

Imagine all the people: How the brain creates and uses personality models to predict behavior

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Supplementary Table 1: Peak brain activity coordinates

Self > Count

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Ventromedial prefrontal cortex	-8	40	-20	17.37
Medial prefrontal cortex	-8	56	28	11.32
Posterior cingulate cortex	-8	-52	36	10.70
Inferior parietal lobule	56	-68	28	10.32
Hippocampus	-28	-8	-28	9.12
Cerebellar pyramis	24	-84	-32	8.98
Lateral temporal cortex	-64	-16	-28	8.85
Hippocampus	24	-12	-24	7.84
Inferior frontal gyrus	-48	36	-16	7.77
Lateral temporal cortex	52	0	-24	7.65
Middle frontal gyrus	-48	12	52	7.53
Inferior frontal gyrus	44	32	-16	6.97
Inferior parietal lobule	40	-56	24	6.65
Precentral gyrus	52	-8	28	4.38
Postcentral gyrus	-12	-40	80	4.09
Precentral gyrus	-4	-24	68	4.03
Lingual gyrus	4	-88	-8	4.83

Protagonists > Count

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Ventromedial prefrontal cortex	-8	40	-20	12.87
Medial prefrontal cortex	0	52	36	11.73
Posterior cingulate cortex	-4	-56	28	11.66
Lateral temporal cortex	-48	0	-44	10.99
Lateral temporal cortex	60	-4	-24	7.90
Inferior parietal lobule	-56	-68	28	7.70
Inferior frontal gyrus	-52	36	-16	7.31
Cerebellar pyramis	32	-84	-36	7.16
Lingual gyrus	0	-92	-8	7.12
Inferior parietal lobule	40	-56	24	6.32
Precentral gyrus	44	-12	32	6.32
Middle frontal gyrus	-40	8	48	5.69
Hippocampus	28	-12	-24	5.60
Inferior frontal gyrus	48	32	-20	4.88
Hippocampus	-24	-12	-24	4.75
Posterior insula	-44	-16	20	4.36

Scene > Count

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Posterior cingulate cortex	-4	-56	32	8.49
Medial prefrontal cortex	-12	40	36	7.78
Ventromedial prefrontal cortex	0	52	-8	7.70
Middle frontal gyrus	-36	12	48	7.15
Hippocampus	32	-20	-20	6.24
Cerebellar pyramis	36	-80	-36	6.16
Lateral temporal cortex	48	-12	-24	6.12
Inferior parietal lobule	-44	-76	36	6.03
Inferior frontal gyrus	36	32	-16	5.85
Inferior parietal lobule	48	-76	36	5.80
Parahippocampal cortex	-36	-28	-24	5.30
Parahippocampal cortex	32	-48	-8	5.09
Hippocampus	-24	-12	-24	5.04
Middle temporal gyrus	-60	-48	-8	4.92
Inferior frontal gyrus	52	24	12	4.78
Posterior insula	40	-20	0	4.75
Posterior insula	-40	-16	24	4.30
Medial frontal gyrus	8	-20	60	3.99

Self > Scene

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Medial prefrontal cortex	-4	56	24	9.23
Occipital pole	20	-96	-8	8.02
Occipital pole	-28	-100	-8	6.94
Posterior cingulate cortex	0	-60	36	6.31
Ventromedial prefrontal cortex	-8	40	-16	6.12
Temporal pole	-52	0	-36	6.03
Inferior parietal lobule	-52	-60	24	5.93
Hippocampus	-28	-24	-12	5.89
Temporal pole	52	4	-40	5.34
Inferior frontal gyrus	-52	20	-4	4.13

Protagonists > Scene

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Occipital pole	20	-96	-4	7.57
Occipital pole	-24	-100	-8	7.20
Ventromedial prefrontal cortex	-4	40	-24	6.53
Medial prefrontal cortex	4	48	32	5.46
Posterior cingulate cortex	8	-52	28	5.24
Temporal pole	-48	0	-36	4.53
Temporal pole	52	4	-40	4.06

Self > Protagonists

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Ventromedial prefrontal cortex	-8	40	-4	8.16
Inferior parietal lobule	-52	-72	36	6.75
Lateral temporal cortex	-64	-28	-20	6.21
Head of caudate	-16	12	12	5.50
Middle frontal gyrus	-40	24	44	5.26
Posterior cingulate cortex	-4	-44	44	5.16
Inferior parietal lobule	48	-64	52	5.12
Posterior superior temporal sulcus	48	-44	0	4.89
Hippocampus	-36	-28	-12	4.59

Count > Self

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Lateral occipital gyrus	-28	-60	44	-10.35
Middle temporal motion complex	-52	52	-20	-10.33
Pre-supplementary motor area	-8	0	56	-10.09
Anterior insula	32	16	0	-9.69
Lateral occipital gyrus	16	-68	56	-8.75
Frontal eye field	24	4	68	-8.64
Superior parietal lobule	-52	-40	48	-8.56
Superior parietal lobule	48	-40	56	-8.17
Anterior insula	-28	16	12	-7.99
Middle Frontal Gyrus	-32	40	32	-7.24
Inferior precentral sulcus	-52	4	24	-7.23
Frontal eye field	-24	4	68	-7.13
Inferior precentral sulcus	52	8	32	-7.11
Middle Frontal Gyrus	40	32	16	-6.32
Middle temporal motion complex	56	-56	-16	-5.20

Count > Protagonists

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Middle temporal motion complex	-52	-60	-12	-13.86
Superior parietal lobule	52	-40	40	-13.42
Lateral occipital gyrus	12	-68	56	-10.61
Frontal eye field	-28	-4	60	-10.58
Pre-supplementary motor area	-8	8	52	-10.52
Frontal eye field	24	4	68	-10.42
Lateral occipital gyrus	-20	-64	56	-10.40
Middle Frontal Gyrus	-36	44	36	-9.78
Anterior insula	28	20	4	-9.78
Superior parietal lobule	-52	-40	44	-8.96
Inferior precentral sulcus	52	8	12	-8.59
Anterior insula	-32	16	8	-8.55
Inferior precentral sulcus	-52	4	24	-8.15
Middle Frontal Gyrus	36	36	32	-7.74
Middle temporal motion complex	44	-72	-16	-6.86

Count > Scene

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Anterior insula	32	20	4	-8.06
Middle temporal motion complex	-52	-60	-20	-8.00
Pre-supplementary motor area	-4	20	52	-6.83
Superior parietal lobule	48	-44	52	-6.49
Precentral sulcus	-52	4	52	-6.03
Anterior insula	-32	20	8	-5.57
Superior parietal lobule	-32	-60	52	-5.50
Lateral occipital gyrus	-32	-60	56	-5.41
Frontal eye field	-28	-4	60	-4.68
Frontal eye field	32	4	60	-4.55
Precentral Gyrus	52	8	36	-4.46
Middle Frontal Gyrus	28	48	32	-4.45
Middle Frontal Gyrus	-36	36	28	-4.16
Lateral occipital gyrus	12	-68	52	-3.59

Scene > Self

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Middle temporal motion complex	-56	-60	-8	-9.01
Middle temporal motion complex	56	-56	-16	-8.57
Middle frontal gyrus	44	40	16	-8.03
Superior parietal lobule	44	-40	48	-7.15
Lateral occipital gyrus	-32	-72	44	-6.84
Frontal eye field	28	8	60	-6.21
Frontal eye field	-24	4	64	-5.95
Middle frontal gyrus	-48	44	20	-5.75
Parahippocampal cortex	36	-28	-28	-5.33
Parahippocampal cortex	-32	-24	-32	-5.25
Inferior precentral sulcus	-48	4	16	-5.17
Inferior precentral sulcus	52	8	20	-5.08
Parahippocampal cortex	-24	-44	-12	-4.96
Retrosplenial cortex	-20	-68	28	-4.84
Retrosplenial cortex	20	-60	24	-4.60
Middle frontal gyrus	32	44	-16	-4.43
Anterior insula	-24	16	8	-4.03

Scene > Protagonists

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Middle temporal motion complex	-60	-64	-8	-10.36
Middle frontal gyrus	44	44	0	-10.17
Middle temporal motion complex	56	-56	-4	-9.77
Superior parietal lobule	-44	-48	52	-9.03
Lateral occipital gyrus	44	-76	36	-8.74
Lateral occipital gyrus	-40	-80	36	-8.70
Parahippocampal cortex	-28	-44	-12	-7.13
Middle frontal gyrus	-48	44	24	-6.87
Parahippocampal cortex	28	-44	-12	-6.78
Retrosplenial cortex	16	-60	20	-5.78
Frontal eye field	-28	4	64	-5.78
Retrosplenial cortex	-20	-72	28	-5.33
Superior temporal gyrus	60	-28	0	-4.56
Superior temporal gyrus	-52	8	-12	-4.48

Agreeableness

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>t</u>
Dorsomedial prefrontal cortex	-3	41	49	5.56
Lateral temporal cortex	-60	-34	-17	4.15

Extroversion

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>t</u>
Posterior cingulate cortex	-6	-49	31	3.18

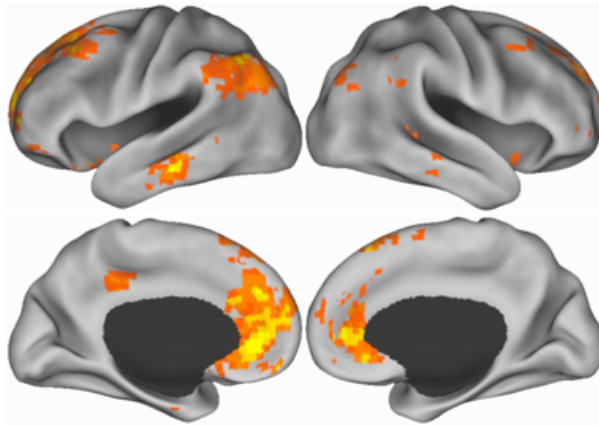
Protagonist Identity

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>t</u>
Medial prefrontal cortex	0	50	22	4.32
Dorsomedial prefrontal cortex	-9	26	49	4.22

Medial prefrontal cortex connectivity

<u>Region</u>	<u>x</u>	<u>y</u>	<u>z</u>	<u>BSR</u>
Superior frontal gyrus	-16	32	60	13.50
Inferior parietal lobule	-56	-60	32	10.99
Temporal pole	-56	4	-36	9.98
Temporal pole	52	8	-36	9.19
Posterior cingulate cortex	8	-60	32	7.90
Inferior parietal lobule	48	-60	28	6.77
Paracentral Lobule	0	-20	44	6.64
Rostrolateral prefrontal cortex	-32	60	4	6.57
Lingual gyrus	32	-64	-12	6.46
Inferior frontal gyrus	-52	28	-8	6.36
Cerebellar pyramis	-20	-76	-28	6.20
Inferior frontal gyrus	44	32	-20	5.97
Precuneus	0	-60	68	5.66
Ventral anterior cingulate cortex	0	4	-8	5.61
Middle occipital gyrus	28	-88	20	5.38
Superior temporal sulcus	48	-40	-8	5.34
Parahippocampal cortex	-36	-16	-28	4.93
Middle occipital gyrus	-32	-88	16	4.81
Hippocampus	20	-8	-24	4.57
Retrosplenial cortex	8	-52	0	4.41
Hippocampus	-24	-12	-24	4.19
Precentral Gyrus	48	-8	32	3.69

Supplementary Figure 1: Self > Protagonists



A contrast comparing imagining the protagonists with imagining the self revealed several brain areas more associated with simulation of the self. These included the hippocampus, mPFC, pCC, posterior and anterior IPL, and the superior frontal gyrus. No brain regions demonstrated a greater BOLD response for imagining the protagonists relative to the self. Images are displayed from TR 3 (7.5 s) and thresholded at $p < .005$ (PLS identifies whole-brain patterns of activity in a single analytic step, thus, no correction for multiple comparisons is required). See Supplementary Table 1 for peak coordinates.