

Supporting Information

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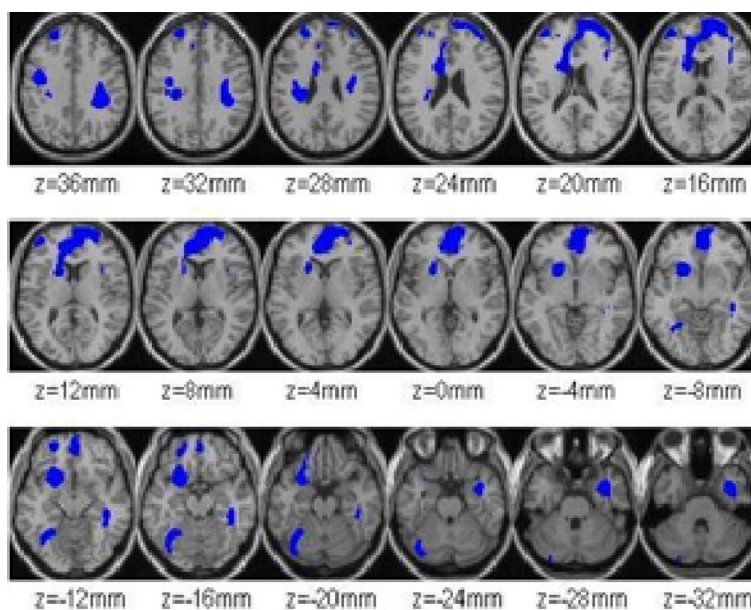


Fig. 1. SPM results ($P < 0.05$) for the difference between women and men during food stimulation without cognitive inhibition. Color-coded SPM results are displayed in a transaxial plane superimposed on a structural brain MR image. The results (T value) are presented using the color scale where blue represents deactivation as a result of lesser metabolic activation in men than women.

Table S1. Characteristics of study subjects

	Women	Men	p value
Number of subjects	13	10	
Age range (years old)	21–48	24–45	
Age mean (years old)	33.6 ± 8.6	31.2 ± 5.8	NS
Body weight range (lb)	115–185	137–200	
Body weight mean (lb)	148 ± 25	166 ± 20	NS
BMI range (kg/meter ²)	21.6–28.9	21–29.6	
BMI mean (kg/meter ²)	25.1 ± 2.9	24.5 ± 2.6	NS
Education (years)	15.2 ± 2.4	14.2 ± 2.2	NS
Handedness	10 right/3 left	8 right/2 left	

Table S2. Comparison between women and men for the difference and percent changes in the scores (from 1 to 10; 0 is the least and 10 is the most) of self-report of hunger and alertness during food stimulation conditions (BL: Baseline, FS: food stimulation without cognitive inhibition, CI: food stimulation with cognitive inhibition)

	Hunger			Alertness		
	Women	Men	p value	Women	Men	p value
Baseline (BL)	5.6 ± 2.4	5.5 ± 2.2	NS	9.2 ± 1.2	7.8 ± 1.8	0.05
Food stimulation (FS)	7.7 ± 1.4	8.5 ± 1.0	NS	9.1 ± 1.6	9.8 ± 0.7	NS
Cognitive inhibition (CI)	5.4 ± 2.7	4.6 ± 3.0	0.01	9.1 ± 1.7	8.0 ± 2.1	NS
BL vs FS (% change)	+43 ± 48%	+70 ± 76%	NS	-0.2 ± 9%	+33 ± 42%	0.006
BL vs FS (p value)	0.03	0.002		NS	0.008	
FS vs CI (% change)	-39 ± 62%	-88 ± 79%	0.03	+2 ± 16%	-23 ± 36%	0.05
FS vs CI (p value)	0.001	0.0006		NS	0.04	

Table S3. Average measures for whole brain metabolism (unit: $\mu\text{mol}/100\text{ g}/\text{min}$) for the baseline, food stimulation without cognitive inhibition (FS), and food stimulation with cognitive inhibition (CI) conditions in women and men

	Women	Men	p value
Baseline (BL)	36.7 \pm 5.1	34.7 \pm 3.7	NS
Food Stimulation (FS)	45.9 \pm 10.3	39.9 \pm 6.5	NS
Cognitive Inhibition (CI)	43.1 \pm 6.0	36.3 \pm 3.4	0.002
BL vs FS (% changes)	+25 \pm 8%	+15.9 \pm 21.9%	NS
BL vs FS (p value)	0.006	0.05	
FP vs CI (% changes)	-3.1 \pm 18.6%	-7.5 \pm 11.9%	NS
FP vs CI (p value)	0.3	0.07	

Table S4. Independent samples t-tests (df = 21) on regions of interest between women and men at the cognitive inhibition condition. It shows that male had significantly lower metabolism than women

Regions of interest	t-value	p-value
Right Anterior Cingulate	3.82	0.001
Right Anterior Insula	2.15	0.043
Right Thalamus	2.39	0.026
Right Caudate	2.8	0.011
Right Putamen	2.71	0.013
Right Ventral Striatum	2.46	0.023
Right Amygdala	2.09	0.049
Right Hippocampus	2.76	0.012
Right Lateral OFC	3.4	0.003
Right Medial OFC	2.97	0.007
Right Rectal Gyrus	2.28	0.033
Left Anterior Cingulate	2.88	0.009
Left Anterior Insula	2.67	0.014
Left Thalamus	2.85	0.010
Left Caudate	3.17	0.005
Left Putamen	3.68	0.001
Left Ventral Striatum	3.25	0.004
Left Amygdala	3.83	0.001
Left Hippocampus	2.4	0.026
Left Lateral OFC	2.67	0.014
Left Medial OFC	2.38	0.027
Left Rectal Gyrus	2.55	0.019