

# **An Examination of the Association Between Subjective Distress and Functional Connectivity During Discarding Decisions in Hoarding Disorder**

## ***Supplemental Information***

### **Study Inclusion/Exclusion Criteria**

#### *Criteria for inclusion were:*

1. Age 18-65 inclusive.
2. (HD participants) Primary diagnosis of HD of at least moderate severity.
3. (HD participants) Other comorbid conditions (e.g., OCD, major depression, social phobia) are allowed if they are secondary to HD.
4. Not taking any psychotropic medications other than antidepressants, stimulants, and benzodiazepines. If taking these medications, stable dosages for at least 4 weeks was required. A 24-hour medication “washout” prior to MRI was required for stimulants and benzodiazepines, with prescriber approval.
5. Fluent in English (speaking, reading, and writing).

#### *Criteria for exclusion were:*

1. Current suicidal, psychotic, or other severe psychiatric symptoms (e.g., active self-injury, uncontrolled anorexia) that necessitate hospitalization or are deemed likely to interfere with treatment for HD.
2. Any history of a suicide attempt, or are at significant risk of self-harm or harm to others.
3. Currently a psychiatric inpatient or hospitalized for a psychiatric condition within the past year.
4. Past or present bipolar disorder, psychotic disorder, or substance use disorder, or history of anoxic or traumatic brain injury with loss of consciousness > 5 minutes.
5. Evidence of mental retardation, dementia, brain damage or other cognitive dysfunction that would interfere with the capacity to engage in CBT or to provide informed consent.
6. Pregnant or lactating women, or women of childbearing age who are not using an approved method of contraception (condoms with or without a spermicidal agent, diaphragm or cervical cap with spermicide, medically prescribed IUD, hormonal contraceptives).
7. Prior treatment with 10 or more sessions of CBT for HD.
8. Unwilling or inadvisable to discontinue concurrent psychotherapy or pharmacotherapy prior to entering the study.
9. Living in settings (e.g., nursing homes, with relatives) where the participant does not have control over the presence of clutter.
10. Inability to physically complete therapy assignments (e.g., walking, lifting, etc.).
11. Inability to complete study measures.
12. Claustrophobia of sufficient severity to preclude neuroimaging.
13. Pacemakers, aneurysm clips, or other metal in the body that would pose a risk during MRI.
14. (HC participants) Any current or past psychiatric disorder or psychiatric/psychological treatment.

## MRI Sequences

Several types of MR sequences were obtained: *fMRI* 1438 gradient echo planar images (EPI) for two task runs (TR/TE 475/30 msec, flip 60°, multi-band AF=8), 11:23 min each. *Fieldmaps* (TR/TE 731/4.92, flip 50°, AF=1, 1:45 min; and TR/TE 7220/73 msec, flip 90°, AF=1, 0:15 min, run twice with reversed A>>P phase encoding) (EPI/fieldmap sequences have 3mm isotropic voxels, 48 interleaved slices). *T1-weighted* (3D MPRAGE, TR/TE/TI=2400/2.07/1000 msec, flip 8°, 0.8 mm isotropic vox, 8:19 min) and *T2-weighted* (TR/TE=3200/387, 0.8 mm isotropic vox; 11:06 min) structural scans also were acquired. All structural images were radiologist-assessed to be free of macroscopic pathology. Daily MR stability and QA measurements ensured scans were of equal quality throughout the entire project.

## MRI Data Preparation

The MR sequences were chosen for compatibility with Human Connectome Project (HCP) (1) pre-processing pipelines (2), which provide highly accurate, structural image-guided brain atlas normalization for fMRI. The HCP data processing approach includes 387 separate brain regions, including 360 cortical parcels, 16 subcortical regions, and 11 discrete cerebellar regions (see Table S4). To quantify functional connectivity in the current study, vertices or voxels within these 387 separate brain regions were averaged for each timepoint in each participant's fMRI task timeseries. These data preparation pipelines (3) included scripts that operated on structural T1/T2 data (*Pre-FreeSurfer*, *FreeSurfer*, *Post-FreeSurfer*) or functional MRI data (Volume and Surface). Briefly, T1/T2 images were ACPC-oriented, brain extracted, B<sub>0</sub> inhomogeneity-corrected, mutually co-registered, distortion fieldmap-corrected, and finally MNI152 atlas-registered using FSL FLIRT+nonlinear FNIRT algorithms (4). FreeSurfer-based (5) registration, skull-stripping, and pial extraction on 1 mm-downsampled T1/T2 data were used to create structural volume/cortical ribbon files. EPI data were registered to FreeSurfer cortical ribbon output, resampled to atlas space, intensity normalized, smoothed at 2 mm FWHM, and high-pass temporal filtered (2000 sec) before being written as a timeseries for analysis. Data from the dense timeseries were averaged within parcels identified in a recently-developed, multi-modal cortical atlas parcellation from the HCP group (6) prior to fMRI activation modeling. The use of this well-validated, detailed neuroanatomical atlas offer confidence in precise localization of any HD activation abnormalities.

## **MRI Head Motion Control**

All datasets met rigorous fMRI data quality control criteria for head motion. Framewise displacement (FD) (7) values were estimated to quantify scan-to-scan motion using all six translation (i.e., *X*, *Y*, and *Z* axes) and rotation realignment parameters (i.e., pitch, yaw, and roll). Individual fMRI timeseries with mean FD > .41 were excluded from analyses. A total of 113 acquiring task and 114 discarding task timeseries met motion criteria and had VAS data available. All HC participants had both runs, while 3.4% of HD participants (4 of 116) had either acquiring or discarding data (but not both) available for analysis. For the acquiring task, HD mean FD=0.19 and HC=0.16. Discarding task HD mean FD=0.19 and HC=0.17. The few remaining volume movement spikes and any possible impact of micromovements on activation estimates were addressed with ICA-FIX denoising techniques (8) using aggressive full variance cleanup.

## **mCCA+jICA Analysis Details**

Two separate mCCA+jICA analyses were run. Both accessed the joint individual differences between a) the 74,691 functional connectivity edge values for either the acquiring or discarding fMRI tasks and b) the 10 acquiring and discarding VAS ratings together. The VAS ratings from both tasks were examined together in each model because only having 5 ratings would arbitrarily constrain ICA from extracting no more than 4 joint components. This low dimensionality would be inadequate to isolate meaningful variability in the connectivity data feature. Using all 10 VAS ratings also provided a built-in validity check on the associations found, as VAS ratings for the acquiring task should be unlikely to be uniquely associated with the discarding task fMRI connectivity data, or vice versa.

Connectivity and VAS data were reduced using principal components analysis to 44 components per feature. These principal components were separated using mCCA into a canonical variants (CV) matrix and the associated components matrix for each modality. The mCCA process ensures these CVs across the data modalities are maximally correlated. But because such data might not fully isolate separate sources, jICA then was used to further decompose the CVs into 8 maximally spatially independent sources using the Infomax algorithm to better identify latent sources in the multimodal data. This dimensionality was arbitrarily chosen as likely to identify meaningful aggregate relationships within and between modalities.

Importantly, this approach focuses on the *relationships* between features, not the raw data themselves. In other words, mCCA+jICA focused on which patterns of VAS ratings were linked to patterns of brain connectivity. For our datatypes here, any given component pair might link relatively high ratings on one or more VASs with the strength of connectivity among several brain regions, thus establishing a multivariate association that can be interpreted as normal or abnormal depending on tests of study group differences on coefficients that represent how strongly each multivariate profile was expressed in individual datasets. A flow diagram for the major steps of the analysis are depicted in Figure S1 for clarity in the study methodology.

### **Supplemental Study Results**

*Discarding Task Results.* Discarding task Component Pair 5 primarily consisted of monetary value VAS ratings from the acquiring task (see Figure S2) and linked these responses to connectivity within bilateral nucleus accumbens, left pallidum, right amygdala, temporal lobe Area TE2 and several frontopolar brain parcels (see Table S1 and Figure S2).

*Acquiring Task Results.* Table S2 summarizes the results of the mCCA+jICA analyses of the acquiring task fMRI data and VAS ratings. Only one component (component 2) showed HD vs. HC group differences on both connectivity and VAS ratings. As shown in Figure S3, this component was driven by high monetary value and low fear/anxiety and sadness/regret VAS ratings on the discarding task, which were primarily linked to connectivity in secondary visual cortex parcels, right lateral prefrontal cortex parcels, and cerebellum (see Table S2 and Figure S3). This profile of VAS ratings was not significantly expressed in the HD study group, indicating this association normally seen in the HC group was absent or diminished in HD. However, because this association was between acquiring task fMRI data and VAS ratings made during the discarding task, it is challenging to interpret this association.

Table S2 displays Pearson correlations between SI-R total scores and connectivity features and VAS ratings for the acquiring task fMRI data. SI-R total scores did not significantly correlate with either the connectivity or VAS feature mixing coefficients across components, further complicating the interpretation of Component 2 as described above.

### **Results of Data Re-Analysis Omitting Racial/Ethnic HC participants**

Table S3 compares the results from the primary two-sample *t* test analyses for the discarding task (data extracted from Table 2 in the main manuscript) and acquiring tasks (Table S2 in the Supplement). This comparison shows the robustness of study findings to possible racial/ethnic differences between the HD and HC study groups. These key *t* test results are largely unchanged in the re-analyses.

For the discarding fMRI task data that was the focus of the study, *p* values are slightly less strong as would be expected after reducing the HC group from 44 to 34 participants. For Component Pair 5, the connectivity and VAS features remained statistically significant in the revised analysis. But neither met strict Bonferroni corrections for multiple comparisons ( $p = 0.0309$  instead of 0.0059 for connectivity;  $p = 0.0179$  instead of 0.0003 for VAS). Likewise, the VAS feature for Component Pair 6 changed from  $p = 0.0033$  to 0.0252. In contrast, the VAS feature in Component Pair 3 changed from  $p = 0.0177$  to 0.0004 and met Bonferroni corrections.

For the acquiring task, a non-significant connectivity feature in Component Pair 8 became  $p = 0.0265$  in the re-analysis done without minority HC participants. In this same component pair, the VAS feature became significant and also met Bonferroni corrections. Finally, for the acquiring task Component Pair 6, a previously non-significant VAS feature differed between groups at  $p = 0.0095$  in the re-analysis. But this was not sufficient to surpass Bonferroni corrections.

Taken together, these changes are relatively minor and well within expectations for measurement error or changes to statistical power from a notably smaller HC sample. They do not suggest the primary study findings were influenced by any differences in the racial/ethnic composition of the HC group. The discarding task results that form the basis of the primary findings and are the focus of the manuscript discussion were unchanged.

### **Future Directions and Clinical Implications of the Study**

There are a number of potential future directions for this work. First, it will be important to assess whether functional connectivity within the central medial amygdala sub-network changes following HD treatment, and if any such changes correlate with HD symptom improvements. This will bolster our confidence that amygdala connectivity is indeed associated with hoarding symptoms and treatment response. Second, it will be useful to investigate whether

these profiles of functional connectivity – either themselves or in the context of their association to these specific VAS ratings – may serve as useful predictors of HD clinical outcomes, e.g., from CBT for HD which aims to improve tolerance of negative emotions via acceptance and exposure-based interventions (9). Third, many investigators have turned attention towards identifying objectively-measured disorder biomarkers and outcome predictors to advance the goal of precision medicine in psychiatry. This effort recognizes that patient subgroups might exist that require different treatments. The usefulness of the presence or absence of these specific connectivity-VAS profiles could be explored as biomarkers for treatment planning. Fourth, the findings of the current study could inform future HD treatment development and refinement efforts, such as targeting functional connectivity within these regions using neurostimulation and/or neurofeedback.

**Table S1.** List of Human Connectome Project brain parcels that were identified by bootstrapping analysis as having significantly strong connectivity representation for each pair of fused components from the mCCA+jICA analysis. Each parcel is describing using a brief parcel abbreviation and name along with anatomical region and super-region categories as described in Glasser, Coalson (6). The weighted degree value for each parcel is also listed.

Component	Hemisphere	Abbreviation	Name	Region	SuperRegion	Weighted Degree
Discard 5	Left	Pallidum		Subcortical	Subcortical	643
Discard 5	Left	Accumbens		Subcortical	Subcortical	591
Discard 5	Right	Accumbens		Subcortical	Subcortical	570
Discard 5	Right	8Av	Area 8Av	DorsoLateral Prefrontal Cortex	Frontal	528
Discard 5	Right	10d	Area 10d	Orbital and Polar Frontal Cortex	Frontal	521
Discard 5	Right	a10p	Area anterior 10p	Orbital and Polar Frontal Cortex	Frontal	518
Discard 5	Left	10d	Area 10d	Orbital and Polar Frontal Cortex	Frontal	505
Discard 5	Right	Amygdala		Subcortical	Subcortical	497
Discard 5	Right	TE2a	Area TE2 anterior	Lateral Temporal Cortex	Temporal	464
Acquire 2	Right	PGp	Area PGp	Inferior Parietal Cortex	Parietal	503
Acquire 2	Left	5L	Area 5L	Paracentral Lobular and Mid Cingulate Cortex	SensoryMotor	484
Acquire 2	Left	VVC	Ventral Visual Complex	Ventral Stream Visual Cortex	Visual	480
Acquire 2	Right	VMV3	VentroMedial Visual Area 3	Ventral Stream Visual Cortex	Visual	472
Acquire 2	Right	V4	Fourth Visual Area	Early Visual Cortex	Visual	465
Acquire 2	Left	LO1	Area Lateral Occipital 1	MT+ Complex and Neighboring Visual Areas	Visual	464
Acquire 2	Right	V3B	Area V3B	Dorsal Stream Visual Cortex	Visual	463
Acquire 2	Right	VVC	Ventral Visual Complex	Ventral Stream Visual Cortex	Visual	462
Acquire 2	Right	p47r	Area posterior 47r	Inferior Frontal Cortex	Frontal	460
Acquire 2	Right	Cerebellum 3		Cerebellum	Cerebellum	459
Acquire 2	Right	pOFC	posterior OFC Complex	Orbital and Polar Frontal Cortex	Frontal	445
Acquire 2	Right	Cerebellum 2		Cerebellum	Cerebellum	443
Acquire 2	Left	a9- 46v	Area anterior 9-46v	DorsoLateral Prefrontal Cortex	Frontal	442
Acquire 2	Right	V3CD	Area V3CD	MT+ Complex and Neighboring Visual Areas	Visual	438
Acquire 2	Left	V8	Eighth Visual Area	Ventral Stream Visual Cortex	Visual	434

**Table S2.** Summary of hypothesis-testing on mCCA+jICA mixing coefficients for the Acquire task fMRI connectivity data and VAS ratings. Component pairs are sorted in descending order of the Pearson  $r$  correlation strength between connectivity and VAS features. Subsequent columns list the significance  $p$  values of one-sample, two-sample, and *post hoc* correlation tests on the coefficient data.

Component Pair	$r$	Connectivity Feature				VAS Rating Feature			
		HC $p$	HD $p$	HC vs HD $p$	HD SI-R Total $p$	HC $p$	HD $p$	HC vs HD $p$	HD SI-R Total $p$
1	0.454*	<0.0001*	<0.0001*	<i>ns</i>	<i>ns</i>	<0.0001*	<0.0001*	<0.0001*	<i>ns</i>
2	0.397*	<0.0001*	<0.0001*	0.0002*	<i>ns</i>	<0.0001*	0.1019	<0.0001*	<i>ns</i>
3	0.319*	<0.0001*	<0.0001*	<i>ns</i>	<i>ns</i>	<0.0001*	<0.0001*	0.0015*	<i>ns</i>
4	0.311*	<0.0001*	<0.0001*	<i>ns</i>	<i>ns</i>	0.0092	<0.0001*	0.0017*	<i>ns</i>
5	0.289*	<0.0001*	<0.0001*	<i>ns</i>	<i>ns</i>	0.0001*	<0.0001*	<i>ns</i>	0.0197
6	0.248	<0.0001*	<0.0001*	<i>ns</i>	<i>ns</i>	<0.0001*	<i>ns</i>	<i>ns</i>	<i>ns</i>
7	0.154	<0.0001*	<0.0001*	<i>ns</i>	<i>ns</i>	<0.0001*	<0.0001*	0.0002*	<i>ns</i>
8	0.117	<i>ns</i>	0.0004*	0.0265	<i>ns</i>	<0.0001*	<0.0001*	<0.0001*	<i>ns</i>

\* Survives Bonferroni correction for multiple comparisons ( $p < .00625$ )

HD = Hoarding disorder group. HC = Healthy control group. VAS = Visual analogue scale.



**Table S3.** Summary of supplemental analysis omitting all control group participants belonging to race or ethnicity-based subgroups to verify the robustness of the primary hypothesis-testing on mCCA+jICA mixing coefficients. All columns list *p* values for two-sample *t* tests between HD and non-HD study groups.

Component Pair	Discard				Acquire			
	Connectivity Feature		VAS Rating Feature		Connectivity Feature		VAS Rating Feature	
	No HC Minority	Original	No HC Minority	Original	No HC Minority	Original	No HC Minority	Original
1	0.0053*	0.0006*	<0.0001*	0.0001*	<i>ns</i>	<i>ns</i>	0.0058*	<0.0001*
2	0.0013*	0.0001*	0.0001*	<0.0001*	0.0033*	0.0002*	<0.0001*	<0.0001*
3	0.0580	0.0377	0.0004*	0.0177	<i>ns</i>	<i>ns</i>	0.0006*	0.0015*
4	0.0010*	<0.0001*	0.0009*	<0.0001*	<i>ns</i>	<i>ns</i>	0.0029*	0.0017*
5	0.0309	0.0059*	0.0179	0.0003*	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
6	0.0424	0.0106	0.0252	0.0033*	<i>ns</i>	<i>ns</i>	0.0095	<i>ns</i>
7	0.0435	0.0238	<i>ns</i>	0.0132	<i>ns</i>	<i>ns</i>	<0.0001*	0.0002*
8	<i>ns</i>	<i>ns</i>	0.0039*	<i>ns</i>	<i>ns</i>	0.0265	<i>ns</i>	<0.0001*

\* Survives Bonferroni correction for multiple comparisons ( $p < .00625$ )

HC = Healthy control group. HD = Hoarding disorder group. VAS = Visual analogue scale.

**Table S4.** Human Connectome Project parcels. Brain regions in the current study were parcellated using the HCP cortical atlas (6). This atlas assigns cortical surface vertices to 180 neuroanatomically and functionally discrete brain regions in each hemisphere. It also assigns voxels to 16 standard subcortical regions that are identified in the HCP data preparation pipeline. We augmented these standard brain regions with an additional parcellation of the cerebellum into 11 regions which were large enough to be successfully mapped to HCP space from a prior atlas (10).

Parcel Index	Hemisphere	Area Name	Area Description	Region Name
1	Right	V1	Primary Visual Cortex	Primary Visual Cortex
2	Right	MST	Medial Superior Temporal Area	MT+ Complex and Neighboring Visual Areas
3	Right	V6	Sixth Visual Area	Dorsal Stream Visual Cortex
4	Right	V2	Second Visual Area	Early Visual Cortex
5	Right	V3	Third Visual Area	Early Visual Cortex
6	Right	V4	Fourth Visual Area	Early Visual Cortex
7	Right	V8	Eighth Visual Area	Ventral Stream Visual Cortex
8	Right	4	Primary Motor Cortex	Somatosensory and Motor Cortex
9	Right	3b	Primary Sensory Cortex	Somatosensory and Motor Cortex
10	Right	FEF	Frontal Eye Fields	Premotor Cortex
11	Right	PEF	Premotor Eye Field	Premotor Cortex
12	Right	55b	Area 55b	Premotor Cortex
13	Right	V3A	Area V3A	Dorsal Stream Visual Cortex
14	Right	RSC	RetroSplenial Complex	Posterior Cingulate Cortex
15	Right	POS2	Parieto-Occipital Sulcus Area 2	Posterior Cingulate Cortex
16	Right	V7	Seventh Visual Area	Dorsal Stream Visual Cortex
17	Right	IPS1	IntraParietal Sulcus Area 1	Dorsal Stream Visual Cortex
18	Right	FFC	Fusiform Face Complex	Ventral Stream Visual Cortex
19	Right	V3B	Area V3B	Dorsal Stream Visual Cortex
20	Right	LO1	Area Lateral Occipital 1	MT+ Complex and Neighboring Visual Areas
21	Right	LO2	Area Lateral Occipital 2	MT+ Complex and Neighboring Visual Areas
22	Right	PIT	Posterior Infero Temporal Complex	Ventral Stream Visual Cortex
23	Right	MT	Middle Temporal Area	MT+ Complex and Neighboring Visual Areas
24	Right	A1	Primary Auditory Cortex	Early Auditory Cortex
25	Right	PSL	PeriSylvian Language Area	Temporo-Parieto-Occipital Junction
26	Right	SFL	Superior Frontal Language Area	DorsoLateral Prefrontal Cortex
27	Right	PCV	PreCuneus Visual Area	Posterior Cingulate Cortex
28	Right	STV	Superior Temporal Visual Area	Temporo-Parieto-Occipital Junction
29	Right	7Pm	Medial Area 7P	Superior Parietal Cortex
30	Right	7m	Area 7m	Posterior Cingulate Cortex
31	Right	POS1	Parieto-Occipital Sulcus Area 1	Posterior Cingulate Cortex
32	Right	23d	Area 23d	Posterior Cingulate Cortex

33	Right	v23ab	Area ventral 23 a+b	Posterior Cingulate Cortex
34	Right	d23ab	Area dorsal 23 a+b	Posterior Cingulate Cortex
35	Right	31pv	Area 31p ventral	Posterior Cingulate Cortex
36	Right	5m	Area 5m	Paracentral Lobular and Mid Cingulate Cortex
37	Right	5mv	Area 5m ventral	Paracentral Lobular and Mid Cingulate Cortex
38	Right	23c	Area 23c	Posterior Cingulate Cortex
39	Right	5L	Area 5L	Paracentral Lobular and Mid Cingulate Cortex
40	Right	24dd	Dorsal Area 24d	Paracentral Lobular and Mid Cingulate Cortex
41	Right	24dv	Ventral Area 24d	Paracentral Lobular and Mid Cingulate Cortex
42	Right	7AL	Lateral Area 7A	Superior Parietal Cortex
43	Right	SCEF	Supplementary and Cingulate Eye Field	Paracentral Lobular and Mid Cingulate Cortex
44	Right	6ma	Area 6m anterior	Paracentral Lobular and Mid Cingulate Cortex
45	Right	7Am	Medial Area 7A	Superior Parietal Cortex
46	Right	7Pl	Lateral Area 7P	Superior Parietal Cortex
47	Right	7PC	Area 7PC	Superior Parietal Cortex
48	Right	LIPv	Area Lateral IntraParietal ventral	Superior Parietal Cortex
49	Right	VIP	Ventral IntraParietal Complex	Superior Parietal Cortex
50	Right	MIP	Medial IntraParietal Area	Superior Parietal Cortex
51	Right	1	Area 1	Somatosensory and Motor Cortex
52	Right	2	Area 2	Somatosensory and Motor Cortex
53	Right	3a	Area 3a	Somatosensory and Motor Cortex
54	Right	6d	Dorsal area 6	Premotor Cortex
55	Right	6mp	Area 6mp	Paracentral Lobular and Mid Cingulate Cortex
56	Right	6v	Ventral Area 6	Premotor Cortex
57	Right	p24pr	Area Posterior 24 prime	Anterior Cingulate and Medial Prefrontal Cortex
58	Right	33pr	Area 33 prime	Anterior Cingulate and Medial Prefrontal Cortex
59	Right	a24pr	Anterior 24 prime	Anterior Cingulate and Medial Prefrontal Cortex
60	Right	p32pr	Area p32 prime	Anterior Cingulate and Medial Prefrontal Cortex
61	Right	a24	Area a24	Anterior Cingulate and Medial Prefrontal Cortex
62	Right	d32	Area dorsal 32	Anterior Cingulate and Medial Prefrontal Cortex
63	Right	8BM	Area 8BM	Anterior Cingulate and Medial Prefrontal Cortex
64	Right	p32	Area p32	Anterior Cingulate and Medial Prefrontal Cortex
65	Right	10r	Area 10r	Anterior Cingulate and Medial Prefrontal Cortex

				Cortex
66	Right	47m	Area 47m	Orbital and Polar Frontal Cortex
67	Right	8Av	Area 8Av	DorsoLateral Prefrontal Cortex
68	Right	8Ad	Area 8Ad	DorsoLateral Prefrontal Cortex
69	Right	9m	Area 9 Middle	Anterior Cingulate and Medial Prefrontal Cortex
70	Right	8BL	Area 8B Lateral	DorsoLateral Prefrontal Cortex
71	Right	9p	Area 9 Posterior	DorsoLateral Prefrontal Cortex
72	Right	10d	Area 10d	Orbital and Polar Frontal Cortex
73	Right	8C	Area 8C	DorsoLateral Prefrontal Cortex
74	Right	44	Area 44	Inferior Frontal Cortex
75	Right	45	Area 45	Inferior Frontal Cortex
76	Right	47l	Area 47l (47 lateral)	Inferior Frontal Cortex
77	Right	a47r	Area anterior 47r	Orbital and Polar Frontal Cortex
78	Right	6r	Rostral Area 6	Premotor Cortex
79	Right	IFJa	Area IFJa	Inferior Frontal Cortex
80	Right	IFJp	Area IFJp	Inferior Frontal Cortex
81	Right	IFSp	Area IFSp	Inferior Frontal Cortex
82	Right	IFSa	Area IFSa	Inferior Frontal Cortex
83	Right	p9-46v	Area posterior 9-46v	DorsoLateral Prefrontal Cortex
84	Right	46	Area 46	DorsoLateral Prefrontal Cortex
85	Right	a9-46v	Area anterior 9-46v	DorsoLateral Prefrontal Cortex
86	Right	9-46d	Area 9-46d	DorsoLateral Prefrontal Cortex
87	Right	9a	Area 9 anterior	DorsoLateral Prefrontal Cortex
88	Right	10v	Area 10v	Anterior Cingulate and Medial Prefrontal Cortex
89	Right	a10p	Area anterior 10p	Orbital and Polar Frontal Cortex
90	Right	10pp	Polar 10p	Orbital and Polar Frontal Cortex
91	Right	11l	Area 11l	Orbital and Polar Frontal Cortex
92	Right	13l	Area 13l	Orbital and Polar Frontal Cortex
93	Right	OFC	Orbital Frontal Complex	Orbital and Polar Frontal Cortex
94	Right	47s	Area 47s	Orbital and Polar Frontal Cortex
95	Right	LIPd	Area Lateral IntraParietal dorsal	Superior Parietal Cortex
96	Right	6a	Area 6 anterior	Premotor Cortex
97	Right	i6-8	Inferior 6-8 Transitional Area	DorsoLateral Prefrontal Cortex
98	Right	s6-8	Superior 6-8 Transitional Area	DorsoLateral Prefrontal Cortex
99	Right	43	Area 43	Posterior Opercular Cortex
100	Right	OP4	Area OP4/PV	Posterior Opercular Cortex
101	Right	OP1	Area OP1/SII	Posterior Opercular Cortex
102	Right	OP2-3	Area OP2-3/VS	Posterior Opercular Cortex
103	Right	52	Area 52	Insular and Frontal Opercular Cortex

104	Right	RI	RetroInsular Cortex	Early Auditory Cortex
105	Right	PFcm	Area PFcm	Posterior Opercular Cortex
106	Right	PoI2	Posterior Insular Area 2	Insular and Frontal Opercular Cortex
107	Right	TA2	Area TA2	Auditory Association Cortex
108	Right	FOP4	Frontal Opercular Area 4	Insular and Frontal Opercular Cortex
109	Right	MI	Middle Insular Area	Insular and Frontal Opercular Cortex
110	Right	Pir	Piriform Cortex	Insular and Frontal Opercular Cortex
111	Right	AVI	Anterior Ventral Insular Area	Insular and Frontal Opercular Cortex
112	Right	AAIC	Anterior Agranular Insula Complex	Insular and Frontal Opercular Cortex
113	Right	FOP1	Frontal Opercular Area 1	Posterior Opercular Cortex
114	Right	FOP3	Frontal Opercular Area 3	Insular and Frontal Opercular Cortex
115	Right	FOP2	Frontal Opercular Area 2	Insular and Frontal Opercular Cortex
116	Right	PFt	Area PFt	Inferior Parietal Cortex
117	Right	AIP	Anterior IntraParietal Area	Superior Parietal Cortex
118	Right	EC	Entorhinal Cortex	Medial Temporal Cortex
119	Right	PreS	PreSubiculum	Medial Temporal Cortex
120	Right	H	Hippocampus	Medial Temporal Cortex
121	Right	ProS	ProStriate Area	Posterior Cingulate Cortex
122	Right	PeEc	Perirhinal Ectorhinal Cortex	Medial Temporal Cortex
123	Right	STGa	Area STGa	Auditory Association Cortex
124	Right	PBelt	ParaBelt Complex	Early Auditory Cortex
125	Right	A5	Auditory 5 Complex	Auditory Association Cortex
126	Right	PHA1	ParaHippocampal Area 1	Medial Temporal Cortex
127	Right	PHA3	ParaHippocampal Area 3	Medial Temporal Cortex
128	Right	STSda	Area STSd anterior	Auditory Association Cortex
129	Right	STSdp	Area STSd posterior	Auditory Association Cortex
130	Right	STSvp	Area STSv posterior	Auditory Association Cortex
131	Right	TGd	Area TG dorsal	Lateral Temporal Cortex
132	Right	TE1a	Area TE1 anterior	Lateral Temporal Cortex
133	Right	TE1p	Area TE1 posterior	Lateral Temporal Cortex
134	Right	TE2a	Area TE2 anterior	Lateral Temporal Cortex
135	Right	TF	Area TF	Lateral Temporal Cortex
136	Right	TE2p	Area TE2 posterior	Lateral Temporal Cortex
137	Right	PHT	Area PHT	Lateral Temporal Cortex
138	Right	PH	Area PH	MT+ Complex and Neighboring Visual Areas
139	Right	TPOJ1	Area TemporoParietoOccipital Junction 1	Temporo-Parieto-Occipital Junction
140	Right	TPOJ2	Area TemporoParietoOccipital Junction 2	Temporo-Parieto-Occipital Junction
141	Right	TPOJ3	Area TemporoParietoOccipital Junction 3	Temporo-Parieto-Occipital Junction

142	Right	DVT	Dorsal Transitional Visual Area	Posterior Cingulate Cortex
143	Right	PGp	Area PGp	Inferior Parietal Cortex
144	Right	IP2	Area IntraParietal 2	Inferior Parietal Cortex
145	Right	IP1	Area IntraParietal 1	Inferior Parietal Cortex
146	Right	IP0	Area IntraParietal 0	Inferior Parietal Cortex
147	Right	PFop	Area PF opercular	Inferior Parietal Cortex
148	Right	PF	Area PF Complex	Inferior Parietal Cortex
149	Right	PFm	Area PFm Complex	Inferior Parietal Cortex
150	Right	PGi	Area PGi	Inferior Parietal Cortex
151	Right	PGs	Area PGs	Inferior Parietal Cortex
152	Right	V6A	Area V6A	Dorsal Stream Visual Cortex
153	Right	VMV1	VentroMedial Visual Area 1	Ventral Stream Visual Cortex
154	Right	VMV3	VentroMedial Visual Area 3	Ventral Stream Visual Cortex
155	Right	PHA2	ParaHippocampal Area 2	Medial Temporal Cortex
156	Right	V4t	Area V4t	MT+ Complex and Neighboring Visual Areas
157	Right	FST	Area FST	MT+ Complex and Neighboring Visual Areas
158	Right	V3CD	Area V3CD	MT+ Complex and Neighboring Visual Areas
159	Right	LO3	Area Lateral Occipital 3	MT+ Complex and Neighboring Visual Areas
160	Right	VMV2	VentroMedial Visual Area 2	Ventral Stream Visual Cortex
161	Right	31pd	Area 31pd	Posterior Cingulate Cortex
162	Right	31a	Area 31a	Posterior Cingulate Cortex
163	Right	VVC	Ventral Visual Complex	Ventral Stream Visual Cortex
164	Right	25	Area 25	Anterior Cingulate and Medial Prefrontal Cortex
165	Right	s32	Area s32	Anterior Cingulate and Medial Prefrontal Cortex
166	Right	pOFC	posterior OFC Complex	Orbital and Polar Frontal Cortex
167	Right	PoI1	Area Posterior Insular 1	Insular and Frontal Opercular Cortex
168	Right	Ig	Insular Granular Complex	Insular and Frontal Opercular Cortex
169	Right	FOP5	Area Frontal Opercular 5	Insular and Frontal Opercular Cortex
170	Right	p10p	Area posterior 10p	Orbital and Polar Frontal Cortex
171	Right	p47r	Area posterior 47r	Inferior Frontal Cortex
172	Right	TGv	Area TG Ventral	Lateral Temporal Cortex
173	Right	MBelt	Medial Belt Complex	Early Auditory Cortex
174	Right	LBelt	Lateral Belt Complex	Early Auditory Cortex
175	Right	A4	Auditory 4 Complex	Auditory Association Cortex
176	Right	STSva	Area STSv anterior	Auditory Association Cortex
177	Right	TE1m	Area TE1 Middle	Lateral Temporal Cortex
178	Right	PI	Para-Insular Area	Insular and Frontal Opercular Cortex
179	Right	a32pr	Area anterior 32 prime	Anterior Cingulate and Medial Prefrontal Cortex

180	Right	p24	Area posterior 24	Anterior Cingulate and Medial Prefrontal Cortex
181	Left	V1	Primary Visual Cortex	Primary Visual Cortex
182	Left	MST	Medial Superior Temporal Area	MT+ Complex and Neighboring Visual Areas
183	Left	V6	Sixth Visual Area	Dorsal Stream Visual Cortex
184	Left	V2	Second Visual Area	Early Visual Cortex
185	Left	V3	Third Visual Area	Early Visual Cortex
186	Left	V4	Fourth Visual Area	Early Visual Cortex
187	Left	V8	Eighth Visual Area	Ventral Stream Visual Cortex
188	Left	4	Primary Motor Cortex	Somatosensory and Motor Cortex
189	Left	3b	Primary Sensory Cortex	Somatosensory and Motor Cortex
190	Left	FEF	Frontal Eye Fields	Premotor Cortex
191	Left	PEF	Premotor Eye Field	Premotor Cortex
192	Left	55b	Area 55b	Premotor Cortex
193	Left	V3A	Area V3A	Dorsal Stream Visual Cortex
194	Left	RSC	RetroSplenic Complex	Posterior Cingulate Cortex
195	Left	POS2	Parieto-Occipital Sulcus Area 2	Posterior Cingulate Cortex
196	Left	V7	Seventh Visual Area	Dorsal Stream Visual Cortex
197	Left	IPS1	IntraParietal Sulcus Area 1	Dorsal Stream Visual Cortex
198	Left	FFC	Fusiform Face Complex	Ventral Stream Visual Cortex
199	Left	V3B	Area V3B	Dorsal Stream Visual Cortex
200	Left	LO1	Area Lateral Occipital 1	MT+ Complex and Neighboring Visual Areas
201	Left	LO2	Area Lateral Occipital 2	MT+ Complex and Neighboring Visual Areas
202	Left	PIT	Posterior Infero Temporal Complex	Ventral Stream Visual Cortex
203	Left	MT	Middle Temporal Area	MT+ Complex and Neighboring Visual Areas
204	Left	A1	Primary Auditory Cortex	Early Auditory Cortex
205	Left	PSL	PeriSylvian Language Area	Temporo-Parieto-Occipital Junction
206	Left	SFL	Superior Frontal Language Area	DorsoLateral Prefrontal Cortex
207	Left	PCV	PreCuneus Visual Area	Posterior Cingulate Cortex
208	Left	STV	Superior Temporal Visual Area	Temporo-Parieto-Occipital Junction
209	Left	7Pm	Medial Area 7P	Superior Parietal Cortex
210	Left	7m	Area 7m	Posterior Cingulate Cortex
211	Left	POS1	Parieto-Occipital Sulcus Area 1	Posterior Cingulate Cortex
212	Left	23d	Area 23d	Posterior Cingulate Cortex
213	Left	v23ab	Area ventral 23 a+b	Posterior Cingulate Cortex
214	Left	d23ab	Area dorsal 23 a+b	Posterior Cingulate Cortex
215	Left	31pv	Area 31p ventral	Posterior Cingulate Cortex

216	Left	5m	Area 5m	Paracentral Lobular and Mid Cingulate Cortex
217	Left	5mv	Area 5m ventral	Paracentral Lobular and Mid Cingulate Cortex
218	Left	23c	Area 23c	Posterior Cingulate Cortex
219	Left	5L	Area 5L	Paracentral Lobular and Mid Cingulate Cortex
220	Left	24dd	Dorsal Area 24d	Paracentral Lobular and Mid Cingulate Cortex
221	Left	24dv	Ventral Area 24d	Paracentral Lobular and Mid Cingulate Cortex
222	Left	7AL	Lateral Area 7A	Superior Parietal Cortex
223	Left	SCEF	Supplementary and Cingulate Eye Field	Paracentral Lobular and Mid Cingulate Cortex
224	Left	6ma	Area 6m anterior	Paracentral Lobular and Mid Cingulate Cortex
225	Left	7Am	Medial Area 7A	Superior Parietal Cortex
226	Left	7Pl	Lateral Area 7P	Superior Parietal Cortex
227	Left	7PC	Area 7PC	Superior Parietal Cortex
228	Left	LIPv	Area Lateral IntraParietal ventral	Superior Parietal Cortex
229	Left	VIP	Ventral IntraParietal Complex	Superior Parietal Cortex
230	Left	MIP	Medial IntraParietal Area	Superior Parietal Cortex
231	Left	1	Area 1	Somatosensory and Motor Cortex
232	Left	2	Area 2	Somatosensory and Motor Cortex
233	Left	3a	Area 3a	Somatosensory and Motor Cortex
234	Left	6d	Dorsal area 6	Premotor Cortex
235	Left	6mp	Area 6mp	Paracentral Lobular and Mid Cingulate Cortex
236	Left	6v	Ventral Area 6	Premotor Cortex
237	Left	p24pr	Area Posterior 24 prime	Anterior Cingulate and Medial Prefrontal Cortex
238	Left	33pr	Area 33 prime	Anterior Cingulate and Medial Prefrontal Cortex
239	Left	a24pr	Anterior 24 prime	Anterior Cingulate and Medial Prefrontal Cortex
240	Left	p32pr	Area p32 prime	Anterior Cingulate and Medial Prefrontal Cortex
241	Left	a24	Area a24	Anterior Cingulate and Medial Prefrontal Cortex
242	Left	d32	Area dorsal 32	Anterior Cingulate and Medial Prefrontal Cortex
243	Left	8BM	Area 8BM	Anterior Cingulate and Medial Prefrontal Cortex
244	Left	p32	Area p32	Anterior Cingulate and Medial Prefrontal Cortex
245	Left	10r	Area 10r	Anterior Cingulate and Medial Prefrontal Cortex
246	Left	47m	Area 47m	Orbital and Polar Frontal Cortex
247	Left	8Av	Area 8Av	DorsoLateral Prefrontal Cortex

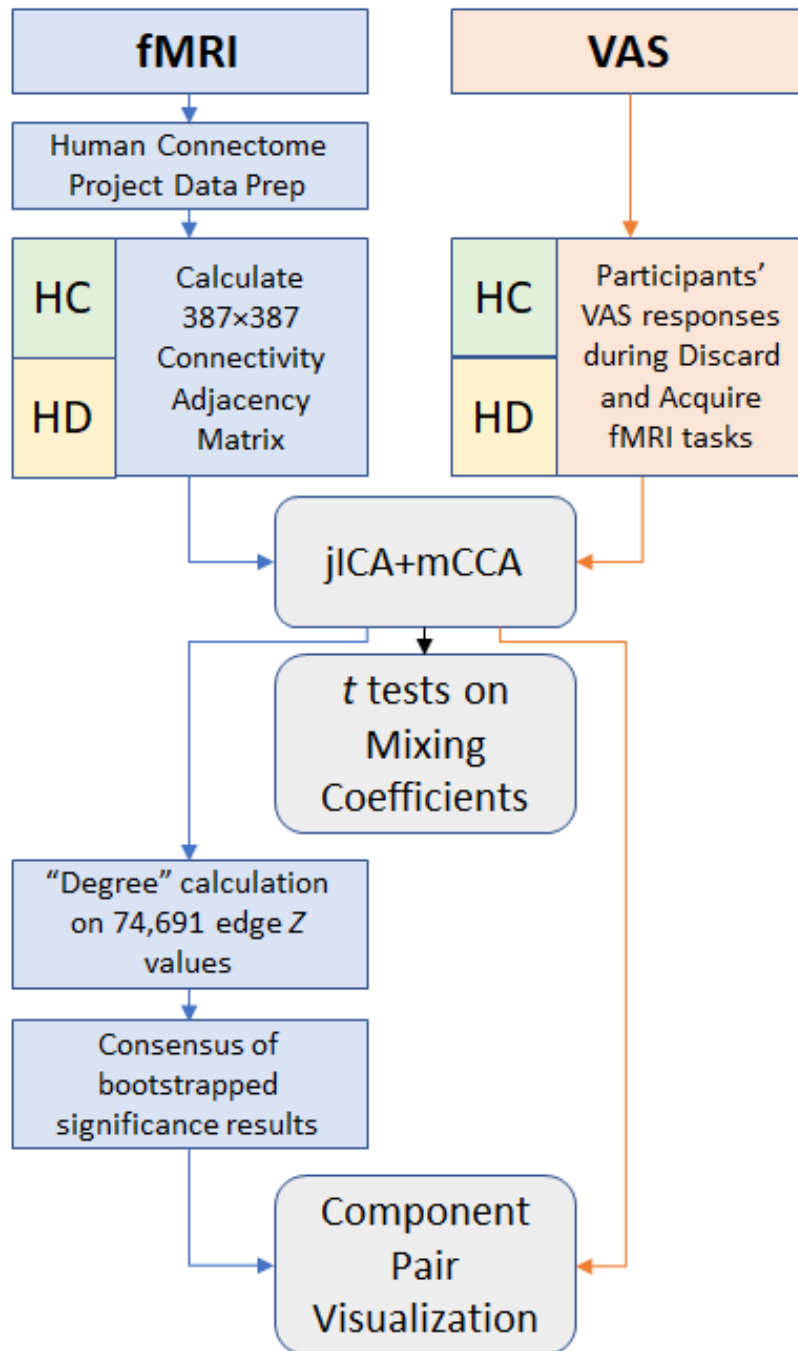


248	Left	8Ad	Area 8Ad	DorsoLateral Prefrontal Cortex
249	Left	9m	Area 9 Middle	Anterior Cingulate and Medial Prefrontal Cortex
250	Left	8BL	Area 8B Lateral	DorsoLateral Prefrontal Cortex
251	Left	9p	Area 9 Posterior	DorsoLateral Prefrontal Cortex
252	Left	10d	Area 10d	Orbital and Polar Frontal Cortex
253	Left	8C	Area 8C	DorsoLateral Prefrontal Cortex
254	Left	44	Area 44	Inferior Frontal Cortex
255	Left	45	Area 45	Inferior Frontal Cortex
256	Left	47l	Area 47l (47 lateral)	Inferior Frontal Cortex
257	Left	a47r	Area anterior 47r	Orbital and Polar Frontal Cortex
258	Left	6r	Rostral Area 6	Premotor Cortex
259	Left	IFJa	Area IFJa	Inferior Frontal Cortex
260	Left	IFJp	Area IFJp	Inferior Frontal Cortex
261	Left	IFSp	Area IFSp	Inferior Frontal Cortex
262	Left	IFSa	Area IFSa	Inferior Frontal Cortex
263	Left	p9-46v	Area posterior 9-46v	DorsoLateral Prefrontal Cortex
264	Left	46	Area 46	DorsoLateral Prefrontal Cortex
265	Left	a9-46v	Area anterior 9-46v	DorsoLateral Prefrontal Cortex
266	Left	9-46d	Area 9-46d	DorsoLateral Prefrontal Cortex
267	Left	9a	Area 9 anterior	DorsoLateral Prefrontal Cortex
268	Left	10v	Area 10v	Anterior Cingulate and Medial Prefrontal Cortex
269	Left	a10p	Area anterior 10p	Orbital and Polar Frontal Cortex
270	Left	10pp	Polar 10p	Orbital and Polar Frontal Cortex
271	Left	11l	Area 11l	Orbital and Polar Frontal Cortex
272	Left	13l	Area 13l	Orbital and Polar Frontal Cortex
273	Left	OFC	Orbital Frontal Complex	Orbital and Polar Frontal Cortex
274	Left	47s	Area 47s	Orbital and Polar Frontal Cortex
275	Left	LIPd	Area Lateral IntraParietal dorsal	Superior Parietal Cortex
276	Left	6a	Area 6 anterior	Premotor Cortex
277	Left	i6-8	Inferior 6-8 Transitional Area	DorsoLateral Prefrontal Cortex
278	Left	s6-8	Superior 6-8 Transitional Area	DorsoLateral Prefrontal Cortex
279	Left	43	Area 43	Posterior Opercular Cortex
280	Left	OP4	Area OP4/PV	Posterior Opercular Cortex
281	Left	OP1	Area OP1/SII	Posterior Opercular Cortex
282	Left	OP2-3	Area OP2-3/VS	Posterior Opercular Cortex
283	Left	52	Area 52	Insular and Frontal Opercular Cortex
284	Left	RI	RetroInsular Cortex	Early Auditory Cortex
285	Left	PFcm	Area PFcm	Posterior Opercular Cortex
286	Left	PoI2	Posterior Insular Area 2	Insular and Frontal Opercular Cortex
287	Left	TA2	Area TA2	Auditory Association Cortex
288	Left	FOP4	Frontal OPercular Area 4	Insular and Frontal Opercular Cortex

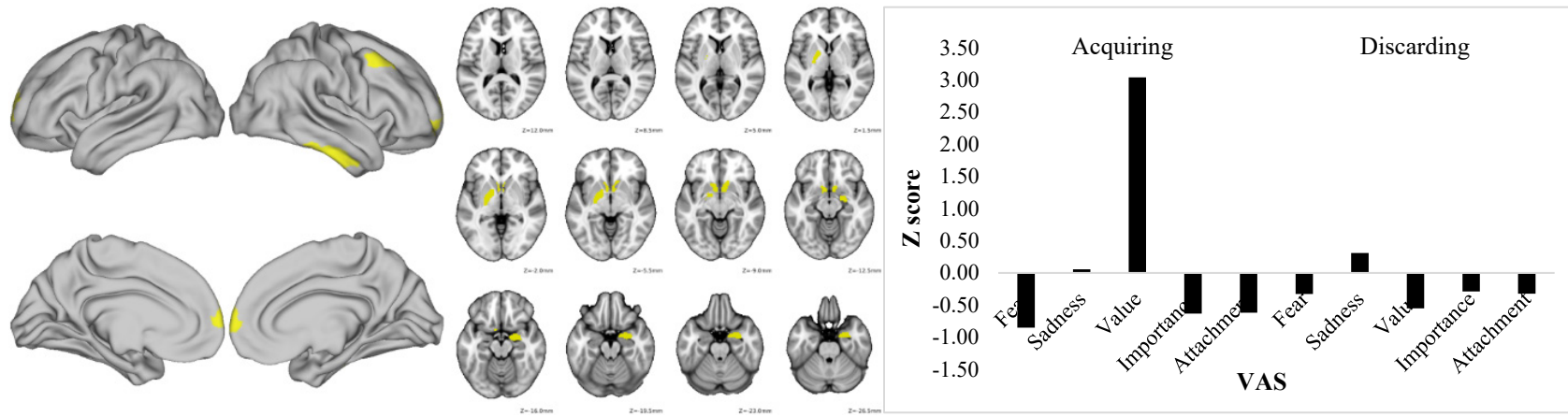
289	Left	MI	Middle Insular Area	Insular and Frontal Opercular Cortex
290	Left	Pir	Piriform Cortex	Insular and Frontal Opercular Cortex
291	Left	AVI	Anterior Ventral Insular Area	Insular and Frontal Opercular Cortex
292	Left	AAIC	Anterior Agranular Insula Complex	Insular and Frontal Opercular Cortex
293	Left	FOP1	Frontal Opercular Area 1	Posterior Opercular Cortex
294	Left	FOP3	Frontal Opercular Area 3	Insular and Frontal Opercular Cortex
295	Left	FOP2	Frontal Opercular Area 2	Insular and Frontal Opercular Cortex
296	Left	PFt	Area PFt	Inferior Parietal Cortex
297	Left	AIP	Anterior IntraParietal Area	Superior Parietal Cortex
298	Left	EC	Entorhinal Cortex	Medial Temporal Cortex
299	Left	PreS	PreSubiculum	Medial Temporal Cortex
300	Left	H	Hippocampus	Medial Temporal Cortex
301	Left	ProS	ProStriate Area	Posterior Cingulate Cortex
302	Left	PeEc	Perirhinal Ectorhinal Cortex	Medial Temporal Cortex
303	Left	STGa	Area STGa	Auditory Association Cortex
304	Left	PBelt	ParaBelt Complex	Early Auditory Cortex
305	Left	A5	Auditory 5 Complex	Auditory Association Cortex
306	Left	PHA1	ParaHippocampal Area 1	Medial Temporal Cortex
307	Left	PHA3	ParaHippocampal Area 3	Medial Temporal Cortex
308	Left	STSda	Area STSd anterior	Auditory Association Cortex
309	Left	STSDp	Area STSd posterior	Auditory Association Cortex
310	Left	STSVp	Area STSv posterior	Auditory Association Cortex
311	Left	TGd	Area TG dorsal	Lateral Temporal Cortex
312	Left	TE1a	Area TE1 anterior	Lateral Temporal Cortex
313	Left	TE1p	Area TE1 posterior	Lateral Temporal Cortex
314	Left	TE2a	Area TE2 anterior	Lateral Temporal Cortex
315	Left	TF	Area TF	Lateral Temporal Cortex
316	Left	TE2p	Area TE2 posterior	Lateral Temporal Cortex
317	Left	PHT	Area PHT	Lateral Temporal Cortex
318	Left	PH	Area PH	MT+ Complex and Neighboring Visual Areas
319	Left	TPOJ1	Area TemporoParietoOccipital Junction 1	Temporo-Parieto-Occipital Junction
320	Left	TPOJ2	Area TemporoParietoOccipital Junction 2	Temporo-Parieto-Occipital Junction
321	Left	TPOJ3	Area TemporoParietoOccipital Junction 3	Temporo-Parieto-Occipital Junction
322	Left	DVT	Dorsal Transitional Visual Area	Posterior Cingulate Cortex
323	Left	PGp	Area PGp	Inferior Parietal Cortex
324	Left	IP2	Area IntraParietal 2	Inferior Parietal Cortex
325	Left	IP1	Area IntraParietal 1	Inferior Parietal Cortex

326	Left	IP0	Area IntraParietal 0	Inferior Parietal Cortex
327	Left	PFop	Area PF opercular	Inferior Parietal Cortex
328	Left	PF	Area PF Complex	Inferior Parietal Cortex
329	Left	PFm	Area PFm Complex	Inferior Parietal Cortex
330	Left	PGi	Area PGi	Inferior Parietal Cortex
331	Left	PGs	Area PGs	Inferior Parietal Cortex
332	Left	V6A	Area V6A	Dorsal Stream Visual Cortex
333	Left	VMV1	Ventromedial Visual Area 1	Ventral Stream Visual Cortex
334	Left	VMV3	Ventromedial Visual Area 3	Ventral Stream Visual Cortex
335	Left	PHA2	ParaHippocampal Area 2	Medial Temporal Cortex
336	Left	V4t	Area V4t	MT+ Complex and Neighboring Visual Areas
337	Left	FST	Area FST	MT+ Complex and Neighboring Visual Areas
338	Left	V3CD	Area V3CD	MT+ Complex and Neighboring Visual Areas
339	Left	LO3	Area Lateral Occipital 3	MT+ Complex and Neighboring Visual Areas
340	Left	VMV2	Ventromedial Visual Area 2	Ventral Stream Visual Cortex
341	Left	31pd	Area 31pd	Posterior Cingulate Cortex
342	Left	31a	Area 31a	Posterior Cingulate Cortex
343	Left	VVC	Ventral Visual Complex	Ventral Stream Visual Cortex
344	Left	25	Area 25	Anterior Cingulate and Medial Prefrontal Cortex
345	Left	s32	Area s32	Anterior Cingulate and Medial Prefrontal Cortex
346	Left	pOFC	posterior OFC Complex	Orbital and Polar Frontal Cortex
347	Left	PoI1	Area Posterior Insular 1	Insular and Frontal Opercular Cortex
348	Left	Ig	Insular Granular Complex	Insular and Frontal Opercular Cortex
349	Left	FOP5	Area Frontal Opercular 5	Insular and Frontal Opercular Cortex
350	Left	p10p	Area posterior 10p	Orbital and Polar Frontal Cortex
351	Left	p47r	Area posterior 47r	Inferior Frontal Cortex
352	Left	TGv	Area TG Ventral	Lateral Temporal Cortex
353	Left	MBelt	Medial Belt Complex	Early Auditory Cortex
354	Left	LBelt	Lateral Belt Complex	Early Auditory Cortex
355	Left	A4	Auditory 4 Complex	Auditory Association Cortex
356	Left	STSva	Area STSv anterior	Auditory Association Cortex
357	Left	TE1m	Area TE1 Middle	Lateral Temporal Cortex
358	Left	PI	Para-Insular Area	Insular and Frontal Opercular Cortex
359	Left	a32pr	Area anterior 32 prime	Anterior Cingulate and Medial Prefrontal Cortex
360	Left	p24	Area posterior 24	Anterior Cingulate and Medial Prefrontal Cortex
361	Left	Thalamus		
362	Left	Caudate		
363	Left	Putamen		

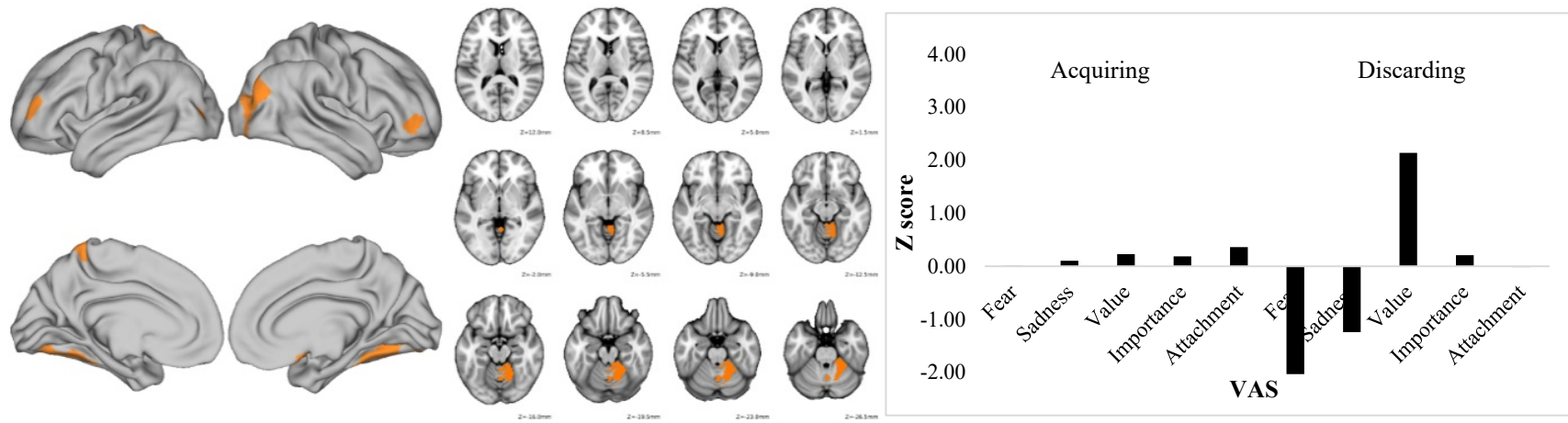
364	Left	Pallidum		
365	-	Brain Stem		
366	Left	Hippocampus		
367	Left	Amygdala		
368	Left	Accumbens		
369	Left	Diencephalon Ventral		
370	Right	Thalamus		
371	Right	Caudate		
372	Right	Putamen		
373	Right	Pallidum		
374	Right	Hippocampus		
375	Right	Amygdala		
376	Right	Accumbens		
377	Right	Diencephalon Ventral		
378	Right	Cerebellum 2		
379	Right	Cerebellum 3		
380	Right	Cerebellum 4		
381	Right	Cerebellum 6		
382	Right	Cerebellum 7		
383	Left	Cerebellum 2		
384	Left	Cerebellum 3		
385	Left	Cerebellum 4		
386	Left	Cerebellum 6		
387	Left	Cerebellum 7		



**Figure S1.** A flow diagram showing the steps of the study analysis.



**Figure S2.** Discarding task Component 5 functional connectivity map (left) and Visual Analogue Scale standardized score (right). VAS = Visual analogue scale.



**Figure S3.** Acquiring task Component 2 functional connectivity map (left) and Visual Analogue Scale standardized score (right). VAS = Visual analogue scale.

**Supplemental References**

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