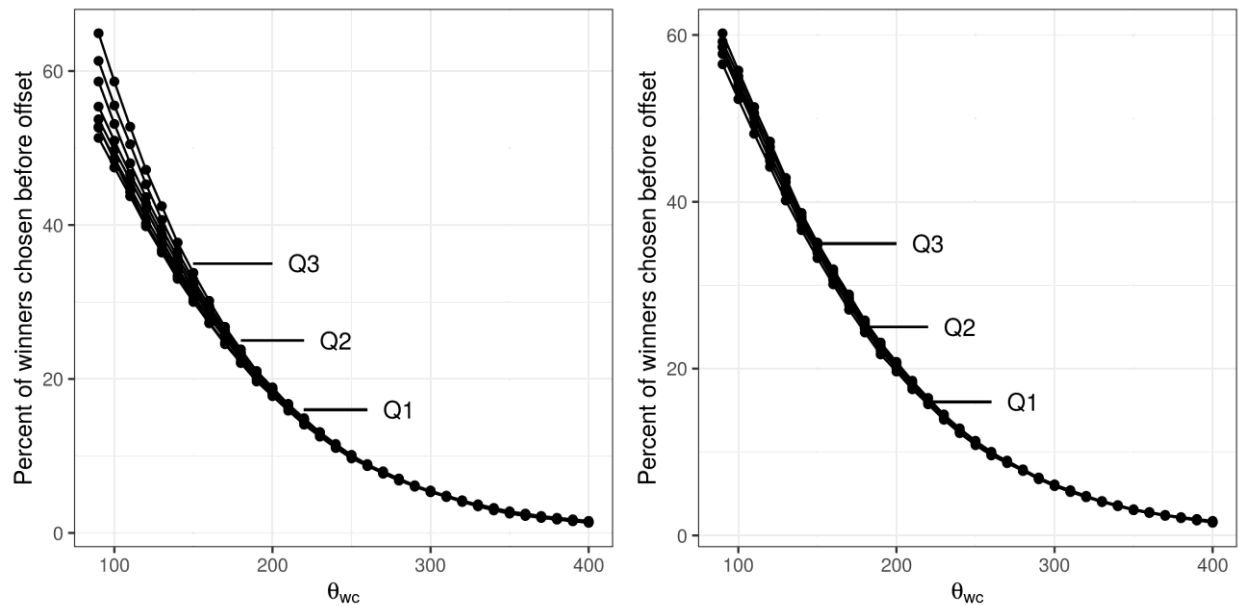


This document presents the results of an RT DIANA estimation when all the words that were correctly labeled as words in lexical decision are considered. To remind, in the simulation reported in the manuscript we excluded all the words that were incorrectly labeled as pseudowords, but also all the words in which the wrong target was declared the winner. In the present case, a word was considered for the RT simulation even if the wrong target was selected as the winner. The simulation script is found in this same supplementary material set as “RScript2AllWords.R”.

We present the results side by side with the original Simulation 3 results from the manuscript to facilitate direct comparison. We will refer to these two simulations as “RightWord” (the simulation in the manuscript in which the correct, target word was selected as the winner) and “AllWords” (in which all words that were correctly classified as words are considered, regardless whether the correct word was declared winner). We followed the same procedure when estimating RT in AllWords as in RightWord, so consult the Simulation 3 subsection of the manuscript for any additional detail. In the case of RightWord, we estimated RT on the final number of 11,465 words. In the case of AllWords, this final number of considered words was 12,889 (reduced from 13,008 when merging with MALD RT data).

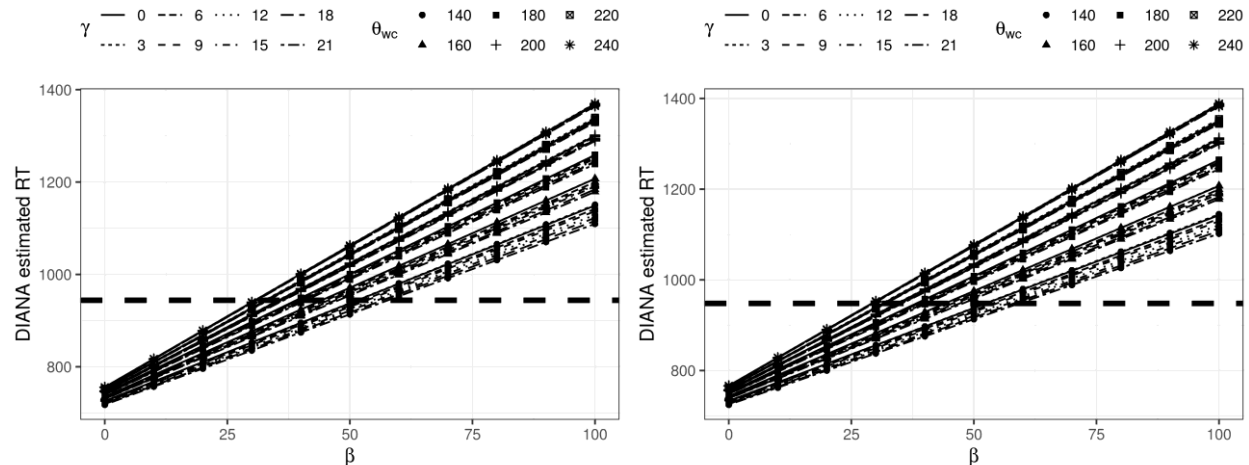
We first tested how word recognition accuracy at signal offset changed as parameter  $\gamma$  value changes from 0 to 21. This accuracy was 89% in the RightWord condition for  $\gamma = 21$ . As might be expected, it was lower in the RightWord condition – 83% for  $\gamma = 21$ . We decided to maintain the range of  $\gamma$  values of 0 to 21, as in the RightWord estimation.

We then adjusted  $\theta_{wc}$  values. These range turned out to be the same as in the RightWord condition, i.e., roughly between 150 to 220 (see the two figures below; AllWords is on the left, RightWord is on the right). The only small distinction one might notice is that for low values of  $\theta_{wc}$  values of  $\gamma$  have a slightly larger impact. Again, to maintain comparability with the RightWord estimation, we expanded the  $\theta_{wc}$  range and considered  $\theta_{wc}$  values from 140 to 240.

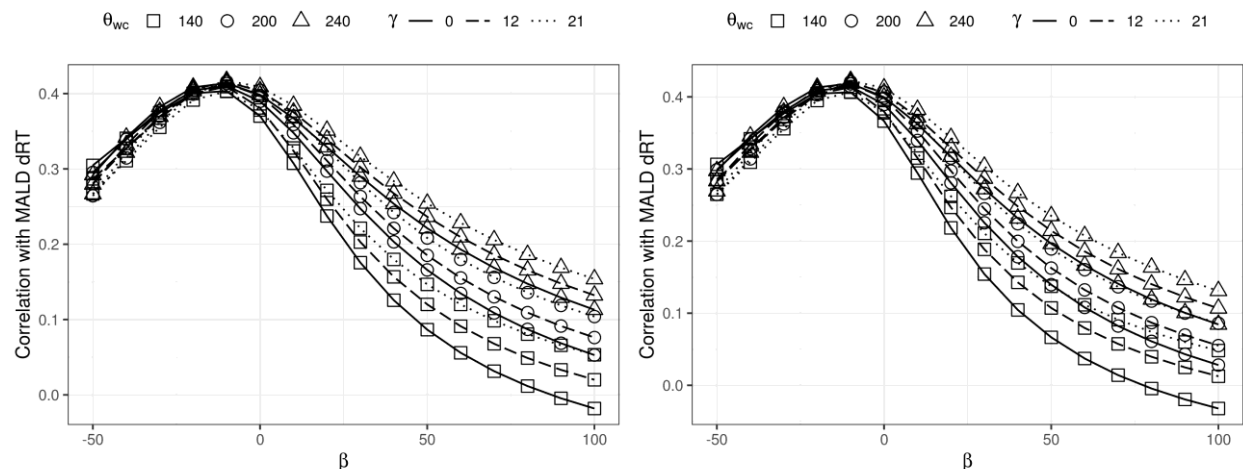


The average MALD1 RT did not change by much when we included words that were correctly classified as words, but the wrong word was selected as the winner (the difference was approximately 4ms). We still

adjusted our values of  $\beta$  to obtain RT estimates close to this new average (approx. 944ms). The end result, visible in the images below, was nearly identical in the AllWords (left) condition as it was in the RightWord condition (right). We still proceeded to consider ranges of  $\beta$  not just between 25 and 60 (which seems to yield final RT estimates that best correspond to average MALD1 data), but  $\beta$  values from -50 to 100.



Finally, we calculated the correlation between DIANA estimated RT and MALD1 dRT using  $\beta$  values of -50 to 100. Again, we find that the best values are obtained when negative  $\beta$  values are used. The highest overall correlation of  $r = .41$  was registered when  $\beta = -10$  (remember that the highest correlation was  $r = .42$  in the RightWord condition). We also find that changing the values of  $\gamma$  and  $\theta_{wc}$  does not impact the correlation much when some of the better performing  $\beta$  values are used. For example, changing  $\gamma$  and  $\theta_{wc}$  values when  $\beta = -10$  yielded correlation ranging from .417 to .403. Although the effects of changing  $\gamma$  and  $\theta_{wc}$  could be considered somewhat larger in the AllWords (left) than in the RightWord (right) condition, the overall results seem to be the same.



In conclusion, including words that were correctly classified but incorrectly recognized alongside words that were both correctly classified and recognized does not seem to alter the results in any meaningful way.