Table 1 Linear Mixed-Effects model formula and summary output for the GCA of the pupil dilation of Condition 1 (time window: 0-5 s relative to sentence onset). P-values <0.05 for the PP (reference) indicate a significant difference from 0; p-values < 0.05 for the P3 and P3SP indicate a significant difference from the PP.

Formula	Pupil Dilation~ (Linear + Quadratic + Cubic)* Processor + (1 + Linear + Quadratic + Cubic | Subject)
Model fit	AIC = -62937.16; BIC = -62756.68; Log. Lik = 31491.58

Condition 1 (0-5 s)	***Estimate***	***Std. Error***	***t value***	***p***
Intercept (PP)	0.055	0.017	3.27	0.004 **
Linear (PP)	-0.043	0.033	-1.33	0.199
Quadratic (PP)	-0.110	0.025	-4.36	<0.0001 ***
Cubic (PP)	0.058	0.013	4.53	<0.0001 ***
P3	-0.021	0.001	-25.99	<0.0001 ***
P3SP	-0.027	0.001	-33.68	<0.0001 ***
Linear*P3	0.022	0.004	5.54	<0.0001 ***
Linear*P3SP	0.018	0.004	4.35	<0.0001 ***
Quadratic*P3	0.014	0.004	3.52	<0.0001 ***
Quadratic*P3SP	0.015	0.004	3.68	<0.0001 ***
Cubic*P3	-0.008	0.004	-1.97	0.049 *
Cubic*P3SP	-0.016	0.004	-3.92	<0.0001 ***

* p<0.05; **p < 0.01; ***p<0.001

AIC – Akaike Information Criterion.

BIC – Bayesian Information Criterion.

LogLik – Logarithmic Likelihood.

Table 2 Linear Mixed-Effects model formula and summary output for the GCA of the pupil dilation of Condition 2 (time window: 0-5 s relative to sentence onset). P-values <0.05 for the PP (reference) indicate a significant difference from 0; p-values < 0.05 for the P3 and P3SP indicate a significant difference from the PP.

Formula	Pupil Dilation~ (Linear + Quadratic + Cubic)* Processor + (1 + Linear + Quadratic + Cubic | Subject)
Model fit	AIC = -51210.37; BIC = -51032.19; Log. Lik = 25628.19

Condition 2 (0-5 s)	***Estimate***	***Std. Error***	***t value***	***p***
Intercept (PP)	0.069	0.016	4.21	<0.0001 ***
Linear (PP)	0.073	0.050	1.45	0.163
Quadratic (PP)	-0.102	0.026	-3.97	0.001 **
Cubic (PP)	0.060	0.021	2.90	0.009 **
P3	-0.016	0.001	-16.23	<0.0001 ***
P3SP	-0.009	0.001	-8.87	<0.0001 ***
Linear*P3	-0.061	0.005	-12.21	<0.0001 ***
Linear*P3SP	-0.102	0.005	-20.42	<0.0001 ***
Quadratic*P3	-0.016	0.005	-3.13	0.002 **
Quadratic*P3SP	-0.022	0.005	-4.39	<0.0001 ***
Cubic*P3	-0.004	0.005	-0.78	0.438
Cubic*P3SP	0.021	0.005	4.10	<0.0001 ***

* p<0.05; **p < 0.01; ***p<0.001

AIC – Akaike Information Criterion.

BIC – Bayesian Information Criterion.

LogLik – Logarithmic Likelihood.

Table 3 Linear Mixed-Effects model formula and summary output for the GCA of the pupil dilation of Condition 1 (time window: 2-5 s relative to sentence onset). P-values <0.05 for the PP (reference) indicate a significant difference from 0; p-values < 0.05 for the P3 and P3SP indicate a significant difference from the PP.

Formula	Pupil Dilation~ (Linear + Quadratic + Cubic)* Processor + (1 + Linear + Quadratic + Cubic | Subject)
Model fit	AIC = -37031.59; BIC = -36863.86; Log. Lik = 18538.8

Condition 1 (2-5 s)	***Estimate***	***Std. Error***	***t value***	***p***
Intercept (PP)	0.051	0.021	2.44	0.024 *
Linear (PP)	-0.095	0.022	-4.25	<0.0001 ***
Quadratic (PP)	0.023	0.012	1.89	0.071
Cubic (PP)	0.000	0.007	0.02	0.986
P3	-0.018	0.001	-17.09	<0.0001 ***
P3SP	-0.025	0.001	-23.80	<0.0001 ***
Linear*P3	0.020	0.004	4.89	<0.0001 ***
Linear*P3SP	0.023	0.004	5.45	<0.0001 ***
Quadratic*P3	-0.001	0.004	-0.30	0.766
Quadratic*P3SP	-0.015	0.004	-3.71	<0.0001 ***
Cubic*P3	-0.001	0.004	-0.26	0.798
Cubic*P3SP	0.002	0.004	0.54	0.587

* p<0.05; **p < 0.01; ***p<0.001

AIC – Akaike Information Criterion.

BIC – Bayesian Information Criterion.

LogLik – Logarithmic Likelihood.

Table 4 Linear Mixed-Effects model formula and summary output for the GCA of the pupil dilation of Condition 2 (time window: 2-5 s relative to sentence onset). P-values <0.05 for the PP (reference) indicate a significant difference from 0; p-values < 0.05 for the P3 and P3SP indicate a significant difference from the PP.

Formula	Pupil Dilation~ (Linear + Quadratic + Cubic)* Processor + (1 + Linear + Quadratic + Cubic | Subject)
Model fit	AIC = -28405.47; BIC = -28239.04; Log. Lik = 14225.74

Condition 2 (2-5 s)	***Estimate***	***Std. Error***	***t value***	***p***
Intercept (PP)	0.080	0.023	3.50	0.002 **
Linear (PP)	-0.034	0.031	-1.10	0.286
Quadratic (PP)	0.027	0.017	1.59	0.128
Cubic (PP)	0.003	0.006	0.55	0.589
P3	-0.022	0.001	-15.55	<0.0001 ***
P3SP	-0.023	0.001	-16.15	<0.0001 ***
Linear*P3	-0.052	0.006	-9.33	<0.0001 ***
Linear*P3SP	-0.059	0.006	-10.53	<0.0001 ***
Quadratic*P3	0.007	0.006	1.17	0.244
Quadratic*P3SP	0.006	0.006	1.09	0.274
Cubic*P3	0.015	0.006	2.72	0.007 **
Cubic*P3SP	0.002	0.006	0.32	0.752

* p<0.05; **p < 0.01; ***p<0.001

AIC – Akaike Information Criterion.

BIC – Bayesian Information Criterion.

LogLik – Logarithmic Likelihood.