

**Table 1.** Pairwise Spearman correlations between the visual similarity measures for the animal line drawing stimuli.

Spearman's r	SC Sim	P SSD-inv	P Corr	R Corr	V1 (HMAX-S1C1)	IT (HMAX-C2)
A Sim	-0.23	0.45*	0.10	-0.19	0.003	-0.10
SC Sim		-0.20	-0.06	0.05	-0.14	0.01
P SSD-inv			0.01	-0.24	0.11	0.49*
P Corr				0.85*	0.75*	-0.21
R Corr					0.81*	-0.14
V1 (HMAX-S1C1)						0.09

Notes: A Sim = Affine Similarity; SC Sim = Shape Context Similarity; P SSD-inv = Pixel Sum of Squared Differences-inverse; P Corr = Pixel Correlation; R Corr = Radon Correlation.

\*  $p < 0.05$

**Table 2.** Pairwise Spearman correlations between the visual similarity measures for the animal photo stimuli.

Spearman's r	SC Sim	P SSD-inv	B SSD-inv	P Corr	B Corr	R Corr	V1 (HMAX-S1C1)	IT (HMAX-C2)
A Sim	0.001	-0.17	0.04	0.04	0.14	-0.11	0.06	-0.32*
SC Sim		-0.005	-0.08	0.02	-0.06	0.13	-0.05	-0.03
P SSD-inv			-0.45*	0.75*	-0.43*	0.72*	0.75*	0.24
B SSD-inv				-0.57*	0.60*	-0.10	-0.25	-0.08
P Corr					-0.19	0.39*	0.63*	0.12
B Corr						-0.45*	-0.47*	-0.32*
R Corr							0.67*	0.18
V1 (HMAX-S1C1)								0.31*

Notes: A Sim = Affine Similarity; SC Sim = Shape Context Similarity; P SSD-inv = Pixel Sum of Squared Differences-inverse; B SSD-inv = Binary Pixel Sum of Squared Differences-inverse; P Corr = Pixel Correlation; B Corr = Binary Pixel Correlation; R Corr = Radon Correlation.

\*  $p < 0.05$

**Table 3.** Pairwise Spearman correlations between the visual similarity measures for the novel geometric object stimuli.

Spearman's r	SC Sim	P SSD- inv	B SSD- inv	P Corr	B Corr	R Corr	V1 (HMAX- S1C1)	IT (HMAX- C2)
A Sim	0.73*	0.13	0.06	0.18	0.20	0.12	0.12	0.17
SC Sim		0.21	0.16	0.26	0.26	0.20	-0.05	0.15
P SSD-inv			0.99*	0.94*	0.94*	0.99*	0.68*	0.10
B SSD-inv				0.92*	0.93*	0.98*	0.68*	0.11
P Corr					0.98*	0.94*	0.73*	0.19
B Corr						0.94*	0.74*	0.21
R Corr							0.65*	0.08
V1 (HMAX- S1C1)								0.49*

Notes: A Sim = Affine Similarity; SC Sim = Shape Context Similarity; P SSD-inv = Pixel Sum of Squared Differences-inverse; B SSD-inv = Binary Pixel Sum of Squared Differences-inverse; P Corr = Pixel Correlation; B Corr = Binary Pixel Correlation; R Corr = Radon Correlation.

\*  $p < 0.05$

**Table 4.** Spearman correlations between comparison cost and low-level visual similarity measures for monkeys and humans in each task. P-values (in parentheses) are corrected using the Holm-Bonferroni method, within each task and subject group.

	Animal Line Drawing Task		Animal Photo Task		Novel Object Task
	Monkeys	Humans	Monkeys	Humans	Monkeys
A Sim	0.24 (0.44)	0.27 (0.28)	-0.03 (1.00)	-0.20 (0.98)	0.26 (0.09)
SC Sim	0.05 (1.00)	0.10 (0.87)	0.10 (1.00)	-0.21 (0.98)	0.30 (0.08)
P SSD-inv	0.69 (0.0005)	0.54 (0.0005)	0.31 (0.20)	0.13 (0.98)	0.58 (0.0007)
B SSD-inv	N/A	N/A	-0.42 (0.03)	-0.18 (0.98)	0.57 (0.0007)
P Corr	0.01 (1.00)	0.16 (0.87)	0.34 (0.12)	0.22 (0.98)	0.58 (0.0007)
B Corr	N/A	N/A	-0.27 (0.28)	-0.10 (0.98)	0.60 (0.0007)
R Corr	-0.03 (1.00)	0.13 (0.87)	0.06 (1.00)	-0.22 (0.98)	0.57 (0.0007)

Notes: A Sim = Affine Similarity; SC Sim = Shape Context Similarity; P SSD-inv = Pixel Sum of Squared Differences-inverse; B SSD-inv = Binary Pixel Sum of Squared Differences-inverse; P Corr = Pixel Correlation; B Corr = Binary Pixel Correlation; R Corr = Radon Correlation.