

**Supplemental Material S3.** Complete model outputs.

Linear mixed model fit by maximum likelihood . t-tests use Satterthwaite's method ['lmerModLmerTest']

Formula: MCI ~ scale(age\_mos, scale = F) \* target\_IPA + (1 | word) + (1 + target\_IPA | subject)

Data: fuldat\_TD

AIC	BIC	logLik	deviance	df.resid
1289.4	1494	-600.7	1201.4	728

Scaled residuals:

Min	1Q	Median	3Q	Max
-2.3787	-0.679	-0.1384	0.5806	6.2247

Random effects:

Groups	Name	Variance	Std.Dev.	Corr					
subject	(Intercept)	0.046610563	0.2158948						
target_IPAw		0.049283873	0.2219997	-0.84					
target_IPAt		0.016539473	0.1286059	-0.22	0.58				
target_IPAk		0.013140982	0.1146341	-0.29	0.67	0.72			
target_IPAj		0.013168355	0.1147535	0.06	-0.31	-0.46	0.04		
target_IPAI		0.108144983	0.328854	-0.77	0.89	0.37	0.77	0.14	
target_IPA <sub>l</sub>		0.084438359	0.2905828	-0.34	0.62	0.7	0.28	-0.92	0.21
word	(Intercept)	0.000000129	0.0003594						
Residual		0.25506936	0.5050439						

Number of obs: 772, groups: subject, 17; word, 16

Fixed effects:

	Estimate	Std. Error	df	t value	Pr(> t )
(Intercept)	2.442003	0.067167	16.945151	36.357	0.0000000000000002***
scale(age_mos,scale=F)	-0.006541	0.008427	17.900938	-0.776	0.447735
<b>target_IPAw</b>	<b>0.218886</b>	<b>0.089134</b>	<b>23.021234</b>	<b>2.456</b>	<b>0.022032*</b>
target_IPAt	-0.061809	0.068753	15.183661	-0.899	0.382687
<b>target_IPAk</b>	<b>0.300681</b>	<b>0.066517</b>	<b>25.854092</b>	<b>4.52</b>	<b>0.000121***</b>
target_IPAj	0.091522	0.096015	60.902563	0.953	0.344252
target_IPAI	0.173385	0.10838	17.003203	1.6	0.12806
<b>target_IPA<sub>l</sub></b>	<b>0.430374</b>	<b>0.093457</b>	<b>17.023663</b>	<b>4.605</b>	<b>0.000251***</b>
scale(age_mos,scale=F):target_IPAw	0.005079	0.011454	25.261336	0.443	0.661202
scale(age_mos,scale=F):target_IPAt	-0.004923	0.0088	15.888447	-0.559	0.583686
scale(age_mos,scale=F):target_IPAk	-0.005559	0.008651	27.640997	-0.643	0.525799
scale(age_mos,scale=F):target_IPAj	0.00786	0.012968	79.823227	0.606	0.546168
scale(age_mos,scale=F):target_IPAI	0.003433	0.013514	17.340128	0.254	0.802439
scale(age_mos,scale=F):target_IPA <sub>l</sub>	0.015082	0.011686	17.977279	1.291	0.213188

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

**Cumulative Link Mixed Model fitted with the Laplace approximation**

formula: NINFL ~ scale(age\_mos, scale = F) \* target\_IPA + (1 | word) + (1 + target\_IPA | subject)

data: fuldat\_TD

link threshold	nobs	logLik	AIC	niter	max.grad	cond.H
logit flexible	772	-968.1	2028.19	9369(37434)	2.24E-03	4.00E+03

Random effects:

Groups	Name	Variance	Std.Dev.	Corr					
subject	(Intercept)	2.1313	1.4599						
target_IPAw		0.8418	0.9175	-0.478					
target_IPAt		0.1903	0.4363	-0.266	0.507				
target_IPAk		0.7749	0.8803	-0.68	0.852	0.387			
target_IPAj		0.6781	0.8235	-0.355	0.79	-0.121	0.665		
target_IPAI		1.6397	1.2805	-0.882	0.398	0.626	0.538	0.015	
target_IPA <sub>l</sub>		1.7977	1.3408	-0.877	0.494	0.408	0.452	0.316	0.864
word	(Intercept)	0	0						

Number of groups: subject 17, word 16

Coefficients:

	Estimate	Std. Error	z value	Pr(> z )
scale(age_mos,scale=F)	-0.004417	0.049752	-0.089	0.92926
target_IPAw	0.022284	0.383818	0.058	0.9537
target_IPAt	0.118134	0.284695	0.415	0.67818
target_IPAk	0.304924	0.333408	0.915	0.36042
target_IPAj	0.089685	0.435712	0.206	0.83692
<b>target_IPAI</b>	<b>0.881444</b>	<b>0.425303</b>	<b>2.073</b>	<b>0.03822*</b>
<b>target_IPA<sub>l</sub></b>	<b>1.270267</b>	<b>0.411853</b>	<b>3.084</b>	<b>0.00204**</b>
scale(age_mos,scale=F):target_IPAw	0.034313	0.048428	0.709	0.47862
<b>scale(age_mos,scale=F):target_IPAt</b>	<b>-0.077731</b>	<b>0.035844</b>	<b>-2.169</b>	<b>0.03011*</b>
scale(age_mos,scale=F):target_IPAt	-0.024905	0.042557	-0.585	0.55841
scale(age_mos,scale=F):target_IPAt	-0.03396	0.057163	-0.594	0.55246
scale(age_mos,scale=F):target_IPAI	-0.027915	0.052384	-0.533	0.5941
scale(age_mos,scale=F):target_IPA <sub>l</sub>	0.034009	0.050773	0.67	0.50297

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

Threshold coefficients:

	Estimate	Std. Error	z value
1 2	-0.4175	0.4042	-1.033
2 3	1.073	0.4056	2.645
3 4	2.9925	0.42	7.126
4 5	4.6848	0.4683	10.003

Linear mixed model fit by maximum likelihood . t-tests use Satterthwaite's method ['lmerModLmerTest']

Formula: MCI ~ classification \* target\_IPA + (1 | word) + (1 + target\_IPA | subject)

Data: fuldat

AIC	BIC	logLik	deviance	df.resid
1758.1	1977.9	-835	1670.1	1048

Scaled residuals:

Min	1Q	Median	3Q	Max
-2.5116	-0.6986	-0.1117	0.596	6.4042

Random effects:

Groups	Name	Variance	Std.Dev.	Corr					
subject	(Intercept)	0.03746	0.19355						
target_IPA		0.076236	0.27611	-0.52					
target_IPA		0.017909	0.13382	-0.1	0.79				
target_IPA		0.043052	0.20749	-0.03	0.79	0.89			
target_IPA		0.007515	0.08669	0.19	-0.48	-0.3	-0.06		
target_IPA		0.114693	0.33866	-0.63	0.93	0.66	0.77	-0.15	
target_IPA		0.081878	0.28614	-0.33	0.71	0.55	0.33	-0.95	0.42
word	(Intercept)	0.00152	0.03898						
Residual		0.244766	0.49474						

Number of obs: 1092, groups: subject, 24; word, 16

Fixed effects:

	Estimate	Std. Error	df	t value	Pr(> t )
<b>(Intercept)</b>	<b>2.44347</b>	<b>0.06484</b>	<b>24.31562</b>	<b>37.686</b>	<b>&lt; 0.0000000000000002 ***</b>
classificationSSD	0.06039	0.11615	23.28148	0.52	0.608031
<b>target_IPA</b>	<b>0.23011</b>	<b>0.10241</b>	<b>27.64664</b>	<b>2.247</b>	<b>0.032823 *</b>
target_IPA	-0.05244	0.074	17.93219	-0.709	0.487599
<b>target_IPA</b>	<b>0.30624</b>	<b>0.08123</b>	<b>28.21832</b>	<b>3.77</b>	<b>0.000768 ***</b>
target_IPA	0.06587	0.09602	106.96647	0.686	0.494198
target_IPA	0.15931	0.11149	28.09393	1.429	0.164029
<b>target_IPA</b>	<b>0.42599</b>	<b>0.09405</b>	<b>27.85165</b>	<b>4.529</b>	<b>0.000101 ***</b>
classificationSSD:target_IPA	0.02157	0.18179	30.89465	0.119	0.906316
classificationSSD:target_IPA	-0.09469	0.12901	22.65759	-0.734	0.470504
classificationSSD:target_IPA	-0.27862	0.14617	27.62854	-1.906	0.067091 .
classificationSSD:target_IPA	0.04403	0.18953	190.20549	0.232	0.816547
classificationSSD:target_IPA	-0.04975	0.2008	24.61624	-0.248	0.806366
classificationSSD:target_IPA	-0.16532	0.16622	25.79062	-0.995	0.329188

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

**Cumulative Link Mixed Model fitted with the Laplace approximation**

formula: NINFL ~ classification \* target\_IPA + (1 | word) + (1 + target\_IPA | subject)

data: fuldat

link	threshold	nobs	logLik	AIC	niter	max.grad	cond.H
logit	flexible	1092	-1369.84	2831.68	7910(31550)	2.01E-03	8.40E+02

Random effects:

Groups	Name	Variance	Std.Dev.	Corr					
subject	(Intercept)	1.8087	1.3449						
target_IPAw		1.1964	1.0938	-0.522					
target_IPAt		0.7795	0.8829	-0.366	0.363				
target_IPAk		0.9444	0.9718	-0.633	0.775	0.52			
target_IPAj		0.8513	0.9227	-0.145	0.539	-0.47	0.474		
target_IPAI		1.7554	1.3249	-0.834	0.55	0.818	0.716	-0.17	
target_IPA <sub>l</sub>		1.9543	1.398	-0.779	0.528	0.254	0.229	-0.035	0.623
word	(Intercept)	0	0						

Number of groups: subject 24, word 16

Coefficients:

	Estimate	Std. Error	z value	Pr(> z )
classificationSSD	0.6264	0.69121	0.906	0.3648
target_IPAw	0.05817	0.41006	0.142	0.8872
target_IPAt	0.201	0.33854	0.594	0.5527
target_IPAk	0.34176	0.34649	0.986	0.324
target_IPAj	-0.01392	0.45178	-0.031	0.9754
<b>target_IPAI</b>	<b>0.98233</b>	<b>0.43179</b>	<b>2.275</b>	<b>0.0229*</b>
<b>target_IPA<sub>l</sub></b>	<b>1.26569</b>	<b>0.42028</b>	<b>3.012</b>	<b>0.0026**</b>
classificationSSD:target_IPAw	-0.21983	0.74962	-0.293	0.7693
classificationSSD:target_IPAt	-0.68676	0.61296	-1.12	0.2625
classificationSSD:target_IPAk	-0.8752	0.64001	-1.367	0.1715
classificationSSD:target_IPAj	0.43282	0.83869	0.516	0.6058
classificationSSD:target_IPAI	-1.04922	0.79027	-1.328	0.1843
<b>classificationSSD:target_IPA<sub>l</sub></b>	<b>-1.60918</b>	<b>0.76509</b>	<b>-2.103</b>	<b>0.0354*</b>

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

Threshold coefficients:

	Estimate	Std. Error	z value
1 2	-0.5254	0.376	-1.397
2 3	1.1667	0.3774	3.091
3 4	3.0968	0.3895	7.952
4 5	4.8102	0.433	11.109

**Linear mixed model fit by maximum likelihood . t-tests use Satterthwaite's method ['lmerModLmerTest']**

Formula: MCI ~ transcription\_accuracy\_binary \* classification \* target + (1 | word) + (1 + target\_IPA | subject)

Data: fuldat\_rl

AIC	BIC	logLik	deviance	df.resid
647.2	696.9	-310.6	621.2	326

Scaled residuals:

Min	1Q	Median	3Q	Max
-2.0299	-0.677	-0.114	0.5619	5.0734

Random effects:

Groups

subject

target\_IPA<sub>i</sub>

word

Residual

Name	Variance	Std.Dev.	Corr
(Intercept)	0.04842	0.22	
target_IPA <sub>i</sub>	0.07321	0.2706	-0.49
(Intercept)	0	0	
Residual	0.32936	0.5739	

Number of obs: 339, groups: subject, 24; word, 6

Fixed effects:

	Estimate	Std. Error	df	t value	Pr(> t )
<b>(Intercept)</b>	<b>2.74181</b>	<b>0.18117</b>	<b>156.23608</b>	<b>15.134</b>	<b>&lt;0.0000000000000002***</b>
transcription_accuracy_binarycorrect	-0.1583	0.19124	258.82902	-0.828	0.409
classificationSSD	-0.05577	0.24718	67.64444	-0.226	0.822
targetr	0.02148	0.19992	121.5473	0.107	0.915
transcription_accuracy_binarycorrect:classificationSSD	-0.02722	0.29131	119.66471	-0.093	0.926
transcription_accuracy_binarycorrect:targetr	0.37888	0.23244	227.26371	1.63	0.104
classificationSSD:targetr	0.09385	0.28321	53.23579	0.331	0.742
transcription_accuracy_binarycorrect:classificationSSD:targetr	-0.30396	0.35788	161.70451	-0.849	0.397

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

**Cumulative Link Mixed Model fitted with the Laplace approximation**

formula: as.factor(NINFL) ~ transcription\_accuracy\_binary \* classification \* target + (1 | word) + (1 + target\_IPA | subject)

data: fuldat\_rl

link	threshold	nobs	logLik	AIC	niter	max.grad	cond.H
logit	flexible	339	-458	946	1129(2342)	1.24E-04	6.50E+02

Random effects:

Groups	Name	Variance	Std.Dev.	Corr
subject	(Intercept)	0.4549	0.6745	
target_IPA		0.191	0.437	-0.771
word	(Intercept)	0	0	

Number of groups: subject 24, word 6

Coefficients:

	Estimate	Std. Error	z value	Pr(> z )
transcription_accuracy_binarycorrect	-0.4297	0.6063	-0.709	0.47846
classificationSSD	-0.427	0.8243	-0.518	0.60446
targetr	-0.6167	0.5949	-1.037	0.29988
transcription_accuracy_binarycorrect:classificationSSD	0.1743	0.9696	0.18	0.85733
<b>transcription_accuracy_binarycorrect:targetr</b>	<b>1.8623</b>	<b>0.703</b>	<b>2.649</b>	<b>0.00807 **</b>
classificationSSD:targetr	-0.3104	0.8695	-0.357	0.72106
transcription_accuracy_binarycorrect:classificationSSD:targetr	-0.6478	1.1422	-0.567	0.57062

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

Threshold coefficients:

	Estimate	Std. Error	z value
1 2	-1.5979	0.579	-2.76
2 3	-0.2379	0.5754	-0.413
3 4	1.7137	0.587	2.919
4 5	3.3308	0.6449	5.165