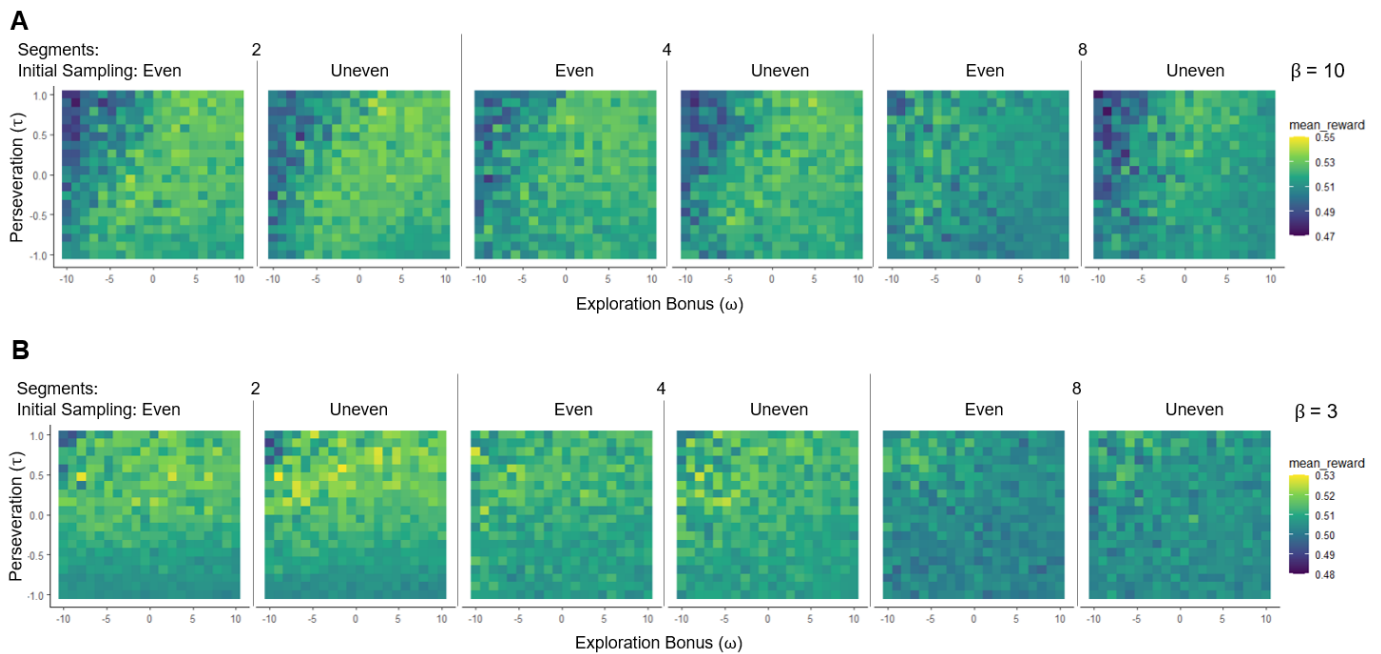1   **Supplemental Material**
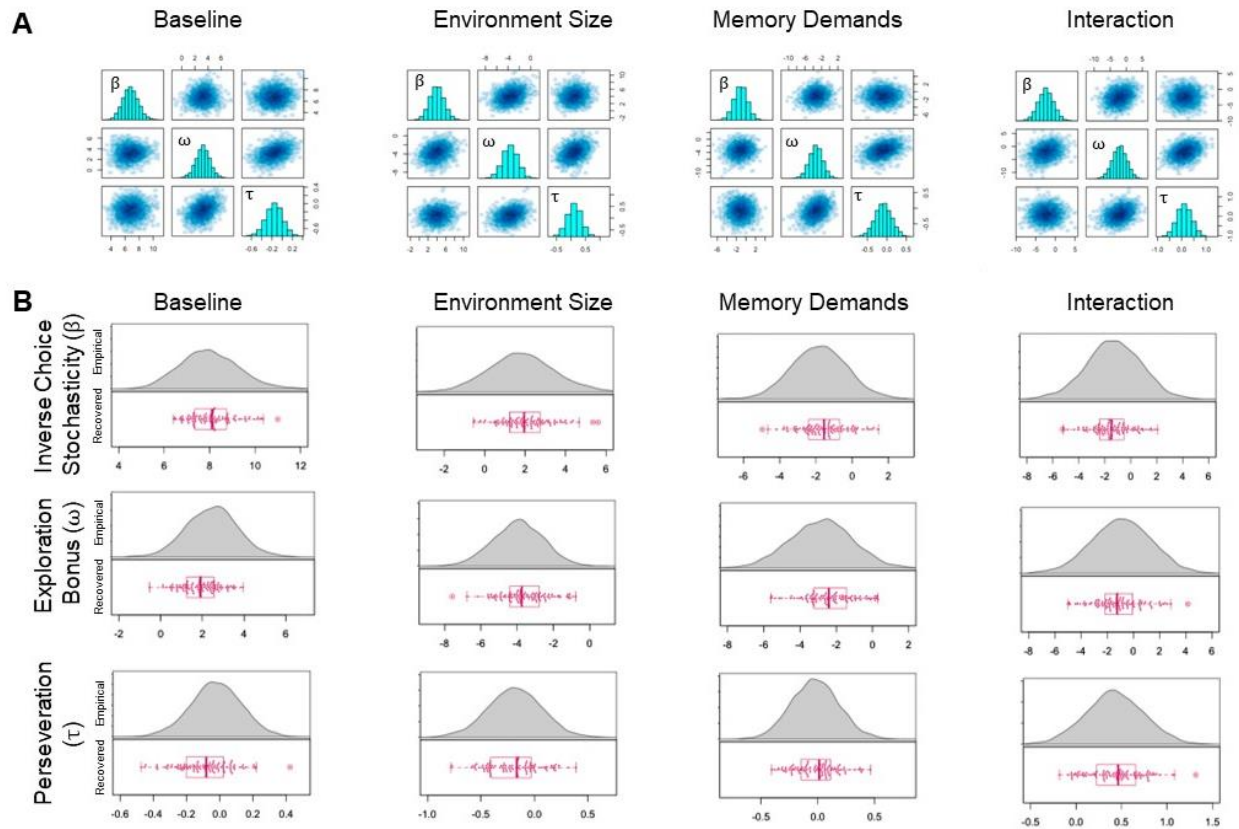
2   Supplemental Figures

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4   Supplemental Figure 1. A. Simulated performance (average reward within each participant and averaged
5   across participants) for an inverse temperature value of 10 for each combination of exploration bonus (X
6   axis) and perseveration (Y axis) parameter values and including a smaller environment size. Each panel
7   indicates performance by the number of segments (2, 4, or 8) and type of initial sampling (even or
8   uneven). B. Simulated performance, presented as in panel A, for an inverse temperature value of 3.

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Supplemental Figure 2. Parameter correlations and model recovery. A. Pairs plots showing histograms of each parameter (diagonal) and scatterplots of posterior samples for each combination of parameter values. Panels indicate parameters during the reference (minimal cognitive load) condition and for each change in cognitive demands. Scatterplots show that samples are not correlated across different parameters. B. Recovery of median parameter values from 100 simulated datasets (bottom box and beeswarm plots) versus the posterior distribution of the parameter fit to empirical data (top density plots). X axis shows parameter values. Columns indicate parameters during the reference (minimal cognitive load) condition and for each change in cognitive demands and rows indicate different parameters.