Accompanying Materials for "A Diffusion Model Decomposition of the Practice Effect" C: Diffusion Model Fit

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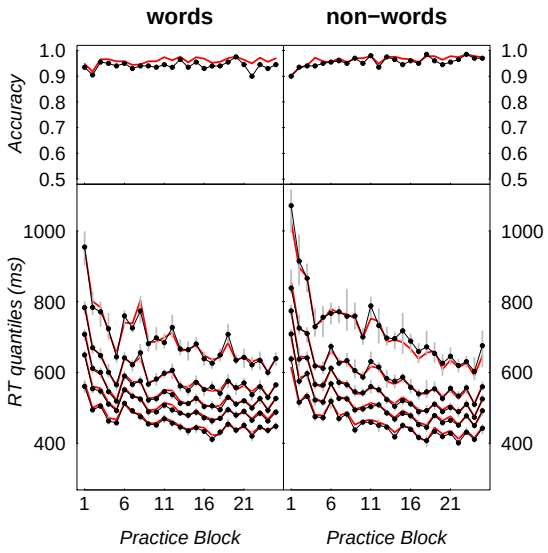
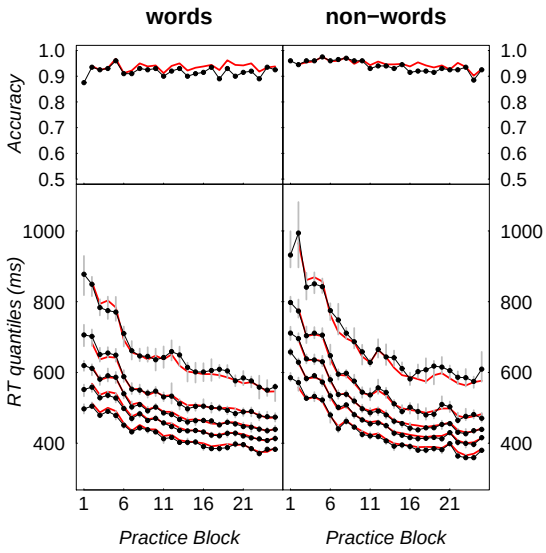
The parameter estimates shown in the main article can only be of value as long as the fit of the model to the data is satisfying. For that reason, we show the data along with the posterior predictives of the fitted diffusion model (red lines) in Figure 1. These predictives were generated by taking a random sample of 500 parameter sets out of the 10,000 iterations from one Markov chain. This was done of each subject $\times$ block $\times$ stimulus type condition. 500 trials were generated based on each parameter set. The proportion correct and RT quantiles were averaged over samples of parameter sets within each condition.

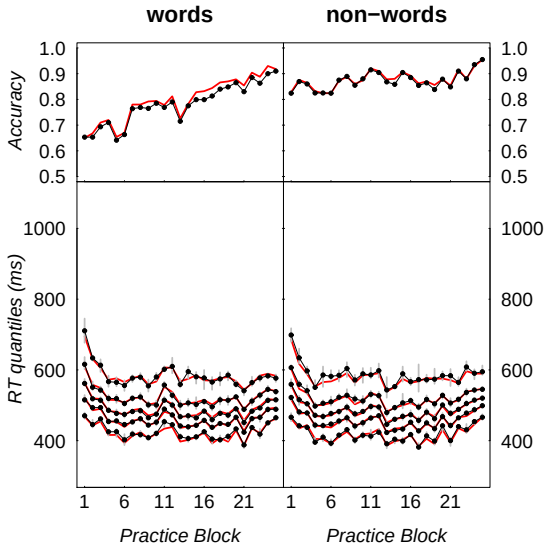
As can be seen in Figure 1, the overall fit is very satisfying. However, for a few blocks in both the speed and the accuracy condition, accuracy is slightly overestimated.



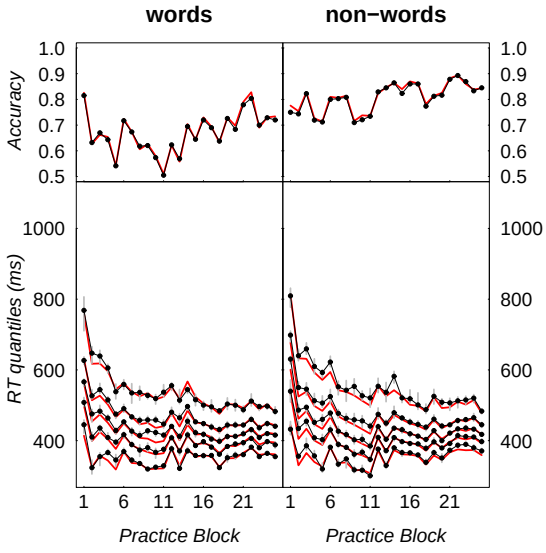
(a) Accuracy–stressed participant A1.



(b) Accuracy–stressed participant A2.



(c) Speed–stressed participant S1.



(d) Speed–stressed participant S2.

Figure 1. Proportion correct and RT quantiles (.1, .3, .5, .7, .9) for correct responses per practice block. Grey lines show 95% bootstrap confidence intervals of the quantile estimates. The red lines show the predictions of the diffusion model, using the parameter estimates described in the main article.