

Supplementary Material

A hard look at TVA's promises: Comparing the same quantitative estimates of attention across two tasks

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Single Participant TOJ Simulation Study - S1

Using the TOJ Simulator in the `tvsam` package, we studied the absolute mean difference between the estimate C of a single participant and the ground truth C . For this purpose we simulated 200 participants and calculated for them the sample mean:

$$E[|C_{Model} - C_{GroundTruth}|] \approx \sum_{i=0}^{200} |\hat{C}_i - C_i| \approx 7.63 \quad (1)$$

The complete source code for the simulation is given in the OSF repository in the `tojsim.ipynb`. Its analysis is provided in the same repository in the `toj_sim_analysis.ipynb`. We also provided the trace of our simulation in `benchmark_toj.csv`.

Single Participant WR Simulation Study - S2

Using the WR Simulator in the `tvsam` package, we studied the absolute mean difference between the estimate C of a single participant and the ground truth C . For this purpose we simulated 200 participants and calculated for them the sample mean:

$$E[|C_{Model} - C_{GroundTruth}|] \approx \sum_{i=0}^{200} |\hat{C}_i - C_i| \approx 6.22 \quad (2)$$

The complete source code for the simulation is given in the OSF repository in the `wrsim.ipynb`. Its analysis is provided in the same repository in the `wr_sim_analysis.ipynb`. We also provided the trace of our simulation in `benchmark_wr.csv`.