

pants, however, we found cases where event count was significantly correlated with the frame-wise displacement time series, though this correlation was neither consistently positive nor was it consistently negative (21/80 positively and 23/80 negatively correlated at a significance level of $p = 0.01$, Bonferroni-corrected; mean \pm standard deviation Pearson’s correlations of $r = -0.016 \pm 0.223$ and $r = -0.025 \pm 0.223$ for L1 and L2 norm). Thus, while the group-level and participant-level analyses suggest that motion is not systematically related to excursion counts, we do observe that some participants show significant correlations (both positive and negative), and hence motion may act as a potential confound in a subset of participants. Interestingly, the number of detected communities is also significantly and negatively correlated with excursion in most individual participants (median correlation $r = -0.20$, interquartile range of $[-0.32, 0.06]$).

Default mode network dissociates during mass excursions

In addition to quantifying the degeneracy of modular architectures, we also examined whether community structure was consistently different during mass excursions compared to non-mass excursions. To detect such differences, we first divided each participant’s dynamic functional connectivity networks into two classes: one class corresponding to mass-excursion events and another class corresponding to all other instants. The previous community detection procedure yielded 100 estimates of the community structure for each dynamic functional connectivity network, which we aggregated according to class. From these data and for each class we generated an association matrix, \mathbf{T} , which was a square, $n \times n$ matrix whose elements T_{ij} represented the probability, across all community estimates assigned to that class, that nodes i and j were assigned to the same community. Association matrices, unlike “hard” partitions that assign nodes to one class or another, give a quasi-continuous estimate of whether two