

Cognitive Processing

**The relationship between working memory updating components and  
reading comprehension**

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## Supplementary Table S1

*Model fit statistics for response times and accuracy*

	Model	Fixed effects	AIC	BIC	logLik	df
Time	1	Retr	12592	12611	-6292.1	4
	2	Retr + Subst	12594	12617	-6292.1	5
	3	Retr + Subst + Retr x Subst	12581	12609	-6284.5	6
	4	Retr + Subst + Retr x Subst + Ct	12559	12591	-6272.5	7
	5	Retr + Subst + Retr x Subst + Ct + Fm	12514	12551	-6248.9	8
	6	Retr + Subst + Retr x Subst + Ct + Fm + Rf	12514	12556	-6248.0	9
	7	Retr + Subst + Retr x Subst + Ct + Fm + Voc	12515	12556	-6248.5	9
	8	Retr + Subst + Retr x Subst + Ct + Fm + Ra	12515	12557	-6248.7	9
	9	RC + Retr + Subst + Retr x Subst + Retr x RC + Ct + Fm	12515	12561	-6247.4	10
	10	RC + Retr + Subst + Retr x Subst + Subs x RC + Ct + Fm	12517	12563	-6248.5	10
	11	RC + Retr + Subst + Retr x Subst + Retr x Subs x RC + Ct + Fm	12517	12572	-6246.6	12
Accuracy	1	Retr	5683.8	5702.3	-2837.9	4
	2	Retr + Subst	5639.3	5662.4	-2814.7	5
	3	Retr + Subst + Retr x Subst	5551.1	5578.1	-2769.6	6
	4	Retr + Subst + Retr x Subst + Ct	5518.4	5550.6	-2752.2	7
	5	Retr + Subst + Retr x Subst + Ct + Fm	5514.8	5551.6	-2749.4	8
	6	Retr + Subst + Retr x Subst + Ct + Fm + Rf	5516.7	5558.2	-2749.3	9
	7	Retr + Subst + Retr x Subst + Ct + Fm + Voc	5512.0	5553.5	-2747.0	9
	8	Retr + Subst + Retr x Subst + Ct + Fm + Voc + Ra	5512.9	5558.9	-2746.4	10
	9	RC + Retr + Subst + Retr x Subst + Retr x RC + Ct + Fm + Voc	5495.5	5546.2	-2736.8	11
	10	RC + Retr + Subst + Retr x Subst + Subs x RC + Ct + Fm + Voc	5496.0	5551.3	-2736.0	12
	11	RC + Retr + Subst + Retr x Subst + Retr x Subs x RC + Ct + Fm + Voc + Ra	5496.0	5555.9	-2735.0	13

## Supplementary Table S2

*Results of model comparisons for response times and accuracy*

	Model	$\chi^2$	<i>df</i>	<i>p</i>
Time	Model 1 vs. Model 2	0.04	1	.833
	Model 1 vs. Model 3	15.22	2	< .001
	Model 3 vs. Model 4	24.00	1	< .001
	Model 4 vs. Model 5	47.34	1	< .001
	Model 5 vs. Model 6	1.68	1	.194
	Model 5 vs. Model 7	0.72	1	.395
	Model 5 vs. Model 8	0.32	1	.567
	Model 5 vs. Model 9	2.89	2	.235
	Model 5 vs. Model 10	0.75	2	.685
	Model 5 vs. Model 11	4.52	4	.340
Accuracy	Model 1 vs. Model 2	46.49	1	< .001
	Model 1 vs. Model 3	90.20	1	< .001
	Model 3 vs. Model 4	34.76	1	< .001
	Model 4 vs. Model 5	5.59	1	.018
	Model 4 vs. Model 6	0.07	1	.784
	Model 6 vs. Model 7	4.78	1	.028
	Model 7 vs. Model 8	1.11	1	.291
	Model 7 vs. Model 9	20.46	2	< .001
	Model 9 vs. Model 10	1.50	1	.219
	Model 9 vs. Model 11	3.5	2	.173