.0404 | 0.0327 | 0.0329 | 0.0036 |
| [whispered, invisible, question] | 0.0237- 0.0405 | 0.0327 | 0.0329 | 0.0033 |
| [normal, invisible, statement] | 0.0242- 0.0404 | 0.0320 | 0.0315 | 0.0034 |
| [whispered, invisible, statement] | 0.0247- 0.0406 | 0.0324 | 0.0324 | 0.0034 |
| [normal, visible, question] | 0.0235- 0.0407 | 0.0324 | 0.0313 | 0.0035 |
| [whispered, visible, question] | 0.0252- 0.0402 | 0.0323 | 0.0319 | 0.0032 |
| [normal, visible, statement] | 0.0250- 0.0400 | 0.0322 | 0.0310 | 0.0034 |
| [whispered, visible, statement] | 0.0249- 0.0399 | 0.0318 | 0.0310 | 0.0034 |

**Table VI: Right eyebrow: multiple comparisons**

| | estimate | standard error | df | t-ratio | p-value |
|---|---|---|---|---|---|
| [invisible, normal, statement] vs. [invisible, normal, question] | -4.29e-04 | 0.000130 | 25.3 | -3.305 | 0.0491 |
| [invisible, normal, statement] vs. | -8.37e-04 | 0.000205 | 17.3 | -4.373 | 0.0075 |

| | | | | | |
|---|---|---|---|---|---|
| [invisible, whispered, question] | | | | | |
| [visible, whispered, statement] vs. [visible, whispered, question] | -5.81e-04 | 0.000125 | 22.3 | -4.629 | 0.0027 |
| [visible, whispered, statement] vs. [invisible, whispered, question] | -9.61e-04 | 0.000230 | 15.9 | -4.184 | 0.0126 |
| [invisible, whispered, statement] vs. [invisible, whispered, question] | -4.94e-04 | 0.000129 | 24.5 | -3.843 | 0.0148 |

## 1.3 Lip opening

### 1.3.1 Initial and final models

Initial_model_ <- lmer(lip opening ~ (visibility +speech_mode+ sentence_type)^3+vowel+(1+visibility+ speech_mode+sentence_type|informant)+(1+visibility+speech_mode+ sentence_type |word), data = data)

Final_model <- lmer(lip opening ~ (visibility+speech_mode+sentence_type)^3+vowel+ (1+ visibility+speech_mode+ sentence_type |informant)+ (1|word), data = data)

**Table VII: Lip opening: final model outputs**

| | estimate | std. error | df | t-value | p-value |
|---|---|---|---|---|---|
| Intercept | 3.851 | 0.0158 | 14.67 | 33.259 | **3.18e-15*** ** |
| visibility [invisible] | 0.0537 | 0.0237 | 13.91 | 2.261 | 0.040* |
| speech_mode [whispered] | 0.0980 | 0.0210 | 20.18 | 4.658 | **0.0001 *** ** |
| sentence_type [question] | 0.0772 | 0.0192 | 22.11 | 4.021 | **0.0005 *** ** |
| vowel e | 0.0366 | 0.0314 | 18.80 | 1.167 | 0.257 |
| vowel i | -0.02641 | 0.0293 | 18.00 | -9.003 | **4.38e-08 *** ** |
| visibility:speech_mode | 0.00829 | 0.0147 | 2063 | 0.561 | 0.575 |
| visibility:sentence_type | 0.0058 | 0.0147 | 2056 | 0.396 | 0.692 |
| speech_mode:sentence_type | -0.0185 | 0.0142 | 2050 | -1.306 | 0.191 |
| visibility:speech_mode: sentence_type | -0.0563 | 0.0206 | 2049 | -2.727 | **0.006 ** ** |

**Table VIII: Lip opening: descriptive statistics**

| | range | mean | median | st. dev. |
|---|---|---|---|---|
| [normal, invisible, question] | 3.164-5.212 | 4.039 | 4.005 | 0.439 |
| [whispered, invisible, question] | 2.939-5.402 | 4.046 | 4.001 | 0.469 |
| [normal, invisible, statement] | 3.223-4.996 | 3.999 | 4.030 | 0.387 |
| [whispered, invisible, statement] | 3.241-5.292 | 4.038 | 4.007 | 0.445 |
| [normal, visible, question] | 2.536-5.356 | 3.883 | 3.834 | 0.436 |
| [whispered, visible, question] | 2.676-5.182 | 3.991 | 4.007 | 0.459 |
| [normal, visible, statement] | 2.209-4.721 | 3.824 | 3.831 | 0.394 |
| [whispered, visible, statement] | 2.646-4.974 | 3.919 | 3.937 | 0.446 |

**Table IX: Lip opening: multiple comparisons**

| | estimate | standard error | df | t-value | p-value |
|---|---|---|---|---|---|
| [visible, normal, statement] vs. [visible, whispered, statement] | -0.0980 | 0.0211 | 19.7 | -4.656 | 0.0032 |
| [visible, normal, statement] vs. [invisible, whispered, statement] | -0.16003 | 0.0323 | 15.4 | -4.951 | 0.0031 |
| [visible, normal, statement] vs. [visible, normal, question] | -0.07726 | 0.0192 | 21.6 | -4.018 | 0.0115 |
| [visible, normal, statement] vs. [invisible, normal, question] | -0.13676 | 0.0308 | 15.6 | -4.437 | 0.0080 |
| [visible, normal, statement] vs. | -0.15677 | 0.0319 | 15.2 | -4.909 | 0.0034 |

| | | | | | |
|---|---|---|---|---|---|
| [visible, whispered, question] | | | | | |
| [visible, normal, statement] vs. [invisible, whispered, question] | -0.16823 | 0.0416 | 14.4 | -4.040 | 0.0193 |
| [invisible, normal, statement] vs. [invisible, whispered, statement] | -0.10636 | 0.0216 | 21.7 | -4.913 | 0.0015 |
| [invisible, normal, statement] vs. [invisible, normal, question] | -0.08308 | 0.0197 | 23.7 | -4.208 | 0.0065 |
| [invisible, normal, statement] vs. [invisible, whispered, question] | -0.11455 | 0.0324 | 16.0 | -3.536 | 0.0435 |
| [visible, normal, question] vs. [visible, whispered, question] | -0.07951 | 0.0212 | 20.1 | -3.759 | 0.0222 |

## 1.4 Word duration

### 1.4.1 Word duration initial and final models

Initial_model_ <- lmer(word_duration ~ (visibility +speech_mode+ sentence_type)^3 + vowel+ (1+visibility+speech_mode+sentence_type|informant)+(1+visibility+speech_mode+ sentence_type |word), data = data)

Final_model_ <- lmer(word_duration ~ (visibility +speech_mode+ sentence_type)^3+vowel+ (1+visibility+speech_mode+sentence_type|informant)+(1|word), data = data)

**Table X: Word duration: final model outputs**

| | estimate | std. error | df | t-value | p-value |
|---|---|---|---|---|---|
| Intercept | 4.777e-01 | 2.104e-02 | 3.175e+01 | **22.752** | **< 2e-16 ***** |
| visibility [invisibile] | 8.640e-03 | 5.828e-03 | 4.360e+01 | 1.482 | 0.1454 |
| speech_mode [whispered] | 4.706e-02 | 1.162e-02 | 1.967e+01 | **4.049** | **0.0006 ***** |
| sentence_type [question] | 1.369e-02 | 1.045e-02 | 2.074e+01 | 1.310 | 0.2046 |
| vowel e | -2.057e-02 | 3.121e-02 | 1.847e+01 | -0.659 | 0.5179 |
| vowel i | -2.081e-02 | 2.934e-02 | 1.836e+01 | -0.709 | 0.4870 |
| visibility:speech_mode | 4.056e-02 | 6.076e-03 | 2.485e+03 | **6.675** | **3.04e-11 ***** |
| visibility:sentence_type | 4.208e-03 | 6.092e-03 | 2.483e+03 | 0.691 | 0.4897 |
| speech_mode:sentence_type | 2.450e-02 | 5.958e-03 | 2.476e+03 | **4.113** | **4.04e-05 ***** |
| visibility:speech_mode: sentence_type | -2.544e-02 | 8.517e-03 | 2.476e+03 | **-2.987** | **0.0028 **** |

**Table XI: Word duration: descriptive statistics**

| | range | mean | median | st. dev. |
|---|---|---|---|---|
| [normal, invisible, question] | 0.3166-0.7452 | 0.4968 | 0.4845 | 0.0843 |
| [whispered, invisible, question] | 0.350-0.9419 | 0.5862 | 0.5752 | 0.1076 |
| [normal, invisible, statement] | 0.2896-0.7035 | 0.4813 | 0.4714 | 0.0812 |
| [whispered, invisible, statement] | 0.2648-0.9622 | 0.5706 | 0.5718 | 0.1120 |
| [normal, visible, question] | 0.3247-0.7295 | 0.4828 | 0.4726 | 0.0867 |
| [whispered, visible, question] | 0.2456-0.9648 | 0.5553 | 0.5473 | 0.1067 |
| [normal, visible, statement] | 0.2540-0.8684 | 0.4732 | 0.4636 | 0.0921 |
| [whispered, visible, statement] | 0.2244-0.8426 | 0.5141 | 0.5083 | 0.1059 |

**Table XII: Word duration: multiple comparisons**

| | estimate | standard error | df | t-ratio | p-value |
|---|---|---|---|---|---|
| [visible, normal, statement] vs. [visible, whispered, statement] | 0.04706 - | 0.01163 | 19.6 | -4.049 | 0.0123 |
| [visible, normal, statement] vs. [invisible, whispered, statement] | -0.09626 | 0.01388 | 17.6 | -6.934 | <0.0001 |
| [visible, normal, statement] vs. | -0.08525 | 0.01399 | 17.5 | -6.096 | 0.0002 |

| | | | | | |
|---|---|---|---|---|---|
| [visible, whispered, question] | | | | | |
| [visible, normal, statement] vs. [invisible, whispered, question] | -0.11322 | 0.01650 | 16.6 | -6.862 | 0.0001 |
| [invisible, normal, statement] vs. [visible, whispered, statement] | -0.03842 | 0.01053 | 19.0 | -3.650 | 0.0295 |
| [invisible, normal, statement] vs. [invisible, whispered, statement] | -0.08762 | 0.01169 | 20.0 | -7.495 | <.0001 |
| [invisible, normal, statement] vs. [visible, whispered, question] | -0.07661 | 0.01234 | 17.0 | -6.209 | 0.0002 |
| [invisible, normal, statement] vs. [invisible, whispered, question] | -0.10458 | 0.01406 | 17.8 | -7.440 | <.0001 |
| [visible, whispered, statement] vs. [invisible, whispered, statement] | -0.04920 | 0.00586 | 43.8 | -8.389 | <.0001 |
| [visible, whispered, statement] vs. [visible, whispered, question] | -0.03819 | 0.01044 | 20.6 | -3.657 | 0.0268 |
| [visible, whispered, statement] vs. [invisible, whispered, question] | -0.06616 | 0.01204 | 18.2 | -5.495 | 0.0007 |
| [invisible, whispered, statement] vs. [visible, normal, question] | 0.08257 | 0.01721 | 16.5 | 4.798 | 0.0035 |
| [invisible, whispered, statement] vs. [invisible, normal, question] | 0.06973 | 0.01611 | 17.3 | 4.328 | 0.0082 |
| [visible, normal, question] vs. [visible, whispered, question] | -0.07156 | 0.01164 | 19.7 | -6.151 | 0.0001 |
| [visible, normal, question] vs. [invisible, whispered, question] | -0.09954 | 0.01390 | 17.7 | -7.163 | <.0001 |
| [invisible, normal, question] vs. [visible, whispered, question] | -0.05872 | 0.01054 | 19.1 | -5.572 | 0.0005 |
| [invisible, normal, question] vs. [invisible, whispered, question] | -0.08669 | 0.01169 | 20.1 | -7.414 | <.0001 |
| [visible, whispered, question] vs. [invisible, whispered, question] | -0.02797 | 0.00585 | 43.0 | -4.779 | 0.0005 |

## 1.5 RMS Amplitude difference (RMS amplitude of the unstressed sentence-final syllable-RMS amplitude of the stressed syllable)

### 1.5.1 Initial and final models

Initial_model_ <- lmer (RMS_amplitude_difference~ (visibility +speech_mode+ sentence_type)^3+vowel+ (1+visibility+speech_mode+sentence_type|informant)+(1+visibility+speech_mode+ sentence_type |word), data = data);

Final_model_ <- lmer(RMS_amplitude_difference ~ (visibility+speech_mode+ sentence_type)^3+vowel+ (1+visibility+speech_mode+sentence_type|informant)+(1|word), data = data);

**Table XIII: RMS amplitude difference: final model outputs**

| | estimate | std. error | df | t-value | p-value |
|---|---|---|---|---|---|
| Intercept | -2.025e-02 | 3.451e-03 | 3.700e+01 | **-5.868** | **9.48e-07*** ** |
| visibility [invisibile] | -8.198e-03 | 1.980e-03 | 1.065e+02 | **-4.140** | **6.97e-05 *** ** |
| speech_mode [whispered] | 1.913e-02 | 2.793e-03 | 3.037e+01 | **6.848** | **1.26e-07 *** ** |
| sentence_type [question] | 3.285e-02 | 3.137e-03 | 2.662e+01 | **10.471** | **6.16e-11 *** ** |
| vowel e | -1.973e-04 | 4.659e-03 | 1.909e+01 | -0.042 | 0.9666 |
| vowel i | -1.710e-03 | 4.333e-03 | 1.824e+01 | -0.395 | 0.6976 |
| visibility:speech_mode | 5.938e-03 | 2.479e-03 | 2.493e+03 | **2.395** | **0.0166 *** |
| visibility: sentence_type | 1.091e-02 | 2.482e-03 | 2.489e+03 | **4.396** | **1.15e-05 *** ** |
| speech_mode:sentence_type | -3.071e-02 | 2.429e-03 | 2.484e+03 | **-12.645** | **< 2e-16 *** ** |
| visbility:speech_mode: sentence_type | 1.083e-02 | 3.483e-03 | 2.479e+03 | **3.108** | **0.0019 ** ** |

**Table XIV: RMS amplitude difference: Descriptive statistics**

| | range | mean | median | st. dev. |
|---|---|---|---|---|
| [normal, invisible, question] | - 0.0921 - 0.1332 | 0.0153 | 0.0124 | 0.0352 |
| [whispered, invisible, question] | - 0.1846 - 0.0514 | -0.0017 | -0.0004 | 0.0189 |
| [normal, invisible, statement] | - 0.1976 - 0.0759 | -0.0288 | -0.0238 | 0.0340 |
| [whispered, invisible, statement] | - 0.1917- 0.0296 | -0.0036 | -0.0016 | 0.0189 |
| [normal, visible, question] | - 0.0838 - 0.1132 | 0.0127 | 0.0103 | 0.0291 |
| [whispered, visible, question] | - 0.0167 - 0.0378 | 0.0003 | -0.0003 | 0.0066 |
| [normal, visible, statement] | - 0.1763 - 0.0479 | -0.0205 | -0.0159 | 0.0296 |
| [whispered, visible, statement] | - 0.0204 - 0.0310 | -0.0015 | -0.0016 | 0.0058 |

**Table XV: RMS amplitude difference: multiple comparisons**

| | estimate | standard error | df | t-ratio | p-value |
|---|---|---|---|---|---|
| [visible, normal, statement] vs. [invisible, normal, statement] | 8.20e-03 | 0.00199 | 89.0 | 4.120 | 0.0021 |
| [visible, normal, statement] vs. [visible, whispered, statement] | -1.91e-02 | 0.00279 | 30.5 | -6.846 | <.0001 |
| [visible, normal, statement] vs. [invisible, whispered, statement] | -1.69e-02 | 0.00343 | 21.1 | -4.917 | 0.0015 |
| [visible, normal, statement] vs. [visible, normal, question] | -3.29e-02 | 0.00314 | 26.4 | -10.469 | <.0001 |
| [visible, normal, statement] vs. [invisible, normal, question] | -3.56e-02 | 0.00293 | 23.5 | -12.136 | <.0001 |
| [visible, normal, statement] vs. [invisible, whispered, question] | -1.91e-02 | 0.00343 | 18.3 | -5.563 | 0.0006 |
| [visible, normal, statement] vs. [visible, whispered, question] | -2.13e-02 | 0.00317 | 21.6 | -6.701 | <.0001 |
| [invisible, normal, statement] vs. [visible, whispered, statement] | -2.73e-02 | 0.00243 | 29.0 | -11.225 | <.0001 |
| [invisible, normal, statement] vs. [invisible, whispered, statement] | -2.51e-02 | 0.00284 | 32.5 | -8.813 | <.0001 |
| [invisible, normal, statement] vs. [visible, normal, question] | -4.10e-02 | 0.00362 | 20.5 | -11.345 | <.0001 |
| [invisible, normal, statement] vs. [invisible, normal, question] | -4.38e-02 | 0.00318 | 27.6 | -13.780 | <.0001 |
| [invisible, normal, statement] vs. [visible, whispered, question] | -2.95e-02 | 0.00323 | 18.6 | -9.127 | <.0001 |
| [invisible, normal, statement] vs. [invisible, whispered, question] | -2.73e-02 | 0.00323 | 22.9 | -8.451 | <.0001 |
| [visible, whispered statement] vs. [invisible, normal, question] | -1.64e-02 | 0.00390 | 17.7 | -4.218 | 0.0100 |
| [invisible, whispered, statement] vs. [invisible, normal, question] | -1.87e-02 | 0.00444 | 19.2 | -4.215 | 0.0088 |
| [visible, normal, question] vs. [visible, whispered, question] | -1.16e-02 | 0.00280 | 30.9 | -4.136 | 0.0054 |
| [visible, normal, question] vs. [invisible, whispered, question] | -1.38e-02 | 0.00343 | 21.2 | -4.007 | 0.0121 |
| [invisible, normal, question] vs. [visible, whispered, question] | -1.43e-02 | 0.00243 | 29.0 | -5.874 | 0.0001 |
| [invisible, normal, question] vs. [invisible, whispered, question] | -1.65e-02 | 0.00285 | 32.6 | -5.787 | <.0001 |

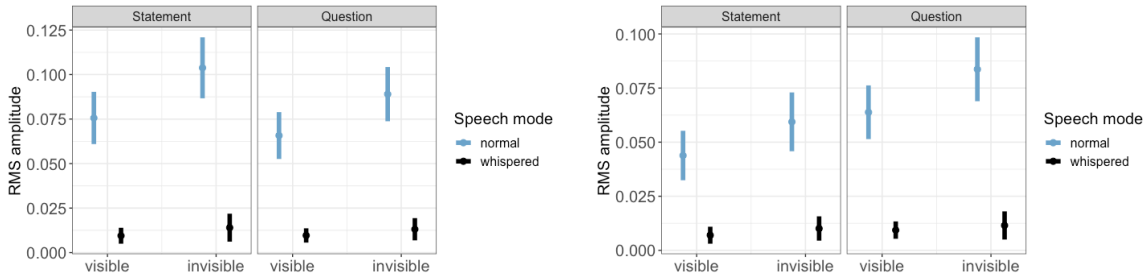


Figure 1: RMS intensity of the stressed, sentence-prefinal syllable (a) and the unstressed sentence-final syllable (b) in function of speech mode, sentence type and visibility. The dots show mean values and the whiskers show 95% confidence interval.

## 2. Relations among acoustic and oro-facial parameters

### 2.1 Word duration and left eyebrow distance

Model <- lmer(z_scored_distance_left_eyebrow ~ z_scored_word_duration + (1 + z_scored_word_duration | informant) + (1 + z_scored_word_duration | word), data=data)

**Table XVI: Word duration and left eyebrow distance: final model outputs**

| | estimate | std. error | df | t-value | p-value | p-value corrected |
|---|---|---|---|---|---|---|
| Intercept | 0.002344 | 0.037189 | 14.543756 | 0.06 | 0.950595 | |
| z_scored_word_duration | 0.208274 | 0.042555 | 18.501411 | 4.89 | **<0.0001*** ** | *** |

### 2.2 Word duration and right eyebrow distance

Model <- lmer(z_scored_distance_right_eyebrow ~ z_scored_word_duration + (1 + z_scored_word_duration | informant) + (0 + z_scored_word_duration | word), data=data)

**Table XVII: Word duration and right eyebrow distance: final model outputs**

| | estimate | std. error | df | t-value | p-value |
|---|---|---|---|---|---|
| Intercept | 2.723e-06 | 2.135e-02 | 1.706e+02 | 0.00 | 1.000 |
| z_scored_word_duration | 7.023e-02 | 4.917e-02 | 1.518e+01 | 1.43 | 0.173 |

### 2.3 Word duration and lip opening distance

Model <- lmer(z_scored_lip_openig_distance ~ z_scored_word_duration + (1 + z_scored_word_duration | informant) + (1 + z_scored_word_duration | word), data=data)

**Table XVIII: Word duration and lip opening distance: Final model outputs**

| | estimate | std. error | df | t-value | p-value |
|---|---|---|---|---|---|
| Intercept | 0.03552 | 0.16609 | 19.99076 | 0.21 | 0.833 |
| z_scored_word_duration | 0.28572 | 0.04363 | 22.91927 | 6.55 | **<.0001*** ** |