Supplemental Material

Different brain regions support deliberation during food choice in disordered and healthy eating

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I. Behavioral Analyses

Table S1. Choice and RT during food choice task, behavioral only sample.

Variables	Choice (Blue)			Reaction Time		
	OR	***95% CI***	***p***	***β***	***95% CI***	***p***
Intercept	0.97	[0.90,1.04]	0.34	1.24	[1.18,1.29]	<.0001
|Δ*Value*|	3.38	[2.87,4.01]	<.0001	-0.10	[-0.12,-0.08]	<.0001
Group, HC	0.93	[0.84,1.03]	0.16	-0.01	[-0.09,0.06]	0.69
Avg. pair value	0.97	[0.91,1.04]	0.42	-0.08	[-0.09,0.06]	<.0001
|Δ*Value*| x Group	0.58	[1.36,2.21]	<.0001	0.00	[-0.02,0.02]	0.97
|Δ*Value* | x Avg. pair value	1.00	[0.85,1.17]	1.00	0.02	[0.00,0.04]	0.13
Group x Avg. pair value	0.97	[0.88,1.06]	0.47	0.03	[0.01,0.05]	0.00
|Δ*Value* | x Group x Avg pair value	0.83	[0.94,1.53]	0.13	-0.03	[-0.07,0.00]	0.06

Table S2. Choice and RT during perceptual choice task, behavioral only sample.

Variables	Choice (Blue)			Reaction Time		
	OR	***95% CI***	***p***	***β***	***95% CI***	***p***
Intercept	0.98	[0.77,1.25]	0.86	1.10	[1.04, 1.20]	<.0001
|Color coherence|	57.80	[29.36,118.27]	<.0001	-0.23	[-0.28, -0.18]	<.0001
Group, HC	0.82	[0.58,1.15]	0.25	-0.12	[-0.26, 0.03]	0.12
|Color coherence| x Group	1.16	[0.44,3.08]	0.76	0.05	[-0.02, 0.12]	0.18

Figure S1. Distribution of baseline preference ratings across both groups.

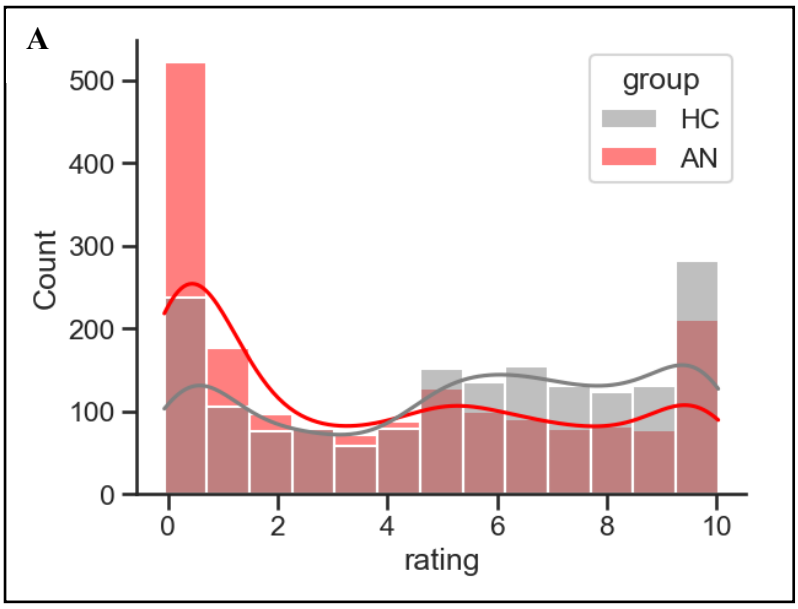
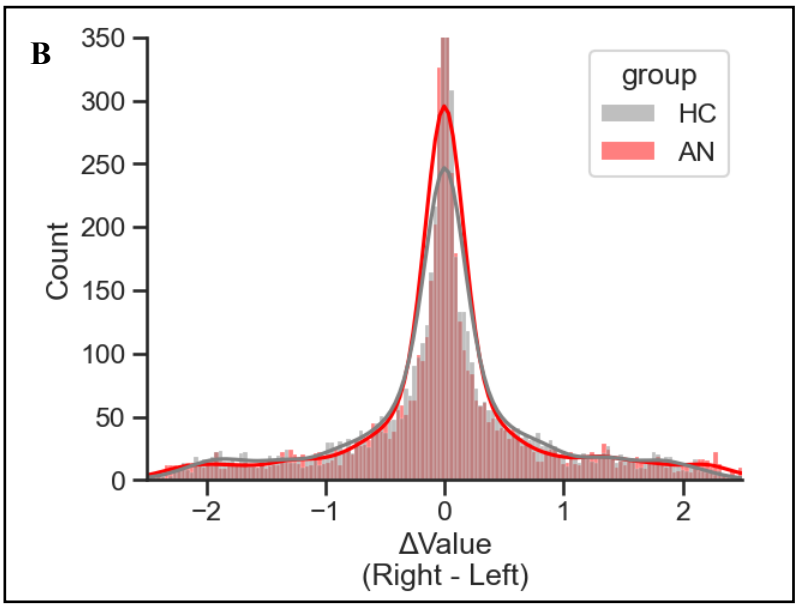


Figure S2. Distribution of delta value across groups.



II. Imaging Analyses

A. Effect of mean value of food items

A1. Whole Brain Analysis

Table S3. Activation table for effect of the mean value of food items in HC and patients with AN within the whole-brain. The uncorrected map is available for HC here: https://neurovault.org/collections/RGDXSBMN/images/803571/ and for patients here: https://neurovault.org/collections/RGDXSBMN/images/803572/.

Group	Region	# Voxels	x	y	z	peak Z	p
AN	vmPFC	42	-10.5	67.5	7.5	4.11	0.021

A2. Small-Volume Correction

Table S4. Activation table for effect of the mean value of the food items in HC and patients with AN within the ventromedial prefrontal cortex.

Group	SVC Region	# Voxels	x	y	z	peak Z	p
HC	vmPFC	43	-4.5	39.5	-4.5	3.69	0.015
AN	vmPFC	52	-6.5	45.5	-8.5	3.49	0.008

B. Effect of RT during value-based versus perceptual-based decisions

B1. Whole Brain Analysis

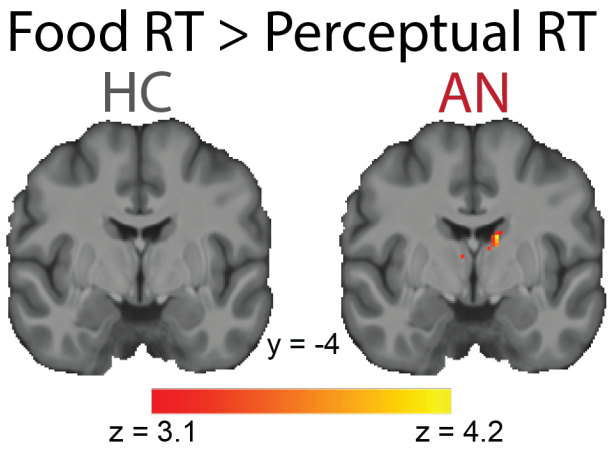


Figure S3. Whole-Brain activation map for effect of RT during value-based vs perceptual decisions (food > perceptual) in HC and patients with AN. The uncorrected map for HC is available here: https://neurovault.org/collections/RGDXSBMN/images/803497/ and the uncorrected map for patients is available here: https://neurovault.org/collections/RGDXSBMN/images/803498/.

Table S5. Activation table for effect of RT during value-based vs. perceptual decisions (food > dots) in HC and patients with AN.

Group	Region	# Voxels	x	y	z	peak Z	p
HC	R Lateral Occipital Cortex	99	31.5	-96.5	-0.5	3.84	<.0001
	R Superior Frontal Gyrus/Middle Frontal Gyrus	55	23.5	39.5	45.5	4.16	0.003
AN	L Lateral Occipital Cortex	233	-28.5	-100	-6.5	4.83	<.0001
	R Lateral Occipital Cortex	209	31.5	-94.5	-10.5	5.94	<.0001
	L Caudate/Thalamus	197	-12.5	-8.5	15.5	4.55	<.0001
	R Cerebellum	103	15.5	-84.5	-22.5	5.03	<.0001
	L Superior Frontal Gyrus	96	-8.5	27.5	39.5	5.02	<.0001
	L Orbital Frontal Cortex	61	-34.5	35.5	-18.5	4.61	0.002
	R Cerebellum	57	33.5	-66.5	-28.5	4.14	0.003
	L Cuneus	38	-12.5	-84.5	3.5	4.52	0.030
	L Lingual Gyrus	37	-12.5	-76.5	-10.5	3.86	0.034
	R Cuneus	37	15.5	-84.5	5.5	4.12	0.034
	R Lingual Gyrus	35	29.5	-54.5	-4.5	4.19	0.045

B2. Small-Volume Correction

Table S6. Activation table for effect of RT during value-based vs. perceptual decisions (food > dots) in HC and patients with AN using small-volume correction within the striatum and hippocampus, pre-registered model.

Group	SVC Region	# Voxels	X	y	Z	peak Z	p
AN	Striatum	11	-12.5	-4.5	17.5	4.13	0.036
		10	29.5	-6.5	9.5	4.19	0.044
	Hippocampus	12	-18.5	-10.5	-24.5	4.31	0.016

III. PPI Analysis

A. Whole Brain Analysis

Table S7. Activation table for whole-brain PPI analysis using dorsal striatum as a seed. The uncorrected map is available for HC here: https://neurovault.org/collections/RGDXSBMN/images/803599/ and for patients here: https://neurovault.org/collections/RGDXSBMN/images/803600/.

Group	Region	# Voxels	x	y	z	peak Z	p
AN	Bilateral Dorsal Medial Prefrontal Cortex	142	-6.5	49.5	35.5	3.89	<.0001

B. Small-Volume Correction

Table S8. Activation table for small-volume corrected PPI analysis using dorsal striatum as a seed and dlPFC as ROI.

Group	Region	# Voxels	x	y	z	peak Z	p
AN	Bilateral Dorsal Medial Prefrontal Cortex	48	-6.5	63.5	3.5	4.65	.002