

Whole Brain Analyses

Whole brain analyses were conducted (a) to visualize activation of the sentences against baseline (fixation) and (b) to explore any other regions outside of our ROIs that might show interactions between Valence and Self-Relevance. For these analyses, we set a voxel-level threshold of $p < 0.001$, and we report any cluster that was significant at a cluster-level FWE-corrected threshold of $p < 0.05$.

When compared to baseline, all six conditions activated visual areas in the occipital and temporal lobes as well as a large network of regions generally associated with sentence processing including lateral temporal lobe and ventrolateral prefrontal cortex. These results are shown below in Tables S1-S6.

The 3 x 2 ANOVA examining all six conditions did not reveal significant effects of Valence, Self-Relevance, or a Valence x Self-Relevance interaction that reached cluster-level significance in any region in the whole brain analysis.

Table S1: Other-Neutral versus Fixation (whole brain)

Region	R/L	Peak voxel p-value	z-score	MNI (x, y, z)	Cluster level p-value (FWE)
Supplementary motor area	--	0.0006	5.82	0, 10, 58	p(FWE) < 0.0001, k = 565
Inferior frontal gyrus (pars triangularis)	L	0.0301	4.89	-50, 24, 4	p(FWE) < 0.0001, k = 4426
Middle temporal cortex (anterior)	L	0.0011	5.67	-52, 4, -20	
Middle temporal cortex (pole)	L	0.0745	4.65	-40, 18, -32	
Precentral gyrus	L	0.0039	5.39	-38, 0, 50	p(FWE) = 0.0001, k = 860
Occipital cortex (calcarine)	R	0.0515	4.75	18, -66, 10	p(FWE) < 0.0001, k = 1890

Table S2: Other-Positive versus Fixation (whole brain)

Region	R/L	Peak voxel <i>p</i>-value	z-score	MNI (x, y, z)	Cluster level <i>p</i>-value (FWE)
Inferior frontal gyrus (pars triangularis)	L	0.0540	4.80	-54, 22, 6	$p(\text{FWE}) < 0.0001$, $k = 4370$
Middle temporal cortex (anterior)	L	0.0001	6.21	-54, -4, -16	
Occipital cortex (lingual)	L	0.0161	5.11	-14, -30, -4	$p(\text{FWE}) = 0.0437$, $k = 228$
Supplementary motor area	L	0.0165	5.11	-4, 12, 56	$p(\text{FWE}) = 0.0009$, $k = 516$
Occipital cortex (lateral)	L	0.0324	4.94	-16, -94, -8	$p(\text{FWE}) < 0.0001$, $k = 4675$
Precentral gyrus	L	0.0771	4.71	-38, -2, 54	$p(\text{FWE}) < 0.0001$, $k = 969$
Middle temporal cortex (pole)	R	0.0813	4.69	56, 6, -16	$p(\text{FWE}) < 0.0001$, $k = 773$

Table S3: Other-Negative versus Fixation (whole brain)

Region	R/L	Peak voxel p-value	z-score	MNI (x, y, z)	Cluster level p-value (FWE)
Inferior frontal gyrus (pars opercularis)	L	0.0113	5.09	-56, 18, 18	$p(\text{FWE}) < 0.0001$, k = 5760
Inferior frontal gyrus (pars triangularis)	L	0.0090	5.14	-58, 20, 24	
Inferior frontal gyrus (pars orbitalis)	L	0.0038	5.34	-46, 24, -6	
Superior temporal cortex (pole)	L	0.0161	5.00	-46, 8, -22	
Middle temporal cortex (posterior)	L	0.0639	4.64	-56, -48, 14	
Middle temporal cortex (anterior)	L	0.0003	5.89	-54, -26, -4	
Middle temporal cortex (anterior)	R	0.0449	4.73	62, 0, -16	$p(\text{FWE}) < 0.0001$, k = 1906
Middle temporal cortex (pole)	R	0.0186	4.96	44, 18, -30	
Supplementary motor area	L	0.0782	4.58	-2, 10, 62	$p(\text{FWE}) = 0.0003$, k = 921
Superior frontal cortex (medial)	L	0.0328	4.82	-8, 60, 42	
Precentral gyrus	L	0.0358	4.79	-38, -2, 56	$p(\text{FWE}) = 0.0008$, k = 781
Occipital cortex (calcarine)	R	0.0568	4.67	20, -90, -2	$p(\text{FWE}) < 0.0001$, k = 2113
Occipital cortex (lateral)	L	0.0676	4.62	-34, -92, -4	$p(\text{FWE}) < 0.0001$, k = 2481

Table S4: Self-Neutral versus Fixation (whole brain)

Region	R/L	Peak voxel <i>p</i> -value	z-score	MNI (x, y, z)	Cluster level <i>p</i> -value (FWE)
Inferior frontal gyrus (pars opercularis)	L	0.0030	5.49	-52, 18, 20	<i>p</i> (FWE) < 0.0001, <i>k</i> = 4967
Inferior frontal gyrus (pars triangularis)	L	0.0098	5.22	-54, 22, 2	
Inferior frontal gyrus (pars orbitalis)	L	0.0207	5.04	-48, 24, -8	
Middle temporal cortex (posterior)	L	0.0459	4.83	-56, -44, 4	
Middle temporal cortex (anterior)	L	0.0003	5.94	-54, -4, -16	
Precentral gyrus	L	0.0129	5.15	-38, 0, 50	<i>p</i> (FWE) < 0.0001, <i>k</i> = 1104
Occipital cortex (lingual)	L	0.0553	4.78	-20, -88, -14	<i>p</i> (FWE) < 0.0001, <i>k</i> = 2460
Occipital cortex (lateral)	L	0.0217	5.03	-24, -104, -2	
Occipital cortex (calcarine)	R	0.0852	4.67	20, -90, -2	<i>p</i> (FWE) < 0.0001, <i>k</i> = 1876
Occipital cortex (lateral)	R	0.0251	4.99	40, -86, -8	
Superior frontal cortex (lateral)	L	0.0547	4.79	-14, 32, 64	<i>p</i> (FWE) = 0.0028, <i>k</i> = 444

Table S5: Self-Positive versus Fixation (whole brain)

Region	R/L	Peak voxel <i>p</i> -value	z-score	MNI (x, y, z)	Cluster level <i>p</i> -value (FWE)
Inferior frontal gyrus (pars triangularis)	L	0.0228	4.98	-52, 22, 0	$p(\text{FWE}) < 0.0001$, k = 5426
Inferior frontal gyrus (pars orbitalis)	L	0.0192	5.02	-50, 24, -4	
Superior temporal cortex (pole)	L	0.0728	4.67	-44, 10, -22	
Middle temporal cortex (posterior)	L	0.0031	5.45	-54, -30, -2	
Middle temporal cortex (anterior)	L	0.0022	5.53	-52, -4, -18	
Precentral gyrus	L	0.0026	5.49	-44, -16, 62	$p(\text{FWE}) < 0.0001$, k = 1442
Supplementary motor area	R	0.0158	5.07	2, 10, 60	$p(\text{FWE}) < 0.0001$, k = 1091
Superior frontal cortex (medial)	L	0.0331	4.88	-6, 64, 28	
Occipital cortex (calcarine)	R	0.0323	4.89	18, -90, 2	$p(\text{FWE}) < 0.0001$, k = 5228
Occipital cortex (lingual)	L	0.0694	4.69	-20, -90, -14	
Occipital cortex (lateral)	R	0.0608	4.72	40, -86, -8	
Superior temporal cortex (pole)	R	0.0696	4.69	42, 12, -24	$p(\text{FWE}) < 0.0001$, k = 1028

Table S6: Self-Negative versus Fixation (whole brain)

Region	R/L	Peak voxel p-value	z-score	MNI (x, y, z)	Cluster level p-value (FWE)
Inferior frontal gyrus (pars opercularis)	L	0.0938	4.64	-50, 18, 20	$p(\text{FWE}) < 0.0001$, k = 5855
Inferior frontal gyrus (pars orbitalis)	L	0.0025	5.54	-46, 24, -4	
Superior temporal cortex (pole)	L	0.0846	4.67	-46, 24, -14	
Middle temporal cortex (anterior)	L	0.0000	6.78	-52, -8, -18	
Middle temporal cortex (pole)	L	0.0022	5.57	-44, 12, -30	
Inferior temporal cortex (anterior)	L	0.0796	4.68	-44, -8, -30	
Precentral gyrus	L	0.0002	5.97	-40, 0, 58	$p(\text{FWE}) < 0.0001$, k = 929
Superior temporal cortex (pole)	R	0.0052	5.37	46, 12, -22	$p(\text{FWE}) < 0.0001$, k = 1419
Middle temporal cortex (anterior)	R	0.0007	5.79	54, 4, -18	
Middle temporal cortex (pole)	R	0.0756	4.70	48, 18, -34	
Supplementary motor area	L	0.0223	5.02	-4, 10, 56	$p(\text{FWE}) < 0.0001$, k = 1419
Superior frontal cortex (medial)	L	0.0202	5.04	-10, 56, 46	
Occipital cortex (lingual)	L	0.0349	4.91	-20, -90, -12	$p(\text{FWE}) < 0.0001$, k = 2698
Occipital cortex (lateral)	L	0.0226	5.02	-16, -96, -8	
Occipital cortex (calcarine)	R	0.0817	4.68	20, -88, 0	$p(\text{FWE}) < 0.0001$, k = 2117
Occipital cortex (lateral)	R	0.0312	4.93	42, -86, -8	

Table S7: Each Condition versus Fixation in the mPFC ROI

Region	R/L	Peak voxel p-value	z-score	MNI (x, y, z)	Cluster level p-value (FWE)
Self Relevant Positive – Fixation					
Superior frontal cortex (lateral)	L	0.0266	4.34	-10, 60, 38	$p(\text{FWE}) < 0.0001$, $k = 727$
Supplementary motor area	L	0.0487	4.16	-8, 18, 68	
Superior frontal cortex (medial)	L	0.0036	4.88	-6, 64, 28	
Self Relevant Neutral – Fixation					
Superior frontal cortex (lateral)	L	0.0059	4.79	-14, 32, 64	$p(\text{FWE}) = 0.0003$, $k = 444$
Superior frontal cortex (medial)	L	0.0187	4.48	-10, 64, 26	
Self Relevant Negative – Fixation					
Superior frontal cortex (lateral)	L	0.0021	5.04	-10, 56, 46	$p(\text{FWE}) < 0.0001$, $k = 970$
Supplementary motor area	L	0.0506	4.18	-4, 18, 70	
Superior frontal cortex (medial)	L	0.0063	4.77	-8, 60, 26	
Other Relevant Positive – Fixation					
Supplementary motor area	L	0.0122	4.61	-8, 18, 66	$p(\text{FWE}) = 0.0165$, $k = 157$
Superior frontal cortex (lateral)	L	0.0202	4.47	-12, 58, 42	$p(\text{FWE}) = 0.0359$, $k = 115$
Other Relevant Neutral – Fixation					
Superior frontal cortex (medial)	L	0.0523	4.11	-10, 64, 30	$p(\text{FWE}) = 0.0433$, $k = 123$
Other Relevant Negative – Fixation					
Superior frontal cortex (lateral)	L	0.0857	3.89	-12, 36, 62	$p(\text{FWE}) = 0.0006$, $k = 562$
Supplementary motor area	L	0.0111	4.51	-8, 24, 70	
Superior frontal cortex (medial)	L	0.0035	4.82	-8, 60, 42	

Other			Self		
Positive	Neutral	Negative	Positive	Neutral	Negative
A man knocks on Sandra's hotel room door. She sees that he has a <u>gift</u> in his hand.	A man knocks on Sandra's hotel room door. She sees that he has a <u>tray</u> in his hand.	A man knocks on Sandra's hotel room door. She sees that he has a <u>gun</u> in his hand.	A man knocks on your hotel room door. You see that he has a <u>gift</u> in his hand.	A man knocks on your hotel room door. You see that he has a <u>tray</u> in his hand.	A man knocks on your hotel room door. You see that he has a <u>gun</u> in his hand.
Fletcher writes a poem for a class. His friends think it's a very <u>beautiful</u> composition.	Fletcher writes a poem for a class. His friends think it's a very <u>intricate</u> composition.	Fletcher writes a poem for a class. His friends think it's a very <u>boring</u> composition.	You write a poem for a class. Your friends think it's a very <u>beautiful</u> composition.	You write a poem for a class. Your friends think it's a very <u>intricate</u> composition.	You write a poem for a class. Your friends think it's a very <u>boring</u> composition.
Vince spends time with relatives over the break. This turns out to be a <u>wonderful</u> experience for him.	Vince spends time with relatives over the break. This turns out to be a <u>characteristic</u> experience for him.	Vince spends time with relatives over the break. This turns out to be a <u>disastrous</u> experience for him.	You spend time with relatives over the break. This turns out to be a <u>wonderful</u> experience for you.	You spend time with relatives over the break. This turns out to be a <u>characteristic</u> experience for you.	You spend time with relatives over the break. This turns out to be a <u>disastrous</u> experience for you.
After dinner, Lydia is involved in a discussion. She makes a few remarks that <u>impress</u> her friends.	After dinner, Lydia is involved in a discussion. She makes a few remarks that <u>surprise</u> her friends.	After dinner, Lydia is involved in a discussion. She makes a few remarks that <u>hurt</u> her friends.	After dinner, you are involved in a discussion. You make a few remarks that <u>impress</u> your friends.	After dinner, you are involved in a discussion. You make a few remarks that <u>surprise</u> your friends.	After dinner, you are involved in a discussion. You make a few remarks that <u>hurt</u> your friends.
Carmelo has been in his current job for over a year. He learns he is getting a <u>bonus</u> this December.	Carmelo has been in his current job for over a year. He learns he is getting a <u>transfer</u> this December.	Carmelo has been in his current job for over a year. He learns he is getting a <u>pay-cut</u> this December.	You have been in your current job for over a year. You learn you are getting a <u>bonus</u> this December.	You have been in your current job for over a year. You learn you are getting a <u>transfer</u> this December.	You have been in your current job for over a year. You learn you are getting a <u>pay-cut</u> this December.

Table 1: *Examples of two-sentence scenarios in each of the six conditions.* The critical word is underlined (but did not appear underlined in the actual stimulus lists). 36 scenarios were followed by comprehension questions. For example, the scenario “Casper is/You are new on campus. His/Your classmates think he is/you are quite idiosyncratic/clever/dumb compared to others.” was followed by the question “Did Casper/you go to this school last year?” with the correct answer being “no”. Participants were instructed to press a button corresponding to the index finger and middle finger for yes and no respectively before the question left the screen.

	Other			Self		
	POS	NEU	NEG	POS	NEU	NEG
Valence	5.41 (0.51)	4.30 (0.65)	2.30 (0.61)	5.55 (0.60)	4.35 (0.70)	2.26 (0.62)
Arousal	3.76 (0.77)	3.34 (0.79)	3.89 (0.83)	4.05 (0.83)	3.57 (0.85)	4.04 (0.85)

Table 2: *Valence and arousal ratings of scenarios.* Scenarios were rated by online participants who did not participate in the MRI study. Valence was rated on a scale of 1 (most negative) to 7 (most positive) with 4 as neutral. Arousal was rated on a scale of 1 (least arousing) to 7 (most arousing). Means are presented with standard deviations (across scenarios) in parentheses.

Peak voxel				
R/L	<i>p</i> -value	z-score	MNI (x, y, z)	Cluster level
L	0.003	5.10	-2, 60, 22	<i>p</i> (FWE) < .001, k = 506
L	0.009	4.80	-6, 62, 24	
R	0.066	4.24	8, 38, 46	<i>p</i> (FWE) = .001, k = 235
R	0.090	4.14	6, 46, 40	

Table 3: *Self-positive vs. other-positive activations in the mPFC ROI.*