

Supplementary Materials Tables:

- 1- Statistics of Wilcoxon signed rank tests, comparing cross-validated model fits to zero for the Within ROI model.
- 2- Statistics of Wilcoxon signed rank tests, comparing model performance to zero for the Within ROI model
- 3- Selection of source ROIs for the Between ROI model
- 4- Comparison of source ROIs for the Between ROI model
- 5- Statistics of Wilcoxon signed rank tests, comparing cross-validated model fits to zero for the Between ROI model.
- 6- Statistics of Wilcoxon signed rank tests, comparing model performance to zero for the Between ROI model
- 7- Statistics of Wilcoxon signed rank tests, comparing cross-validated model fits between the Within ROI and Between ROI models
- 8- Statistics of Wilcoxon signed rank tests, comparing model performance between the Within ROI and Between ROI models
- 9- Bayesian analysis for a directed distribution of the direction of maximal change in preferred representational space positions across the cortical surface for the Within ROI model
- 10- Bayesian analysis for a directed distribution of the direction of maximal change in preferred representational space positions across the cortical surface for the Between ROI model
- 11- Descriptive statistics for correlations between cortical surface distances and representational space distances between vertices in the Within ROI model
- 12- Descriptive statistics for correlations between cortical surface distances and representational space distances between vertices in the Within ROI model
- 13- Descriptive statistics for correlations between the preferred representational space position x_0 and visual field position eccentricity in the Within ROI model
- 14- Descriptive statistics for correlations between the preferred representational space position y_0 and visual field position eccentricity in the Within ROI model
- 15- Descriptive statistics for correlations between the preferred representational space position x_0 and visual field position eccentricity in the Between ROI model
- 16- Descriptive statistics for correlations between the preferred representational space position y_0 and visual field position eccentricity in the Between ROI model

Variance explained Within ROI	n	p	W	z
V1	16	0.034	117	2.534
V2	16	0.068	109	2.120
V3	16	0.469	86	0.931
hV4	16	-0.068	27	-2.120
VO-1	16	0.642	80	0.621
VO-2	16	-0.118	34	-1.758
PHC-1	16	-0.877	65	-0.155
PHC-2	16	0.010	129	3.154
LO-1	16	-0.741	60	-0.414
LO-2	16	0.018	123	2.844
TO-1	16	0.005	136	3.516
TO-2	16	0.096	105	1.913

Table S1: Statistics of Wilcoxon signed rank tests, comparing cross-validated model fits to zero for the Within ROI model. *n* is the number of examples of the visual field map in different hemisphere. *p* is the probability of that the median variance explained is above zero (a negative *p* indicates a negative median). The *W* and *z* are Wilcoxon test statistic and z-score.

Model Performance Within ROI	n	p	W	z
V1	16	0.526	83	0.776
V2	16	0.660	78	0.517
V3	16	0.717	61	-0.362
hV4	16	-0.018	11	-2.947
VO-1	16	-0.325	41	-1.396
VO-2	16	-0.029	18	-2.585
PHC-1	16	-0.526	53	-0.776
PHC-2	16	0.018	123	2.844
LO-1	16	-0.119	30	-1.965
LO-2	16	0.336	93	1.293
TO-1	16	0.005	136	3.516
TO-2	16	0.489	87	0.982

Table S2: Statistics of Wilcoxon signed rank tests, comparing model performance to zero for the Within ROI model. *n* is the number of examples of the visual field map in different hemisphere. *p* is the probability of that the median model performance is above zero (a negative *p* indicates a negative median). The *W* and *z* are Wilcoxon test statistic and z-score.

	V1	V2	V3	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	Best fitting
V1	0.02096302	0.02380351	0.01534293	0.01075723	0.00938571	0.00828443	0.00397221	0.0038252	0.00371015	0.00129045	0.00230164	-0.0050482	V2
V2	0.01616229		0.021402	0.01141011	0.01186061	0.00830601	0.00541868	0.00391121	0.00374487	0.00180955	0.0024272	-0.0037586	V3
V3	0.00817946	0.00846265		0.00599891	0.00811145	0.00439536	0.00610156	0.0044175	0.00389403	0.00261584	0.00342036	-0.0068933	V2
hV4	0.00226186	0.00054236	0.00864067		0.00596621	-0.0013235	0.00851346	0.00915769	0.00504629	0.00557387	0.00755736	-0.0052612	PHC-2
VO-1	-0.0001609	-0.0007815	0.00088951	-0.0012938		-0.0002185	0.00361952	0.02841453	0.02001445	0.0213826	0.0246819	-0.0008386	PHC-2
VO-2	-0.002742	-0.0031195	-0.0004403	-0.0048413	0.00121568		0.00168551	0.02952985	0.03369756	0.03248371	0.03262154	0.00455525	LO-1
PHC-1	-0.0058038	-0.0051733	-0.003037	-0.0064892	-0.0009646	-0.0028957		0.03330669	0.03293811	0.042445	0.04280148	0.01100249	TO-1
PHC-2	-0.0043294	-0.0032371	-0.0017349	-0.0050199	0.00146452	-0.0009637	0.00523882		0.04172214	0.05395071	0.05855818	0.01502824	TO-1
LO-1	-0.0060218	-0.0066919	-0.0038138	-0.0042608	-0.0070112	-0.0099563	-0.0022001	0.00479525		0.00842051	0.00955717	-0.0218651	TO-1
LO-2	-0.0077872	-0.0064784	-0.0052931	-0.004875	-0.0070551	-0.0052026	-0.0047081	0.01404064	0.01453424		0.01989671	-0.0071557	TO-1
TO-1	-0.0036417	-0.0011513	-0.0031735	-0.0017041	-0.0019438	-0.0001904	0.00092492	0.04240336	0.04497646	0.0479896		0.01367519	LO-2
TO-2	-0.0030672	-0.0020172	-0.0024079	-0.0025654	-0.0003374	-0.0023619	0.00133964	0.03771458	0.04183314	0.04454944	0.05376732		TO-1

Table S3: Selection of source ROIs for the Between ROI model. Average *CVFE* in each target ROI (rows) by representational tuning functions fit in the MDS space of each source ROI (rows) excluding itself. We did not exclude V1's as a source ROI for itself since V1 takes input from the retinogeniculate pathway. The rightmost column shows which source ROI led to the highest average VE in each target ROI, which were the ones that we ultimately selected for creating the between ROI model.

	V1	V2	V3	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	Best fitting
V1	0.79598722	1	0.10894087	0.00093509	0.02289478	0.00112338	0.00836065	0.00972552	0.00093509	0.00160919	0.01508582	0.00077641	V2
V2	0.67911569	0.00320459	1	0.00191877	0.01508582	0.00112338	0.00053124	0.00191877	0.00077641	0.00093509	0.00613337	0.00043778	V3
V3	0.37937467	1	0.56949428	0.02987314	0.71738089	0.03860705	0.10894087	0.17881003	0.01997088	0.05571932	0.64166013	0.00077641	V2
hV4	0.14766026	0.08793561	0.40804421	0.00378325	0.71738089	0.00160919	0.60509495	1	0.01508582	0.0979893	0.87672174	0.01128558	PHC-2
VO-1	0.01997088	0.00613337	0.01997088	0.00523391	0.01737836	0.00228219	0.00270771	1	0.01128558	0.07032574	0.60509495	0.00523391	PHC-2
VO-2	0.01128558	0.00972552	0.00972552	0.00228219	0.01128558	0.00320459	0.00378325	0.87672174	1	0.79598722	0.43796658	0.00836065	LO-1
PHC-1	0.00053124	0.00053124	0.00053124	0.00043778	0.00053124	0.00043778	0.00043778	0.00523391	0.00270771	0.16267332	1	0.00043778	TO-1
PHC-2	0.00053124	0.00053124	0.00053124	0.00053124	0.00053124	0.00053124	0.00043778	0.00064304	0.00077641	0.02987314	1	0.00053124	TO-1
LO-1	0.00093509	0.00053124	0.00077641	0.0013462	0.00077641	0.00191877	0.00160919	0.03860705	0.00077641	0.02987314	1	0.00093509	TO-1
LO-2	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.16267332	0.02987314	0.08793561	1	0.00043778	TO-1
TO-1	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.13372989	0.83613866	1	0.08793561	0.00093509	LO-2
TO-2	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.00043778	0.00270771	0.0979893	0.10894087	1	0.00445535	TO-1

Figure S4: Comparison of source ROIs for the Between ROI model. *p*-values of the Wilcoxon test that compares, for each target ROI, the distributions of variance explained for each source ROI against the distributions of variance explained for the best fitting source ROI, over all subjects and both hemispheres. For example, the top left cell compared the distribution of average variance explained across both hemispheres and all subjects of target voxels in V1 fitted using V1's MDS space as the source against when using the best source ROI (V2) as the source. In many cases, like this example, the best source ROI does not explain significantly more variance than other nearby ROIs.

Variance explained Between ROI	n	p	W	z
V1	16	0.018	115	2.430
V2	16	0.006	124	2.896
V3	16	0.049	106	1.965
hV4	16	0.005	126	2.999
VO-1	16	0.011	119	2.637
VO-2	16	0.002	133	3.361
PHC-1	16	0.002	135	3.464
PHC-2	16	0.002	135	3.464
LO-1	16	0.049	106	1.965
LO-2	16	0.005	125	2.947
TO-1	16	0.002	136	3.516
TO-2	16	0.002	136	3.516

Table S5: Statistics of Wilcoxon signed rank tests, comparing cross-validated model fits to zero for the Between ROI model. n is the number of examples of the visual field map in different hemisphere. p is the probability of that the median variance explained is above zero (a negative p indicates a negative median). The W and z are Wilcoxon test statistic and z-score.

Model Performance Between ROI	n	p	W	z
V1	16	0.445	84	0.827
V2	16	0.370	90	1.138
V3	16	-0.391	49	-0.982
hV4	16	0.370	89	1.086
VO-1	16	0.125	104	1.862
VO-2	16	0.002	133	3.361
PHC-1	16	0.002	133	3.361
PHC-2	16	0.002	133	3.361
LO-1	16	-0.836	64	-0.207
LO-2	16	0.135	102	1.758
TO-1	16	0.002	135	3.464
TO-2	16	0.002	136	3.516

Table S6: Statistics of Wilcoxon signed rank tests, comparing model performance to zero for the Between ROI model. n is the number of examples of the visual field map in different hemisphere. p is the probability of that the median model performance is above zero (a negative p indicates a negative median). The W and z are Wilcoxon test statistic and z-score.

Variance explained difference Within ROI - Between ROI	n	p	W	z
V1	16	-0.796	73	0.259
V2	16	0.008	125	2.947
V3	16	-0.026	21	-2.430
hV4	16	0.384	86	0.931
VO-1	16	0.026	114	2.379
VO-2	16	0.008	125	2.947
PHC-1	16	0.008	128	3.103
PHC-2	16	0.008	134	3.413
LO-1	16	-0.094	33	-1.810
LO-2	16	-0.008	9	-3.051
TO-1	16	-0.106	35	-1.706
TO-2	16	0.009	123	2.844

Table S7: Statistics of Wilcoxon signed rank tests, comparing cross-validated model fits between the Within ROI and Between ROI models. *n* is the number of examples of the visual field map in different hemisphere. *p* is the probability of that the median variance explained is greater for the Between ROI model (a negative *p* indicates the median variance explained is greater for the Within ROI model). The *W* and *z* are Wilcoxon test statistic and z-score.

Model Performance Within ROI - Between ROI	n	p	W	z
V1	16	0.512	82	0.724
V2	16	0.034	113	2.327
V3	16	-0.039	25	-2.223
hV4	16	0.535	80	0.621
VO-1	16	0.034	114	2.379
VO-2	16	0.020	119	2.637
PHC-1	16	0.018	121	2.741
PHC-2	16	0.014	129	3.154
LO-1	16	-0.490	52	-0.827
LO-2	16	-0.014	9	-3.051
TO-1	16	-0.340	46	-1.138
TO-2	16	0.018	122	2.792

Table S8: Statistics of Wilcoxon signed rank tests, comparing model performance between the Within ROI and Between ROI models. *n* is the number of examples of the visual field map in different hemisphere. *p* is the probability of that the median model performance is greater for the Between ROI model (a negative *p* indicates the median model performance is greater for the Within ROI model). The *W* and *z* are Wilcoxon test statistic and z-score.

Rois	pH0	pHa	BF ₁₀
V1	0.001358	0.998642	735.377194
V2v	0.00194754	0.99805246	512.467323
V2d	0.00105226	0.99894774	949.33532
V3v	0.00590785	0.99409215	168.266187
V3d	0.00552872	0.99447128	179.873764
hV4	0.00132708	0.99867292	752.531716
VO-1	0.00255903	0.99744097	389.773807
VO-2	0.03236001	0.96763999	29.9023417
PHC-1	0.01531733	0.98468267	64.2855483
PHC-2	0.04394177	0.95605823	21.7573893
LO-1	0.00296224	0.99703776	336.582362
LO-2	0.001008	0.998992	991.066925
TO-1	0.00077644	0.99922356	1286.92697
TO-2	0.01190515	0.98809485	82.9972623

Table S9: Bayesian analysis for a directed distribution of the direction of maximal change in preferred representational space positions across the cortical surface for the Within ROI model. pH0 is the posterior probability of a uniform circular distribution of the direction of maximal change, while pHa is the posterior probability of a von Mises (circular Gaussian distribution). In each ROI, there is strong evidence of a von Mises distribution

rois	pH0	pHa	BF ₁₀
V1	0.00162743	0.99837257	613.465824
V2v	0.00482722	0.99517278	206.158476
V2d	0.00203255	0.99796745	490.992587
V3v	0.00127232	0.99872768	784.96605
V3d	0.00114913	0.99885087	869.223725
hV4	0.00046446	0.99953554	2152.03892
VO-1	0.00148125	0.99851875	674.106766
VO-2	0.00667638	0.99332362	148.781765
PHC-1	0.00226974	0.99773026	439.579713
PHC-2	0.00656338	0.99343662	151.360535
LO-1	0.00032333	0.99967667	3091.842
LO-2	0.00044379	0.99955621	2252.30522
TO-1	0.00204617	0.99795383	487.716968
TO-2	0.00102237	0.99897763	977.116235

Table S10: Bayesian analysis for a directed distribution of the direction of maximal change in preferred representational space positions across the cortical surface for the Between ROI model. pH0 is the posterior probability of a uniform circular distribution of the direction of maximal change, while pHa is the posterior probability of a von Mises (circular Gaussian distribution). In each ROI, there is strong evidence of a von Mises distribution

P	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	p<0.05	%
P1	Left	6.68E-219	0	0	0	0	3.241E-142	1.143E-170	0.00055164	9.1144E-26	1.0124E-08	0.16073633	3.2791E-33	1.2365E-92	2.5939E-16	13	93
P1	Right	0	0	7.932E-227	0	0	7.522E-221	0.06469759	3.8904E-08	5.4021E-52	2.0519E-21	1.435E-71	8.447E-190	3.8796E-43	1.8079E-28	13	93
P2	Left	4.56E-303	1.876E-51	3.484E-223	1.115E-122	1.404E-170	1.196E-119	2.6018E-57	1.1894E-55	2.3375E-53	1.3123E-25	2.1729E-86	3.7306E-37	7.1748E-91	3.4862E-89	14	100
P2	Right	0	4.013E-60	4.3178E-53	7.229E-114	9.2886E-85	4.497E-116	1.8997E-37	6.3731E-37	0.00522466	7.3797E-95	2.663E-60	1.071E-101	7.5581E-18	1.288E-152	14	100
P3	Left	0	8.51E-237	0	9.9526E-64	1.45E-233	1.945E-150	0	1.779E-254	6.4158E-84	3.169E-51	4.7753E-31	8.637E-188	5.4533E-13	1.669E-18	14	100
P3	Right	0	1.33E-209	7.564E-307	2.84E-191	4.254E-221	2.6547E-76	9.663E-238	1.391E-240	5.257E-258	7.393E-211	2.9309E-31	7.5458E-09	1.4212E-62	0.723005	13	93
P4	Left	2.96E-150	1.01E-137	3.273E-185	0	4.149E-171	3.6253E-58	1.9357E-16	2.7011E-49	1.459E-223	3.741E-62	6.4556E-68	1.0597E-42	3.022E-228	4.6017E-08	14	100
P4	Right	2E-141	1.71E-197	7.584E-248	5.9361E-74	3.1899E-89	1.862E-49	2.9459E-97	2.076E-158	1.372E-161	9.8645E-49	1.8183E-75	1.068E-134	1.287E-186	1.3581E-43	14	100
P5	Left	3.74E-184	1.11E-291	1.0181E-76	1.1787E-30	2.217E-235	6.1846E-88	1.4921E-08	5.1103E-83	1.83E-183	2.205E-132	0.0517463	9.8979E-16	7.205E-115	0.00050075	13	93
P5	Right	7.463E-49	6.43E-216	0	0	0	2.163E-22	9.765E-178	0.0239156	3.5864E-45	1.0333E-32	1.995E-138	1.234E-58	2.1406E-47	5.127E-49	14	100
P6	Left	6.311E-26	1.36E-201	1.4009E-97	2.4424E-38	4.278E-215	1.283E-136	3.5816E-78	3.3298E-21	8.291E-109	0.00175432	1.0251E-61	1.048E-143	3.3388E-16	5.538E-08	14	100
P6	Right	1.24E-294	1.05E-241	7.7803E-76	3.9561E-88	3.414E-210	6.0688E-69	8.6302E-05	0	1.289E-126	9.8885E-19	1.1634E-55	1.163E-181	4.2126E-68	3.0335E-37	14	100
P7	Left	0	1.85E-150	1.304E-250	6.791E-158	1.226E-173	2.413E-118	2.1675E-30	1.0099E-63	2.9855E-51	1.6729E-81	4.2841E-87	1.136E-103	1.1445E-35	0.54198858	13	93
P7	Right	1.21E-285	1.14E-146	1.712E-170	1.937E-260	0	2.9868E-75	2.659E-149	1.128E-105	1.247E-192	8.44E-102	4.9128E-07	6.3228E-47	1.8311E-26	0.33640562	13	93
P8	Left	3.503E-19	6.294E-82	2.5221E-64	8.151E-192	0	4.035E-91	1.1995E-15	5.964E-42	1.065E-259	2.097E-212	0.12829067	3.2807E-54	1.8443E-17	1.1603E-13	13	93
P8	Right	6.552E-26	1.29E-109	1.024E-128	2.8311E-84	3.8591E-50	1.2734E-80	1.0138E-71	5.8707E-08	4.6217E-81	1.392E-212	0.0073824	6.389E-15	3.8833E-14	2.4824E-54	14	100
p < 0.05		16	16	16	16	16	16	15	16	16	16	13	16	16	13	217	Sum Total
Percentage		100	100	100	100	100	100	94	100	100	100	81	100	100	81	97	% Total

ρ	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	0.214	0.473	0.472	0.400	0.514	0.323	0.320	0.055	0.204	0.085	0.026	0.161	0.271	0.149
P1	Right	0.372	0.516	0.407	0.374	0.241	0.155	0.143	0.127	0.166	0.085	0.013	0.143	0.285	0.067
P2	Left	0.254	0.164	0.276	0.242	0.299	0.260	0.182	0.269	0.196	0.142	0.264	0.152	0.209	0.256
P2	Right	0.340	0.198	0.313	0.152	0.295	0.318	0.244	0.290	0.324	0.085	0.119	0.227	0.199	0.065
P3	Left	0.333	0.329	0.475	0.175	0.386	0.354	0.435	0.383	0.334	0.291	0.161	0.311	0.076	0.116
P3	Right	0.212	0.313	0.309	0.302	0.378	0.165	0.364	0.446	0.532	0.307	0.199	0.110	0.042	0.073
P4	Left	0.206	0.339	0.318	0.539	0.332	0.174	0.143	0.295	0.422	0.249	0.217	0.186	0.423	0.134
P4	Right	0.339	0.188	0.249	0.372	0.260	0.192	0.089	0.132	0.214	0.162	0.171	0.236	0.391	0.093
P5	Left	0.183	0.421	0.222	0.113	0.435	0.229	0.100	0.402	0.424	0.533	0.078	0.123	0.363	0.032
P5	Right	0.298	0.362	0.165	0.353	0.457	0.149	0.227	0.337	0.373	0.417	0.074	0.079	0.537	0.167
P6	Left	0.073	0.326	0.244	0.124	0.358	0.301	0.242	0.070	0.254	0.101	0.221	0.196	0.156	0.092
P6	Right	0.050	0.562	0.442	0.250	0.252	0.212	0.300	0.167	0.147	0.062	0.189	0.211	0.199	0.243
P7	Left	0.309	0.322	0.350	0.321	0.378	0.327	0.145	0.238	0.352	0.380	0.291	0.262	0.173	0.012
P7	Right	0.281	0.300	0.355	0.443	0.504	0.403	0.230	0.225	0.361	0.422	0.323	0.166	0.084	0.075
P8	Left	0.086	0.254	0.175	0.379	0.515	0.243	0.097	0.190	0.358	0.491	0.021	0.207	0.161	0.135
P8	Right	0.127	0.069	0.030	0.201	0.154	0.178	0.190	0.094	0.197	0.264	-0.006	0.134	0.106	0.261

n	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	21444	9430	9156	8153	8287	7010	7354	4765	3033	3674	5622	6141	5750	4578
P1	Right	19916	9448	12615	6981	8631	8550	4666	2333	2129	956	4613	4846	4053	2968
P2	Left	22220	9658	10305	8054	8136	7028	5225	3750	5424	5435	6940	6981	7541	5803
P2	Right	18388	8416	10509	8870	7261	5570	4520	2228	2899	3727	4357	5529	5371	5599
P3	Left	21485	8497	11588	7045	6823	5249	8147	7558	2689	2175	3493	6993	7646	4916
P3	Right	21158	9366	10393	8066	5844	5657	7372	5109	4327	7028	7168	6917	4537	2204
P4	Left	12836	6141	8701	5622	6602	6479	3021	2315	4916	5540	4823	5383	5523	1446
P4	Right	13682	7138	7914	5412	6923	6205	3056	3732	3913	2455	6176	5214	7098	4036
P5	Left	20651	7179	6678	5704	5762	7325	3289	2624	4467	1709	3972	3972	3651	4957
P5	Right	14493	9920	8398	6730	7033	5120	6882	2671	4059	3791	4683	7208	1948	1295
P6	Left	19351	8316	7687	9028	7028	6689	7273	9739	5552	3324	7307	12230	3832	3633
P6	Right	16318	8316	9022	8241	8940	6054	6374	8112	7856	6759	8176	10445	4042	2980
P7	Left	18738	7127	8713	5855	4975	4975	3896	4520	1954	2578	5459	7173	3948	1598
P7	Right	15892	6841	7774	5669	7028	4578	4671	3727	3814	3750	4252	2689	4911	3639
P8	Left	13087	6718	8696	5960	6590	6870	7576	6777	8655	3027	4555	6124	3184	2829
P8	Right	17088	7850	9693	6695	6870	6188	4864	7127	5960	7226	5208	6514	3610	4211

Table S11: Descriptive statistics for correlations between the cortical surface distances and representational space distances between vertices in the Within ROI model. Top: p-values of correlations in each map for each hemisphere, after correction for false discovery rate. Middle: Pearson's correlation coefficient (r) in each map. Bottom: Number of selected measurements in each map.

P	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	p<0.05	%
P1	Left	0	0	0	0	0	1.477E-144	1.1197E-27	2.4751E-37	3.7477E-79	1.896E-100	0	7.872E-39	7.852E-108	3.421E-116	14	100
P1	Right	0	0	7.739E-227	0	0	7.522E-221	0.0638233	3.853E-08	5.3315E-52	1.9576E-21	1.3819E-71	8.166E-190	3.8562E-43	1.7686E-28	13	93
P2	Left	0	1.596E-72	6.038E-189	9.121E-126	1.8692E-79	4.197E-124	4.0797E-14	1.016E-205	1.4E-82	6.052E-152	1.102E-144	2.2099E-05	6.776E-26	1.759E-103	14	100
P2	Right	0	3.929E-60	4.2892E-53	6.667E-114	8.9737E-85	4.1E-116	1.8775E-37	6.2638E-37	0.00515276	6.7324E-95	2.6071E-60	9.834E-102	7.3291E-18	1.191E-152	14	100
P3	Left	0	5.59E-176	0	1.965E-73	2.44E-165	1.465E-194	4.65E-121	5.129E-209	9.489E-208	3.1168E-25	3.6272E-28	5.7064E-53	8.3905E-62	0.00020051	14	100
P3	Right	0	1.38E-209	6.657E-307	2.744E-191	4.254E-221	2.6335E-76	8.672E-238	1.245E-240	4.484E-258	7.701E-211	2.8499E-31	7.4E-09	1.3908E-62	0.723005	13	93
P4	Left	3.375E-54	0	8.11E-307	5.607E-157	1.012E-124	6.387E-173	7.6481E-24	3.1342E-34	4.936E-186	1.2779E-70	8.2259E-48	6.1969E-08	3.546E-172	2.1094E-39	14	100
P4	Right	1.84E-141	1.65E-197	6.742E-248	5.8002E-74	2.9699E-89	1.874E-49	2.6852E-97	1.941E-158	1.282E-161	9.9894E-49	1.804E-75	9.984E-135	1.246E-186	1.3499E-43	14	100
P5	Left	2.38E-205	7.686E-47	5.225E-153	1.885E-62	1.788E-279	1.777E-148	9.1894E-11	8.0013E-35	9.3623E-24	6.954E-120	3.8375E-44	3.8197E-28	2.249E-31	5.9263E-16	14	100
P5	Right	7.558E-49	6.57E-216	0	0	0	2.0631E-22	9.765E-178	0.02358948	3.5864E-45	1.0159E-32	1.84E-138	1.2002E-58	2.154E-47	5.1928E-49	14	100
P6	Left	1.43E-261	5.5E-167	1.601E-111	9.859E-215	9.0802E-94	3.977E-170	0.00011119	1.198E-280	2.3353E-75	1.9339E-37	1.021E-101	1.287E-168	4.5185E-28	0.04051666	14	100
P6	Right	1.06E-294	9.39E-242	7.7186E-76	3.7194E-88	3.553E-210	5.803E-69	8.4696E-05	0	1.207E-126	9.5372E-19	1.1398E-55	1.163E-181	4.0295E-68	2.9638E-37	14	100
P7	Left	0	1.08E-227	7.146E-174	0	1.357E-205	7.53E-137	7.2973E-57	5.2037E-60	2.965E-75	4.6938E-11	2.5938E-29	1.4298E-07	4.5365E-67	8.562E-06	14	100
P7	Right	1.08E-285	1.07E-146	1.688E-170	1.585E-260	0	2.9405E-75	2.529E-149	1.033E-105	1.182E-192	7.743E-102	4.8665E-07	6.3621E-47	1.7536E-26	0.33489708	13	93
P8	Left	2.88E-31	2.65E-146	0	1.376E-297	1.021E-225	5.451E-256	4.0655E-32	5.6815E-43	1.572E-132	1.274E-176	1.647E-144	1.3679E-42	3.289E-16	5.1615E-11	14	100
P8	Right	6.311E-26	1.18E-109	9.585E-129	2.7359E-84	3.8841E-50	1.263E-80	9.7595E-72	5.8707E-08	4.5835E-81	1.422E-212	0.00728127	6.3254E-15	3.8448E-14	2.4491E-54	14	100
p < 0.05		16	16	16	16	16	16	15	16	16	16	16	16	16	14	221	Sum Total
Percent targe		100	100	100	100	100	100	94	100	100	100	100	100	100	88	99	% Total

ρ	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	0.321	0.471	0.460	0.433	0.385	0.280	0.136	0.161	0.323	0.350	0.549	0.161	0.320	0.325
P1	Right	0.401	0.470	0.293	0.445	0.421	0.345	0.029	0.116	0.354	0.367	0.264	0.417	0.214	0.226
P2	Left	0.248	0.171	0.294	0.288	0.237	0.283	0.098	0.470	0.290	0.345	0.275	0.062	0.110	0.287
P2	Right	0.327	0.202	0.147	0.233	0.246	0.336	0.158	0.274	0.056	0.320	0.268	0.261	0.111	0.307
P3	Left	0.334	0.302	0.496	0.221	0.338	0.389	0.242	0.365	0.571	0.222	0.215	0.164	0.155	0.037
P3	Right	0.281	0.330	0.380	0.319	0.410	0.248	0.365	0.426	0.489	0.354	0.156	0.078	0.223	-0.004
P4	Left	0.130	0.538	0.362	0.357	0.265	0.347	0.161	0.248	0.422	0.230	0.173	0.104	0.414	0.328
P4	Right	0.207	0.358	0.339	0.244	0.221	0.195	0.346	0.412	0.422	0.298	0.215	0.338	0.327	0.227
P5	Left	0.208	0.174	0.344	0.190	0.429	0.303	0.113	0.263	0.160	0.512	0.242	0.208	0.201	0.143
P5	Right	0.127	0.313	0.440	0.506	0.458	0.135	0.308	0.064	0.256	0.218	0.352	0.186	0.306	0.395
P6	Left	0.226	0.273	0.255	0.311	0.246	0.326	0.044	0.338	0.270	0.171	0.253	0.234	0.158	0.040
P6	Right	0.272	0.344	0.216	0.225	0.316	0.265	0.077	0.588	0.289	0.110	0.187	0.283	0.270	0.222
P7	Left	0.305	0.356	0.320	0.446	0.411	0.353	0.247	0.228	0.398	0.187	0.169	0.053	0.248	0.085
P7	Right	0.278	0.301	0.313	0.464	0.539	0.265	0.363	0.373	0.456	0.362	0.061	0.264	0.159	0.003
P8	Left	0.075	0.318	0.402	0.450	0.400	0.417	0.132	0.195	0.251	0.497	0.325	0.156	0.127	0.102
P8	Right	0.063	0.257	0.234	0.246	0.183	0.246	0.266	0.100	0.239	0.338	0.031	0.075	0.105	0.230

n	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	21444	9430	9156	8153	8287	7010	7354	4765	3033	3674	5622	6141	5750	4578
P1	Right	19916	9448	12615	6981	8631	8550	4666	2333	2129	956	4613	4846	4053	2968
P2	Left	22220	9658	10305	8054	8136	7028	5225	3750	5424	5435	6940	6981	7541	5803
P2	Right	18388	8416	10509	8870	7261	5570	4520	2228	2899	3727	4357	5529	5371	5599
P3	Left	21485	8497	11588	7045	6823	5249	8147	7558	2689	2175	3493	6993	7646	4916
P3	Right	21158	9366	10393	8066	5844	5657	7372	5109	4327	7028	7168	6917	4537	2204
P4	Left	12836	6141	8701	5622	6602	6479	3021	2315	4916	5540	4823	5383	5523	1446
P4	Right	13682	7138	7914	5412	6923	6205	3056	3732	3913	2455	6176	5214	7098	4036
P5	Left	20651	7179	6678	5704	5762	7325	3289	2624	4467	1709	3972	3972	3651	4957
P5	Right	14493	9920	8398	6730	7033	5120	6882	2671	4059	3791	4683	7208	1948	1295
P6	Left	19351	8316	7687	9028	7028	6689	7273	9739	5552	3324	7307	12230	3832	3633
P6	Right	16318	8316	9022	8241	8940	6054	6374	8112	7856	6759	8176	10445	4042	2980
P7	Left	18738	7127	8713	5855	4975	4975	3896	4520	1954	2578	5459	7173	3948	1598
P7	Right	15892	6841	7774	5669	7028	4578	4671	3727	3814	3750	4252	2689	4911	3639
P8	Left	13087	6718	8696	5960	6590	6870	7576	6777	8655	3027	4555	6124	3184	2829
P8	Right	17088	7850	9693	6695	6870	6188	4864	7127	5960	7226	5208	6514	3610	4211

Table S12: Descriptive statistics for correlations between the cortical surface distances and representational space distances between vertices in the Between ROI model. Top: p-values of correlations in each map for each hemisphere, after correction for false discovery rate. Middle: Pearson's correlation coefficient (r) in each map. Bottom: Number of selected measurements in each map.

P	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	p<0.05	%
P1	Left	5.09E-174	7.7E-203	4.954E-164	1.582E-230	0	9.4497E-82	2.0135E-29	1.0779E-06	1.1841E-06	9.3869E-06	0.011394E-8	0.6976340E-4	2.6438E-18	1.8114E-19	13	93
P1	Right	4.54E-263	6.29E-196	4.9E-189	1.504E-121	5.749E-134	1.4056E-72	1.797E-18	4.1215E-05	7.9838E-07	0.0930624E-3	6.0357E-05	0.0009640E-4	1.8071E-05	0.6799782E-1	12	86
P2	Left	2.077E-20	4.96E-07	2.8308E-13	2.4714E-30	5.355E-27	3.6926E-11	0.2293557E-4	0.0117024E-7	6.122E-10	1.5905E-07	0.0023434E-6	0.3765400E-4	7.0321E-18	2.1853E-47	12	86
P2	Right	0.006583E-7	5.591E-09	6.2651E-06	0.1394047E-8	0.0002959E-2	0.9216214E-9	0.0159264E-7	0.0432710E-4	9.6765E-06	0.3573999E-3	0.7961469E-6	1.3439E-06	0.1582750E-9	3.1612E-09	9	64
P3	Left	4.62E-85	0.826236	6.8845E-07	0.7306306E-8	1.7711E-49	3.7125E-55	0.0371083E-2	1.8796E-15	0.0063227E-7	2.3951E-10	0.0001017E-1	0.0822372E-3	0.8426038E-7	7.0472E-08	10	71
P3	Right	0.076808E-7	3.251E-05	9.6297E-09	0.0006381E-3	0.1169899E-5	2.856E-90	5.6387E-07	2.7577E-06	0.0011340E-1	2.9449E-05	5.9964E-06	0.8230121E-8	0.6418391E-6	1.591E-05	10	71
P4	Left	5.18E-144	0.498500E-1	6.583E-07	3.4202E-70	6.6352E-44	9.0315E-11	0.5066193E-7	0.5755826E-4	2.8147E-23	4.7474E-07	7.3452E-24	1.4806E-10	0.1095063E-3	2.3607E-05	10	71
P4	Right	4.443E-41	0.121393E-8	0.0008542E-1	5.6059E-33	0.4221455E-4	0.0010786E-7	1.3294E-06	0.0596909E-1	0.2627315E-1	1.0299E-22	1.4148E-38	9.6811E-15	0.0006381E-3	6.5199E-10	10	71
P5	Left	0	1.04E-200	1.252E-111	4.8379E-65	3.294E-196	1.421E-186	2.864E-27	7.8714E-21	6.2771E-16	7.3971E-16	0.0005968E-6	0.0014177E-6	2.9142E-05	0.0009549E-4	14	100
P5	Right	0	8.9E-224	1.6328E-69	8.823E-159	1.315E-212	5.0749E-66	1.6371E-69	8.0284E-33	9.5108E-49	2.9412E-20	3.3596E-12	0.1519519E-2	8.2386E-07	0.6560743E-4	12	86
P6	Left	0.000379E-2	8.049E-06	0.9207015E-6	0.3266563E-8	1.7724E-05	0.1135750E-8	0.7230911E-8	0.5683742E-4	0.8770321E-7	0.9414164E-7	0.7053376E-1	0.1070510E-4	0.3266563E-8	0.9449135E-4	3	21
P6	Right	0.241445E-2	0.641839E-2	0.3232019E-6	0.5066193E-4	0.5683742E-4	0.6666782E-6	0.5066193E-4	0.6560743E-4	0.6911026E-9	0.6207983E-7	0.5755826E-7	0.0623414E-7	0.4600850E-9	0.3795901E-4	0	0
P7	Left	2.541E-31	5.4E-32	0.0094279E-6	0.0010303E-6	5.652E-36	0.3673173E-8	0.4948829E-6	1.0767E-20	0.0065916E-8	3.8753E-12	0.5361631E-5	1.1793E-81	0.4050049E-6	0.1127495E-3	9	64
P7	Right	2.864E-27	4.452E-63	5.2024E-30	1.5535E-09	2.4116E-33	0.0763006E-3	4.1323E-26	7.6834E-53	8.5016E-28	0.3802126E-1	0.0598367E-6	1.6002E-06	2.5724E-06	0.0030037E-5	11	79
P8	Left	0.036742E-8	0.340296E-5	0.0004555E-8	0.0325164E-9	0.0439844E-6	0.6484552E-5	0.5798546E-7	0.7175609E-4	0.0065837E-4	1.9255E-05	0.8160153E-2	0.1986781E-5	0.6229230E-3	0.8294215E-3	6	43
P8	Right	0.491360E-4	0.816015E-3	0.5066193E-8	0.9514826E-8	0.6911026E-9	0.3203451E-9	0.6229230E-3	0.5585728E-1	0.0016069E-5	0.5066193E-8	0.6895364E-8	0.6560743E-4	0.8684135E-7	0.0519618E-4	1	7
p < 0.05		13	10	13	11	12	9	9	10	13	10	9	7	7	9	142	Sum Total
Percentage		81	63	81	69	75	56	56	63	81	63	56	44	44	56	63	% Total

ρ	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	-0.441	-0.662	-0.617	-0.729	-0.798	-0.516	-0.313	-0.176	-0.219	0.182	0.087	-0.014	-0.277	0.319
P1	Right	-0.546	-0.653	-0.575	-0.609	-0.582	-0.449	-0.308	-0.211	-0.264	0.146	0.148	-0.120	0.168	0.022
P2	Left	0.151	0.128	0.176	0.305	0.286	-0.194	-0.046	0.106	-0.206	-0.176	-0.093	0.031	-0.240	0.439
P2	Right	0.051	0.157	-0.110	0.042	0.107	-0.004	0.093	-0.113	0.204	0.044	-0.012	0.162	0.052	0.195
P3	Left	0.316	-0.007	0.115	0.012	0.416	0.492	0.061	0.222	-0.135	0.328	0.165	0.055	0.006	0.190
P3	Right	-0.032	0.107	0.139	0.096	0.055	0.588	0.145	0.163	0.125	0.125	0.134	0.008	-0.021	0.228
P4	Left	-0.509	0.026	-0.133	-0.531	-0.400	-0.198	0.036	0.035	-0.337	-0.168	0.345	0.214	-0.058	-0.275
P4	Right	-0.275	-0.049	0.095	-0.383	-0.028	-0.105	0.217	0.082	0.051	-0.459	0.388	0.260	0.103	0.238
P5	Left	0.598	-0.726	-0.600	-0.510	-0.774	-0.703	-0.439	0.428	0.291	0.455	0.138	-0.128	0.173	-0.119
P5	Right	0.673	-0.674	-0.443	-0.684	-0.745	-0.538	-0.484	0.523	0.520	0.356	0.248	-0.046	-0.275	-0.037
P6	Left	-0.064	-0.120	-0.003	0.030	0.128	0.052	0.012	-0.017	0.006	0.004	0.013	0.039	0.046	-0.003
P6	Right	0.026	-0.016	0.030	-0.022	-0.018	0.016	0.025	-0.015	-0.013	0.018	-0.019	-0.048	0.035	0.047
P7	Left	0.206	0.331	0.072	-0.109	-0.414	0.037	-0.033	0.331	-0.157	-0.329	-0.025	0.511	-0.039	0.107
P7	Right	-0.208	0.465	0.308	0.197	-0.340	0.070	0.366	0.558	-0.414	-0.041	0.077	0.229	0.167	0.125
P8	Left	-0.048	0.034	0.095	-0.073	0.065	0.017	-0.019	-0.013	-0.075	0.193	-0.010	-0.045	0.026	-0.012
P8	Right	-0.016	-0.008	0.020	-0.002	0.014	-0.037	0.021	0.021	-0.104	-0.023	0.016	-0.016	0.008	0.079

n	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	3677	1617	1570	1398	1421	1202	1261	817	520	630	964	1053	986	785
P1	Right	3415	1620	2163	1197	1480	1466	800	400	365	164	791	831	695	509
P2	Left	3810	1656	1767	1381	1395	1205	896	643	930	932	1190	1197	1293	995
P2	Right	3153	1443	1802	1521	1245	955	775	382	497	639	747	948	921	960
P3	Left	3684	1457	1987	1208	1170	900	1397	1296	461	373	599	1199	1311	843
P3	Right	3628	1606	1782	1383	1002	970	1264	876	742	1205	1229	1186	778	378
P4	Left	2201	1053	1492	964	1132	1111	518	397	843	950	827	923	947	248
P4	Right	2346	1224	1357	928	1187	1064	524	640	671	421	1059	894	1217	692
P5	Left	3541	1231	1145	978	988	1256	564	450	766	293	681	681	626	850
P5	Right	2485	1701	1440	1154	1206	878	1180	458	696	650	803	1236	334	222
P6	Left	3333	1495	1318	1548	1205	1147	1247	1670	952	570	1253	2097	657	623
P6	Right	2783	1357	1547	1413	1533	1038	1093	1391	1347	1159	1402	1791	693	511
P7	Left	3213	1222	1494	1004	853	853	668	775	335	442	936	1230	677	274
P7	Right	2725	1173	1333	972	1205	785	801	639	654	643	729	461	842	624
P8	Left	2289	1152	1491	1022	1130	1178	1299	1162	1484	519	781	1050	546	485
P8	Right	2885	1346	1662	1148	1178	1061	834	1222	1022	1239	893	1117	619	722

Table S13: Descriptive statistics for correlations between the preferred representational space position x0 and visual field position eccentricity in the Within ROI model. Top: p-values of correlations in each map for each hemisphere, after correction for false discovery rate. Middle: Pearson's correlation coefficient (r) in each map. Bottom: Number of selected measurements in each map.

P	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	p<0.05	%	
P1	Left	2.036E-22	4.761E-36	4.4738E-65	3.3549E-12	3.9995E-05	4.1833E-09	0.13321623	0.01081351	7.8149E-07	0.6053685	0.0954007	2.3533E-10	8.7953E-05	0.00010719	11	79	
P1	Right	1.152E-75	7.008E-28	8.0425E-64	1.0943E-23	0.00065639	0.00456462	0.53614608	0.06737914	0.05213643	0.48945223	0.35206464	0.55466943	0.72897884	0.00015484	7	50	
P2	Left	1.088E-33	0.4821027	2.1378E-59	0.00011984	0.00244116	2.3409E-16	0.246187	0.49938263	5.9909E-08	0.85576947	1.0483E-32	0.03905361	2.3779E-09	2.5601E-07	10	71	
P2	Right	2.109E-30	0.0870181	1.0397E-05	0.56872153	0.06737914	1.3987E-33	0.010224	7.5226E-09	1.24E-06	0.44100883	7.9336E-18	3.5397E-24	0.03988764	0.00059212	10	71	
P3	Left	5.492E-15	2.839E-10	6.5761E-59	2.2275E-10	1.9025E-16	1.7647E-07	1.412E-47	8.2488E-37	2.6786E-26	2.4962E-11	1.7283E-13	0.0040576	0.01332459	0.2042299	13	93	
P3	Right	3.611E-34	1.515E-05	3.2057E-18	1.9055E-24	5.2448E-10	0.02045718	4.8122E-17	1.2739E-29	1.0175E-05	0.1235511	3.2605E-19	0.42418249	0.6410767	0.61474657	10	71	
P4	Left	5.987E-05	0.4460992	2.5274E-22	3.9882E-08	0.20225459	0.246187	0.84190233	0.00316919	5.1471E-11	0.58457258	0.00013584	0.78420365	2.7392E-09	0.05956128	7	50	
P4	Right	3.904E-31	0.0041366	3.8318E-10	7.8081E-07	0.15678724	0.03791695	0.36068204	0.05956128	0.09032314	0.00063296	0.00699332	1.8381E-05	0.09036846	0.04507393	9	64	
P5	Left	1.368E-12	4.375E-07	2.2834E-10	7.68E-10	7.9336E-18	1.2817E-10	0.05956128	1.5113E-13	1.9686E-07	0.30306658	0.03637295	0.5361460	8	1.137E-21	0.37114037	10	71
P5	Right	9.616E-07	0.0050816	6.3371E-09	0.05259241	2.1633E-05	0.00125019	2.3769E-11	4.0046E-12	0.00776855	0.00396331	0.61474657	0.08080001	0.000108	0.78836978	10	71	
P6	Left	6.375E-05	0.0154939	0.68184655	0.36068204	0.76447438	0.06105656	0.95162921	0.21570827	0.60192308	0.95235363	0.5118293	0.49577264	0.01690836	0.78738632	3	21	
P6	Right	0.9241162	0.3510247	0.87703105	0.5244592	0.0441797	0.889041	0.31868289	0.74954721	0.78738632	0.96374244	0.6868080	0.02284546	0.09036846	0.0441797	3	21	
P7	Left	6.277E-37	5.899E-09	1.2426E-27	2.0789E-20	8.9315E-10	4.3318E-47	0.00091394	1.0983E-12	7.5733E-07	4.8573E-08	0.00074175	1.3206E-22	0.06737914	0.50183507	12	86	
P7	Right	6.435E-37	3.644E-16	3.1518E-39	9.8045E-13	8.3063E-46	3.9357E-47	0.00046258	0.40775346	2.853E-17	3.5175E-48	6.7462E-43	0.01245049	0.00280805	0.23318552	12	86	
P8	Left	0.5118293	0.7559548	0.0954007	0.05213643	0.09036846	0.53614608	0.82057866	0.5244592	0.49005354	0.00970844	0.82057866	0.8026947	0.57787927	0.96374244	1	7	
P8	Right	0.3274894	0.1187001	0.15101496	0.8108425	0.19962978	0.3613096	0.34678462	0.78836978	0.15765463	0.0441797	0.62783505	0.33473327	0.34677527	0.52329943	1	7	
p < 0.05		13	10	12	10	10	11	6	8	10	7	9	8	9	6	129	Sum Total	
Percent age		81	63	75	63	63	69	38	50	63	44	56	50	56	38	58	% Total	

ρ	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	0.163	0.309	0.417	0.190	0.114	0.174	0.048	-0.097	0.223	0.025	-0.060	0.200	-0.131	0.145
P1	Right	0.312	0.272	0.356	0.290	0.094	-0.080	-0.027	0.102	0.113	0.068	-0.040	0.025	-0.017	0.176
P2	Left	0.197	0.022	-0.378	0.109	0.087	-0.239	0.045	0.033	0.183	-0.007	-0.341	-0.066	0.171	-0.169
P2	Right	0.205	-0.051	-0.109	-0.018	-0.058	-0.383	0.100	0.300	0.224	0.037	-0.314	-0.327	-0.075	-0.118
P3	Left	0.132	0.169	0.356	0.187	0.243	0.180	0.379	0.347	0.474	0.346	0.303	-0.108	0.075	-0.051
P3	Right	0.204	0.113	0.209	0.275	0.201	0.082	0.238	0.375	0.169	0.050	0.257	0.028	-0.020	-0.031
P4	Left	0.090	-0.029	0.253	-0.182	-0.044	-0.041	-0.010	-0.159	0.231	0.022	-0.139	-0.012	-0.198	0.133
P4	Right	-0.240	0.088	0.174	-0.168	-0.047	-0.071	0.048	-0.083	-0.073	-0.176	-0.090	-0.150	-0.054	-0.085
P5	Left	0.122	-0.149	-0.192	-0.201	-0.275	-0.186	-0.089	-0.348	-0.194	-0.072	0.089	0.029	0.376	0.037
P5	Right	-0.102	0.073	-0.157	0.064	-0.128	-0.116	-0.199	-0.326	0.109	-0.122	0.022	0.056	0.221	0.022
P6	Left	-0.073	0.068	-0.014	-0.028	-0.011	-0.062	0.002	-0.035	0.021	-0.003	-0.023	-0.018	0.102	-0.014
P6	Right	-0.002	0.030	0.005	-0.021	-0.057	0.005	0.036	0.011	-0.009	0.001	-0.013	0.059	-0.072	0.099
P7	Left	0.225	-0.171	-0.281	-0.292	-0.214	0.472	-0.136	-0.259	0.277	0.265	-0.117	-0.279	0.078	0.050
P7	Right	0.244	-0.240	-0.353	-0.233	-0.399	0.490	-0.131	-0.040	0.330	0.539	-0.485	-0.127	-0.111	-0.056
P8	Left	-0.017	0.012	-0.048	0.068	-0.056	0.022	-0.008	0.023	-0.022	-0.123	0.010	0.009	-0.029	-0.002
P8	Right	0.022	-0.048	-0.040	0.009	-0.043	0.033	0.039	0.009	0.050	0.064	-0.020	0.035	0.046	-0.029

n	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	3677	1617	1570	1398	1421	1202	1261	817	520	630	964	1053	986	785
P1	Right	3415	1620	2163	1197	1480	1466	800	400	365	164	791	831	695	509
P2	Left	3810	1656	1767	1381	1395	1205	896	643	930	932	1190	1197	1293	995
P2	Right	3153	1443	1802	1521	1245	955	775	382	497	639	747	948	921	960
P3	Left	3684	1457	1987	1208	1170	900	1397	1296	461	373	599	1199	1311	843
P3	Right	3628	1606	1782	1383	1002	970	1264	876	742	1205	1229	1186	778	378
P4	Left	2201	1053	1492	964	1132	1111	518	397	843	950	827	923	947	248
P4	Right	2346	1224	1357	928	1187	1064	524	640	671	421	1059	894	1217	692
P5	Left	3541	1231	1145	978	988	1256	564	450	766	293	681	681	626	850
P5	Right	2485	1701	1440	1154	1206	878	1180	458	696	650	803	1236	334	222
P6	Left	3333	1495	1318	1548	1205	1147	1247	1670	952	570	1253	2097	657	623
P6	Right	2783	1357	1547	1413	1533	1038	1093	1391	1347	1159	1402	1791	693	511
P7	Left	3213	1222	1494	1004	853	853	668	775	335	442	936	1230	677	274
P7	Right	2725	1173	1333	972	1205	785	801	639	654	643	729	461	842	624
P8	Left	2289	1152	1491	1022	1130	1178	1299	1162	1484	519	781	1050	546	485
P8	Right	2885	1346	1662	1148	1178	1061	834	1222	1022	1239	893	1117	619	722

Table S14: Descriptive statistics for correlations between the preferred representational space position y_0 and visual field position eccentricity in the Within ROI model. Top: p-values of correlations in each map for each hemisphere, after correction for false discovery rate. Middle: Pearson's correlation coefficient (r) in each map. Bottom: Number of selected measurement in each map.

P	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	p<0.05	%
P1	Left	0	1.43E-268	1.45E-294	7.59E-139	1.48E-151	1.62E-95	2.12E-59	2.90E-40	2.64E-12	2.63E-39	7.99E-115	5.06E-07	2.93E-05	7.42E-23	14	100
P1	Right	0	5.06E-210	2.09E-173	1.70E-165	4.24E-135	2.91E-136	8.62E-25	0.00714908	0.19051854	0.00013919	1.01E-15	3.37E-09	0.00105544	0.00071485	13	93
P2	Left	2.47E-17	0.0020091	1.72E-10	0.04321924	4.12E-11	1.12E-68	0.86381973	0.00057668	0.16931405	0.03277049	8.33E-38	0.00755786	2.13E-06	1.17E-54	12	86
P2	Right	0.0010371	0.1714788	8.21E-05	5.15E-07	0.00010521	1.98E-09	0.644039	0.34442179	0.02442822	0.02631919	6.94E-14	0.07284894	0.81869658	0.00164387	9	64
P3	Left	4.42E-29	1.30E-11	3.43E-26	0.12685377	0.00027896	1.02E-09	3.33E-43	7.57E-05	0.45650797	0.00129176	2.23E-14	0.00057889	2.96E-21	0.52393465	11	79
P3	Right	0.000217	2.83E-24	3.71E-08	1.29E-11	4.33E-05	1.80E-07	3.22E-29	7.82E-06	0.87632655	2.44E-06	2.29E-05	0.11895974	0.05723945	0.50445238	10	71
P4	Left	3.05E-18	1.76E-47	2.39E-76	4.70E-06	5.29E-26	4.01E-89	0.97061546	0.00166017	1.65E-18	0.21037721	1.67E-16	1.64E-24	0.34767974	0.91720694	10	71
P4	Right	2.96E-17	7.49E-54	0.0167462	0.00403454	0.0001172	0.03118116	0.20693157	1.51E-13	2.32E-17	7.31E-24	5.30E-35	7.26E-23	2.53E-07	4.74E-13	13	93
P5	Left	0	5.55E-134	3.86E-148	8.74E-54	2.77E-269	9.67E-207	1.01E-13	4.11E-13	5.50E-09	5.91E-07	0.00027788	3.07E-05	4.05E-13	0.03370248	14	100
P5	Right	2.08E-171	2.82E-220	0	9.84E-201	2.28E-195	1.39E-70	4.65E-84	0.03597536	2.90E-21	1.82E-09	1.36E-14	9.12E-16	1.40E-07	0.11597529	13	93
P6	Left	0.0046174	6.30E-14	2.89E-05	2.17E-15	0.99462375	0.94554086	0.39001051	0.19152655	0.0587887	0.25991018	0.3476797	0.0038630	0.38194079	0.69086423	5	36
P6	Right	0.8569603	0.6051001	0.23135256	0.91198004	0.02286528	0.31528019	0.23092762	0.89731065	0.23949929	0.16645815	0.20520185	0.40427036	0.64017378	0.80210813	1	7
P7	Left	0.450146	0.0014549	0.07414594	9.57E-07	0.00017229	3.25E-13	9.32E-07	1.77E-31	3.60E-08	0.00564247	2.87E-13	9.12E-19	1.55E-33	0.8435599	11	79
P7	Right	5.16E-31	4.08E-21	0.04887016	1.28E-09	1.85E-05	1.20E-20	4.44E-48	8.99E-52	2.24E-60	1.56E-33	0.00441114	0.75222841	6.78E-12	0.39517597	12	86
P8	Left	0.0005018	0.0158821	0.00173273	0.02778254	0.05878878	0.57704124	0.00674905	0.12395728	0.80578199	7.18E-06	0.2208946	0.12162924	0.06076522	0.00061211	7	50
P8	Right	0.2431921	0.0823263	0.41617745	0.03479903	0.59487075	0.85976872	0.21793998	0.05805746	0.44411054	0.74153155	0.23358012	0.89731065	0.11597529	0.30201126	1	7
p < 0.05		13	13	13	14	13	12	9	11	8	12	12	10	9	7	156	Sum Total
Percentage		81	81	81	88	81	75	56	69	50	75	75	63	56	44	70	% Total

ρ	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	-0.647	-0.731	-0.760	-0.604	-0.622	-0.551	0.438	0.445	0.306	-0.494	-0.648	-0.159	0.138	-0.346
P1	Right	-0.704	-0.670	-0.555	-0.685	-0.584	-0.588	0.357	0.142	0.076	-0.305	-0.285	-0.208	-0.130	-0.156
P2	Left	-0.139	0.079	0.155	0.058	0.179	0.477	-0.007	-0.141	-0.050	0.075	-0.364	-0.081	0.136	-0.469
P2	Right	-0.061	0.040	0.096	-0.132	0.114	0.197	-0.019	0.054	0.108	-0.094	0.274	0.063	-0.009	-0.106
P3	Left	0.185	0.180	0.237	0.048	0.111	0.207	0.360	0.114	-0.039	0.174	-0.311	-0.104	0.261	-0.025
P3	Right	0.064	0.253	0.133	-0.184	0.134	0.171	0.312	0.156	0.007	0.140	-0.125	-0.049	0.074	0.039
P4	Left	0.187	-0.429	-0.455	-0.152	-0.310	-0.553	-0.002	-0.165	0.301	0.045	-0.286	-0.332	0.034	-0.008
P4	Right	-0.176	-0.424	-0.069	-0.099	-0.116	-0.071	0.061	0.292	-0.324	-0.470	-0.370	-0.325	0.151	-0.275
P5	Left	-0.707	-0.626	-0.669	0.469	0.845	0.728	0.312	0.339	0.214	0.295	-0.145	-0.165	0.290	0.078
P5	Right	-0.521	-0.670	-0.842	0.742	0.724	0.553	0.526	0.105	0.353	0.239	-0.272	-0.230	-0.291	-0.116
P6	Left	-0.052	-0.196	0.119	-0.203	0.000	0.002	-0.027	-0.035	-0.066	-0.052	-0.030	0.066	0.038	-0.019
P6	Right	-0.004	0.016	-0.033	-0.003	-0.062	-0.035	0.040	0.004	-0.035	0.045	-0.037	-0.022	-0.021	0.014
P7	Left	0.015	-0.095	0.050	0.159	-0.134	0.251	-0.194	0.406	0.303	-0.139	0.240	0.252	0.445	0.015
P7	Right	0.222	0.274	0.058	0.198	0.128	0.329	-0.487	0.554	0.585	-0.455	0.111	-0.018	0.238	-0.038
P8	Left	-0.076	0.076	0.085	-0.074	0.061	-0.019	-0.079	-0.049	-0.008	-0.202	0.048	-0.052	0.086	0.162
P8	Right	-0.024	-0.051	-0.022	0.067	-0.018	-0.007	0.047	-0.058	0.027	0.011	0.044	-0.005	-0.069	0.043

n	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	3677	1617	1570	1398	1421	1202	1261	817	520	630	964	1053	986	785
P1	Right	3415	1620	2163	1197	1480	1466	800	400	365	164	791	831	695	509
P2	Left	3810	1656	1767	1381	1395	1205	896	643	930	932	1190	1197	1293	995
P2	Right	3153	1443	1802	1521	1245	955	775	382	497	639	747	948	921	960
P3	Left	3684	1457	1987	1208	1170	900	1397	1296	461	373	599	1199	1311	843
P3	Right	3628	1606	1782	1383	1002	970	1264	876	742	1205	1229	1186	778	378
P4	Left	2201	1053	1492	964	1132	1111	518	397	843	950	827	923	947	248
P4	Right	2346	1224	1357	928	1187	1064	524	640	671	421	1059	894	1217	692
P5	Left	3541	1231	1145	978	988	1256	564	450	766	293	681	681	626	850
P5	Right	2485	1701	1440	1154	1206	878	1180	458	696	650	803	1236	334	222
P6	Left	3333	1495	1318	1548	1205	1147	1247	1670	952	570	1253	2097	657	623
P6	Right	2783	1357	1547	1413	1533	1038	1093	1391	1347	1159	1402	1791	693	511
P7	Left	3213	1222	1494	1004	853	853	668	775	335	442	936	1230	677	274
P7	Right	2725	1173	1333	972	1205	785	801	639	654	643	729	461	842	624
P8	Left	2289	1152	1491	1022	1130	1178	1299	1162	1484	519	781	1050	546	485
P8	Right	2885	1346	1662	1148	1178	1061	834	1222	1022	1239	893	1117	619	722

Table S15: Descriptive statistics for correlations between the preferred representational space position x0 and visual field position eccentricity in the Between ROI model. Top: p-values of correlations in each map for each hemisphere, after correction for false discovery rate. Middle: Pearson's correlation coefficient (r) in each map. Bottom: Number of selected measurement in each map.

P	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2	p<0.05	%
P1	Left	1.41E-111	1.172E-10	0.04333578	0.93967151	7.7957E-09	0.16391546	0.07489724	0.17132521	0.01944726	2.065E-07	4.4158E-11	0.82746027	1.9014E-26	0.67613084	8	57
P1	Right	1.13E-96	6.086E-27	2.5988E-09	1.991E-41	1.4405E-14	0.00941512	0.13931168	0.85855738	2.8259E-06	3.7157E-06	4.4699E-08	4.0778E-11	0.45443718	2.6832E-06	11	79
P2	Left	5.309E-37	0.8234792	0.000281	0.00333925	1.0497E-05	8.4878E-09	0.00880118	0.03776613	4.9082E-08	0.9127048	0.16929321	0.67570039	0.07773849	1.9497E-08	9	64
P2	Right	0.0273411	0.1375726	0.62760947	0.00210668	0.04846019	0.15050941	0.00059205	1.8344E-08	0.99705091	4.363E-09	1.5073E-26	3.0971E-45	0.11327911	2.1737E-14	9	64
P3	Left	1.136E-66	8.339E-18	2.0591E-39	4.6039E-08	9.242E-28	0.00486196	1.5095E-10	1.4396E-44	2.165E-21	7.069E-09	0.02783515	2.2244E-15	2.6669E-07	0.00695516	14	100
P3	Right	4.685E-57	7.64E-17	1.4875E-21	1.0208E-17	2.1104E-24	0.52447427	3.9278E-39	3.7502E-27	0.01728692	8.0286E-06	5.0397E-09	0.00328318	0.07831752	0.82746027	11	79
P4	Left	0.7775931	7.619E-10	0.32303824	0.00052888	0.18411271	0.61749401	0.12688613	0.91547825	1.9131E-05	0.52447427	0.00125019	0.5006498	2.2838E-11	0.06742707	5	36
P4	Right	8.887E-65	0.0002727	0.00292713	0.00557683	0.90275578	0.00372469	0.00973974	0.62760947	0.37212789	0.00054983	5.4884E-07	0.07085403	2.5968E-07	0.00210135	10	71
P5	Left	4.08E-36	0.0039404	1.7939E-16	0.32138369	4.627E-30	3.8474E-13	0.95912676	0.00567756	0.77183262	0.00176799	0.77183262	0.09025479	5.0807E-06	0.11517379	8	57
P5	Right	0.9795762	0.0378134	2.3283E-09	3.4541E-07	0.00144949	0.20289431	6.6972E-05	0.92737523	0.19170647	0.00686782	1.4236E-06	0.22527456	0.1494799	0.952162	7	50
P6	Left	0.0001239	0.0077248	0.22032758	0.36110389	0.31020049	0.35503088	0.99705091	0.97957619	0.4826081	0.44322028	0.85970844	0.98805336	0.0033727	0.88698573	3	21
P6	Right	0.9027558	0.5759948	0.95912676	0.10927998	0.70711414	0.54635194	0.12635666	0.37212789	0.92102461	0.20248927	0.92160023	0.41443394	0.4689124	0.41443394	0	0
P7	Left	5.64E-77	8.316E-23	0.10290368	1.4158E-38	6.7807E-17	2.5609E-16	0.01309527	0.34641337	0.0002473	0.00292713	0.00205057	0.47508448	0.12682264	0.45443718	9	64
P7	Right	2.86E-106	6.601E-10	1.9553E-07	1.8087E-25	1.1759E-64	1.9503E-16	3.2065E-07	0.97957619	0.00383267	0.45443718	0.00785975	6.2938E-05	0.00145066	0.91751512	11	79
P8	Left	0.9795762	0.7071141	0.77183262	0.34641337	0.55597965	0.25619837	0.09684429	0.95688785	0.9127048	0.02952327	0.67032992	0.1152171	0.03611719	0.32188606	2	14
P8	Right	0.2366021	0.4689124	0.72361275	0.03538571	0.68460483	0.97957619	2.8579E-05	0.45443718	0.32532422	0.00843774	0.44322028	0.57408566	0.28691345	0.11174418	3	21
p < 0.05		11	11	9	11	10	7	9	5	8	11	10	5	8	5	120	Sum Total
Percent age		69	69	56	69	63	44	56	31	50	69	63	31	50	31	54	% Total

ρ	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
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P1	Left	-0.647	-0.731	-0.760	-0.604	-0.622	-0.551	0.438	0.445	0.306	-0.494	-0.648	-0.159	0.138	-0.346
P1	Right	0.362	0.165	0.057	-0.004	0.159	0.047	0.058	0.056	-0.113	0.214	0.218	-0.010	0.336	-0.020
P2	Left	0.349	0.268	-0.133	0.381	0.204	-0.074	0.061	0.015	-0.254	0.369	0.201	0.235	0.036	0.217
P2	Right	-0.207	-0.009	0.092	0.086	0.124	0.172	0.096	0.092	-0.185	0.007	-0.047	-0.017	-0.056	0.184
P3	Left	-0.044	-0.045	0.015	-0.086	0.063	0.054	-0.132	-0.295	0.000	0.239	-0.383	-0.442	0.061	-0.250
P3	Right	0.282	0.228	0.293	0.163	0.318	0.102	0.177	0.381	-0.431	-0.306	-0.100	-0.233	-0.148	0.102
P4	Left	0.263	0.212	0.228	0.234	0.321	0.026	0.362	0.360	-0.097	-0.135	-0.173	-0.093	0.072	0.018
P4	Right	0.009	-0.196	-0.031	-0.120	0.046	-0.020	-0.078	0.010	0.155	-0.026	0.121	-0.028	-0.223	0.133
P5	Left	0.344	-0.111	-0.088	-0.099	-0.007	-0.097	-0.123	0.026	0.043	-0.180	0.160	-0.069	-0.154	0.127
P5	Right	-0.212	0.089	-0.247	-0.039	0.358	-0.209	-0.004	-0.142	-0.015	-0.197	0.016	-0.075	0.191	-0.063
P6	Left	-0.001	0.056	-0.163	0.156	0.099	0.051	0.123	0.007	-0.058	0.116	-0.178	0.041	0.092	-0.008
P6	Right	-0.071	-0.075	-0.040	0.029	-0.036	-0.034	0.000	0.001	-0.029	0.041	0.008	-0.001	0.124	0.010
P7	Left	-0.004	-0.020	-0.002	0.049	-0.013	-0.024	-0.054	-0.030	0.005	0.044	0.005	-0.024	-0.035	-0.045
P7	Right	-0.323	-0.282	-0.049	-0.400	-0.288	0.283	0.105	0.042	-0.213	-0.154	-0.109	0.026	-0.068	-0.058
P8	Left	-0.405	-0.186	-0.149	-0.332	-0.467	0.295	0.188	-0.002	-0.123	-0.037	-0.108	0.197	0.119	-0.007
P8	Right	0.001	0.015	-0.011	0.036	-0.023	-0.040	0.053	0.003	-0.005	-0.107	-0.021	0.056	0.101	0.055

n	Hemi	V1	V2d	V2v	V3d	V3v	hV4	VO-1	VO-2	PHC-1	PHC-2	LO-1	LO-2	TO-1	TO-2
P1	Left	3677	1617	1570	1398	1421	1202	1261	817	520	630	964	1053	986	785
P1	Right	3415	1620	2163	1197	1480	1466	800	400	365	164	791	831	695	509
P2	Left	3810	1656	1767	1381	1395	1205	896	643	930	932	1190	1197	1293	995
P2	Right	3153	1443	1802	1521	1245	955	775	382	497	639	747	948	921	960
P3	Left	3684	1457	1987	1208	1170	900	1397	1296	461	373	599	1199	1311	843
P3	Right	3628	1606	1782	1383	1002	970	1264	876	742	1205	1229	1186	778	378
P4	Left	2201	1053	1492	964	1132	1111	518	397	843	950	827	923	947	248
P4	Right	2346	1224	1357	928	1187	1064	524	640	671	421	1059	894	1217	692
P5	Left	3541	1231	1145	978	988	1256	564	450	766	293	681	681	626	850
P5	Right	2485	1701	1440	1154	1206	878	1180	458	696	650	803	1236	334	222
P6	Left	3333	1495	1318	1548	1205	1147	1247	1670	952	570	1253	2097	657	623
P6	Right	2783	1357	1547	1413	1533	1038	1093	1391	1347	1159	1402	1791	693	511
P7	Left	3213	1222	1494	1004	853	853	668	775	335	442	936	1230	677	274
P7	Right	2725	1173	1333	972	1205	785	801	639	654	643	729	461	842	624
P8	Left	2289	1152	1491	1022	1130	1178	1299	1162	1484	519	781	1050	546	485
P8	Right	2885	1346	1662	1148	1178	1061	834	1222	1022	1239	893	1117	619	722

Table S16: Descriptive statistics for correlations between the preferred representational space position y_0 and visual field position eccentricity in the Between ROI model. Top: p-values of correlations in each map for each hemisphere, after correction for false discovery rate. Middle: Pearson's correlation coefficient (r) in each map. Bottom: Number of selected measurement in each map.