

SUPPLEMENTARY MATERIAL

Table S1. Peak coordinates of the regions showing repetition suppression at $P_{\text{-uncorrected}} < 0.001$

Anatomical description	Number of voxels	MNI coordinates (mm)			T	P
		x	y	z		
Bilateral ant. cingulum Right middle cingulum	159	-6	-30	27	6.43	0.000001
Right insula Right inferior orbitofrontal gyrus	37	45	-21	-12	5.08	0.00002
Left middle superior temporal sulcus	9	-51	-27	3	4.15	0.0002

Table S2. Peak coordinates of the regions showing a main effect of subsequent recognition at $P_{\text{-uncorrected}} < 0.001$

Anatomical description	Number of voxels	MNI coordinates (mm)			T	P
		x	y	z		
R > Miss						
Left superior temporal sulcus	242	-45	-42	3	7.18	0.0000001
Left inferior frontal gyrus	37	-36	36	-12	5.7	0.000005
Left superior temporal sulcus	11	-60	-6	-9	5	0.000025
Left inferior frontal gyrus	31	-51	30	9	4.7	0.00005
Right superior temporal gyrus	12	51	-36	12	4.6	0.00007
Right superior temporal gyrus	16	54	-12	-3	4.6	0.00007
Left angular gyrus	9	-36	-51	33	4.4	0.0002
Left cerebellum	10	-9	-48	-9	4.07	0.00025
Left inferior frontal gyrus	11	-42	12	27	4.03	0.00028
Right superior temporal sulcus	5	57	3	-15	4.03	0.00028
Left fusiform gyrus	6	-33	-39	-21	3.7	0.0007
Miss > R						
Bilateral anterior cingulum	55	3	39	3	4.8	0.00004
Left supramarginal gyrus	24	-63	-30	33	4.6	0.00007
Left frontal superior gyrus	16	-27	39	39	4.6	0.00007
Right middle cingulum	11	6	-33	48	4.4	0.0001
Left precuneus	22	-6	-63	64	4.4	0.0001
Right middle frontal gyrus	29	27	42	42	4.3	0.0001
Right precuneus	5	6	-57	60	3.7	0.0007
R > K						

Left cerebellum	5	-36	-42	-30	5.1	0.00002
Right superior temporal gyrus	34	51	-33	12	4.6	0.00007
Right inferior frontal gyrus	17	54	9	30	4.6	0.00007
Left precentral gyrus	50	-39	-3	33	4.45	0.0001
Left middle occipital gyrus	13	-27	-66	30	4.4	0.00015
Right cerebellum	8	15	-69	-24	4.3	0.00015
Left superior temporal sulcus	53	-48	-42	3	3.98	0.0003
Left parietal superior gyrus	7	-27	-63	45	3.75	0.0006
K > R						
Right superior frontal gyrus	5	27	63	9	3.9	0.0003
Right superior frontal gyrus	8	21	60	21	3.8	0.0005
Right middlefrontal gyrus	8	33	24	45	3.8	0.0005
Hit > Miss						
Left inferior frontal gyrus	14	-36	36	-12	4.7	0.00006
Left superior temporal sulcus	65	-48	-36	3	4.65	0.00007
Left precentral gyrus	5	-27	-24	69	4.54	0.00009
Right cerebellum	14	6	-48	-3	4.46	0.0001
Left superior temporal sulcus	8	-57	-3	-9	4.17	0.0002
Left cerebellum	9	-6	-48	-6	4.14	0.0002
Right superior temporal sulcus	24	63	-12	-9	4.03	0.0003
Miss > Hit						
Left superior frontal gyrus	12	-27	39	36	4.5	0.0001
Left supramarginal gyrus	20	-60	-30	33	4.4	0.00015
Left superior frontal gyrus	11	-27	57	27	4.2	0.0002
Right middle frontal gyrus	13	27	39	39	3.97	0.0004

Table S3. Peak coordinates of the regions showing repetition x subsequent recognition interaction at $P_{\text{uncorrected}} < 0.001$

Anatomical description	Number of voxels	MNI coordinates (mm)			T	P
		x	y	z		
($R_{\text{unprimed}} - R_{\text{primed}}$) - ($K_{\text{unprimed}} - K_{\text{primed}}$)						
Right hippocampus	7	27	-18	-9	5.22	0.000018
Left parahippocampal gyrus	16	-24	-21	-24	4.6	0.000077
Left hippocampus		-27	-18	-12	3.8	0.00053
($R_{\text{unprimed}} - R_{\text{primed}}$) - ($M_{\text{unprimed}} - M_{\text{primed}}$)						
Right insula	6	27	-15	21	4.39	0.00013
($K_{\text{unprimed}} - K_{\text{primed}}$) - ($M_{\text{unprimed}} - M_{\text{primed}}$)						
Left precuneus	5	-6	45	60	4	0.00032
Right supplementary motor area	10	6	0	51	3.98	0.00034
($K_{\text{unprimed}} - K_{\text{primed}}$) - ($R_{\text{unprimed}} - R_{\text{primed}}$)						
Left middle and inferior occipital gyrus	53	-24	-96	-3	6.18	0.000003
($M_{\text{unprimed}} - M_{\text{primed}}$) - ($R_{\text{unprimed}} - R_{\text{primed}}$)						
Right middle frontal gyrus	8	30	15	60	4.63	0.00009
($M_{\text{unprimed}} - M_{\text{primed}}$) - ($K_{\text{unprimed}} - K_{\text{primed}}$)						
Right middle frontal gyrus	6	39	6	54	5.13	0.000022
Right superior medial frontal gyrus	6	9	39	45	4	0.00032
Right superior frontal gyrus	6	21	12	45	3.96	0.00036

Table S4. Individual coordinates of the regions included in the DCM analysis

Group coordinates	Left STS (mm)			Left parahippocampus (mm)			Left hippocampus (mm)		
	x	y	z	x	y	z	x	y	z
	-51	-27	3	-24	-21	-24	-27	-18	-12
1	-45	-21	-6	-18	-33	-15	-30	-27	-9
2	-57	-21	-15	-30	-12	-27	-24	-11	-11
3	-45	-27	-6	-21	-36	-9	-30	-12	-12
4	-60	-27	3	-33	-33	-12		No activation	
5	-51	-36	15	-27	-21	-24		No activation	
6	-54	-24	3	-18	-36	-6	-36	-15	-18
7	-45	-18	6	-27	-9	-27		No activation	
8	-42	-24	-9		No activation		-33	-12	-12
9	-51	-12	-9	-27	-27	-21	-15	-36	3
10	-42	-15	-6	-15	-9	-24	-24	-33	-6
11	-66	-33	-3	-30	-24	-21	-21	-9	-18
12	-51	-21	-15	-18	-36	-9	-15	-6	-15
13	-42	-27	3	-33	-24	-24		No activation	
14	-66	-42	6	-24	-36	-12	-33	-21	-15
15	-60	-27	-15	-24	-15	-27	-36	-15	-18
16	-48	-36	3	-33	-40	-6	-21	-12	-15
17	-66	-18	9	-21	-24	-21	-27	-24	-9
18	-66	-21	6	-27	-24	-27	-36	-6	-21
19	-63	-12	-12	-21	-27	-15	-24	-18	-12
20	-60	-39	0	-24	-41	-6	-24	-24	-9
21	-42	-33	6	-18	-3	-30	-27	-18	-18
22	-66	-12	-9	-27	-15	-33	-27	-15	-12

Table S5 Individual MAP estimates of the DCM.B and DCM.C matrices

Subjects	DCM.B						DCM.C		
	STS→PhG			STS→Hip			STS		
	R	K	M	R	K	M	Primed	Unprimed	Pword
1	-0.005	0.006	0.008	0.001	-0.006	-0.010	-0.003	0.026	-0.007
2	-0.047	0.003	-0.048	-0.021	-0.005	0.033	0.093	0.061	-0.270
3	0.230	0.022	-0.012	0.080	0.012	-0.012	0.011	0.069	0.016
4	-0.016	0.001	0.001	0.008	0.010	0.015	-0.023	0.017	0.050
5	0.031	0.015	0.016	0.005	-0.057	0.001	0.018	0.048	0.022
6	0.047	0.012	0.005	0.085	-0.023	0.002	0.028	0.052	0.048
7	0.048	-0.044	0.020	0.043	-0.082	-0.038	0.079	0.099	0.081
8	-0.014	0.006	0.002	0.006	0.001	-0.006	0.016	0.010	0.021
9	-0.059	0.043	0.018	0.041	0.054	-0.063	0.064	0.097	0.091
10	0.053	0.013	0.009	0.007	-0.060	0.012	0.060	0.092	0.064
11	0.023	0.027	0.011	0.133	0.020	-0.017	0.084	0.086	0.016
12	0.008	0.036	-0.023	0.066	-0.020	0.001	0.060	0.062	0.063
13	0.007	0.007	-0.008	0.003	0.002	-0.015	0.007	0.029	0.003
14	0.020	0.011	0.004	0.050	0.004	0.007	0.034	0.049	0.045
15	0.017	-0.014	-0.005	0.016	-0.008	0.003	0.017	0.023	0.005
16	-0.033	0.025	-0.016	-0.005	-0.002	0.001	0.022	0.035	0.024
17	0.102	-0.024	0.002	0.025	-0.002	-0.014	0.032	0.032	0.034
18*	-0.001	-0.009	-0.95	-0.004	-0.004	-0.9	0.004	0.015	0.026
19	0.012	0.010	0.027	0.029	-0.040	0.000	-0.025	0.027	0.010
20	0.017	-0.002	0.007	0.037	0.018	0.014	0.011	0.041	0.021
21	-0.034	0.06	-0.032	0.022	0.141	-0.062	0.096	0.110	0.130
22	-0.024	-0.015	0.002	0.013	-0.001	0.005	0.021	0.027	0.027
Mean	0.018	0.01	-0.001	0.031	-0.002	-0.007	0.033	0.052	0.024
SD	0.06	0.02	0.02	0.036	0.04	0.023	0.035	0.03	0.07

(*): outlier. PhG = left parahippocampal gyrus; Hip = left hippocampus; SD = standard deviation; Mean and SD calculated without outlier.

Table S6. Individual MAP estimates of the DCM.A matrix

Subjects	STS→PhG	STS→Hip	PhG→STS	PhG→Hip	Hip→STS	Hip→PhG
1	0.039	-0.016	0.003	-0.0006	-0.001	-0.0007
2	-0.18	0.0006	-0.022	-0.001	-0.002	-0.0003
3	0.042	0.097	0.004	0.0044	0.01	0.003
4	0.005	0.0055	0.0005	0	0.0006	-0.0001
5	0.115	-0.108	0.0042	-0.011	-0.003	-0.01
6	-0.036	0.0042	-0.003	0.0022	-0.001	0.003
7	-0.044	-0.111	-0.006	0.006	-0.01	0.0058
8	0.023	0.009	0	0.001	0	0.0001
9	-0.135	-0.12	0	0.016	-0.008	0.0134
10	0.034	0.046	0.003	0.016	0.006	-0.0001
11	0.098	0.099	0.0126	0.006	0.029	0.0066
12	0.053	-0.014	-0.004	-0.0026	0.004	-0.0025
13	0.0063	0.019	0.0006	0.0004	0.0015	0.0003
14	-0.0656	-0.053	-0.0027	0.0033	-0.002	0.0026
15	0.0034	-0.007	0.0004	0.0004	0.0003	0.0003
16	-0.0437	0.015	-0.002	-0.0006	0.0005	-0.0006
17	0.083	0.093	0.0018	0.0066	0.0005	0.007
19	0.011	-0.038	0.01	-0.0018	-0.003	-0.0025
20	0.048	0.14	0.0012	0.007	0.002	0.007
21	0.0178	-0.108	0.0067	0.009	-0.022	0.002
22	0.017	0.09	0.0008	0.001	0.006	0.001
Mean	0.004	0.002	0.000	0.003	0.000	0.002
SD	0.07	0.07	0.007	0.006	0.009	0.004

PhG = left parahippocampal gyrus; Hip = left hippocampus; SD = standard deviation

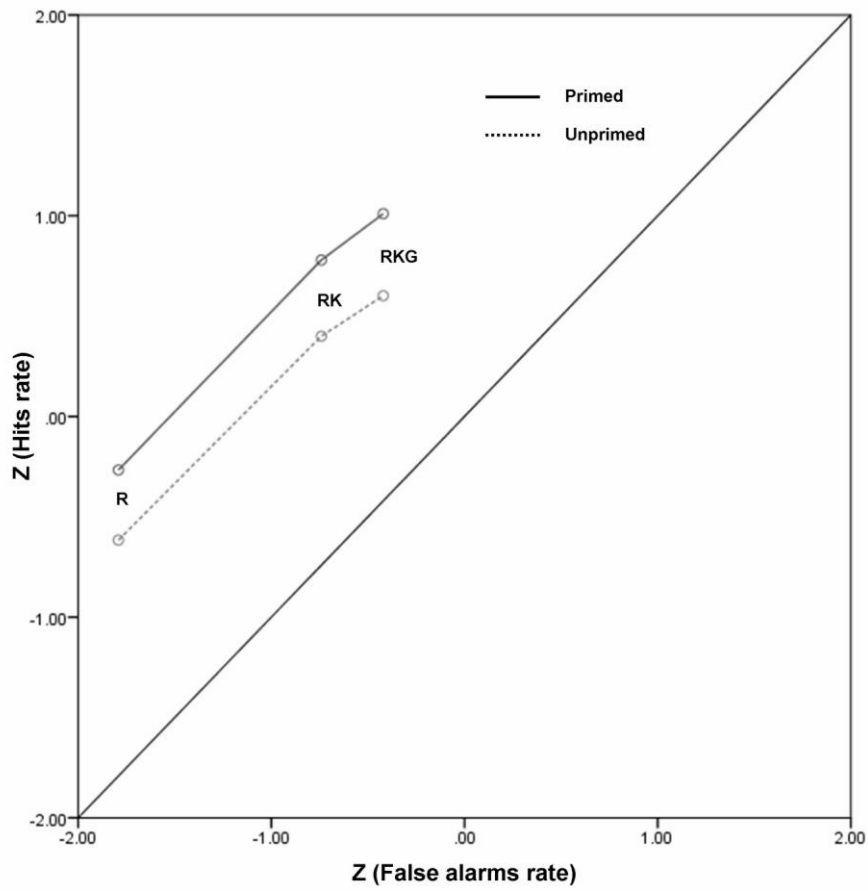


Figure S1. Z-transformed Receiver operating characteristics (Z-ROCs) plotted for R, RK and RKG points according to primed and unprimed conditions

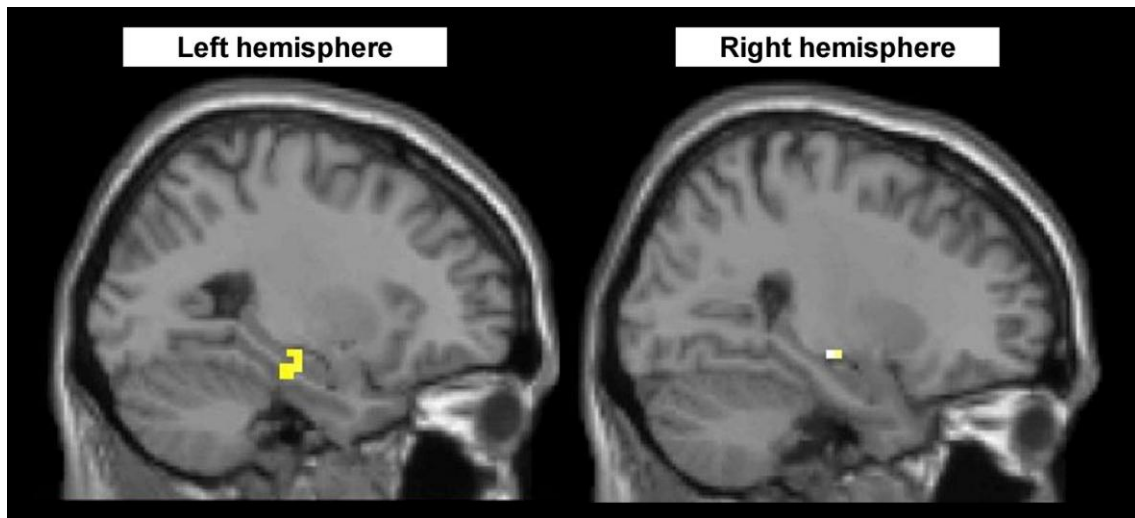


Figure S2. Regions of the MTL displayed on sagittal slices that show a significant interaction between priming and subsequent recognition in the left (including the hippocampus and the parahippocampus gyrus) and right (hippocampus) hemispheres.

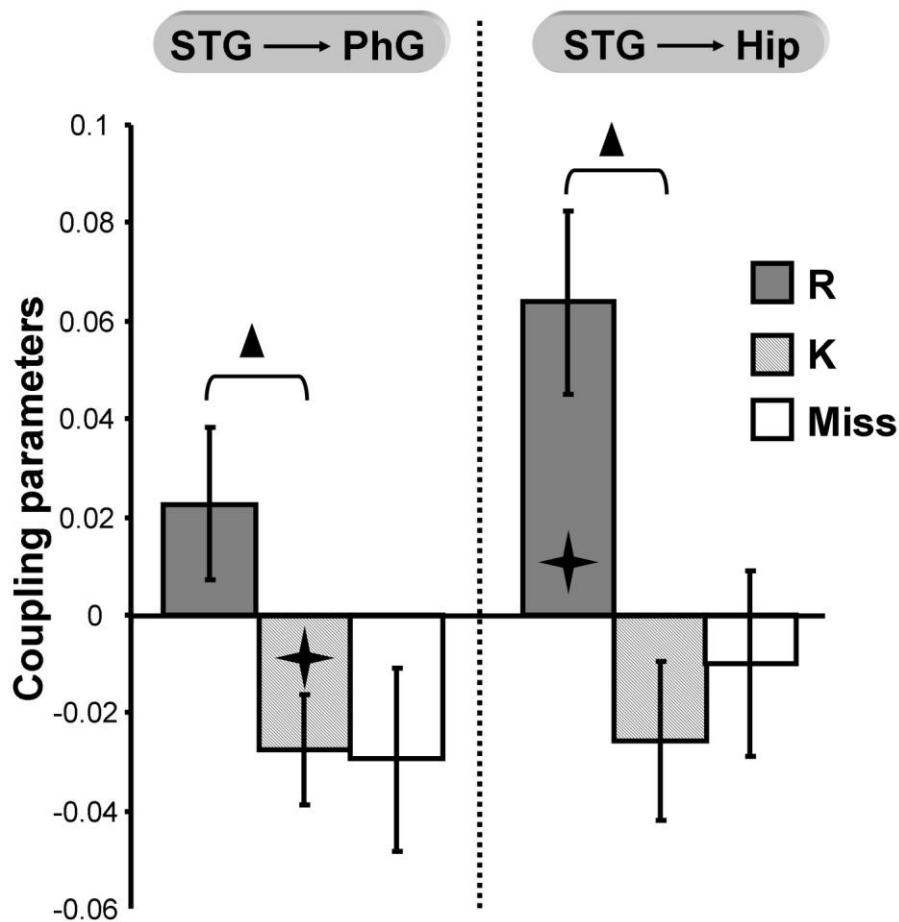


Figure S3. Results of the DCM analysis with the *Individual method* (see Methods section). Mean coupling parameters (MAP estimates of DCM.B matrix) for Remember (R), Know (K), and Miss (M) responses between the left STG and MTL regions (PhG: left parahippocampus gyrus; Hip: left hippocampus). Stars represent significant coupling parameters (different from 0) and triangles represent significant differences between R and K coupling parameters. Note that there is one difference in the outcomes between the *Group* and *Individual* DCM analyses: the *Individual method* showed a negative coupling between the left STG and the left PhG only for subsequent K responses (i.e. the priming-related decrease in the STG activity is coupled with a priming-related increase in the parahippocampal activity only for subsequent K responses). However, though this effect is

interesting with respect to the memory functions supported by the PhG, it is not reliable with the *Group method* and is therefore not discussed further.