

SUPPLEMENTARY RESULTS

Interactions in MTL univariate predicting mPFC reinstatement location.

In our analysis using univariate activity at the time of memory retrieval to predict the location of reinstatement in the mPFC, we observed several interactions with hippocampal subfield. For the pHC, there was a significant *pHC* * *CS type* interaction ($X^2_{(1)} = 11.2$, $P = 8.3e-4$), such that the slope of pHC activity was significantly more negative for CS+ compared to CS- (CS slope diff. = $-1.53e-3$, $[-2.43e-3, -6.34e-4]$, $P = 8.24e-4$). In the body of the hippocampus, there was a significant *HC body* * *CS type* * *encoding context* interaction ($X^2_{(1)} = 5.46$, $P = 0.019$). Post-hoc contrasts revealed that for items encoded during conditioning, the slope for the CS+ was significantly more negative than the CS- (CS slope diff. = $-2.68e-3$, $[-4.21e-3, -1.15e-3]$, $P_{FDR} = 1.17e-3$), while there was no difference in the slopes for extinction (CS slope diff. = $-8.68e-5$, $[-1.63e-3, 1.46e-3]$, $P_{FDR} = 0.91$). There were no significant interactions in the aHC, BLA, or CeM. In sum, MTL univariate activity predicted more reinstatement in the dACC. This effect was stronger for all CS+ items in the pHC compared to CS-, and was selective for conditioning CS+ items in the body of the hippocampus.

Recognition memory does not influence reinstatement in the mPFC.

We additionally tested if reinstatement in our *a priori* ROIs differed as a function of memory strength. Recognition memory was included as a categorical predictor (e.g., “high-confidence hit” or “miss”). In the mPFC, there was no main effect of *memory accuracy* ($X^2_{(1)} = 0.024$, $P = 0.89$), and all interactions with this term were not significant (all P s ≥ 0.14). A similar pattern emerged in the amygdala, with only a trending main effect of *memory accuracy* ($X^2_{(1)} = 3.08$, $P = 0.08$) and no significant interactions (all P s ≥ 0.07). In the hippocampus, we again observed a trending main effect of *memory accuracy* ($X^2_{(1)} = 3.47$, $P = 0.06$), as well as several significant higher order interactions (*memory accuracy* * *CS type* * *encoding context*: $X^2_{(2)} = 6.26$, $P = 0.044$; *memory*

25 *accuracy * CS type * subfield: $X^2_{(2)} = 6.69$, $P = 0.035$; memory accuracy * encoding context **
26 *group: $X^2_{(2)} = 11.8$, $P = 0.003$).* Thus, recognition memory did not influence reinstatement in the
27 mPFC and amygdala. Recognition memory influencing reinstatement in the hippocampus is
28 consistent with this structure's role in episodic retrieval.

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30 **Searchlight Clusters**

Group	Encoding context	Label (hemisphere)	MNI coord. peak	Size in voxels (3mm ³)
Healthy	Acquisition	Inferior frontal gyrus (R)	33, 9, 27	741
		Superior frontal gyrus (L)	-6, 18, 51	608
		Middle frontal gyrus (L)	-39, 33, 15	414
		Angular gyrus (L)	33, -57, 36	308
		Insula (L)	-27, 24, -6	280
		Inferior frontal gyrus (L)	-45, 3, 21	178
		Precuneus (L)	-9, -66, 42	175
		Inferior parietal lobule (R)	30, -54, 42	117
		Cerebellar tonsil (R)	36, -63, -45	40
		Cerebellar tonsil (L)	-33, -60, -33	32
		Medial frontal gyrus (L)	-15, 48, -3	25
		Precuneus (R)	12, -75, 42	25
		Middle temporal gyrus (L)	-57, -51, -6	22
	Extinction	Medial frontal gyrus (L)	-3, 51, 0	191
		Precuneus (L)	-6, -63, 27	113
		Angular gyrus (L)	-39, -75, 36	69
		Angular gyrus (R)	42, -69, 30	44

		Middle temporal gyrus (R)	63, 0, -24	26
ptsd	Acquisition	Superior frontal gyrus (R)	-6, 18, 51	326
		Insula (L)	-33, 24, 9	214
		Insula (R)	30, 24, -6	201
		Precuneus (L)	-18, -66, 48	119
		Supramarginal gyrus (L)	-54, -48, 27	62
		Culmen / Parahippocampal gyrus (L)	-30, -51, -24	61
		Inferior frontal gyrus (R)	45, 6, 24	52
		Middle frontal gyrus (L)	-51, -3, 39	52
		Fusiform gyrus (L)	-57, -63, -12	29
		Precentral gyrus (L)	-42, -3, 51	23
		Middle frontal gyrus (L)	-42, 24, 24	22
		Superior temporal gyrus (L)	-51, -54, 15	20
	Extinction	Cuneus (L)	-6, -75, 30	42
		Insula (R)	36, 30, 3	34
		Insula (L)	-39, 27, 0	25

32 **Supplementary Table 1.** Whole-brain searchlight results. Clusters correspond to significant CS+
33 – CS- reinstatement. Coordinates refer to the peak voxel in each cluster. Anatomical labels were
34 derived from the Talairach-Tournoux Atlas.

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