

Appendix C

Table C1. Best-fitting parameters and model comparison results for the spatial configuration search task.

Subject	w_{target}	δ	θ	Δw_{quit}	$T_{\text{min}}^{\text{yes}}$	$T_{\text{min}}^{\text{no}}$	γ	m	θ/δ^a	ΔAIC^b	ΔBIC^b
1	1.593	0.261	0.03	0.014	0.357	0.354	17.686	0.014	0.115	43.5	37.2
2	1.842	0.315	0.03	0.007	0.37	0.315	17.183	0.009	0.095	105.2	98.9
3	1.777	0.251	0.044	0.019	0.538	0.53	18.996	0.004	0.175	80.3	74.0
4	1.986	0.231	0.024	0.039	0.467	0.486	3.763	0.004	0.104	39.0	32.7
5	0.955	0.291	0.026	0.03	0.368	0.422	6.488	0.019	0.089	-1.7	-8.0
6	0.605	0.177	0.009	0.003	0.35	0.394	15.638	0.015	0.051	25.8	19.5
7	1.754	0.267	0.041	0.025	0.498	0.456	13.004	0.005	0.154	70.1	63.8
8	1.222	0.23	0.027	0.022	0.355	0.34	27.179	0.035	0.117	5.0	-1.3
9	2.207	0.245	0.029	0.007	0.411	0.368	10.678	0.003	0.118	140.4	134.1
100	1.511	0.252	0.029	0.019	0.413	0.41	11.793	0.012	0.115	294.3	285.8
Mean	1.549	0.252	0.029	0.018	0.413	0.407	14.513	0.012	0.113	507.6	431.2

Note: The two bottom rows refer to the average participant ('100') and to the parameter values averaged across the parameters fitted for each individual participants ('Mean').

^aThis column is the estimation of the mean identification time per display item. It is obtained by dividing the identification threshold by the identification drift, and is not another free model parameter.

^bDifferences in AIC and BIC values for the no guidance model and the guidance models. Positive values indicate superiority for the guidance model, negative values superiority for the no-guidance model.

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Table C2. Best fitting parameters for the no guidance variant of the spatial configuration search task, obtained by constraining the target weight to be 1.

Subject	w_{target}	δ	θ	Δw_{quit}	$T_{\text{min}}^{\text{yes}}$	$T_{\text{min}}^{\text{no}}$	γ	m	θ/δ^a
1	1	0.24	0.03	0.01	0.35	0.39	18.19	0.01	0.105
2	1	0.29	0.03	0.00	0.37	0.36	22.83	0.01	0.089
3	1	0.22	0.03	0.01	0.54	0.60	21.80	0.00	0.155
4	1	0.20	0.02	0.01	0.46	0.54	3.91	0.00	0.085
5	1	0.30	0.03	0.03	0.37	0.42	6.43	0.02	0.091
6	1	0.18	0.01	0.01	0.35	0.38	14.59	0.02	0.055
7	1	0.24	0.03	0.01	0.49	0.52	14.11	0.00	0.135
8	1	0.22	0.03	0.02	0.36	0.36	28.36	0.04	0.114
9	1	0.22	0.02	0.00	0.40	0.43	13.18	0.00	0.105
100	1	0.23	0.02	0.01	0.41	0.44	12.48	0.01	0.103
Mean	1	0.23	0.02	0.01	0.41	0.44	15.93	0.01	0.104

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Table C3. Best-fitting parameters for the conjunction search task (full-set-size variant)

Subject	w_{target}	δ	θ	Δw_{quit}	$T_{\text{min}}^{\text{yes}}$	$T_{\text{min}}^{\text{no}}$	Γ	m	θ/δ
1	55.551	0.480	0.066	10.454	0.307	0.345	17.446	0.006	0.138
2	12.220	0.411	0.021	0.968	0.407	0.382	16.075	0.003	0.050
3	2.11	0.15	0.01	0.01	0.42	0.40	9.16	0.00	0.050
4	19.22	0.29	0.01	2.89	0.28	0.31	36.85	0.04	0.050
5	5.387	0.090	0.004	0.171	0.341	0.394	11.631	0.033	0.050
6	1.56	0.20	0.01	0.02	0.32	0.36	15.56	0.02	0.050
7	8.975	0.215	0.011	0.314	0.434	0.455	11.814	0.001	0.050
8	3.369	0.224	0.011	0.119	0.368	0.437	11.842	0.017	0.050
9	10.85	0.70	0.03	0.71	0.36	0.34	9.38	0.00	0.050
10	2.60	0.22	0.01	0.00	0.39	0.39	14.87	0.00	0.050
100	4.958	0.286	0.014	0.162	0.368	0.367	14.810	0.011	0.050
Mean	16.078	0.402	0.032	1.374	0.353	0.348	13.480	0.014	0.059

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Table C4. Best-fitting parameters for the feature search task

Subject	w_{target}^a	δ	θ	Δw_{quit}^a	$T_{\text{min}}^{\text{yes}}$	$T_{\text{min}}^{\text{no}}$	γ	m	θ/δ
1	10000	0.439	0.069	85.651	0.29	0.295	65.595	0.032	0.157
2	449.473	0.498	0.08	230.05	0.194	0.224	55.967 190.09	0.024	0.161
3	543.483	1.012	0.146	1723.737	0.135	0.18	9	0.011	0.144
4	1653.722	0.325	0.056	680.846	0.278	0.292	27.655	0.001	0.172
5	389.87	0.581	0.082	173.6	0.255	0.25	92.266 108.86	0.007	0.141
6	503.369	0.714	0.094	1120.356	0.197	0.221	6	0.008	0.132
7	313.134	0.374	0.042	10000	0.239	0.242	41.717	0.018	0.112
8	2389.55	0.317	0.041	10000	0.271	0.294	32.022 103.72	0.01	0.129
9	522.872	0.677	0.186	395.518	0.128	0.128	1	0.024	0.275
100	599.802	0.457	0.063	869.744	0.239	0.256	48.104	0.015	0.138
Mean	1862.83	0.549	0.088	2712.195	0.221	0.236	79.768	0.015	0.158

^aIn the fitting procedure, the weight parameters were constrained by an upper bound of 10000. If not constrained, these parameters will increase even further, but the effects on model predictions are negligible.

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Table C5: Best fitting parameters and model comparison results for the half set size variant of the conjunction search task (half set size)

Subject	w_{target}	δ	θ	Δw_{quit}	$T_{\text{min}}^{\text{yes}}$	$T_{\text{min}}^{\text{no}}$	Γ	m	θ/δ	ΔBIC^a
1	9.34	0.47	0.03	0.66	0.35	0.37	10.12	0.01	0.055	10.1
2	3.24	0.30	0.02	0.15	0.41	0.39	19.65	0.00	0.050	98.2
3	1.73	0.15	0.01	0.01	0.41	0.40	10.26	0.00	0.089	-6.7
4	5.61	0.17	0.01	0.47	0.28	0.31	30.43	0.04	0.050	-127.9
5	2.49	0.24	0.01	0.09	0.33	0.38	16.58	0.03	0.050	298.7
6	1.79	0.23	0.02	0.05	0.31	0.34	25.42	0.02	0.106	-16.0
7	1.52	0.28	0.01	0.01	0.43	0.45	15.20	0.00	0.050	364.4
8	1.27	0.20	0.01	0.03	0.36	0.45	13.58	0.02	0.066	122.1
9	2.68	0.30	0.02	0.11	0.38	0.38	13.24	0.00	0.050	31.7
10	2.80	0.24	0.02	0.00	0.38	0.37	21.01	0.00	0.099	19.8
100	1.57	0.25	0.01	0.02	0.36	0.39	15.32	0.01	0.056	1307.0
Mean	3.25	0.26	0.02	0.16	0.36	0.38	17.55	0.01	0.067	794.3

^aDifferences in BIC values for the full and half set size variants. Positive values indicate superiority for the half set variant whereas negative values indicate superiority for the full set size variant. Since both variants have an identical number of parameters the differences in AIC are identical.

==== Figure 12 approximately here ====

Figure 12. RT distribution and error data for the conjunction search for the full set size variant. The structure of the figure is equivalent to Figure 5 in the main body of the article.