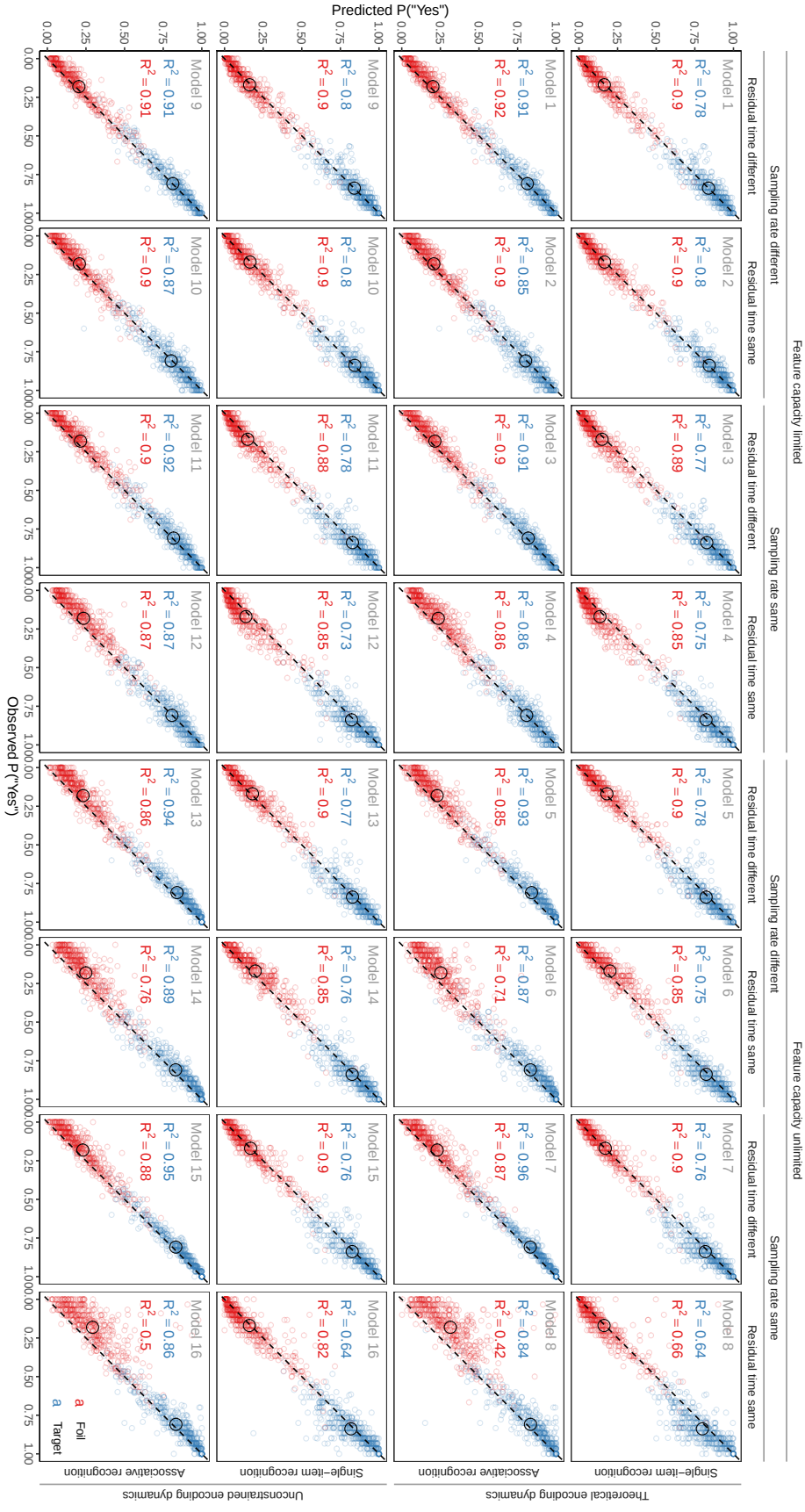


Supplemental Information

Additional Model Fit Diagnostics

In the main text, the quality of model fit was assessed in terms of mean response proportions and median correct RT. However, DREAM was not fit directly to these summary measures. Instead, each variant of DREAM was fit to maximize the total log-likelihood of responses and response times from each participant in each task. The figures in this Supplement demonstrate each variant's ability to fit other summary statistics of the data in addition to those reported in the main text. The layout of the Figures in this Supplement is also designed to be more compact than in the main text, with the aim of facilitating visual comparisons between models. In addition to alternative visualizations of fits to the proportion of “yes” responses (Figure 1) and median correct RT (Figure 2), which were the focus of the main text, this Supplement also depicts fits to median error RT's (Figure 3) and the 0.25 (Figure 4) and 0.75 (Figure 5) quantiles of the correct RT distributions. I focus on the 0.25 and 0.75 correct RT quantiles as they reflect aspects of both the leading edge and the trailing edge of the RT distributions, respectively. Often the 0.1 and 0.9 quantiles are used for this purpose, but because some participants produced only a few correct responses in some conditions, these extreme quantiles may not be estimated with much precision. It is for this same reason that I depict only the median error RT's—some participants produced relatively few errors and so there is less data from which to estimate quantiles of the error RT distributions. As a reminder, the complete data and model fits, beyond the summary measures chosen for display here, are freely available via the Open Science Framework at <https://osf.io/pvy7j/>.

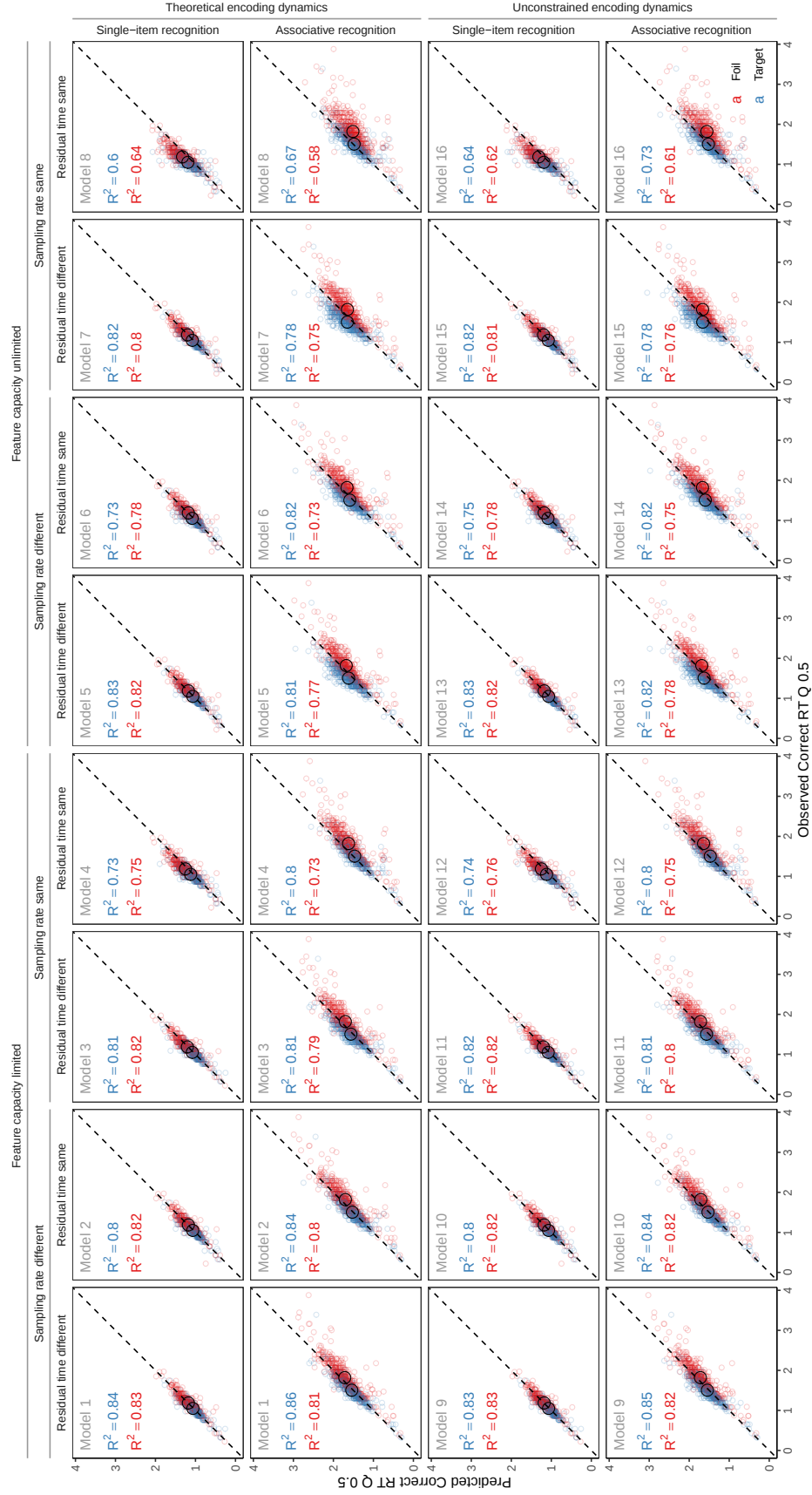
Figure 1
Predicted versus observed proportion of “yes” responses in item and associative recognition for all 16 DREAM model variants.



Note. Open circles are individual participants, solid filled circles are means across participants.

Figure 2

Predicted versus observed median correct response time (RT) in item and associative recognition for all 16 DREAM model variants.



Note. Open circles are individual participants, solid filled circles are means across participants.

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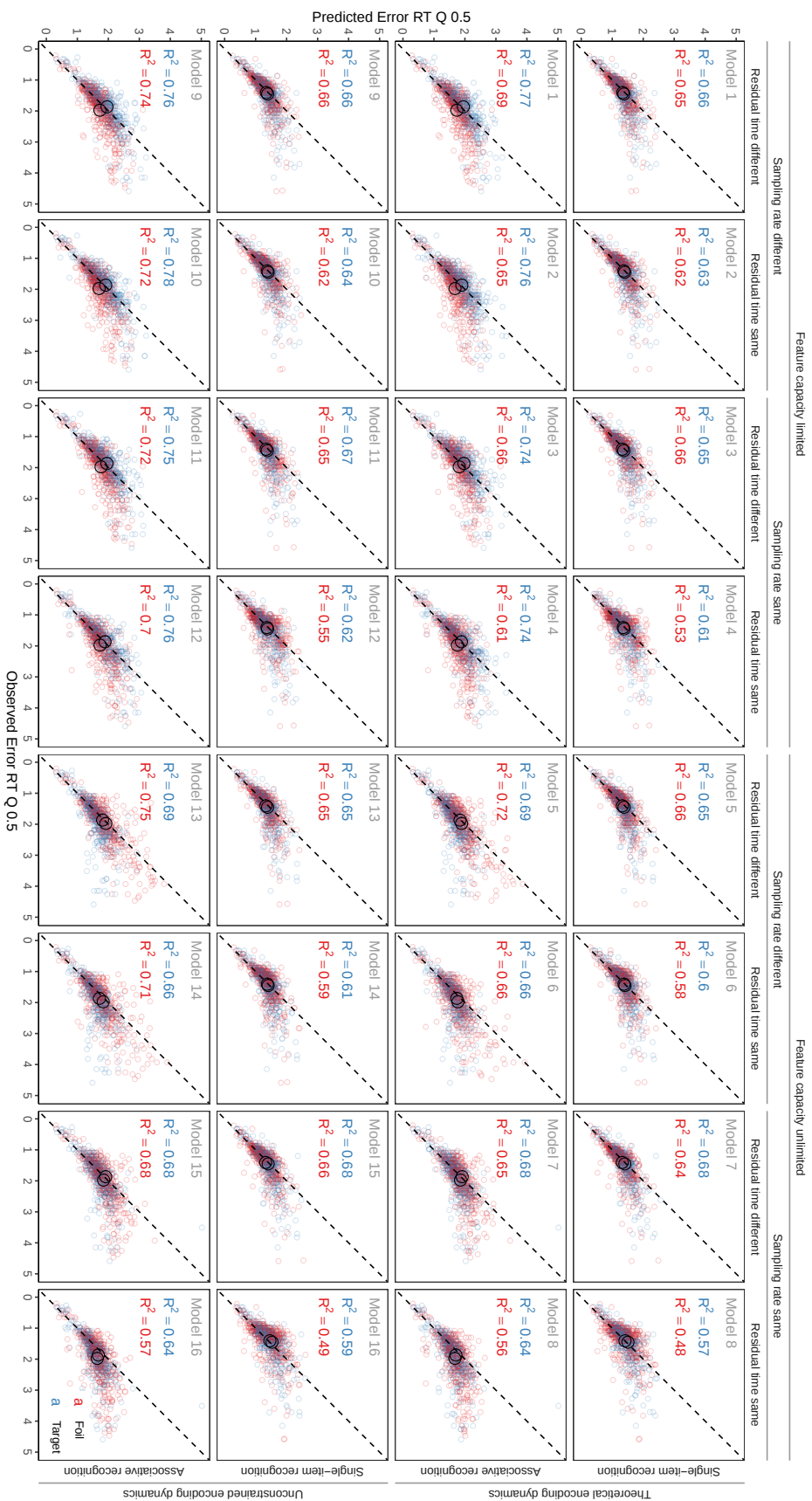
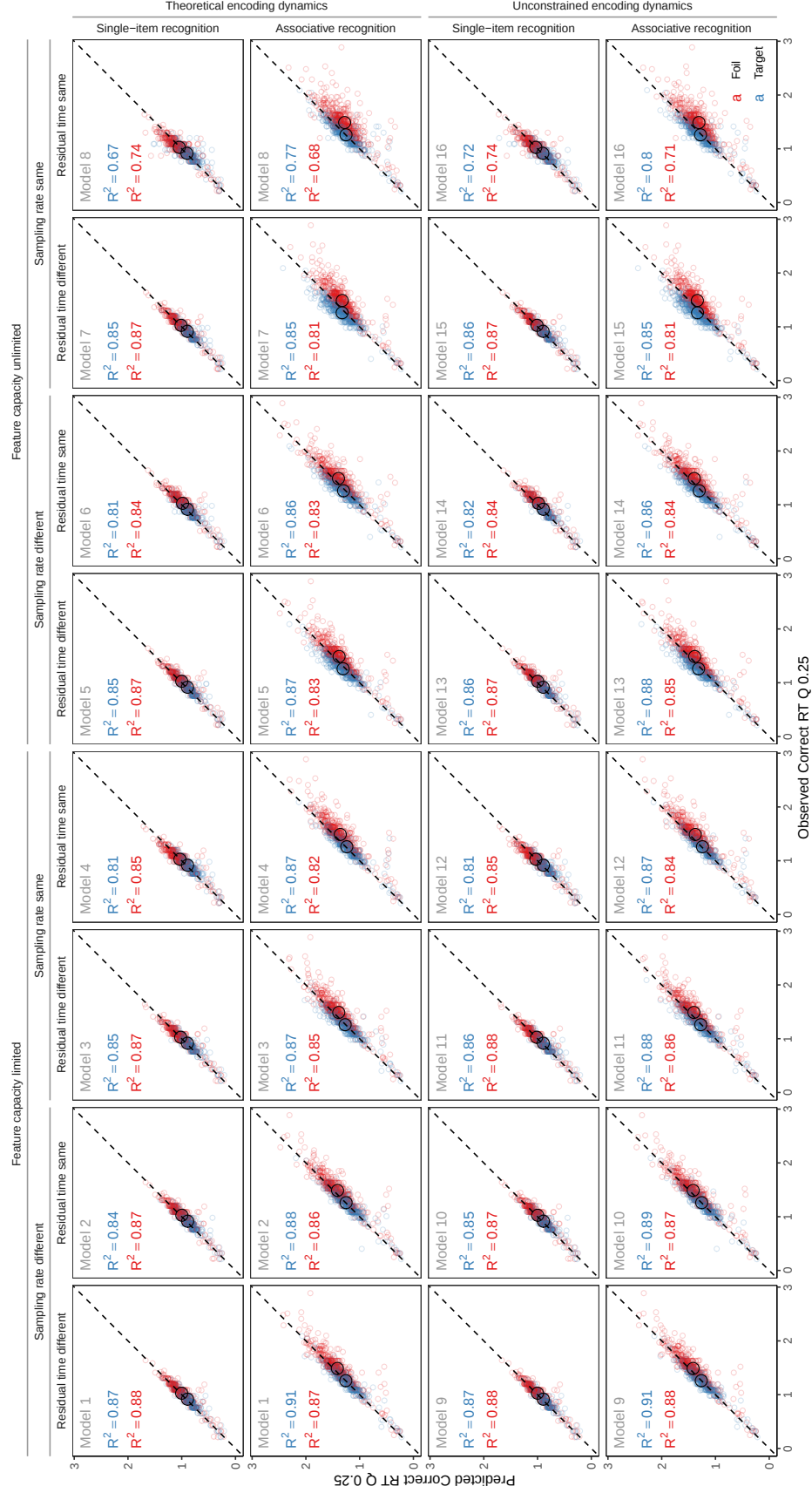


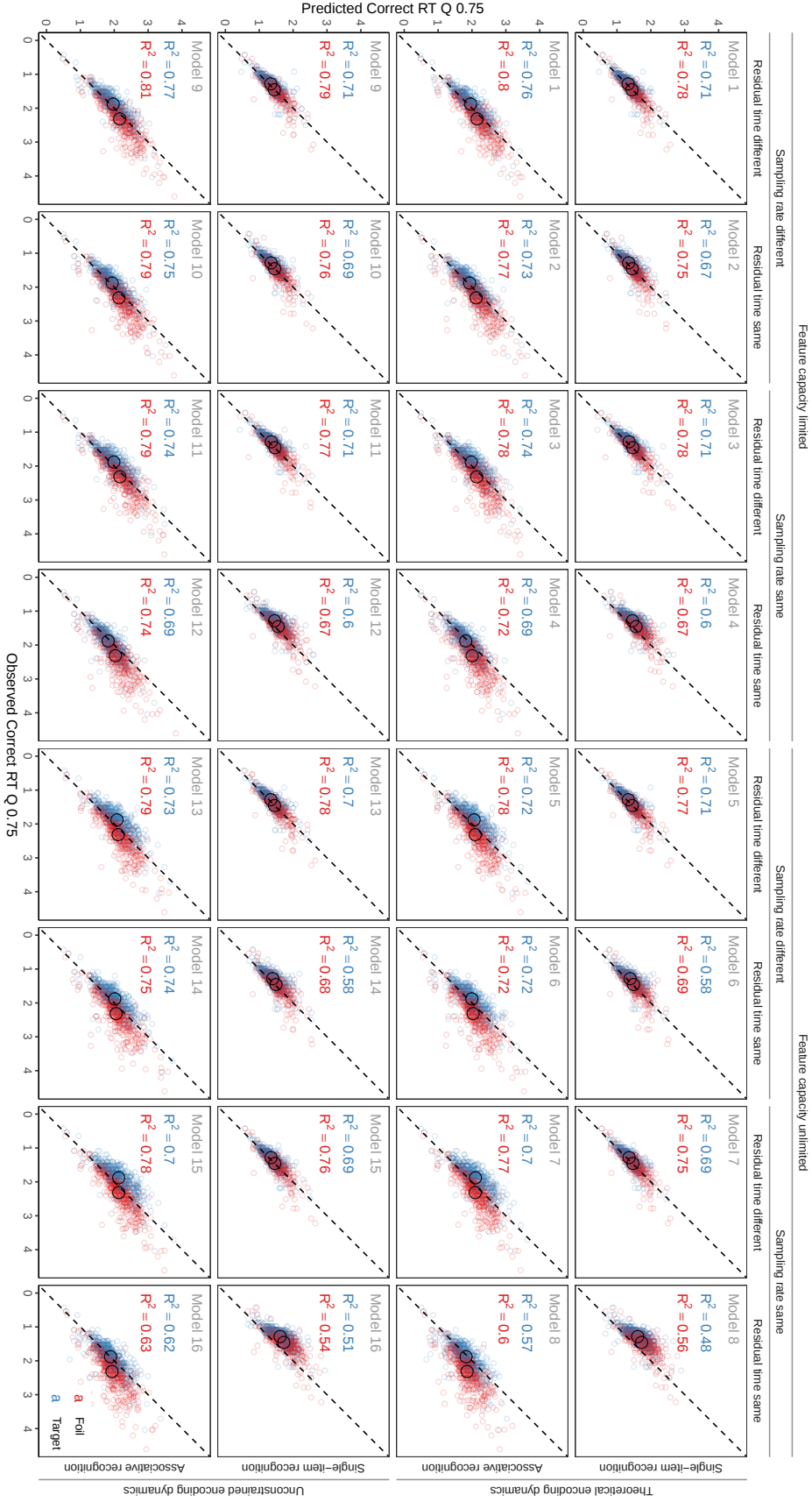
Figure 4

Predicted versus observed 0.25 quantiles of correct response time (RT) in item and associative recognition for all 16 DREAM model variants.



Note. Open circles are individual participants, solid filled circles are means across participants.

Figure 5
Predicted versus observed 0.75 quantiles of correct response time (RT) in item and associative recognition for all 16 DREAM model variants.



Note. Open circles are individual participants, solid filled circles are means across participants.