**Supplementary material S5 – models and output**

**Models average effect size cross-linguistic influence**

**Model 1.** Datapoints based on explicit predictions mentioned in the separate studies.

REmodel\_analysis1 = rma.mv(g\_correct\_sign, g\_var, data = metadata\_CLI1, random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 1.**

Multivariate Meta-Analysis Model (k = 73; method: REML)

logLik Deviance AIC BIC AICc

-72.0114 144.0228 162.0228 182.5128 164.9261

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.0000 0.0000 22 no data\_collection

sigma^2.2 0.3388 0.5821 37 no data\_collection/task\_number

sigma^2.3 0.0276 0.1661 73 no data\_collection/task\_number/observation

sigma^2.4 0.0000 0.0000 22 no data\_collection

sigma^2.5 0.0000 0.0000 29 no data\_collection/bilingual\_group

sigma^2.6 0.0276 0.1661 73 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0423 0.2057 17 no morphosyntactic\_property

sigma^2.8 0.0276 0.1661 73 no morphosyntactic\_property/observation

Test for Heterogeneity:

Q(df = 72) = 349.8641, p-val < .0001

Model Results:

estimate se zval pval ci.lb ci.ub

0.4628 0.1255 3.6864 0.0002 0.2167 0.7089 \*\*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

**Model 2.** All possible testcases of cross-linguistic influence included.

REmodel\_analysis2 = rma.mv(g\_correct\_sign, g\_var, data = metadata\_CLI2, random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 2.**

Multivariate Meta-Analysis Model (k = 113; method: REML)

logLik Deviance AIC BIC AICc

-118.5314 237.0628 255.0628 279.5293 256.8275

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.0000 0.0000 24 no data\_collection

sigma^2.2 0.1981 0.4450 47 no data\_collection/task\_number

sigma^2.3 0.0739 0.2718 113 no data\_collection/task\_number/observation

sigma^2.4 0.0000 0.0000 24 no data\_collection

sigma^2.5 0.0000 0.0000 31 no data\_collection/bilingual\_group

sigma^2.6 0.0739 0.2718 113 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0000 0.0000 18 no morphosyntactic\_property

sigma^2.8 0.0739 0.2718 113 no morphosyntactic\_property/observation

Test for Heterogeneity:

Q(df = 112) = 505.0018, p-val < .0001

Model Results:

estimate se zval pval ci.lb ci.ub

0.3879 0.0883 4.3950 <.0001 0.2149 0.5610 \*\*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

**Models surface overlap**

**Model 3.** Datapoints based on definition surface overlap in the separate studies.

REModel\_surfaceoverlap1 = rma.mv(g\_correct\_sign, g\_var, data = metadata\_overlap, mods = ~as.factor(overlap\_HandM\_author), random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 3.**

Multivariate Meta-Analysis Model (k = 51; method: REML)

logLik Deviance AIC BIC AICc

-39.3657 78.7314 98.7314 117.6496 104.5209

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.1374 0.3706 13 no data\_collection

sigma^2.2 0.0669 0.2587 22 no data\_collection/task\_number

sigma^2.3 0.0108 0.1040 51 no data\_collection/task\_number/observation

sigma^2.4 0.1374 0.3706 13 no data\_collection

sigma^2.5 0.0033 0.0577 15 no data\_collection/bilingual\_group

sigma^2.6 0.0108 0.1040 51 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0260 0.1613 11 no morphosyntactic\_property

sigma^2.8 0.0108 0.1040 51 no morphosyntactic\_property/observation

Test for Residual Heterogeneity:

QE(df = 49) = 196.0235, p-val < .0001

Test of Moderators (coefficient 2):

QM(df = 1) = 1.7776, p-val = 0.1824

Model Results:

estimate se zval pval ci.lb ci.ub

intrcpt 0.6282 0.1983 3.1685 0.0015 0.2396 1.0167 \*\*

as.factor(overlap\_HandM\_author)yes 0.2108 0.1581 1.3333 0.1824 -0.0991 0.5206

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

**Model 4.** Datapoints based on our definition of surface overlap.

REModel\_surfaceoverlap2 = rma.mv(g\_correct\_sign, g\_var, data = metadata\_overlap, mods = ~as.factor(overlap\_HandM\_byus), random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 4.**

Multivariate Meta-Analysis Model (k = 59; method: REML)

logLik Deviance AIC BIC AICc

-51.8370 103.6739 123.6739 144.1044 128.4565

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.0064 0.0801 20 no data\_collection

sigma^2.2 0.1965 0.4433 33 no data\_collection/task\_number

sigma^2.3 0.0291 0.1706 59 no data\_collection/task\_number/observation

sigma^2.4 0.0064 0.0801 20 no data\_collection

sigma^2.5 0.0078 0.0880 21 no data\_collection/bilingual\_group

sigma^2.6 0.0291 0.1706 59 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0000 0.0017 13 no morphosyntactic\_property

sigma^2.8 0.0291 0.1706 59 no morphosyntactic\_property/observation

Test for Residual Heterogeneity:

QE(df = 57) = 221.3014, p-val < .0001

Test of Moderators (coefficient 2):

QM(df = 1) = 0.3731, p-val = 0.5413

Model Results:

estimate se zval pval ci.lb ci.ub

intrcpt 0.6263 0.1201 5.2127 <.0001 0.3908 0.8618 \*\*\*

as.factor(type\_overlap\_byus)partial 0.1211 0.1983 0.6108 0.5413 -0.2676 0.5098

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

**Model language domain.**

**Model 5.** Datapoints based on definition language domain in the separate studies.

REModel\_langdomain = rma.mv(g\_correct\_sign, g\_var, data = metadata\_CLI, mods = ~as.factor(langdomain), random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 5.**

Multivariate Meta-Analysis Model (k = 36; method: REML)

logLik Deviance AIC BIC AICc

-10.1469 20.2939 40.2939 55.5575 49.8591

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.0000 0.0000 10 no data\_collection

sigma^2.2 0.0000 0.0000 18 no data\_collection/task\_number

sigma^2.3 0.0000 0.0000 36 no data\_collection/task\_number/observation

sigma^2.4 0.0000 0.0000 10 no data\_collection

sigma^2.5 0.0000 0.0000 13 no data\_collection/bilingual\_group

sigma^2.6 0.0000 0.0000 36 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0920 0.3033 10 no morphosyntactic\_property

sigma^2.8 0.0000 0.0000 36 no morphosyntactic\_property/observation

Test for Residual Heterogeneity:

QE(df = 34) = 50.4579, p-val = 0.0344

Test of Moderators (coefficient 2):

QM(df = 1) = 0.0453, p-val = 0.8315

Model Results:

estimate se zval pval ci.lb ci.ub

intrcpt 0.3026 0.1408 2.1491 0.0316 0.0266 0.5786 \*

as.factor(langdomain)pragmatics 0.0396 0.1860 0.2128 0.8315 -0.3250 0.4042

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

**Models language dominance**

**Model 6.** Datapoints based on definition language dominance by the separate studies.

REModel\_dominance = rma.mv(g\_correct\_sign, g\_var, data = metadata\_CLI\_dominance, mods = ~dominance, random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 6.**

Multivariate Meta-Analysis Model (k = 44; method: REML)

logLik Deviance AIC BIC AICc

-33.5731 67.1463 87.1463 104.5230 94.2431

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.1706 0.4130 4 no data\_collection

sigma^2.2 0.1890 0.4348 10 no data\_collection/task\_number

sigma^2.3 0.0071 0.0844 44 no data\_collection/task\_number/observation

sigma^2.4 0.1706 0.4130 4 no data\_collection

sigma^2.5 0.0597 0.2444 6 no data\_collection/bilingual\_group

sigma^2.6 0.0071 0.0844 44 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0671 0.2589 8 no morphosyntactic\_property

sigma^2.8 0.0071 0.0844 44 no morphosyntactic\_property/observation

Test for Residual Heterogeneity:

QE(df = 42) = 132.2759, p-val < .0001

Test of Moderators (coefficient 2):

QM(df = 1) = 4.3540, p-val = 0.0369

Model Results:

estimate se zval pval ci.lb ci.ub

intrcpt 0.5058 0.3732 1.3552 0.1754 -0.2257 1.2373

dominance other 0.2737 0.1312 2.0866 0.0369 0.0166 0.5308 \*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

**Model 7.** Datapoint based on societal language bilingual groups.

REModel\_dominance = rma.mv(g\_correct\_sign, g\_var, data = metadata\_CLI\_dominance, mods = ~societal\_language, random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 7.**

Multivariate Meta-Analysis Model (k = 148; method: REML)

logLik Deviance AIC BIC AICc

-198.4341 396.8682 416.8682 446.7043 418.4978

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.0000 0.0000 22 no data\_collection

sigma^2.2 0.2950 0.5431 44 no data\_collection/task\_number

sigma^2.3 0.1548 0.3935 148 no data\_collection/task\_number/observation

sigma^2.4 0.0000 0.0000 22 no data\_collection

sigma^2.5 0.0255 0.1596 32 no data\_collection/bilingual\_group

sigma^2.6 0.1548 0.3935 148 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0000 0.0001 18 no morphosyntactic\_property

sigma^2.8 0.1548 0.3935 148 no morphosyntactic\_property/observation

Test for Residual Heterogeneity:

QE(df = 146) = 825.3731, p-val < .0001

Test of Moderators (coefficient 2):

QM(df = 1) = 2.2884, p-val = 0.1303

Model Results:

estimate se zval pval ci.lb ci.ub

intrcpt 0.3154 0.1408 2.2396 0.0251 0.0394 0.5914 \*

societal\_language other 0.2230 0.1474 1.5127 0.1303 -0.0659 0.5118

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

**Model age**

**Model 8.** Meta-regression of bilingual children’s mean age on effect sizes of cross-linguistic influence.

REModel\_Age = rma.mv(g\_correct\_sign, g\_var, data = metadata\_CLI\_age, mods = ~mean\_age\_2L1, random = list(~ 1|data\_collection/task\_number/observation, ~1|data\_collection/bilingual\_group/observation, ~1|morphosyntactic\_property/observation))

**Output Model 8.**

Multivariate Meta-Analysis Model (k = 87; method: REML)

logLik Deviance AIC BIC AICc

-70.4247 140.8493 160.8493 185.2758 163.8223

Variance Components:

estim sqrt nlvls fixed factor

sigma^2.1 0.0248 0.1576 24 no data\_collection

sigma^2.2 0.2050 0.4527 43 no data\_collection/task\_number

sigma^2.3 0.0122 0.1104 87 no data\_collection/task\_number/observation

sigma^2.4 0.0248 0.1576 24 no data\_collection

sigma^2.5 0.0000 0.0000 28 no data\_collection/bilingual\_group

sigma^2.6 0.0122 0.1104 87 no data\_collection/bilingual\_group/observation

sigma^2.7 0.0173 0.1316 18 no morphosyntactic\_property

sigma^2.8 0.0122 0.1104 87 no morphosyntactic\_property/observation

Test for Residual Heterogeneity:

QE(df = 85) = 290.5608, p-val < .0001

Test of Moderators (coefficient 2):

QM(df = 1) = 0.4606, p-val = 0.4973

Model Results:

estimate se zval pval ci.lb ci.ub

intrcpt 0.8181 0.3280 2.4943 0.0126 0.1753 1.4610 \*

mean\_age\_2L1 -0.0028 0.0041 -0.6787 0.4973 -0.0109 0.0053

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1