The task was presented using the Eprime script in the file “fMRITask.es2.” Memory titles to elicit memories were idiosyncratic, and thus are not included.

Behavioral data is included in the file “BehavioralData.xlsx”

The file “PreprocessedfMRIData.zip” contains the preprocessed fMRI data for each individual participant.

The fMRI analysis reported in the main manuscript and supplementary material include the following two folders

**1. ST-PLS:** Spatiotemporal Partial Least Squares Analysis

**- ST-PLS\_fMRIresult.mat:** contains the output of the mean centered Spatiotemporal PLS analysis with 500 permutations and 300 bootstrap samples on 20 participants. Session data files included 7 TRs, 6 experimental conditions (Typical OE, Atypical OE, Typical OB, Atypical OB, Typical Scene, and Atypical Scene), and 6 functional runs. Brain scores = +- 3 were used as thresholds in the analysis. OE = Own Eyes, OB = Observer

- **\*\_allruns\_fmrisessiondata.mat:** contains the individual subject information with onsets and links to preprocessed fMRI data for each run, which were used to create the output.

**2. Seed-PLS**: Partial Least Squares Analysis using the Left Hippocampus as a seed region

**- Seed-PLS\_Left\_AntHippocampus\_fMRIresult.mat**: contains the output of the Hippocampal Seed PLS with 500 permutations and 300 bootstrap samples on 20 participants. Session data files included 7 TRs, 6 experimental conditions (Typical OE, Atypical OE, Typical OB, Atypical OB, Typical Scene, and Atypical Scene), and 6 functional runs. Multiple voxel extraction was performed using a left anterior hippocampus cluster found during lag 6 from the spatiotemporal PLS analysis (see above). These values were then entered as behavioural data in the analysis. For clarity, LV9 in the data file was referred to as LV4 in the main manuscript. Brain scores = +- 3 were used as thresholds in the analysis. OE = Own Eyes, OB = Observer

**\*\_allruns\_fmrisessiondata.mat:** contains the individual subject information with onsets and links to preprocessed fMRI data for each run, which were used to create the output.

- **Left\_Hippocampus.txt**: MNI coordinates of the left hippocampus used as a seed region in the analysis