

## Baseline Linear Mixed Model:

log(GD) ~ LinePos + SentencePos + TextPos + LaunchSite + log(Freq) × inv(Length) + (1|Subj) + (1|word)



Both LSA and FastText model Natural Language by word embeddings,

that represents words in a multidimensional semantic space. Modelling

the Predictability as the semantic closeness to its context (the previous

w words) makes little difference to the LMMs.



## **Eye Movement and Computational Models**

BL +

the (absolute value) of the t-value and the

AIC, but also in a lower decrease for the

Frequency effect.

	Cl	ozePre	ed								Basel	ine M	Iodel	+ Con	nputat	cional	Pred									
Baseline Cloze Previous C					ıs Compi	utationa	L		AWD-LSTM Models																	
Model		Model	Models							without finetunning								with finetunning								
	Мо	M1	M2	М3	M4	M5	М6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	FM9	FM10	FM11	FM12	FM13	FM14	FM15	FM16	
NLaunchSite	44.44	44.63	43.92	44.40	44.47	43.93	43.95	44.42	43.95	44.30	43.94	44.29	44.33	43.95	43.97	44.31	43.96	44.20	43.92	44.20	44.24	43.94	43.96	44.22	43.95	- 20
length (inv)		-18.56	-19.10	-17.89	-17.42	-19.10	-18.24	-16.93	-18.06	-19.41	-19.62	-19.27	-18.61	-19.66	-18.75	-18.26	-18.60	-19.28	-19.42	-19.22	-18.41	-19.47	-18.54	-18.14	-18.41	- 15
freq (log)	-10.83	-10.60	-1.93	-8.40	-11.49	-2.04	-2.74	-8.71	-2.32	-1.73	0.92	-1.34	-2.42	0.44	0.15	-1.61	0.16	-2.56	-0.22	-2.39	-3.31	-0.67	-0.99	-2.64	-0.92	
<b>Lines Pos</b>	4.14	3.96	4.33	4.22	4.13	4.31	4.32	4.24	4.33	4.40	4.44	4.42	4.39	4.40	4.43	4.45	4.43	4.19	4.31	4.18	4.17	4.27	4.30	4.21	4.30	- 10
Text Pos	-3.93	-3.28	-3.87	-3.95	-3.98	-3.87	-3.95	-4.03	-3.95	-4.25	-4.05	-4.26	-4.31	-4.04	-4.12	-4.33	-4.12	-4.68	-4.22	-4.68	-4.77	-4.21	-4.31	-4.78	-4.31	- 5
Sentence Pos	-5.36	-4.85	-5.76	-5.29	-5.30	-5.78	-5.69	-5.19	-5.67	-5.03	-5.53	-5.01	-4.96	-5.56	-5.45	-4.90	-5.44	-5.00	-5.52	-5.01	-4.91	-5.55	-5.42	-4.88	-5.42	3
nv length:Freq	16.98	17.17	15.68	17.09	16.30	15.54	14.86	16.44	14.85	14.71	14.71	14.69	13.96	14.53	13.89	14.04	13.85	14.38	14.73	14.29	13.50	14.54	13.83	13.53	13.78	- 0
CLOZE pred		-16.23		_				_				_				_										
4-gram + cache			-21.02			-20.93	-21.26		-21.03		-16.08			-16.12	-16.29		-16.21		-13.84				-13.89		-13.85	5
LSA (w = 9)				-2.17		0.68		-3.15	-0.41			-0.62		1.04		-1.65	-0.06			0.14		1.15		-1.00	0.01	10
FastText(w=50)					4.43		5.39	4.98	5.36				4.84		5.44	5.07	5.34				5.65		5.75	5.73	5.63	
AWD-LSTM				_						-14.97	-6.83	-14.83	-15.09	-6.88	-6.87	-14.85	-6.86	-16.76	-6.11	-16.62	-17.13	-6.18	-6.42	-16.87	-6.41	15
Resudials + CLOZE model	-16.14	0.00	-9.47	-15.99	-16.55	-9.48	-9.87	-16.39	-9.87	-11.63	-8.26	-11.61	-12.02	-8.28	-8.66	-11.99	-8.66	-9.87	-8.06	-9.87	-10.22	-8.07	-8.41	-10.22	-8.41	-20
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	ion with G		•		•									tability. N	•		crease in								word en	nbeddin

\* Table shows Fixed effect's t-values. Absolute values greater than 2 corresponds to significant effects.

computer-based Predictability that mimics this effect