

Supplemental Material S9. Meta-regression results.

Table S1. The posterior estimates of between-study standard deviation with 95% CrIs and model fit from the random effects models including the covariate of the target phonetic category (consonant, vowel, tone) with different assumptions.

| Model without covariate | | Models including covariate | | |
|-------------------------|----------------------|----------------------------|----------------------|-----------------------|
| | | Independent | Exchangeable | Common |
| σ | 0.60 [0.39, 0.90] | 0.65 [0.42, 1.01] | 0.62 [0.40, 0.94] | 0.623 [0.41, 0.94] |
| \bar{D}_{res}^a | 67.54 | 66.28 | 67.01 | 67.25 |
| p_D | 57.65 | 59.78 | 58.67 | 58.22 |
| DIC | 70.28 | 71.15 | 70.76 | 70.56 |

^a Compare to 66 data points.

Table S2. The posterior estimates of the interaction terms with 95% CrIs from the random effects models including the covariate of target phonetic category (consonant, vowel, tone) with different assumptions.

| | Independent model β [95%CrI] | Exchangeable model β [95%CrI] | Common model β [95%CrI] |
|---------------------------|---------------------------------------|--|----------------------------------|
| β_1 -single talker | 0.57 [-1.00, 2.14] | 0.27 [-0.73, 1.47] | 0.07 [-0.77, 0.89] |
| β_1 -two talkers | -0.29 [-2.53, 1.93] | 0.06 [-1.18, 1.24] | 0.07 [-0.77, 0.89] |
| β_1 -three talkers | -0.30 [-194.60, 195.60] | 0.13 [-1.51, 1.93] | 0.07 [-0.77, 0.89] |
| β_1 -four talkers | 1.30 [-0.42, 3.14] | 0.32 [-0.70, 1.71] | 0.07 [-0.77, 0.89] |
| β_1 -five talkers | -0.58 [-1.80, 0.64] | -0.13 [-1.18, 0.83] | 0.07 [-0.77, 0.89] |
| β_1 -six talkers | -7.87 [-42.10, 36.32] | 0.13 [-1.47, 1.96] | 0.07 [-0.77, 0.89] |
| β_1 -thirty talkers | 25.83 [-52.98, 75.75] | 0.13 [-1.49, 1.97] | 0.07 [-0.77, 0.89] |
| β_2 -single talker | -0.07 [-2.05, 1.81] | 0.06 [-1.15, 1.22] | 0.07 [-0.77, 0.89] |
| β_2 -two talkers | 0.02 [-197.90, 195.20] | 0.13 [-1.50, 1.93] | 0.07 [-0.77, 0.89] |
| β_2 -three talkers | -6.17 [-109.00, 75.13] | 0.13 [-1.49, 1.88] | 0.07 [-0.77, 0.89] |
| β_2 -four talkers | 0.84 [-1.04, 2.68] | 0.21 [-0.84, 1.49] | 0.07 [-0.77, 0.89] |
| β_2 -five talkers | 1.62 [-65.25, 47.96] | 0.12 [-1.51, 1.87] | 0.07 [-0.77, 0.89] |
| β_2 -six talkers | -0.01 [-196.50, 195.50] | 0.13 [-1.52, 1.96] | 0.07 [-0.77, 0.89] |
| β_2 -thirty talkers | -0.21 [-196.10, 196.50] | 0.13 [-1.53, 1.93] | 0.07 [-0.77, 0.89] |

Table S3. The posterior estimates of between-study standard deviation with 95% CrIs and model fit from the random effects models including the covariate of target language proficiency (low, intermediate, advanced) with different assumptions.

| Model without covariate | | Models including covariate | | |
|-------------------------|----------------------|----------------------------|----------------------|----------------------|
| | | Independent | Exchangeable | Common |
| σ | 0.62 [0.41, 0.93] | 0.66 [0.42, 1.04] | 0.63 [0.40, 0.96] | 0.64 [0.42, 0.96] |
| \bar{D}_{res}^a | 65.42 | 64.17 | 64.85 | 65.16 |
| p_D | 56.25 | 58.11 | 57.14 | 56.76 |
| DIC | 67.79 | 68.39 | 68.10 | 68.03 |

^a Compare to 64 data points.

Table S4. The posterior estimates of the interaction terms with 95% CrIs from the random effects models including the covariate of L2 proficiency (beginner, intermediate, advanced) with different assumptions.

| | Independent model β [95%CrI] | Exchangeable model β [95%CrI] | Common model β [95%CrI] |
|---------------------------|---------------------------------------|--|----------------------------------|
| β_1 -single talker | -0.49 [-2.30, 1.27] | 0.09 [-1.39, 1.42] | 0.37 [-0.72, 1.51] |
| β_1 -two talkers | 0.18 [-194.60, 193.60] | 0.31 [-1.53, 2.00] | 0.37 [-0.72, 1.51] |
| β_1 -three talkers | 0.25 [-195.30, 195.10] | 0.30 [-1.59, 2.00] | 0.37 [-0.72, 1.51] |
| β_1 -four talkers | -0.44 [-2.12, 1.18] | 0.14 [-1.25, 1.41] | 0.37 [-0.72, 1.51] |
| β_1 -five talkers | 3.36 [-17.96, 23.15] | 0.29 [-1.55, 1.69] | 0.37 [-0.72, 1.51] |
| β_1 -six talkers | 0.70 [-196.80, 195.30] | 0.30 [-1.58, 2.01] | 0.37 [-0.72, 1.51] |
| β_1 -thirty talkers | 1.24 [-0.96, 3.46] | 0.45 [-0.85, 1.88] | 0.37 [-0.72, 1.51] |
| β_2 -single talker | 0.71 [-0.90, 2.41] | 0.51 [-0.74, 1.82] | 0.37 [-0.72, 1.51] |
| β_2 -two talkers | -4.26 [-101.00, 91.09] | 0.30 [-1.55, 2.00] | 0.37 [-0.72, 1.51] |
| β_2 -three talkers | -0.62 [-198.40, 194.60] | 0.30 [-1.54, 2.00] | 0.37 [-0.72, 1.51] |
| β_2 -four talkers | 0.34 [-1.19, 1.91] | 0.32 [-0.93, 1.51] | 0.37 [-0.72, 1.51] |
| β_2 -five talkers | 3.50 [-17.74, 23.51] | 0.29 [-1.47, 1.76] | 0.37 [-0.72, 1.51] |
| β_2 -six talkers | 7.44 [-132.60, 98.51] | 0.30 [-1.61, 1.91] | 0.37 [-0.72, 1.51] |
| β_2 -thirty talkers | 0.88 [-196.70, 198.40] | 0.31 [-1.58, 2.00] | 0.37 [-0.72, 1.51] |

Table S5. Model fit for the inconsistency model estimated at the range of training exposure values (thousand tokens).

| | Value = 0.45 | Value = 1.49 (Mean value) | Value = 2.45 | Value = 3.45 | Value = 4.45 |
|-------------------|----------------------|------------------------------|----------------------|----------------------|----------------------|
| σ | 0.58 [0.36, 0.92] | 0.59 [0.36, 0.92] | 0.59 [0.36, 0.92] | 0.59 [0.36, 0.92] | 0.59 [0.36, 0.92] |
| \bar{D}_{res}^a | 68.35 | 68.15 | 68.28 | 68.21 | 68.31 |
| p_D | 58.46 | 58.31 | 58.38 | 58.41 | 58.44 |
| DIC | 71.89 | 71.54 | 71.74 | 71.71 | 71.84 |