Large-scale Brain Networks of the Human Left Temporal Pole: A Functional Connectivity MRI Study

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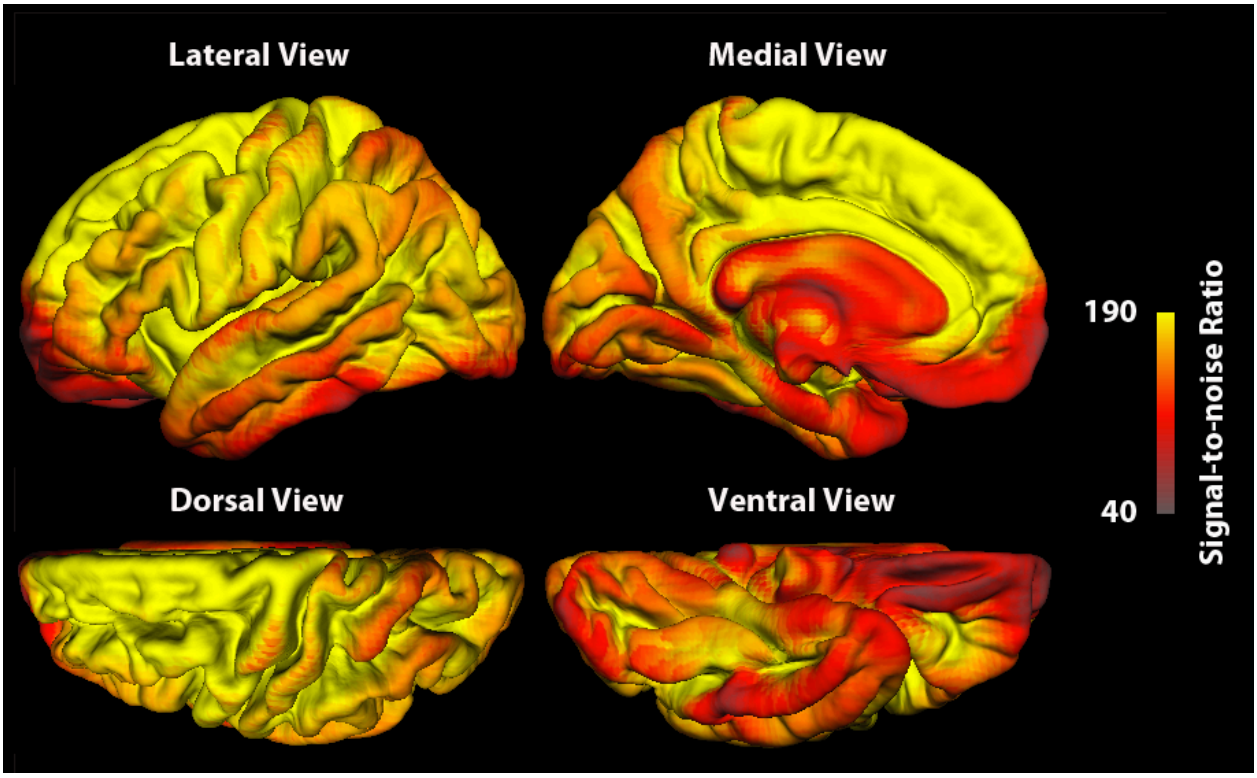
Supplementary Table S1. MRI Parameters

Sequence	Parameters	Sample 1	Sample 2	Sample 3
RS-fMRI. T2*-weighted gradient-echo echo-planar sequence				
	No. of interleaved coronal slices	47	55	33
	TR (ms)	3000	5000	2000
	TE (ms)	30	30	30
	FA	85°	90°	90°
	Matrix	72x72	128x112	64x64
	FOV (mm)	216	256	200
	Voxel size (mm)	3.0 isotropic	2.0 isotropic	3.1x3.1x6
	Acquisitions per run	124	76	128
MPRAGE sequence				
	No. of interleaved sagittal slices	144	192	176
	TR (ms)	2200	2300	2530
	TE (ms)	1.54	2.98	3.45
	FA	7°	7°	7°
	Matrix	192x192	240x256	256x256
	FOV (mm)	230	256	256
	Voxel size (mm)	1.2 isotropic	1.0 isotropic	1.0 isotropic

FA: Flip Angle. ***FOV:*** Field of View. ***MPRAGE:*** Magnetization-Prepared Rapid Acquisition with Gradient Echo. ***RS-fMRI:*** Resting State Functional Magnetic Resonance Image. ***TE:*** Echo Time. ***TR:*** Repetition Time.

Supplementary Figure S1. Temporal signal-to-noise ratio (TSNR) maps of the functional data from the full sample (N = 172). Please note that the TSNR at all areas of the temporal pole exceeds the ratio of 40 considered to be the minimum to reliably detect effects between conditions in fMRI data (Murphy K et al. 2007).



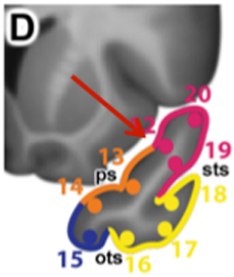
Supplementary Figure S2. Location of the semicircular notch on the dorso-medial aspect of the human TP, on coronal sections (A), surface anatomy (B) and orthogonal T1-weighted sections (C) of the standard MNI152 27 template brain (arrows). Figures are reproduced or modified from Ding et al. (2009) and Blaizot X et al. (2010) –see main text references– with permission.

Semicircular Temporal Notch

A

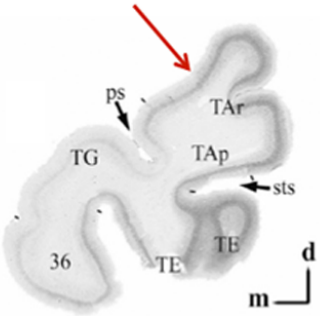
Coronal Images

We define this previously undescribed shallow notch (arrow) in order to provide a medial boundary for TAr at this coronal level of the temporal pole (see text):



From Fig 1

A similar shallow notch, or cortical inflexion, can be seen at the same coronal level in:



Fif 2 of Ding et al. (2009). The change of cortical configuration at this level is quite clear

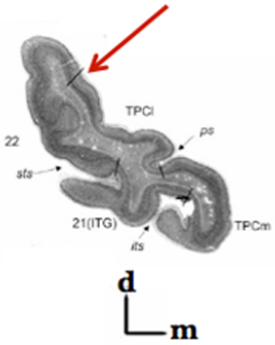
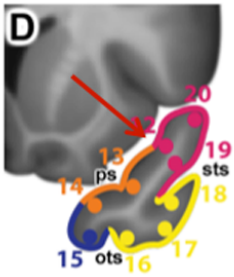


Fig 4 of Blaizot X et al.(2010)

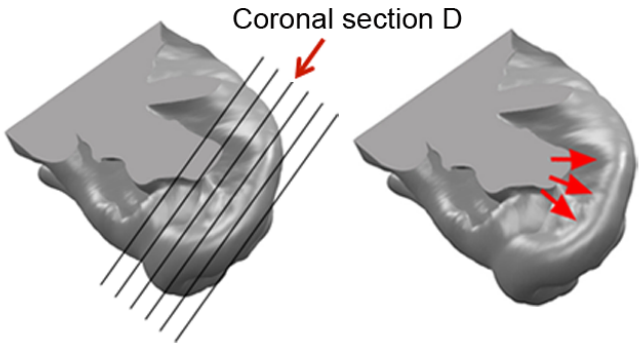
B

Dorsomedial Surface Appearance

On this surface, TAr and TG are raised, like a ridge, creating a shallow semicircular notch caudo-medial to TAr and TG

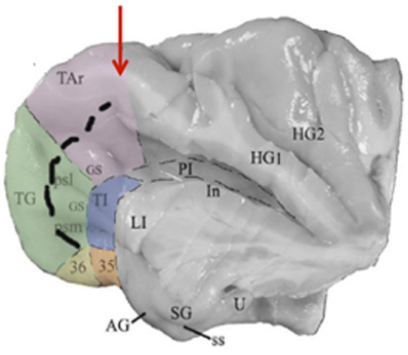


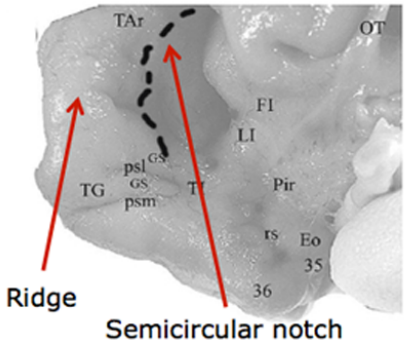
Arrows point to the shallow semicircular temporal notch



Semicircular notch or cortical inflexion at the TAr boundary

Fig 1 of Ding et al. (2009)

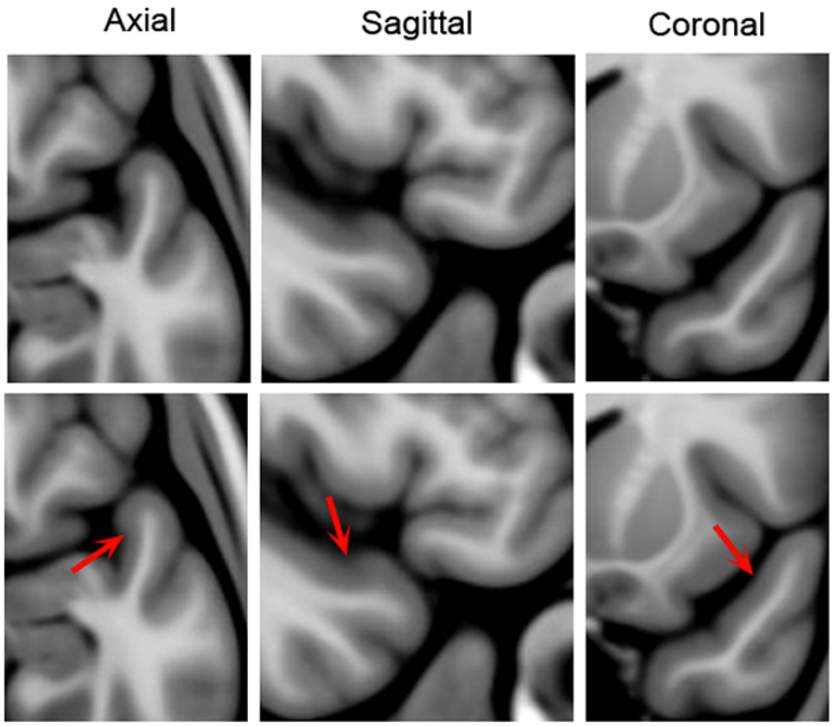




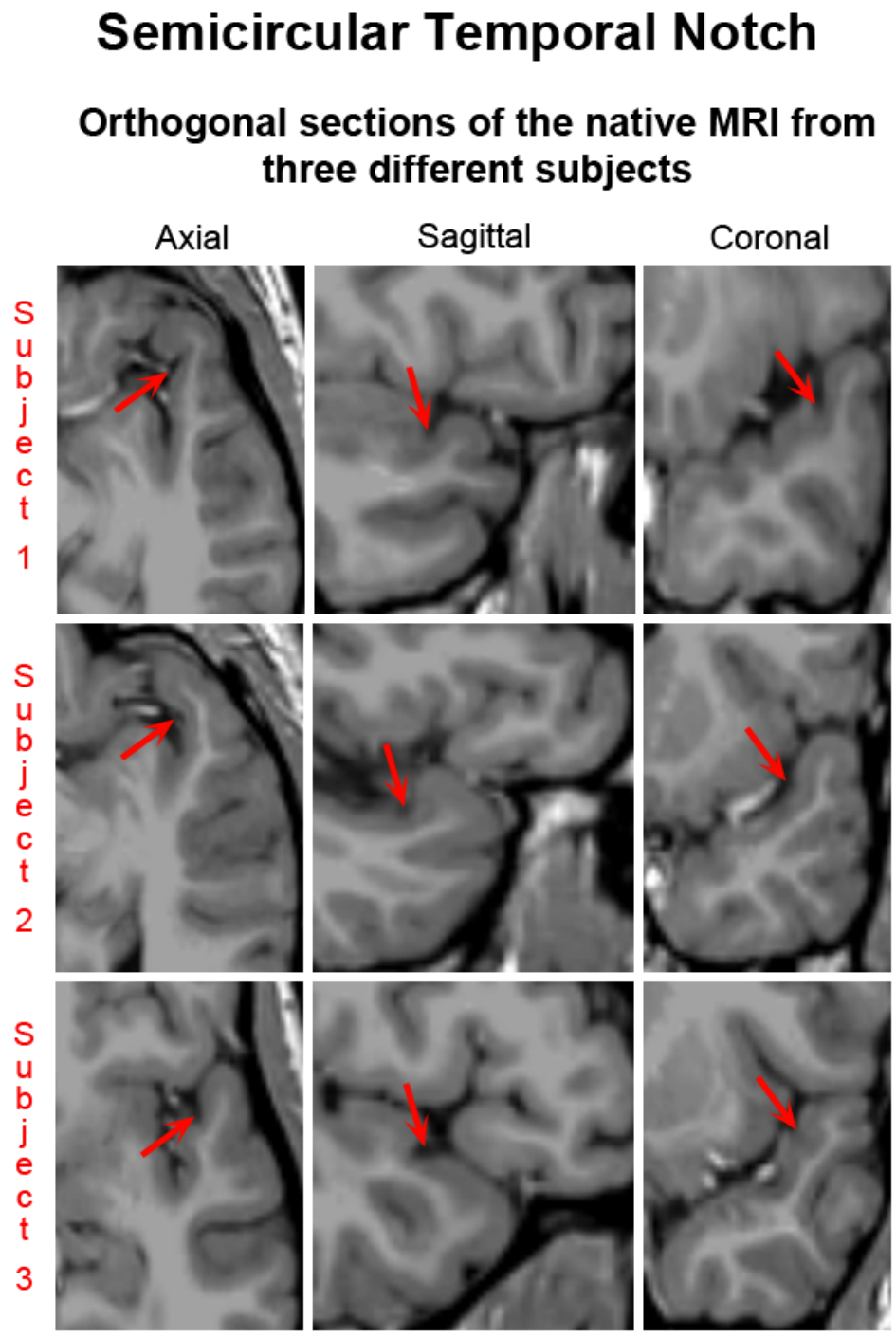
C

Orthogonal sections of the standard MNI152 T1-weighted template

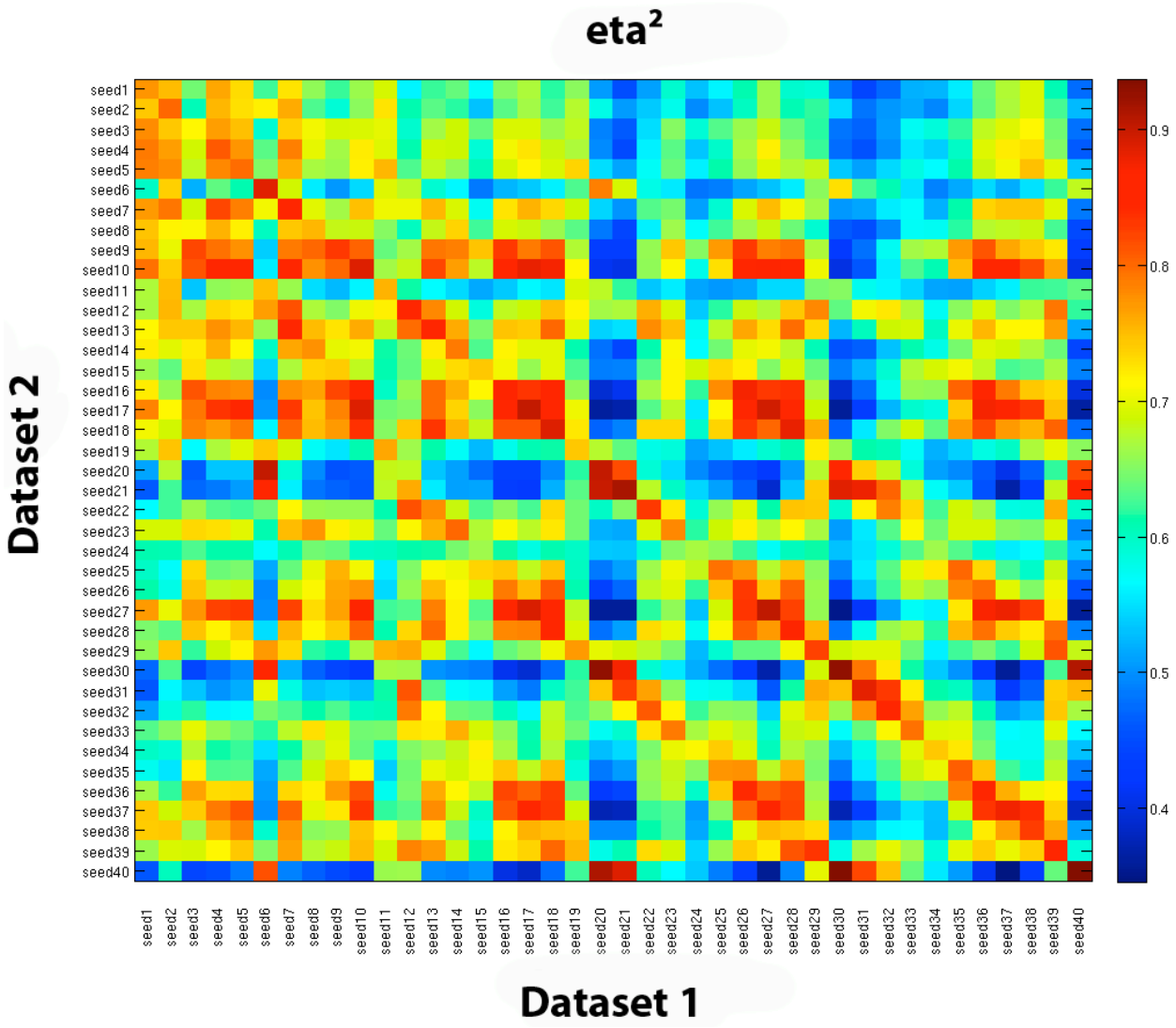
The semicircular temporal notch is shown without labels in the top row; in the lower row, red arrows point to the notch



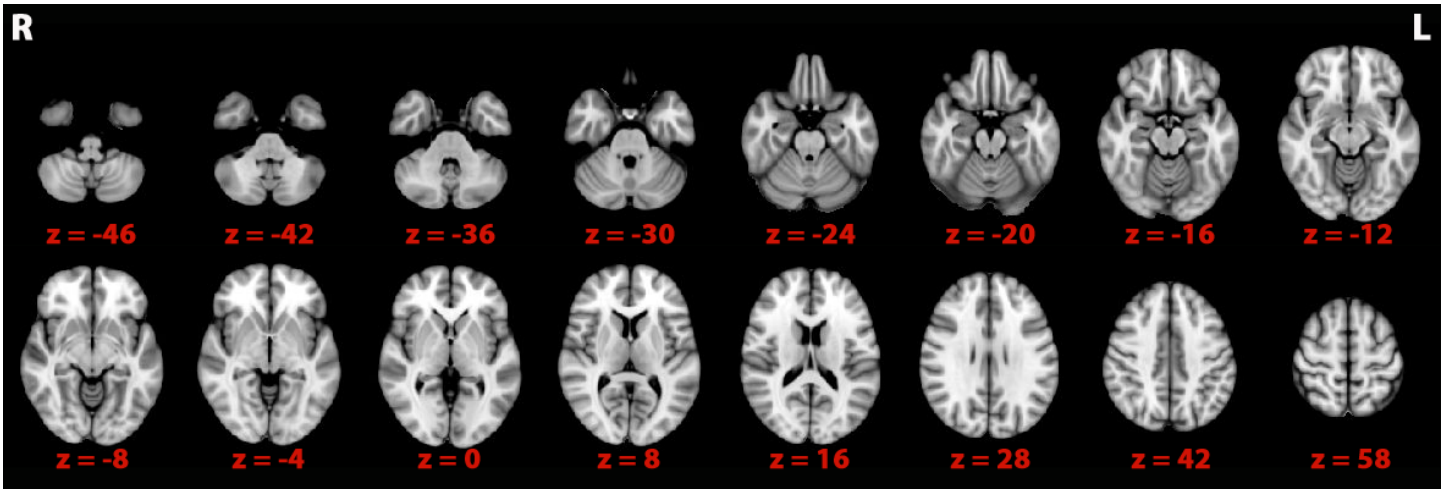
Supplementary Figure S3. Semicircular notch on the dorso-medial surface of the human TP. Location of the semicircular sulcus on orthogonal sections from the native MRI of three different healthy subjects (arrows).



Supplementary Figure S4. Similarity matrix (eta^2 coefficients) for the RSFC for each seed from the two independent datasets, Dataset 1 in the *x* axis and Dataset 2 in the *y* axis. Note the high similarity between identical seeds in the two samples (central diagonal of the matrix).



Supplementary Figure S5. RSFC maps for each of the 40 seeds in the left TP. Voxel Z score, > 0.4. The first map indicates laterality and *z* coordinates for each of the axial slices of the standard MNI152 template.



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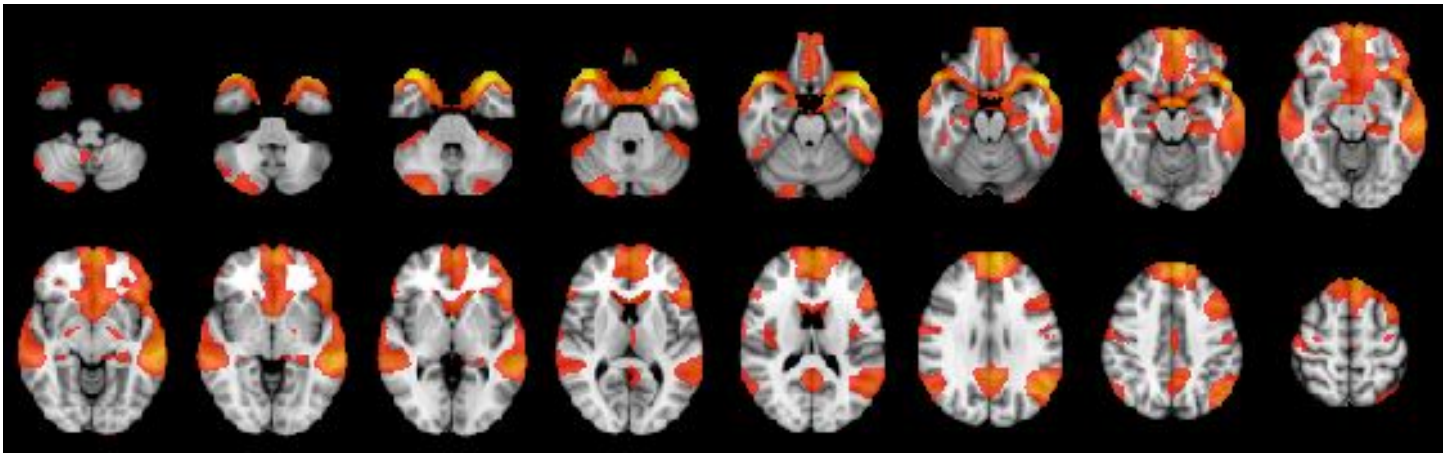

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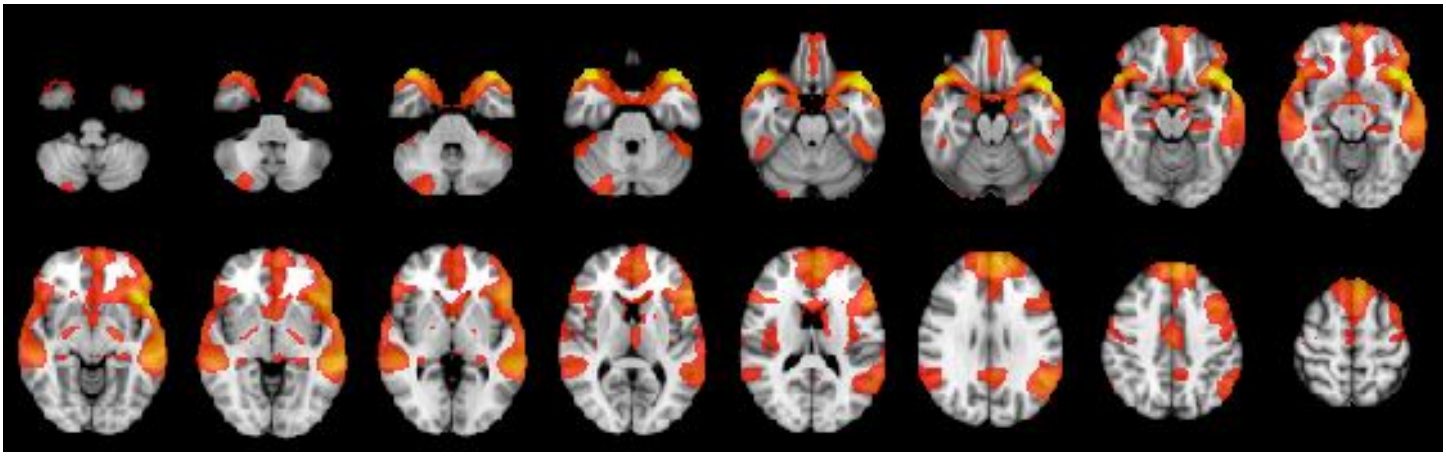

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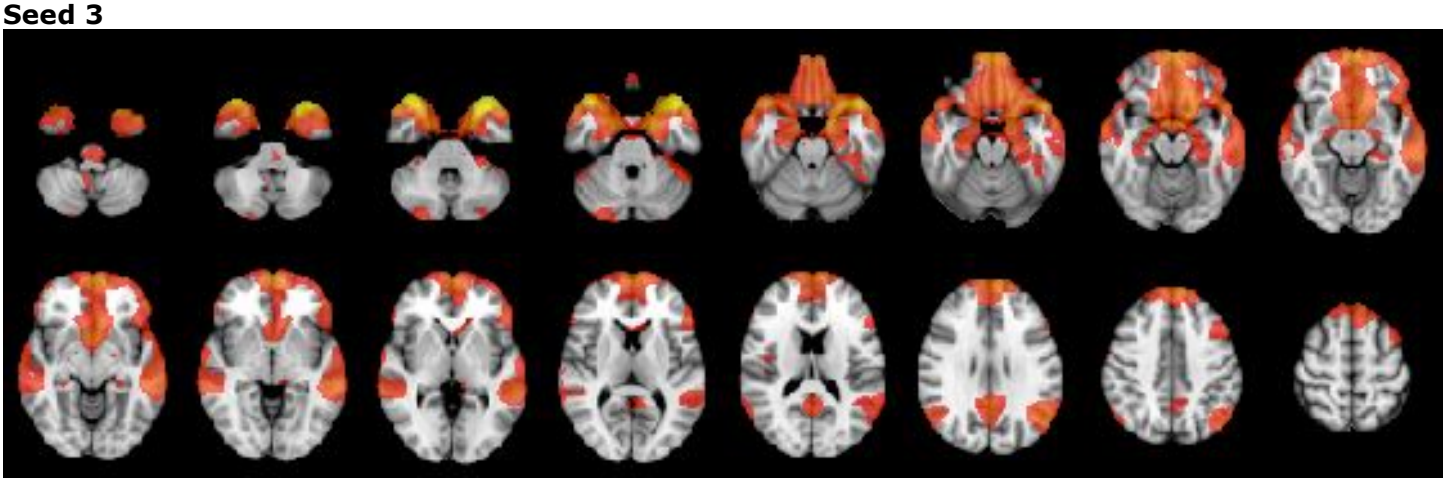

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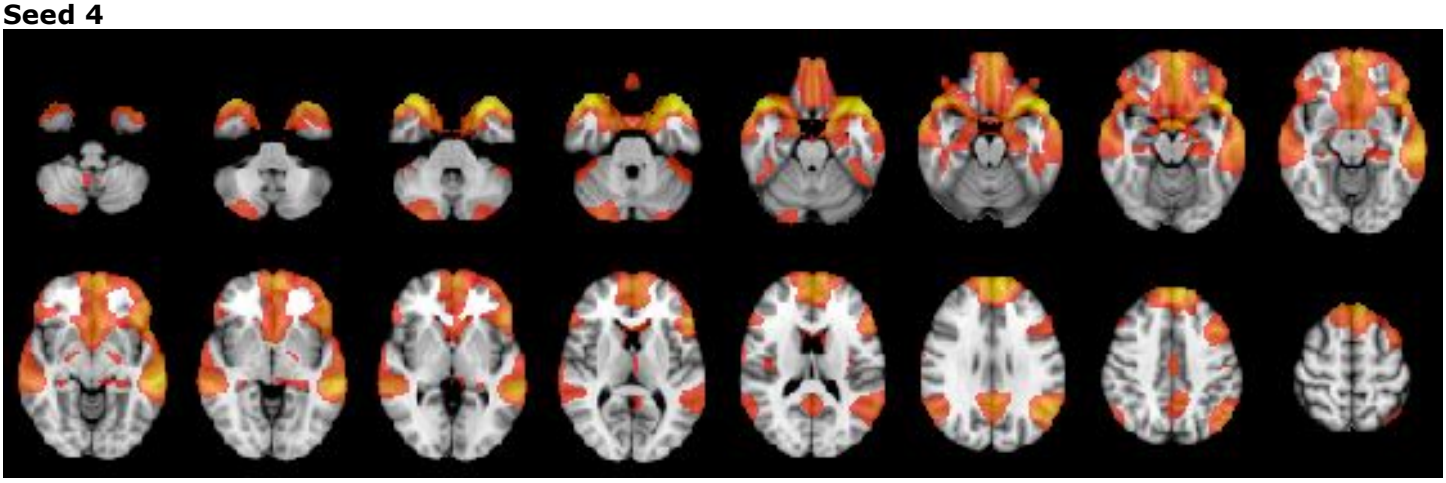

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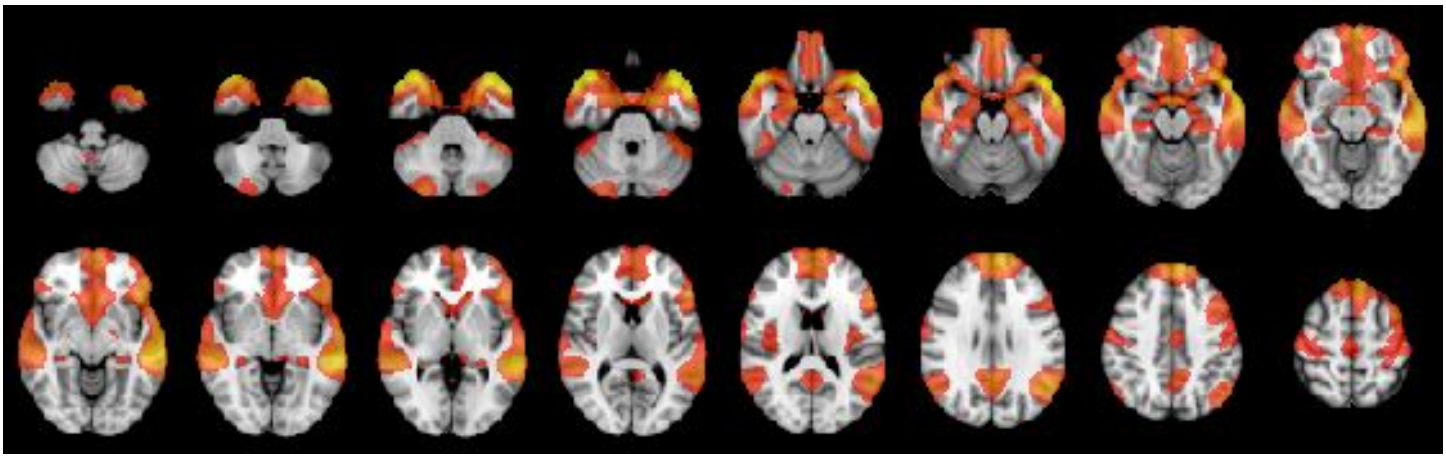

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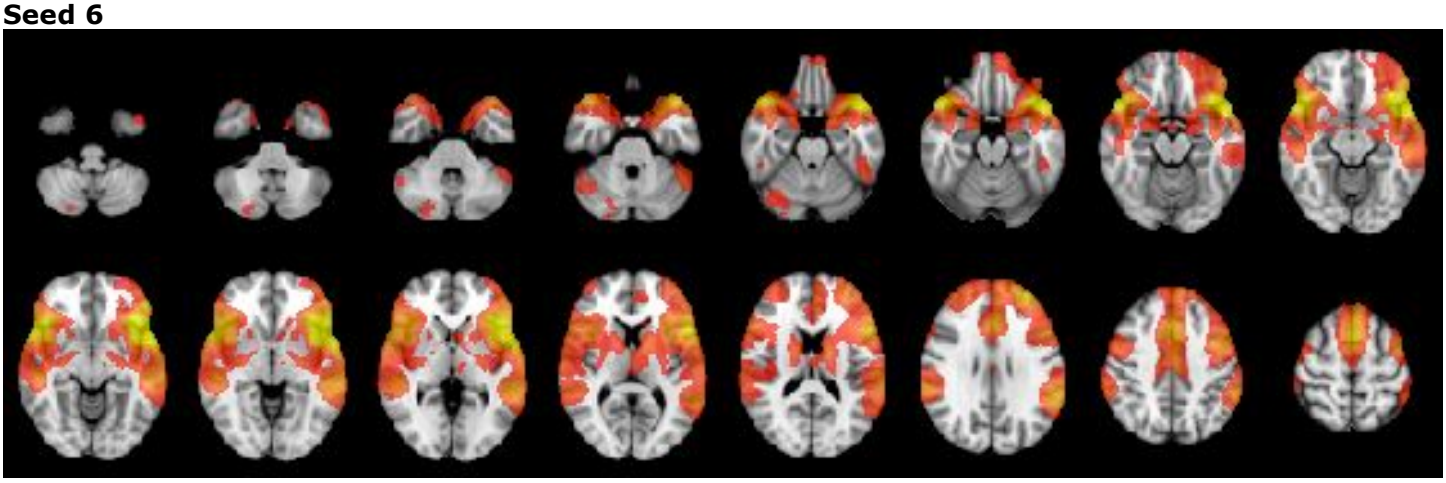

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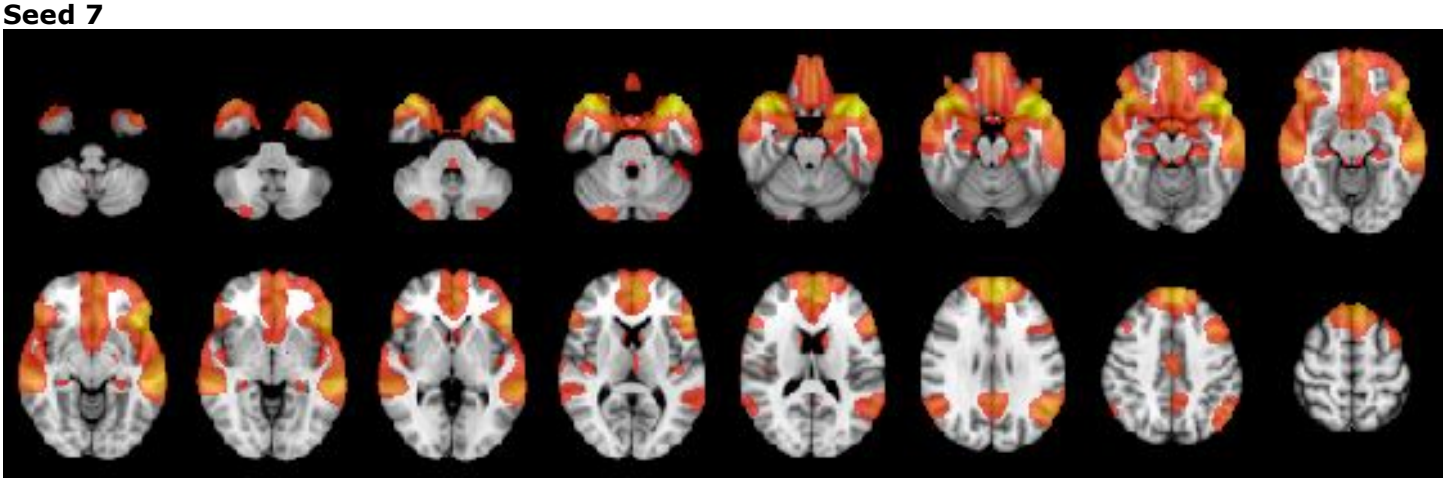

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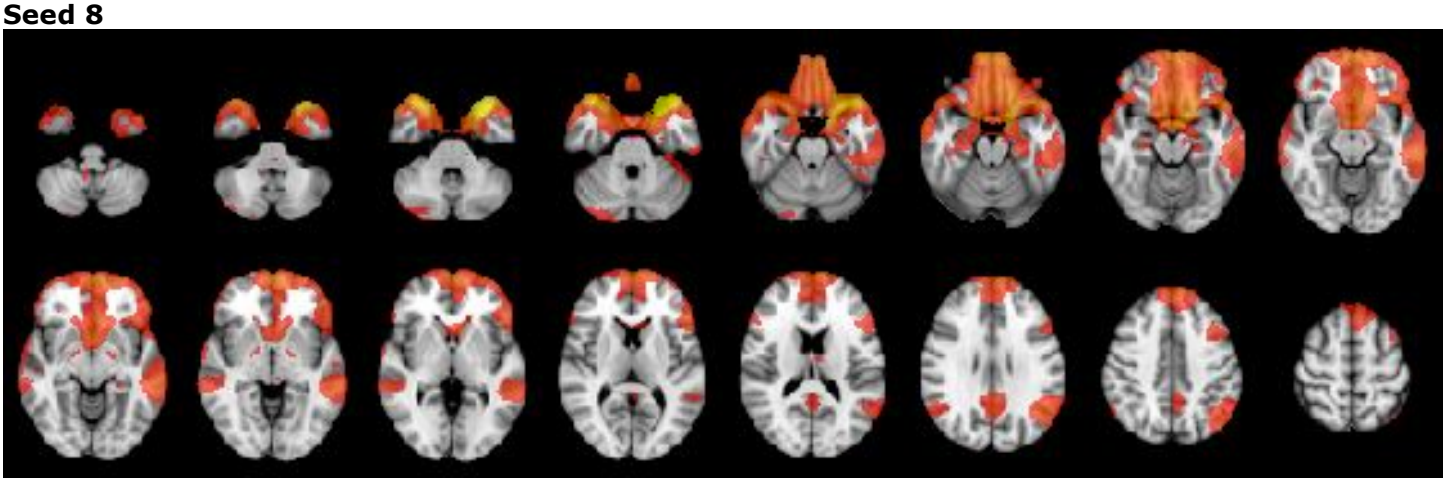

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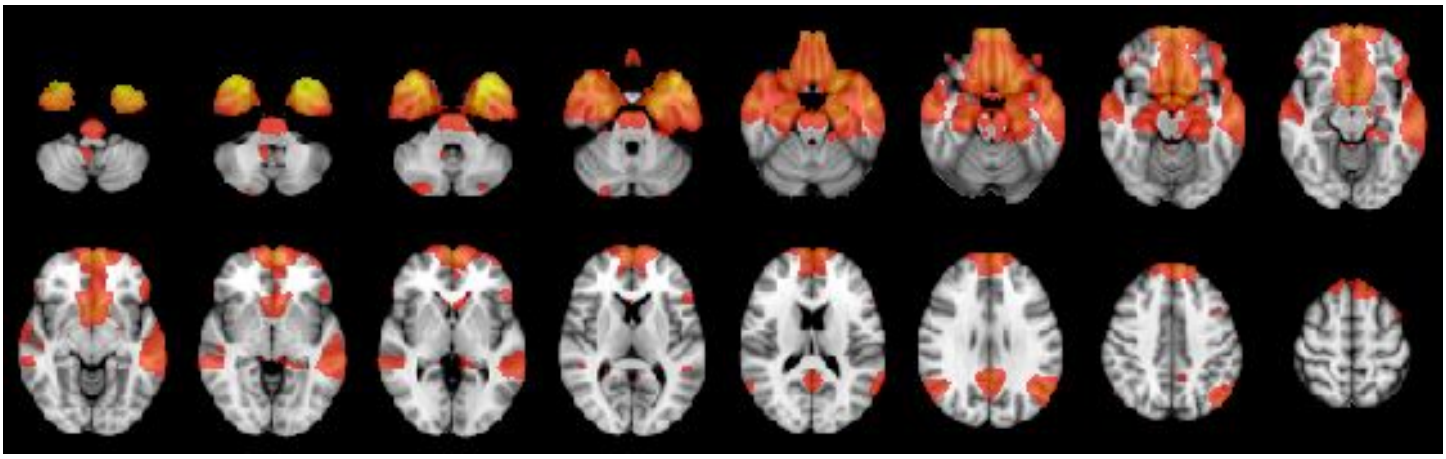

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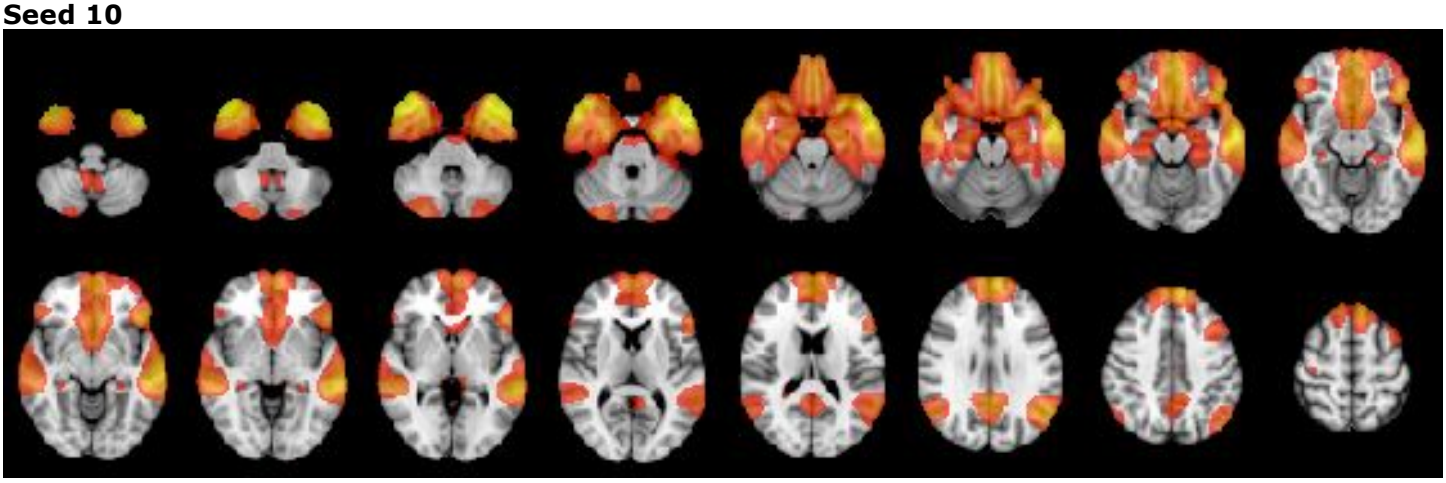

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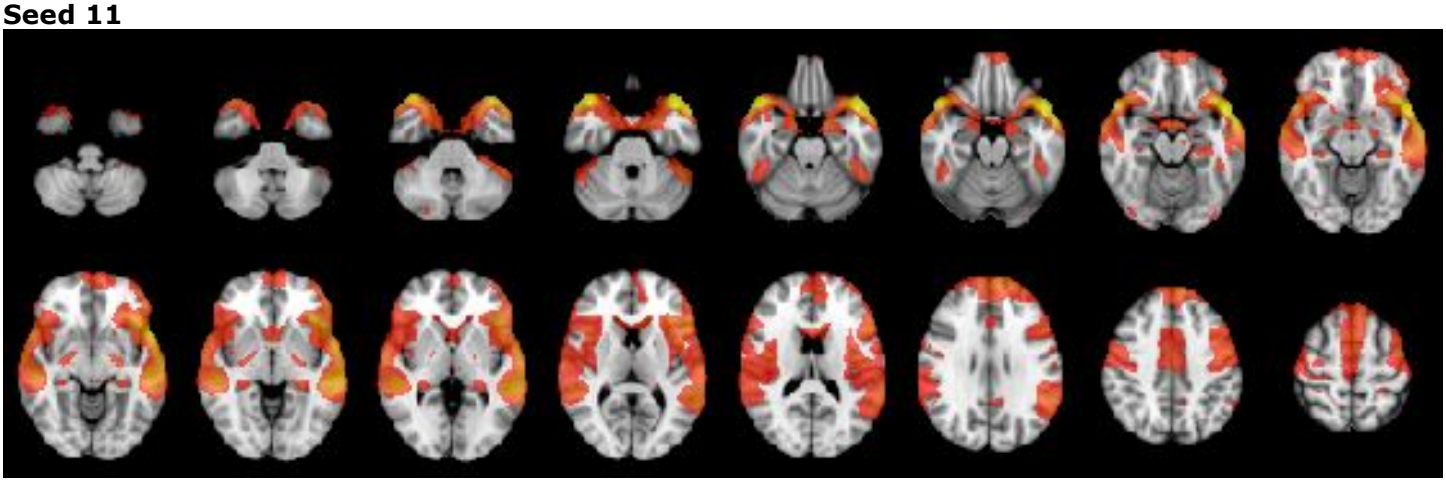

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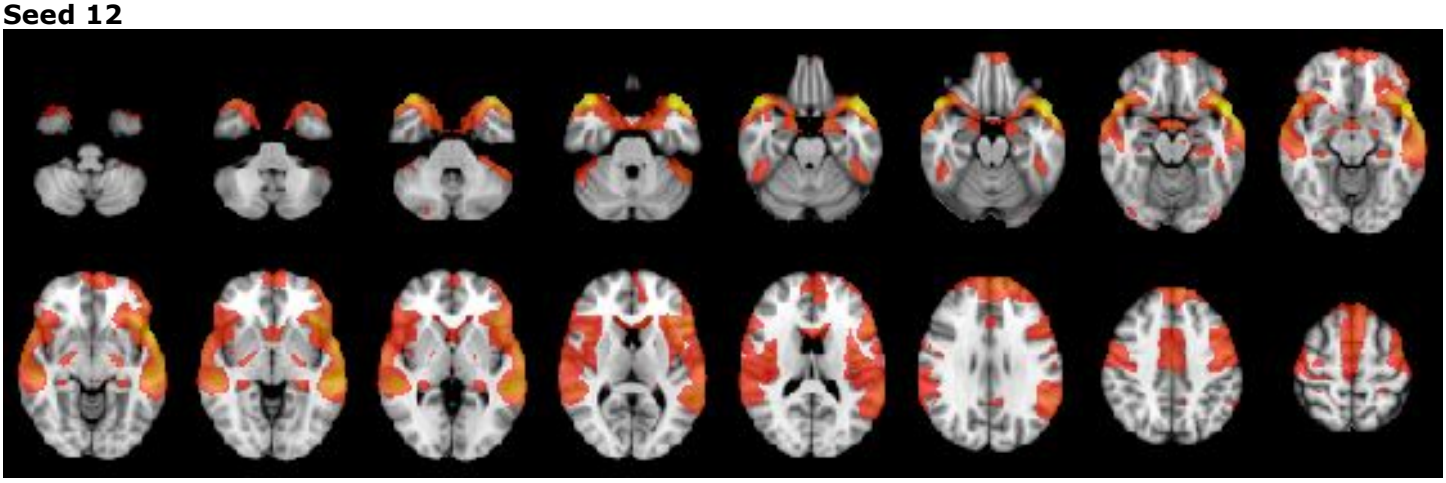

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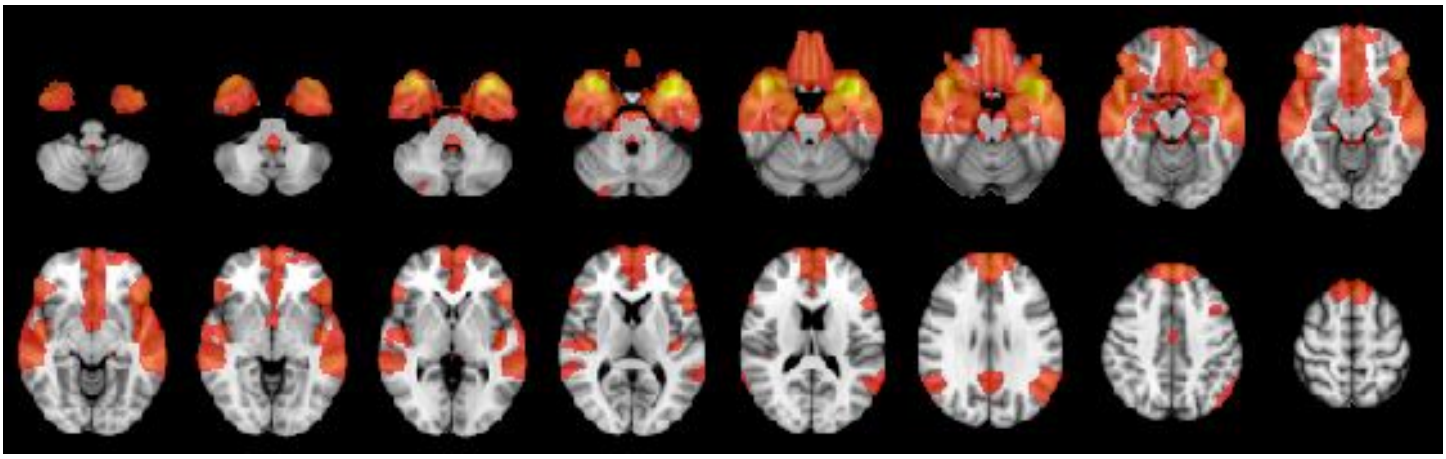

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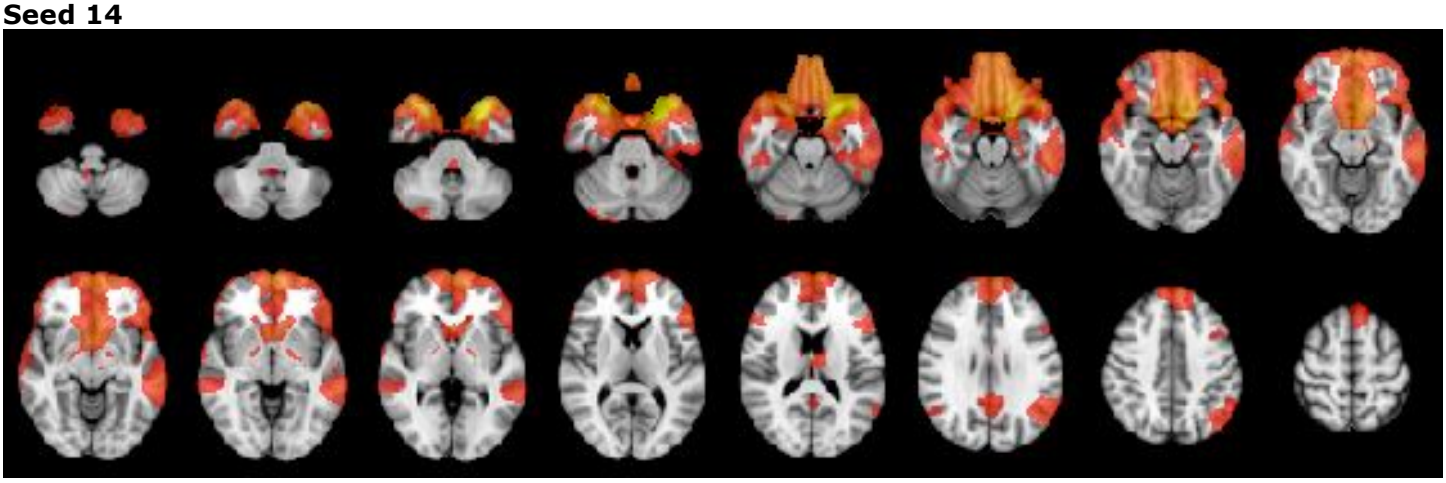

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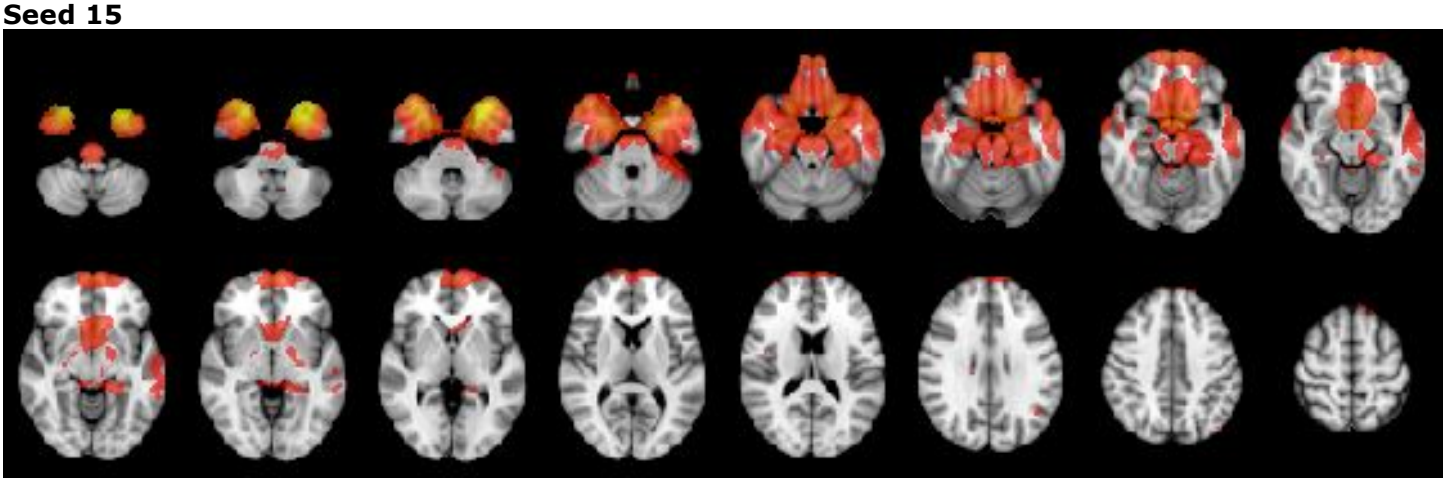

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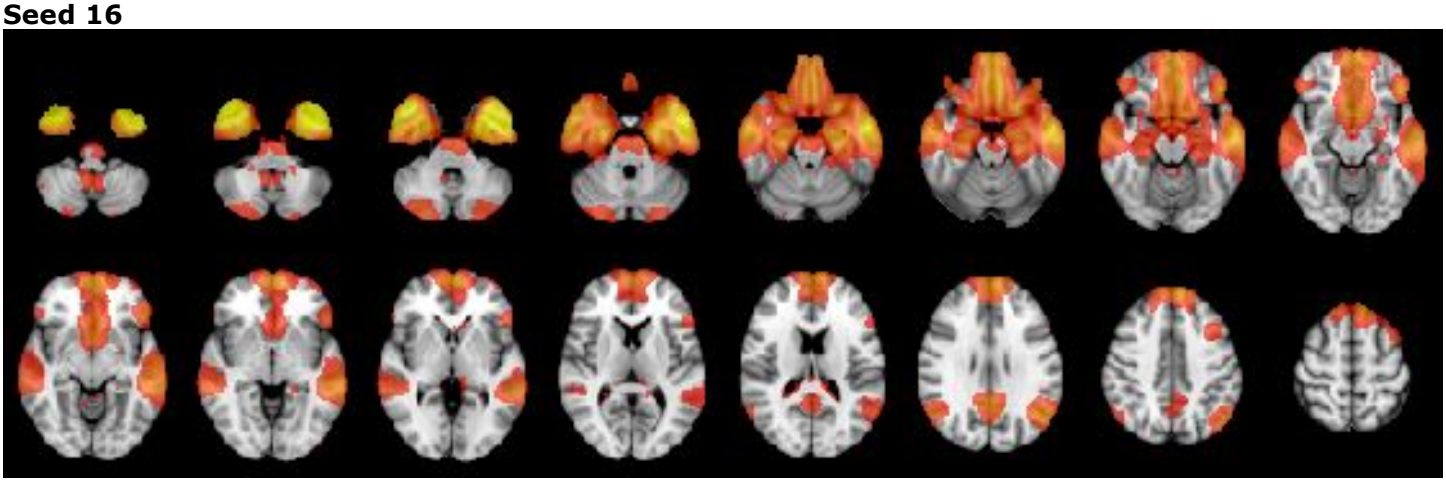

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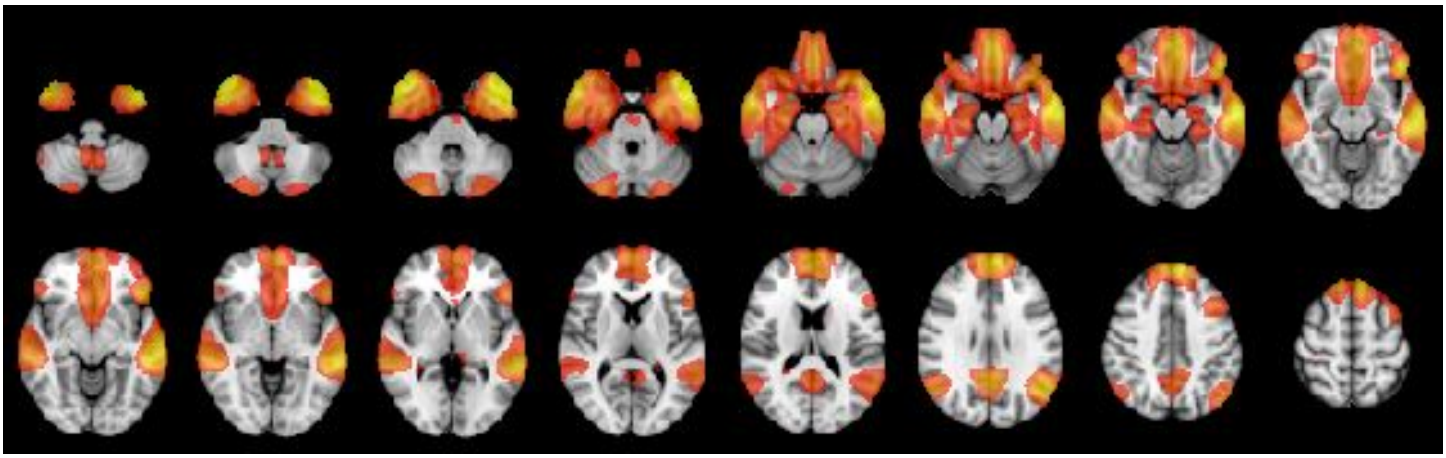

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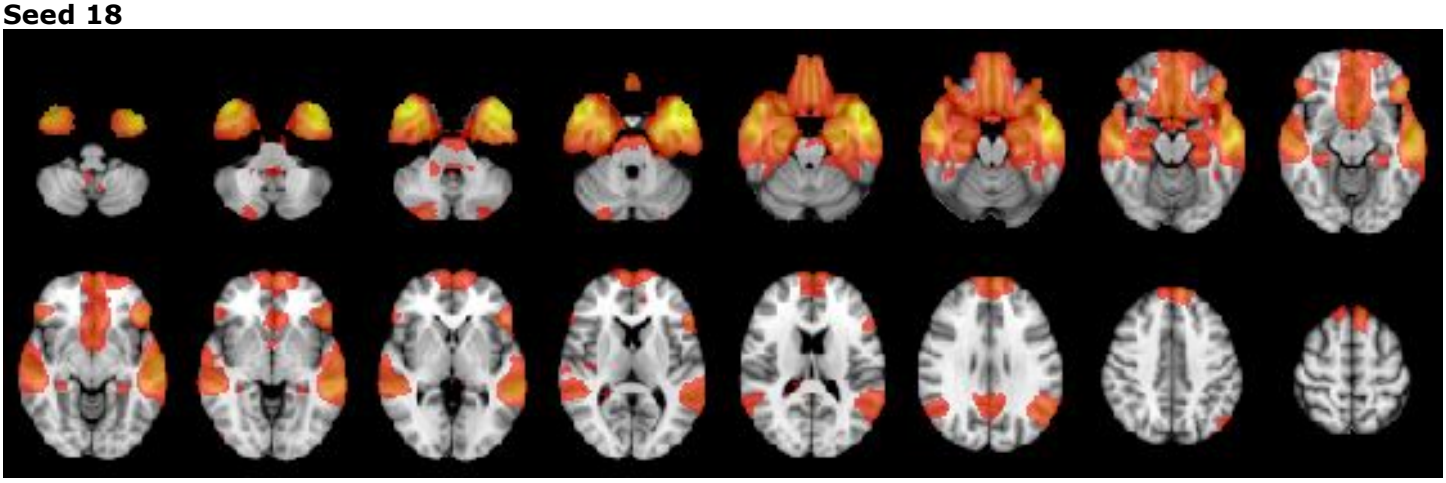

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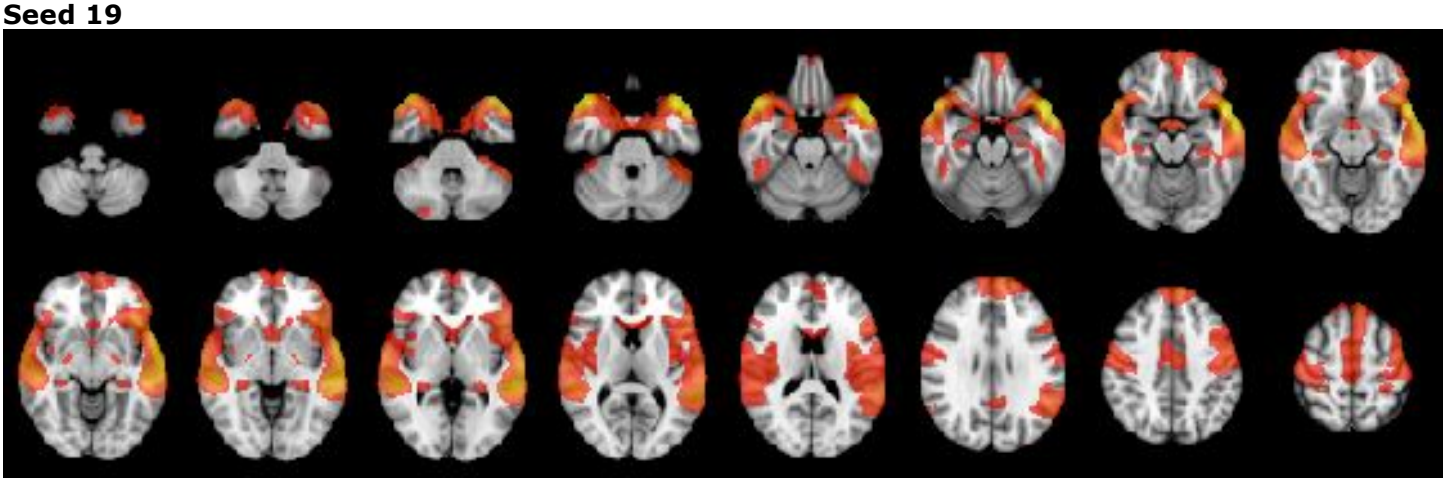

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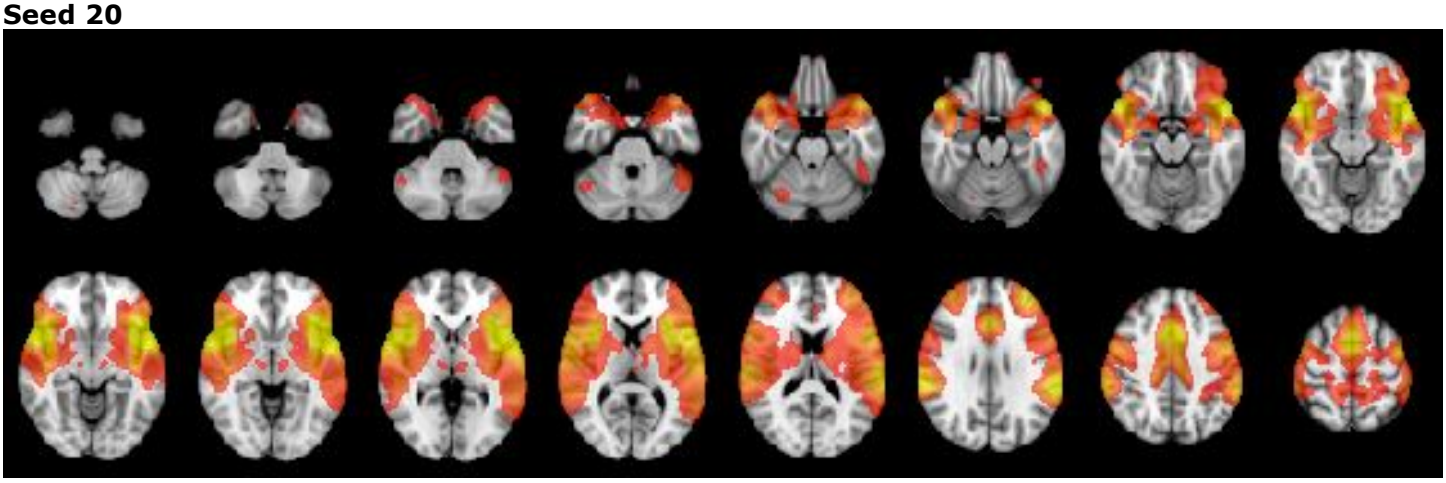

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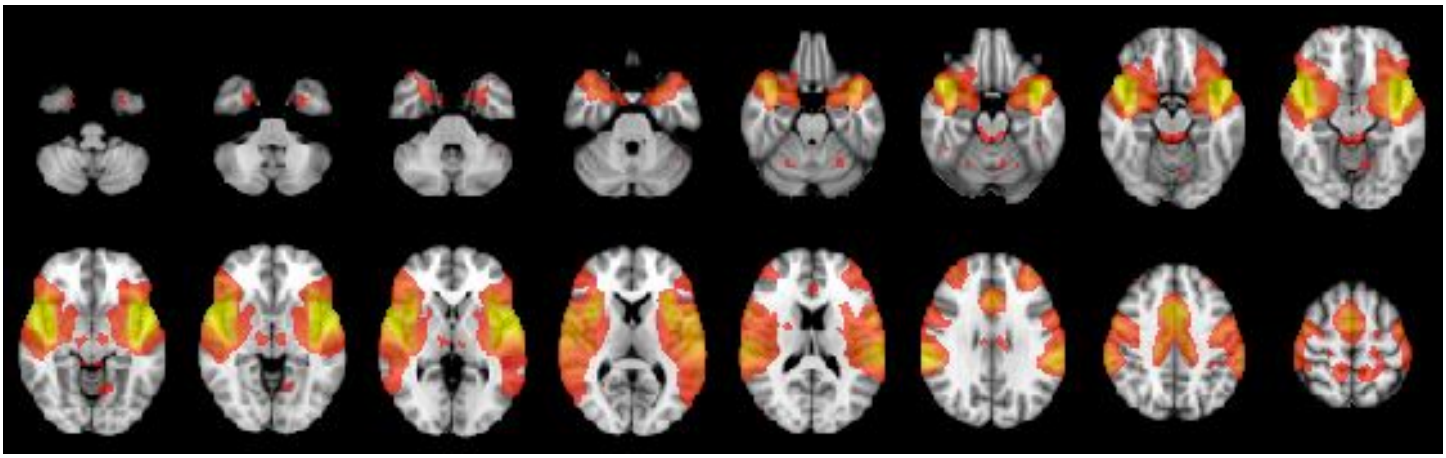

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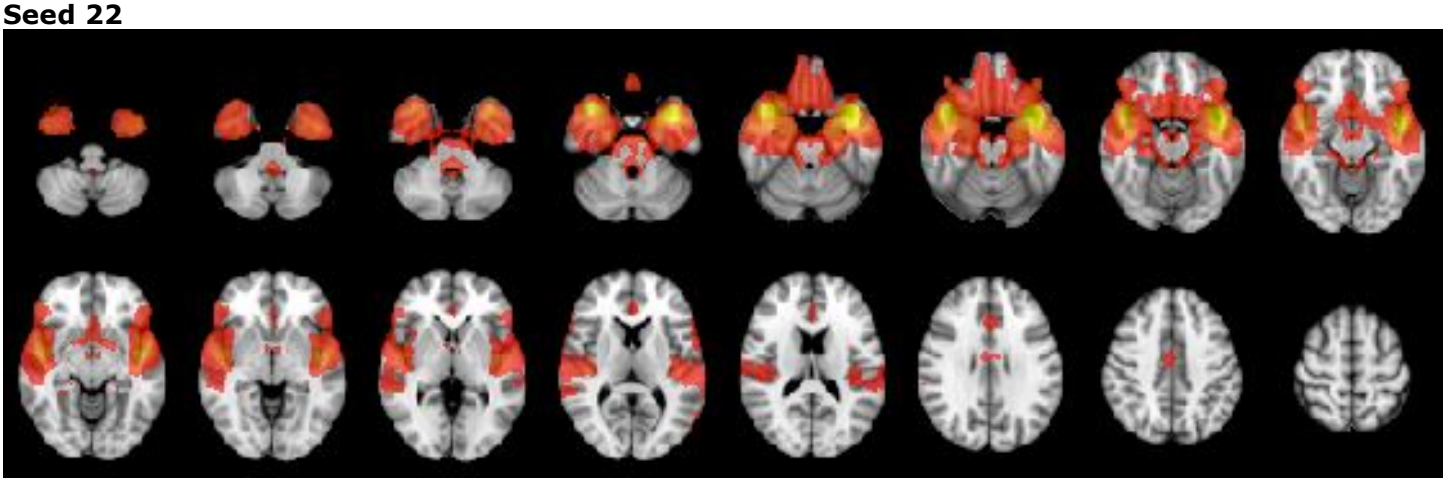

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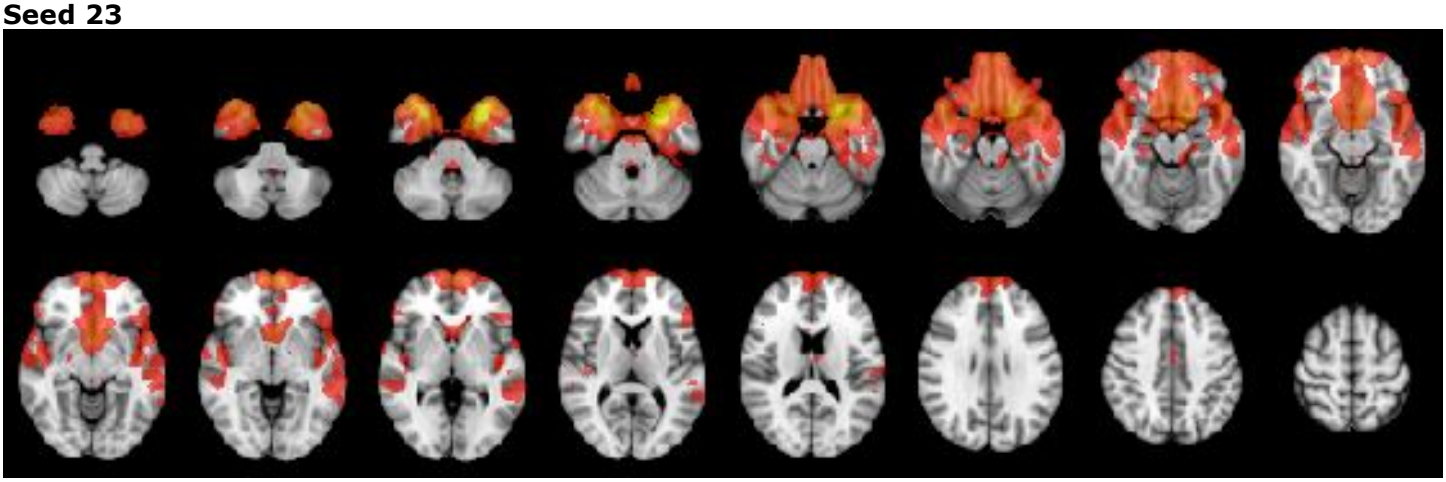

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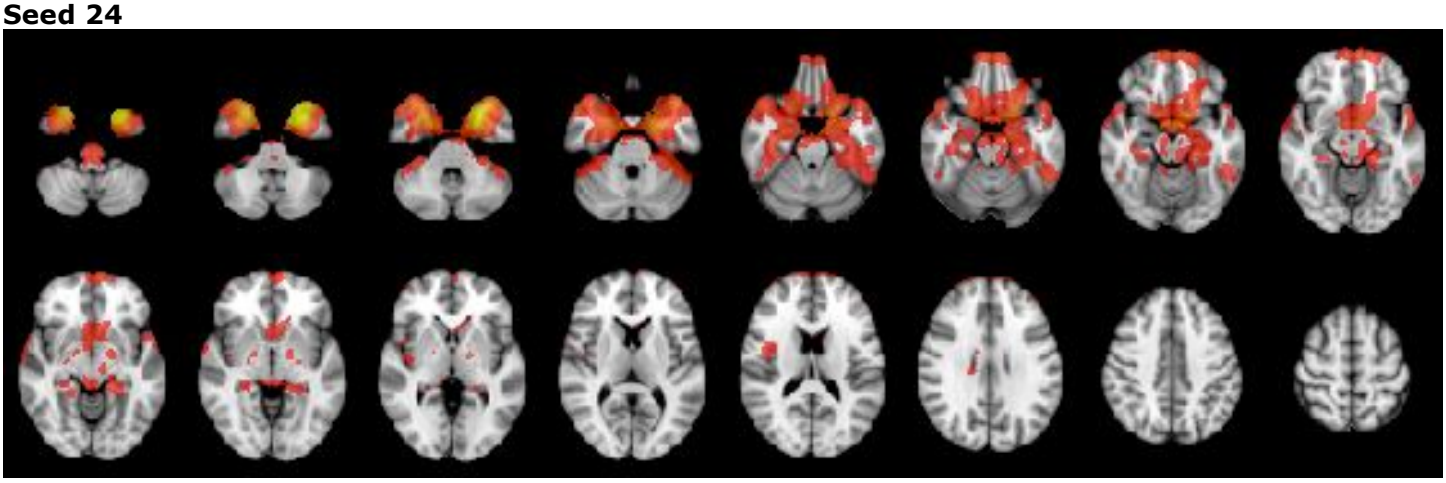

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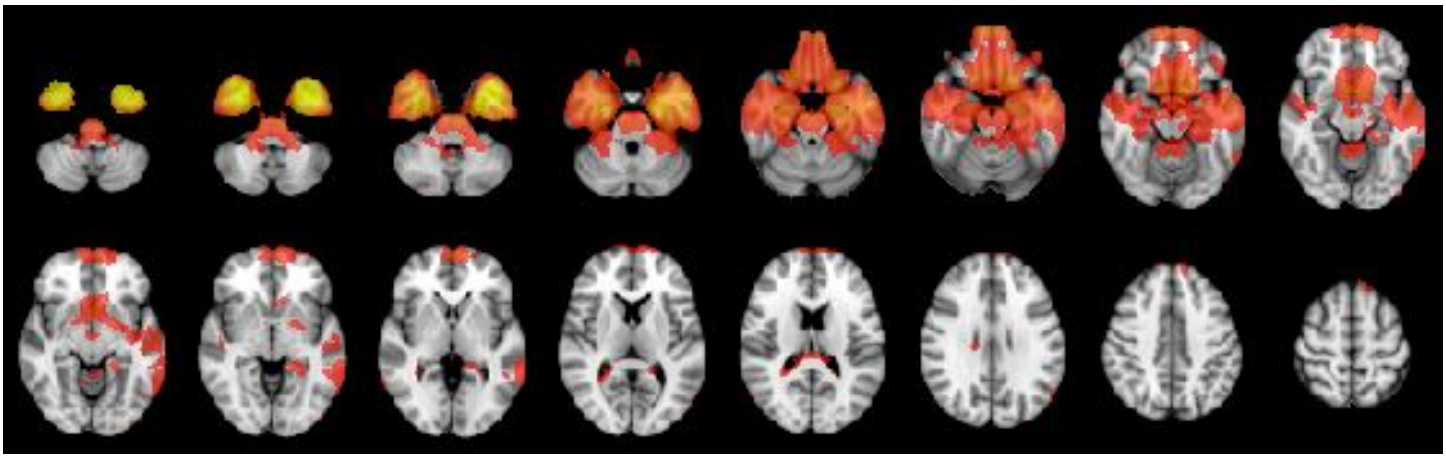

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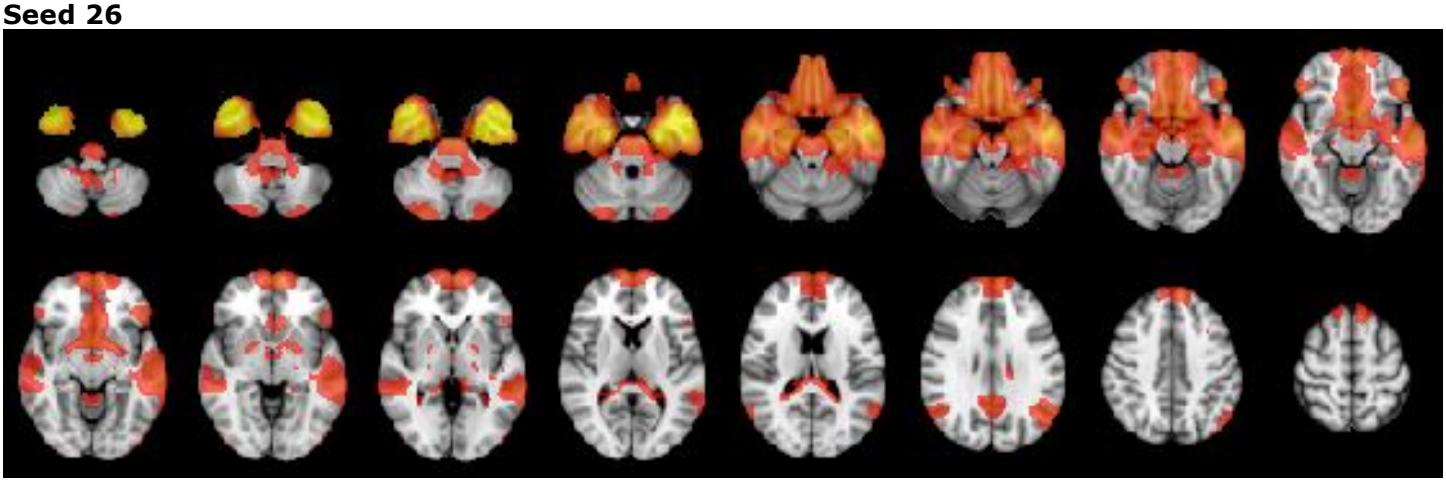

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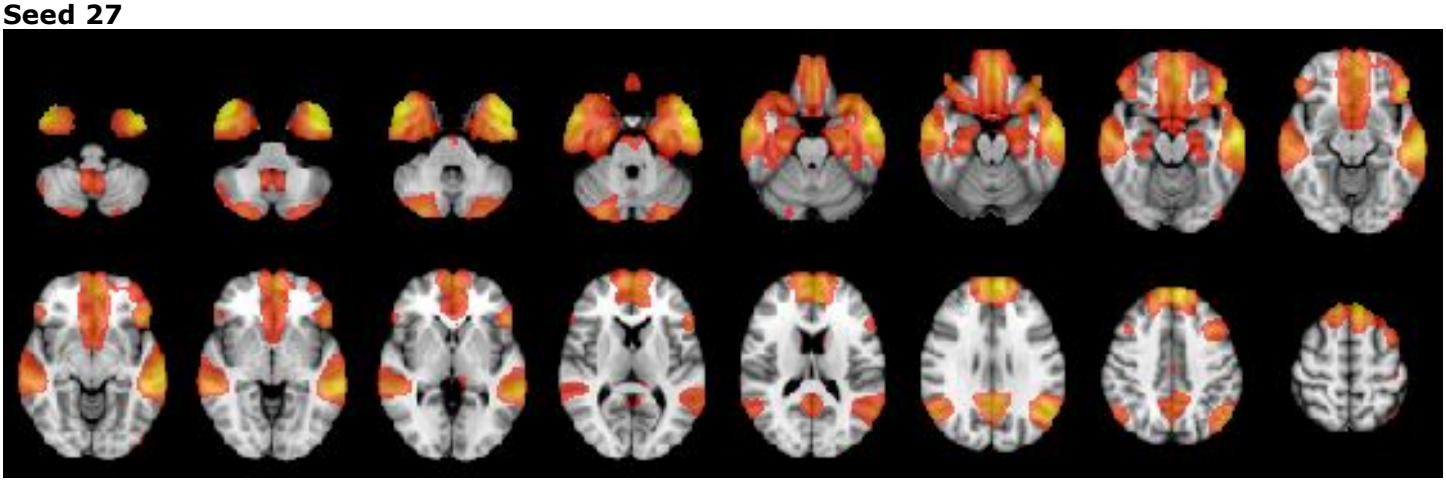

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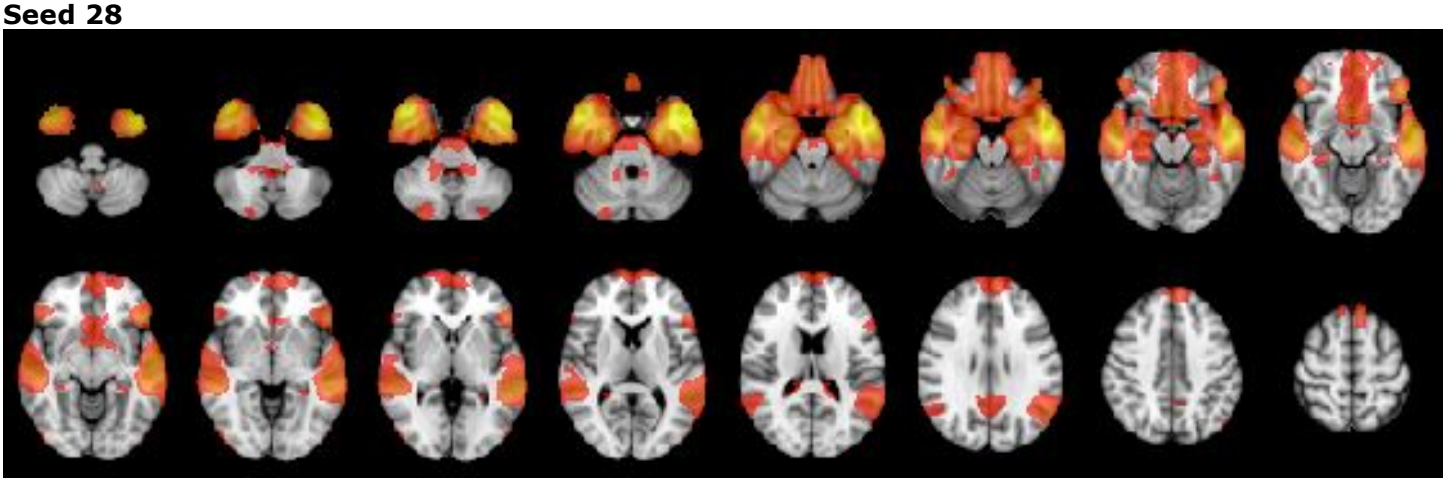

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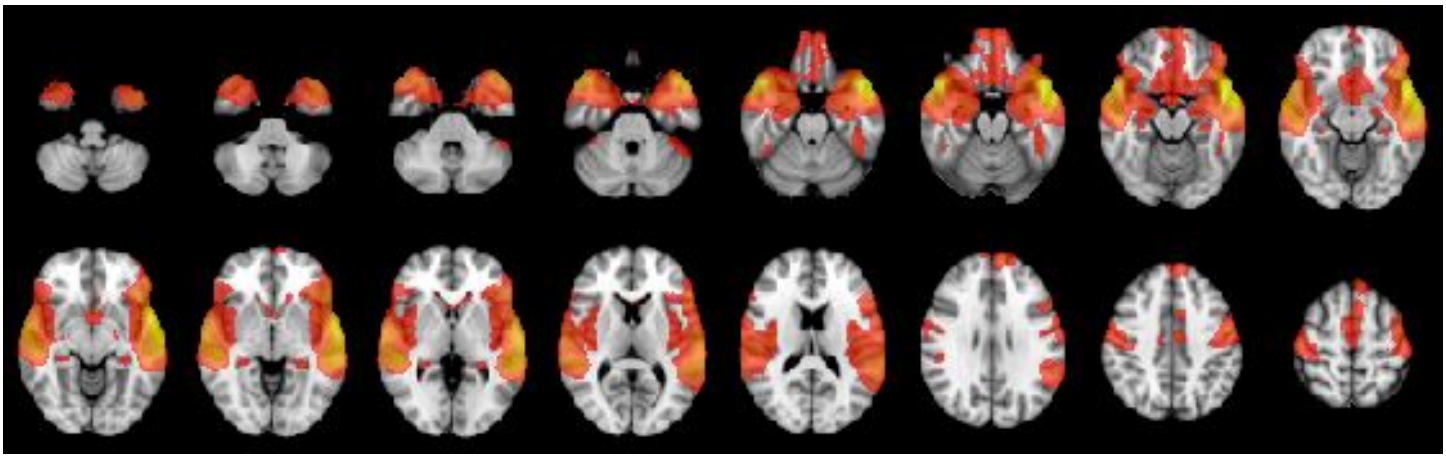

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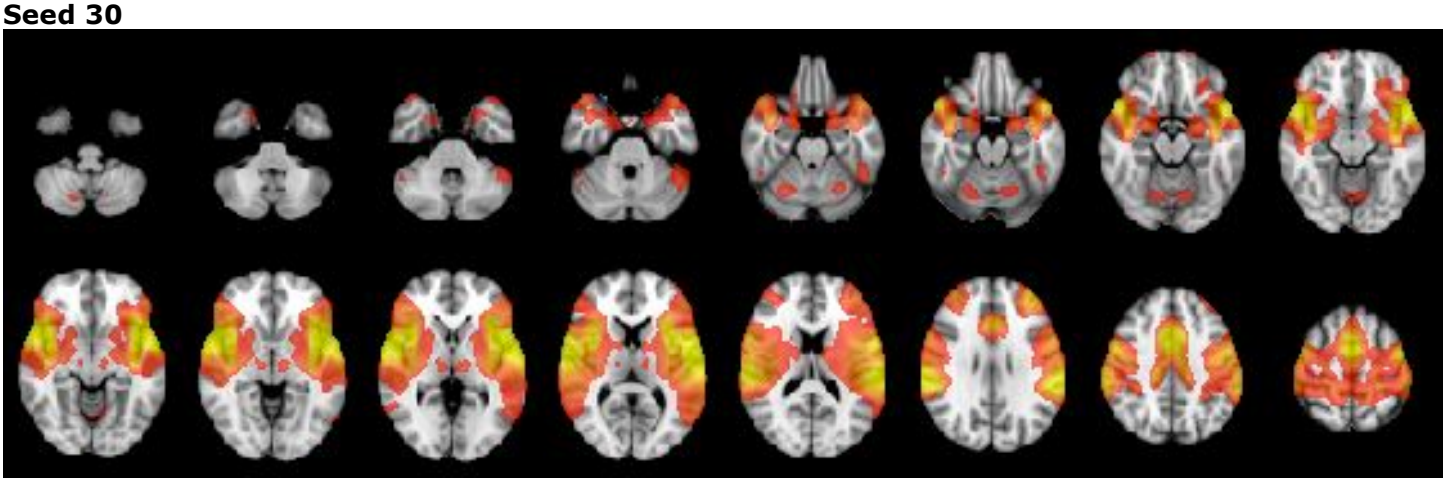

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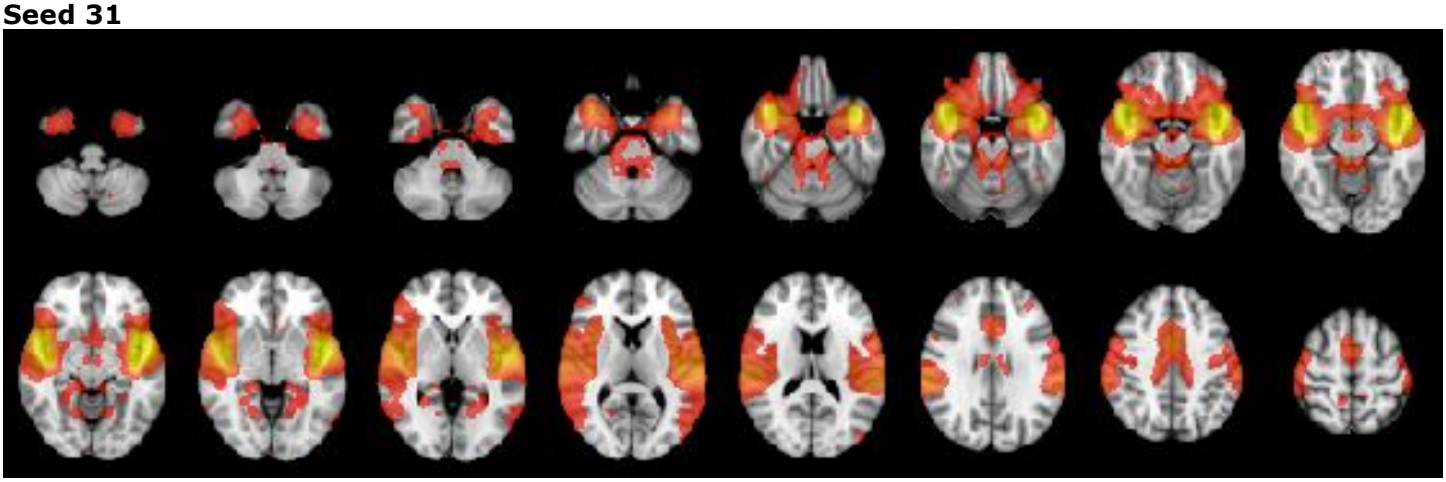

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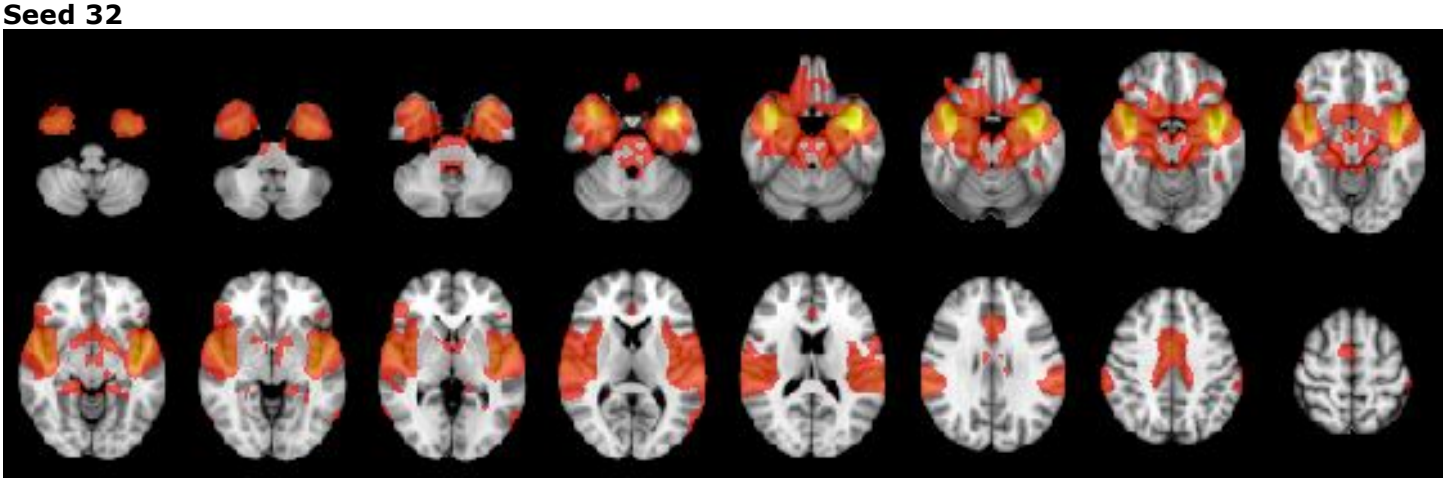

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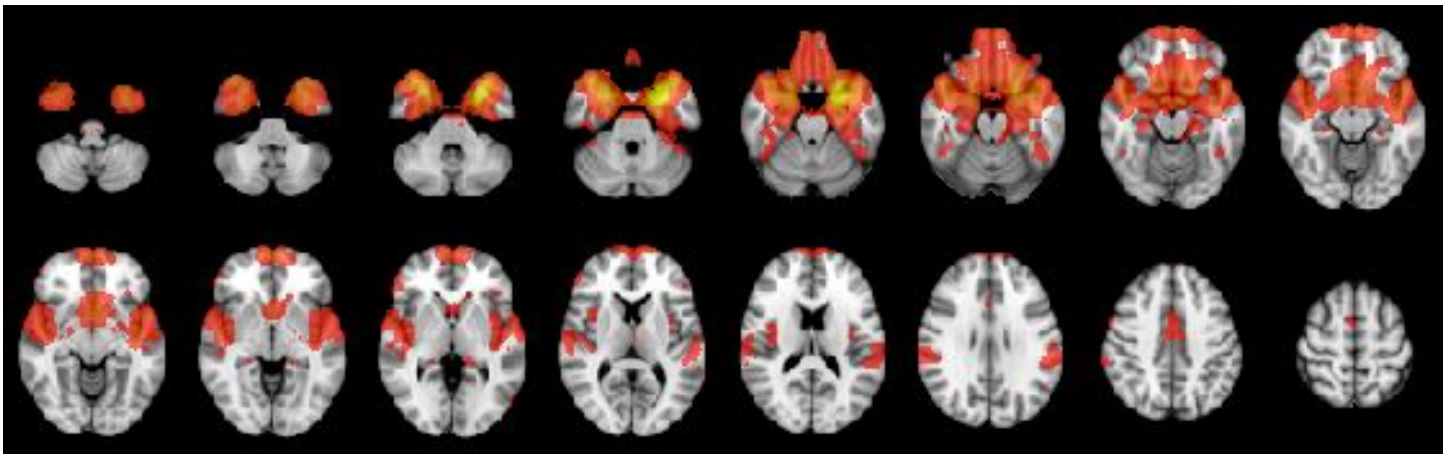

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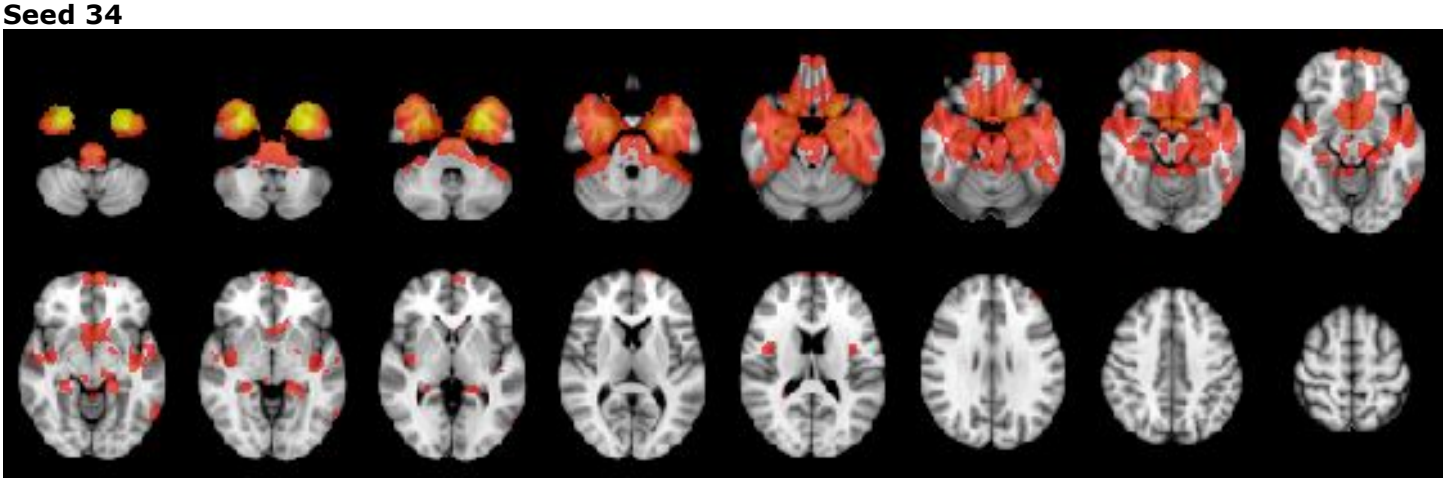

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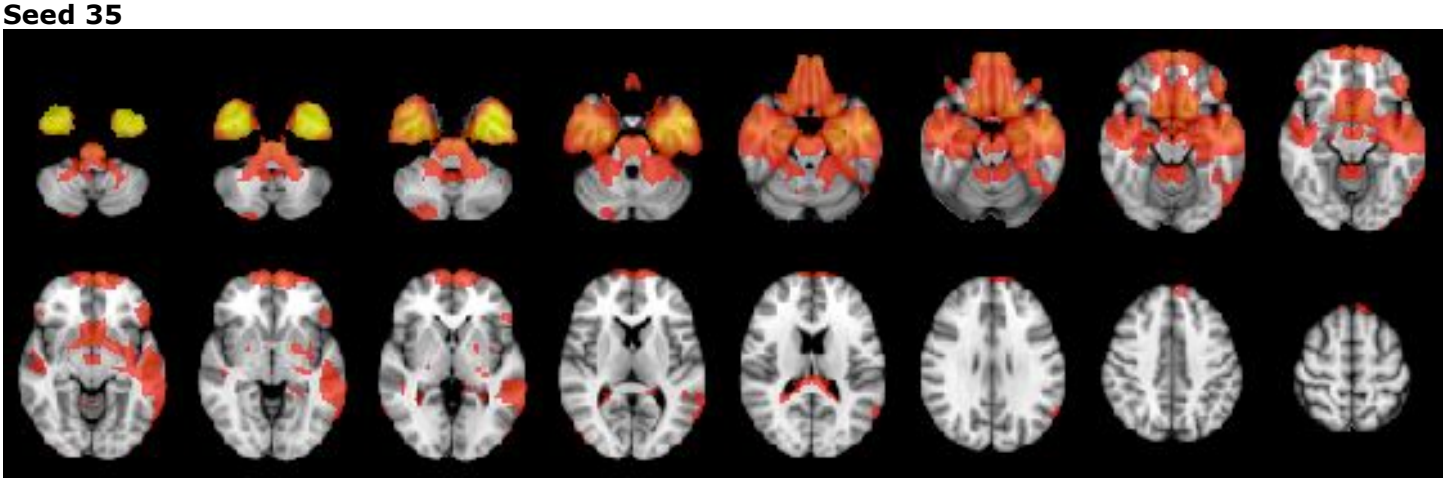

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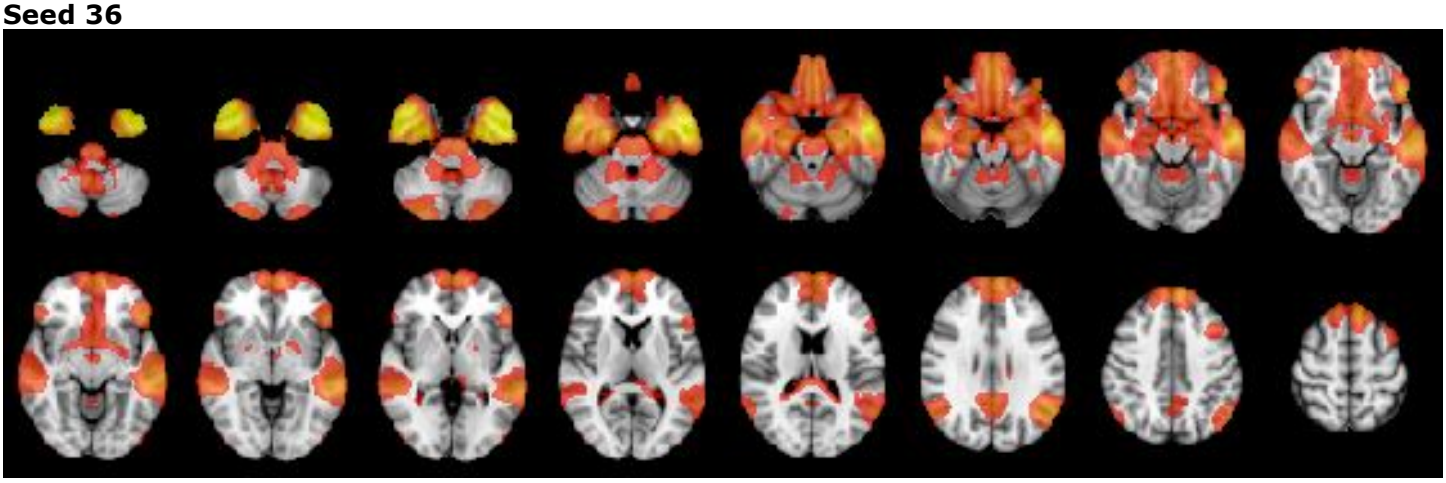

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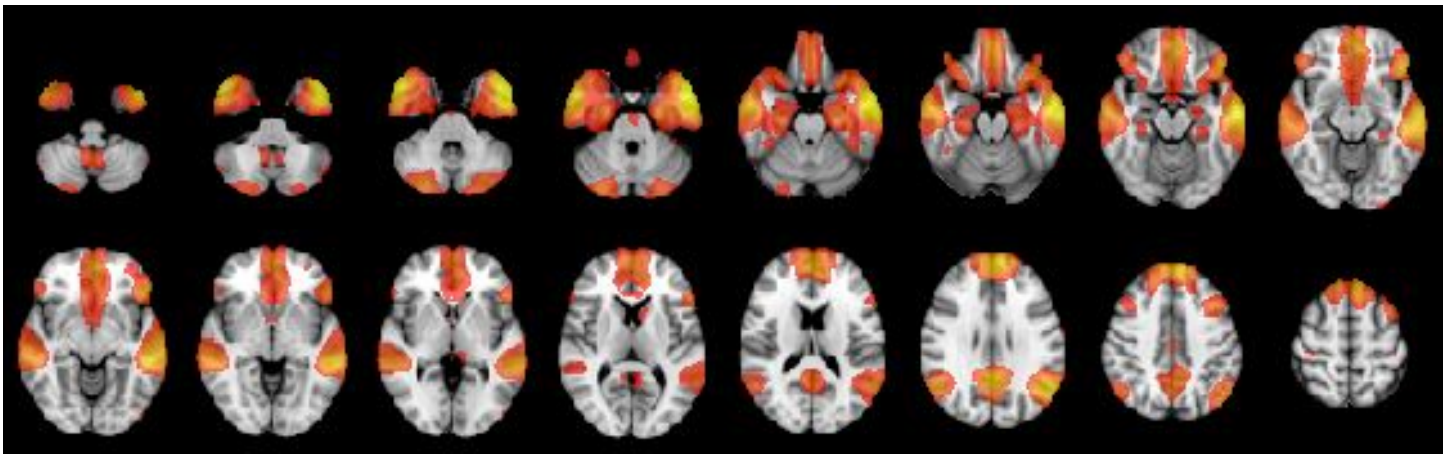

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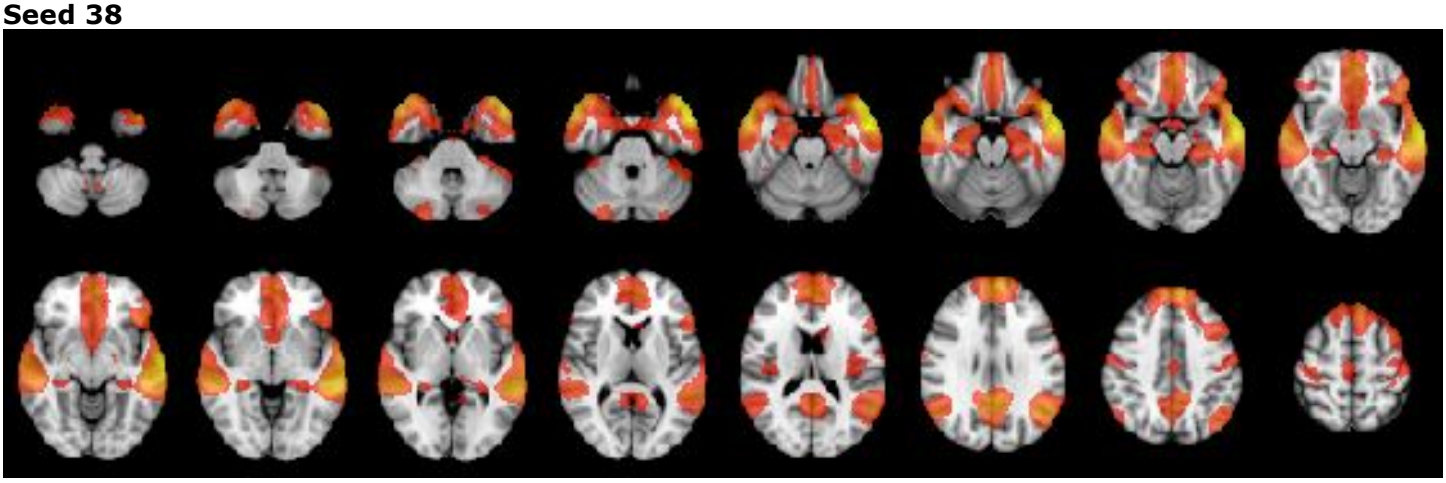

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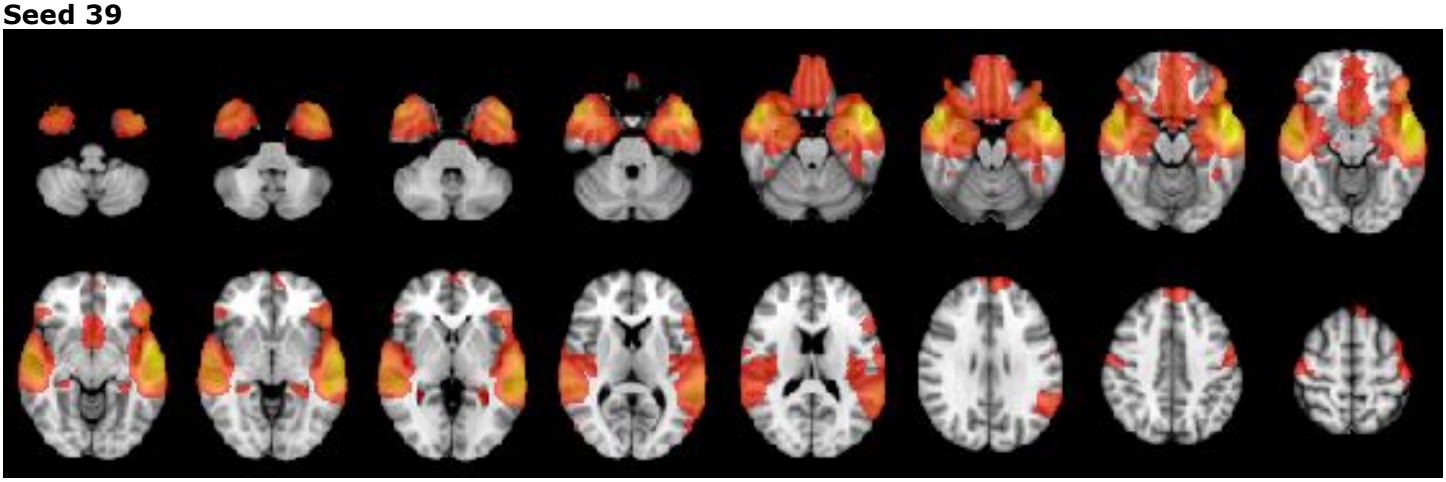

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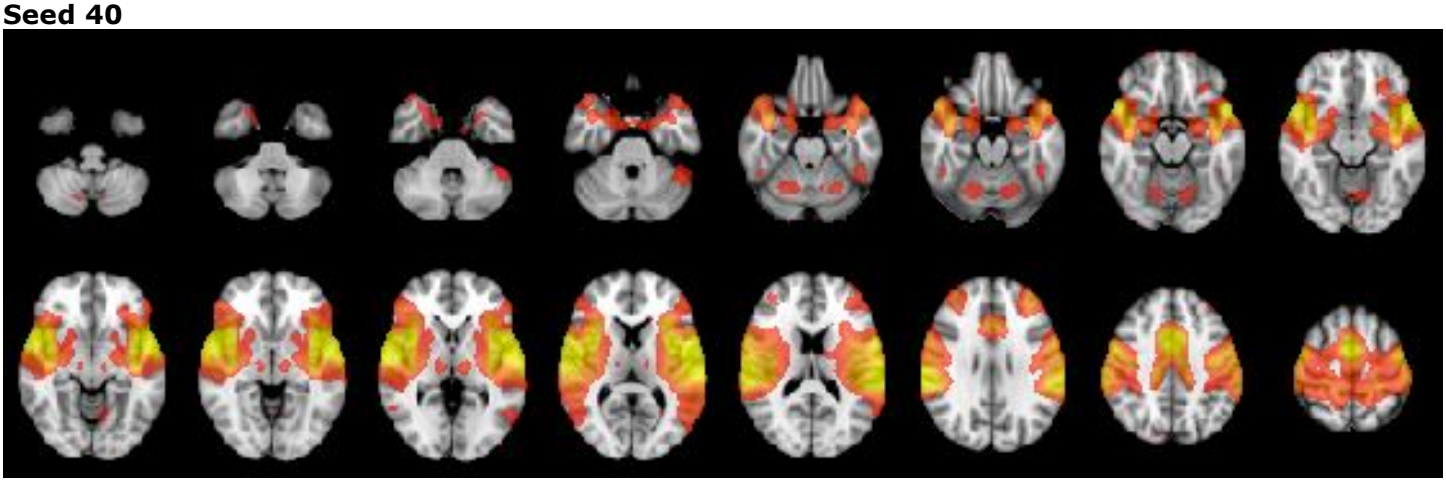

Supplementary Figure S6. Coronal section showing connectivity of seed 22 with the region of the bed nucleus of the stria terminalis.