

Appendix C: Models

Final Memory Test

(1) Binary Accuracy (confirmatory)

Accuracy ~ poly(centered.Structure,2) + Condition + (1 | Item) + (1 | Participant)

(Model with 2-degree polynomial favored: $\Delta AIC = 16.4$, $p < 0.0001$)

	Estimate	Std.Error	z-value	p-value
(Intercept)	0.82547	0.21370	3.86280	0.00011
Group Size Origin (Big vs. Small)	0.48359	0.29018	1.66649	0.09562
Structure Score (Linear)	31.47067	6.92838	4.54228	0.00001
Structure Score (Quadratic)	30.99636	6.86715	4.51372	0.00001

(2) Production Similarity (exploratory)

ProdSimilarity ~ poly(centered.Structure,2) + Condition + (1 | Item) + (1 | Participant)

(Model with 2-degree polynomial favored: $\Delta AIC = 3.52$, $p = 0.01877$)

	Estimate	Std.Error	t-value	p-value
(Intercept)	0.83338	0.02088	39.91962	0.00000
Group Size Origin (Big vs. Small)	0.00737	0.02851	0.25851	0.79657
Structure Score (Linear)	4.40701	0.67901	6.49030	0.00000
Structure Score (Quadratic)	1.59779	0.68384	2.33651	0.02154

Learning Trajectory

(3) Binary Accuracy Over Time (exploratory)

Accuracy ~ centered.Block*Condition + centered.Block*poly(centered.Structure,2) + (1 | Item) + (1 + centered.Block | Participant)

(Model with 2-degree polynomial favored: $\Delta AIC = 13$, $p = 0.0002$)

	Estimate	Std.Error	z-value	p-value
(Intercept)	0.87848	0.14082	6.23849	0.00000
Group Size Origin (Big vs. Small)	0.22843	0.19145	1.19314	0.23281
Block Number	0.28930	0.04827	5.99326	0.00000
Structure Score (Linear)	66.49299	10.67087	6.23126	0.00000
Structure Score (Quadratic)	51.82917	10.73681	4.82724	0.00000
Block X Group Size	0.03748	0.06992	0.53606	0.59192
Block X Structure Score (Linear)	25.88165	4.31615	5.99646	0.00000
Block X Structure Score (Quadratic)	14.45578	4.75638	3.03924	0.00237

(4) Production Similarity Over Time (exploratory)

ProdSimilarity ~ centered.Block*Condition + centered.Block*centered.Structure +
(1 | Item) + (1 + centered.Block | Participant)

(Model with 2-degree polynomial not favored: $\Delta AIC = 1.3$, $p=0.26$)

	Estimate	Std.Error	t-value	p-value
(Intercept)	0.78620	0.01953	40.25844	0.00000
Group Size Origin (Big vs. Small)	0.00103	0.02609	0.03956	0.96852
Block Number	0.04038	0.00724	5.57434	0.00000
Structure Score	0.33807	0.04602	7.34551	0.00000
Block X Group Size	-0.01402	0.01023	-1.37147	0.17311
Block X Structure Score	0.05101	0.01806	2.82546	0.00564

(5) Guessing Similarity Over Time (exploratory)

GuessSimality ~ centered.Block*Condition + centered.Block*centered.Structure +
(1 | Item) + (1 + centered.Block | Participant)

(Model with 2-degree polynomial favored: $\Delta AIC = 9.9$, $p=0.0009$)

	Estimate	Std.Error	t-value	p-value
(Intercept)	1.77965	0.02198	80.96479	0.00000
Group Size Origin (Big vs. Small)	0.01219	0.02981	0.40889	0.68353
Block Number	0.04375	0.01171	3.73519	0.00032
Structure Score (Linear)	14.65422	2.12964	6.88108	0.00000
Structure Score (Quadratic)	8.06983	2.14480	3.76251	0.00029
Block X Group Size	-0.01421	0.01660	-0.85623	0.39400
Block X Structure Score (Linear)	1.75145	1.18646	1.47620	0.14316
Block X Structure Score (Quadratic)	-0.05540	1.19550	-0.04634	0.96314

Generalization Behavior

(6) Generalization Score (exploratory)

Normalized.Generalization ~ Condition + centered.Structure

(Model with 2-degree polynomial not favored: $\Delta\text{RSS} = 0.0351$, $p=0.34$)

	Estimate	Std.Error	t-value	p-value
(Intercept)	0.78112	0.02858	27.32870	0.00000
Group Size Origin (Big vs. Small)	0.01259	0.04042	0.31151	0.75608
Structure Score	0.51498	0.07129	7.22319	0.00000

(7) Generalization Convergence (exploratory)

Mean.Convergence ~ Condition + centered.Structure + (1 | Item)

(Model with 2-degree polynomial not favored: $\Delta\text{AIC} = 0.61$, $p=0.23$)

	Estimate	Std.Error	t-value	p-value
(Intercept)	0.58823	0.01368	42.98378	0.00000
Group Size Origin (Big vs. Small)	-0.03308	0.01935	-1.70924	0.08989
Structure Score	0.73820	0.03414	21.62583	0.00000