

Supplemental file 1 – Table III interaction with intelligibility

Table IIIb. Linear mixed-effects model accounting for change in pupil size in window 2 (time 0.7s to 2.4s relative to stimulus offset), interacting each model term with dataset (all data versus only-correct-trials dataset).

	<b>Term</b>	<b>Estimate</b>	<b>St.err</b>	<b>df</b>	<b>t</b>	<b>p</b>
$\beta 1$	Intercept – (Original Rate)	0.111	0.013	19.86	8.63	< .001
$\beta 2$	Time ( <i>slope</i> , Original Rate)	-0.004	0.005	20.12	-0.81	.428
$\beta 3$	Rate (Slow)	-0.002	0.011	25.21	-0.14	.892
<b><math>\beta 4</math></b>	<b>\$All Correct</b>	<b>0.001</b>	<b>0.003</b>	<b>58.99</b>	<b>0.26</b>	<b>.794</b>
$\beta 5$	Time : Rate (Slow)	-0.012	0.006	21.73	-2.12	.045
<b><math>\beta 6</math></b>	<b>Time : \$All Correct</b>	<b>-0.003</b>	<b>0.002</b>	<b>58.43</b>	<b>-1.57</b>	<b>.122</b>
<b><math>\beta 7</math></b>	<b>Rate (Slow) : \$All Correct</b>	<b>-0.001</b>	<b>0.004</b>	<b>36.09</b>	<b>-0.3</b>	<b>.764</b>
<b><math>\beta 8</math></b>	<b>Time : Rate (Slow) : \$All Correct</b>	<b>0.001</b>	<b>0.002</b>	<b>107.96</b>	<b>0.54</b>	<b>.592</b>

Note: St.Err is standard error of the mean estimation, df is degrees of freedom estimated using the Satterthwaite approximation (implementation by Kuznetsova et al. 2017)

(Figures on next page)

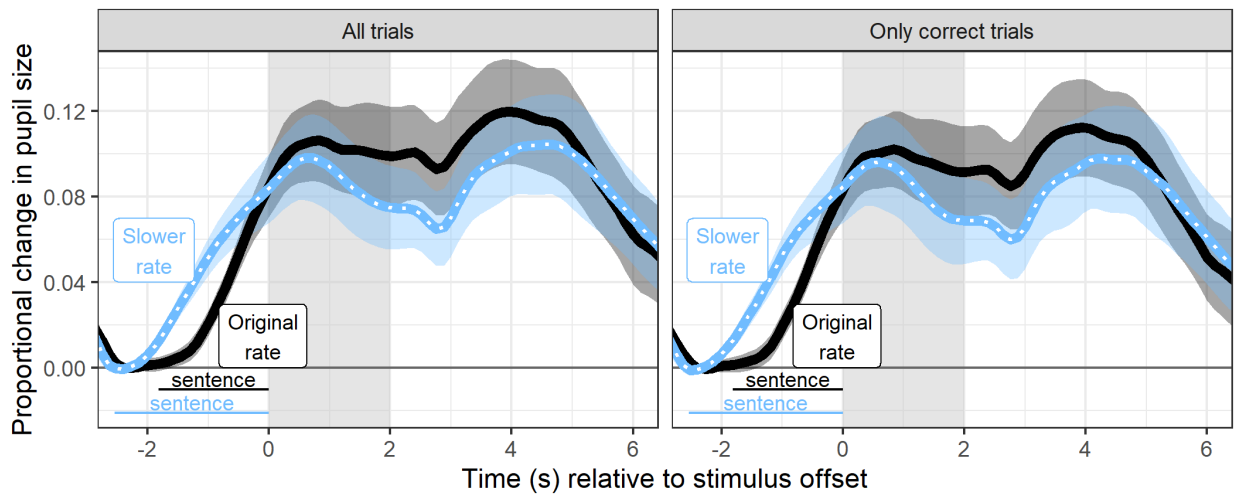


Figure 2b. Proportional change in pupil dilation over time for sentences spoken at the original rate (black line) or a slower rate (blue line with dots), split by data set. Width of the error ribbon represents  $\pm 2$  1 standard error of the mean. The vertical gray shaded region represents the silent interval between stimulus offset and the visual prompt for listeners to repeat the sentence.

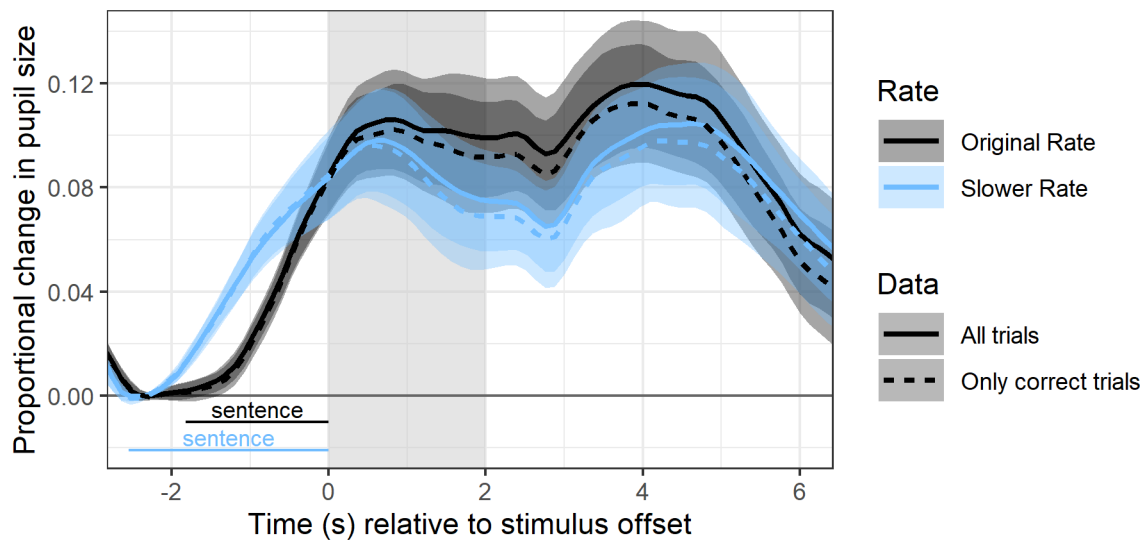


Figure 2c. Same as Figure 2b, but with all data on one panel to facilitate direct comparisons.