

**Supplement to “Comparative Evaluation of Assumption Lean Community Detection
Methods for Human Connectome Networks”**

HCP Data

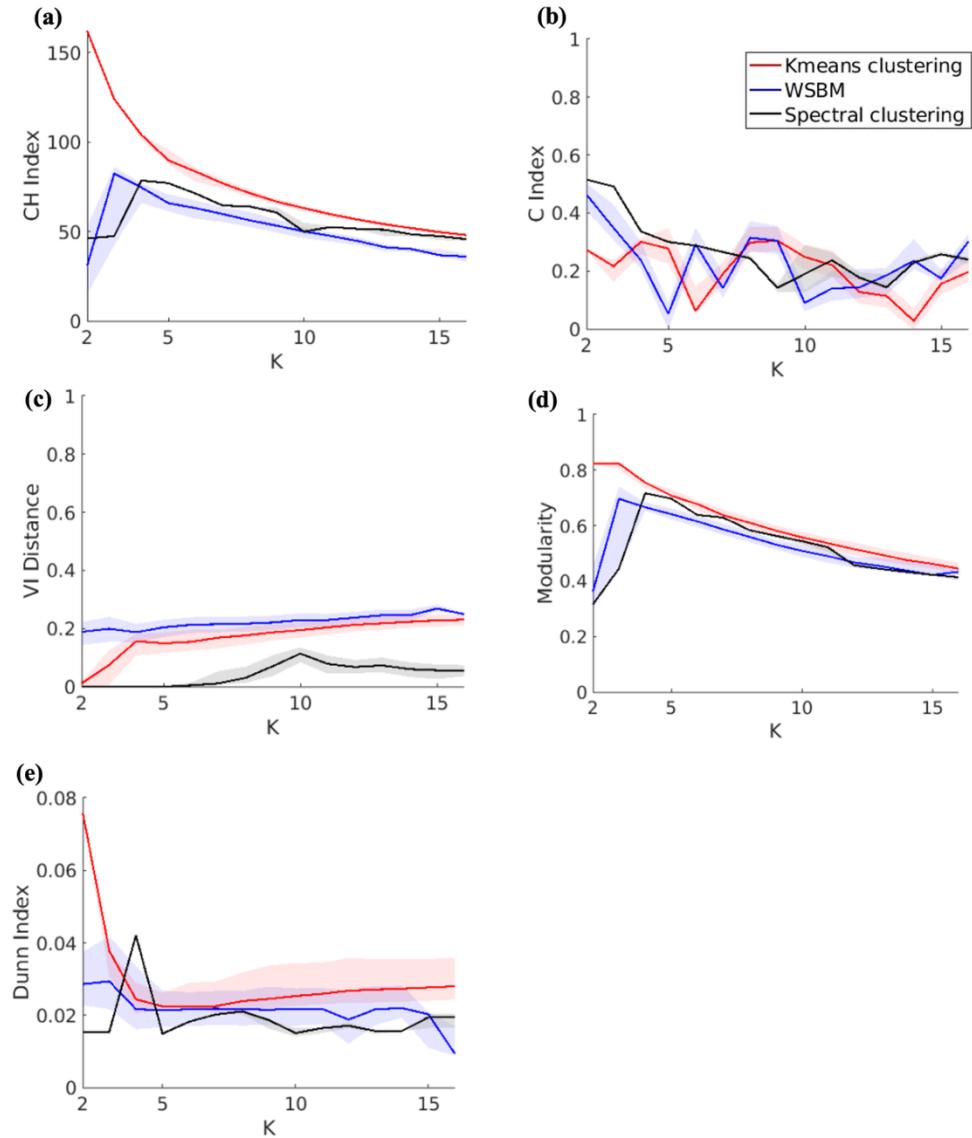


Figure S1: Evaluation of different measures of clustering solutions for HCP data. **(a)** CH index, **(b)** C-index, **(c)** VI Distance, **(d)** Modularity, **(e)** Dunn Index.

WU 120 Data

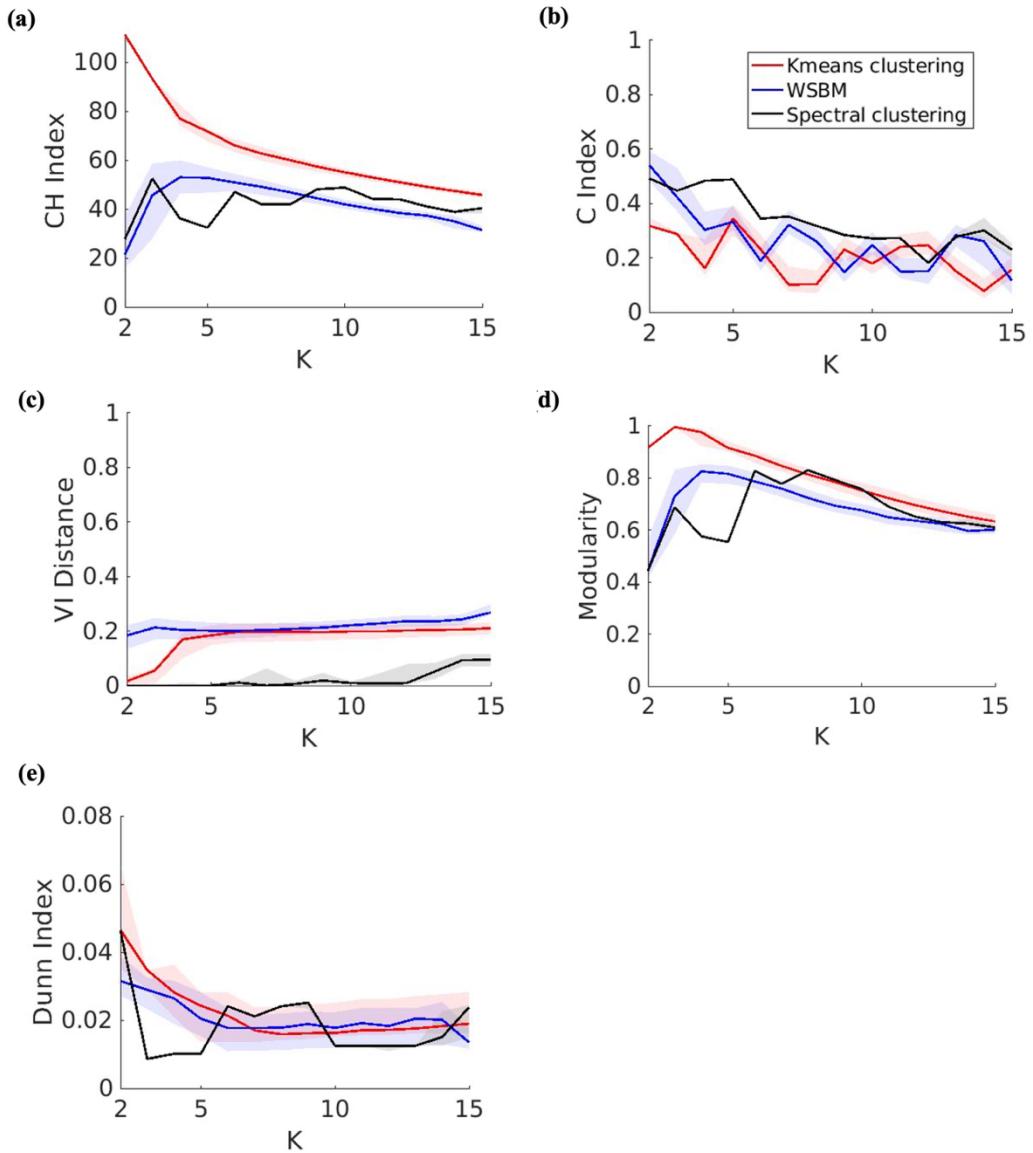


Figure S2: Evaluation of different measures of clustering solutions for WU 120 data. **(a)** CH index, **(b)** C-index, **(c)** VI Distance, **(d)** Modularity, **(e)** Dunn Index.

BCP Data

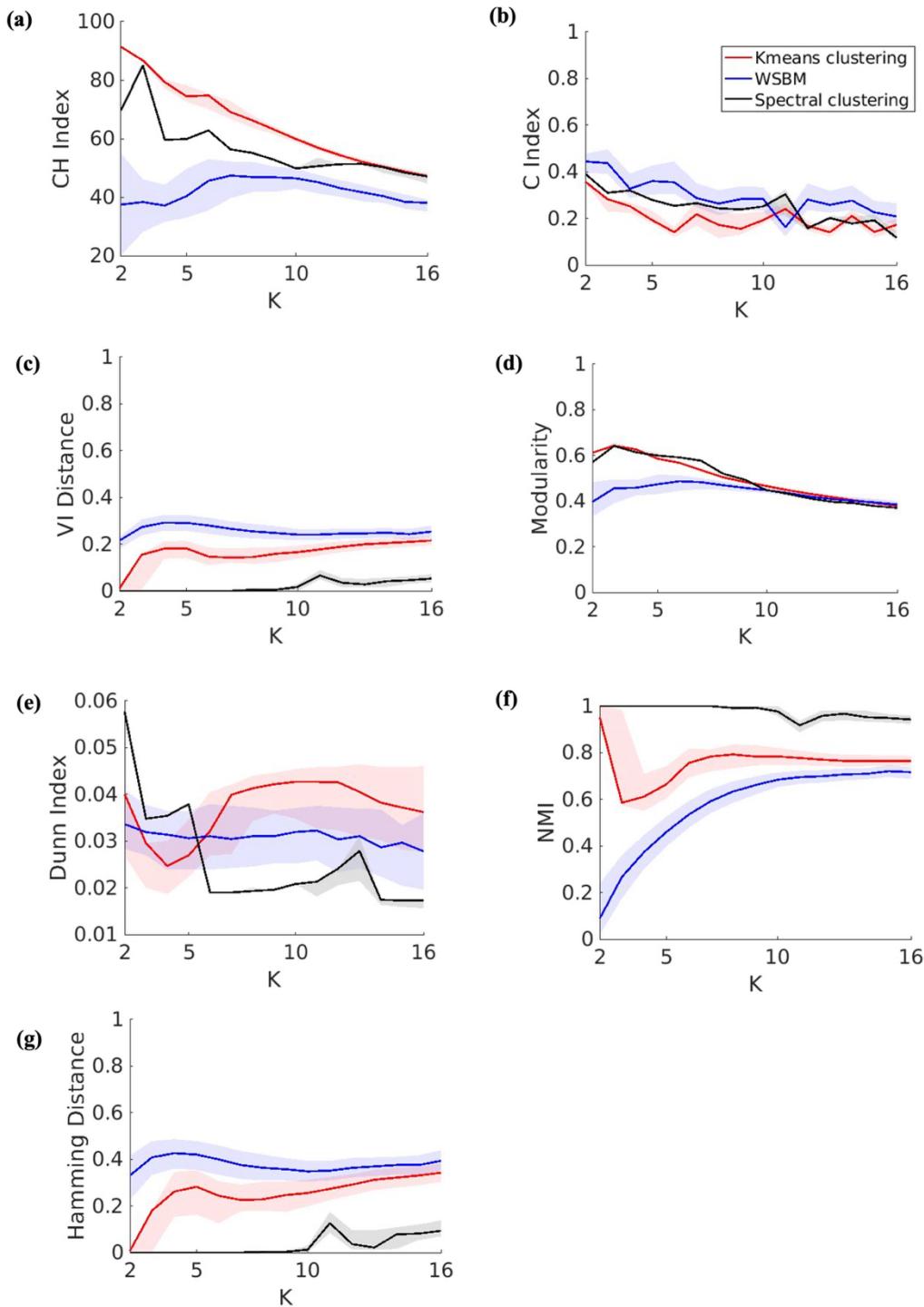


Figure S3: Evaluation of different measures of clustering solutions for BCP data. **(a)** CH index, **(b)** C-index, **(c)** VI Distance, **(d)** Modularity, **(e)** Dunn Index, **(f)** NMI, **(g)** Hamming Distance.

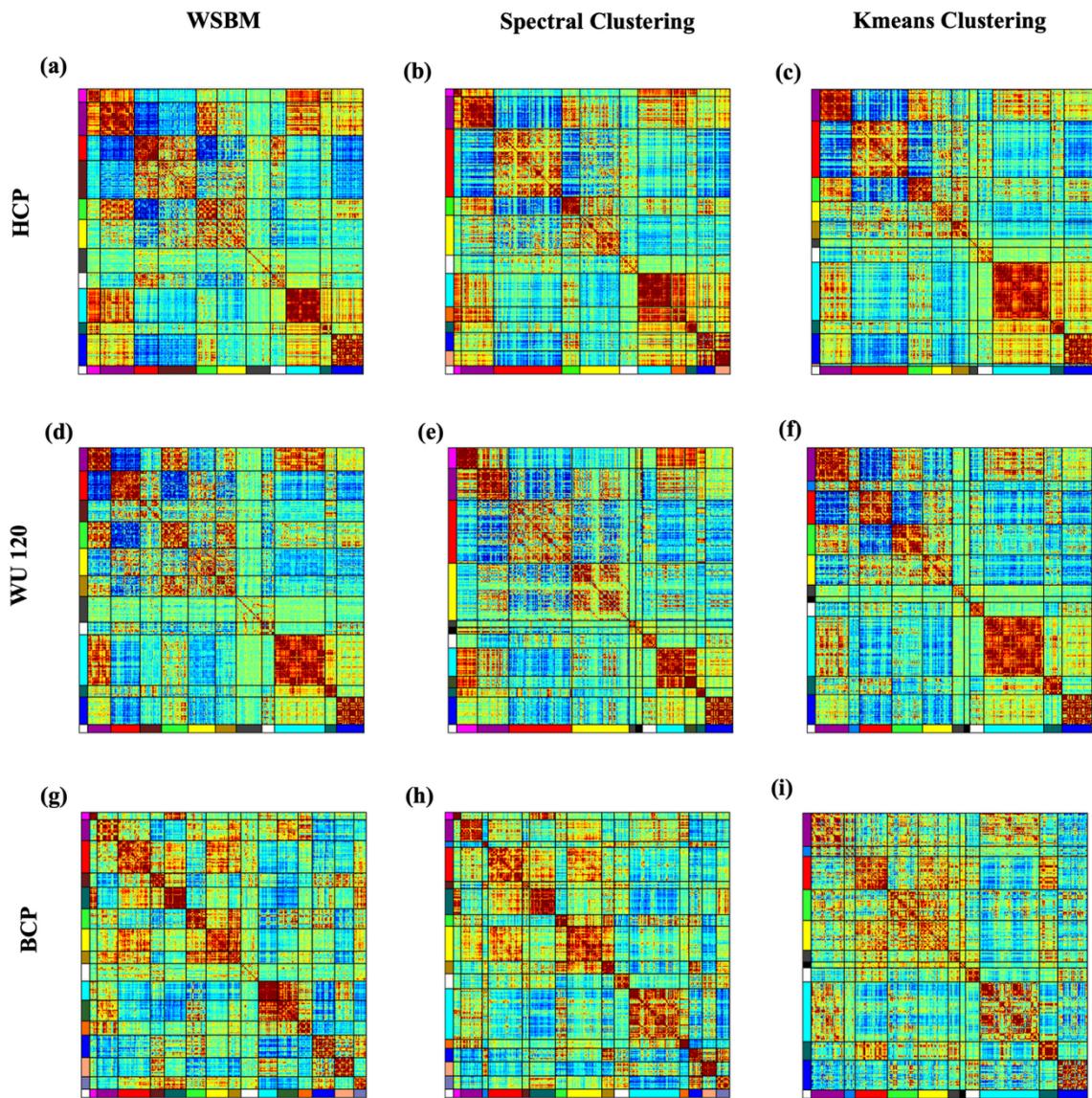


Figure S4: (a-f) Average Fc matrix plots for adult data with 11 communities. (g-i) Average Fc matrix plots for baby data with 15 communities.

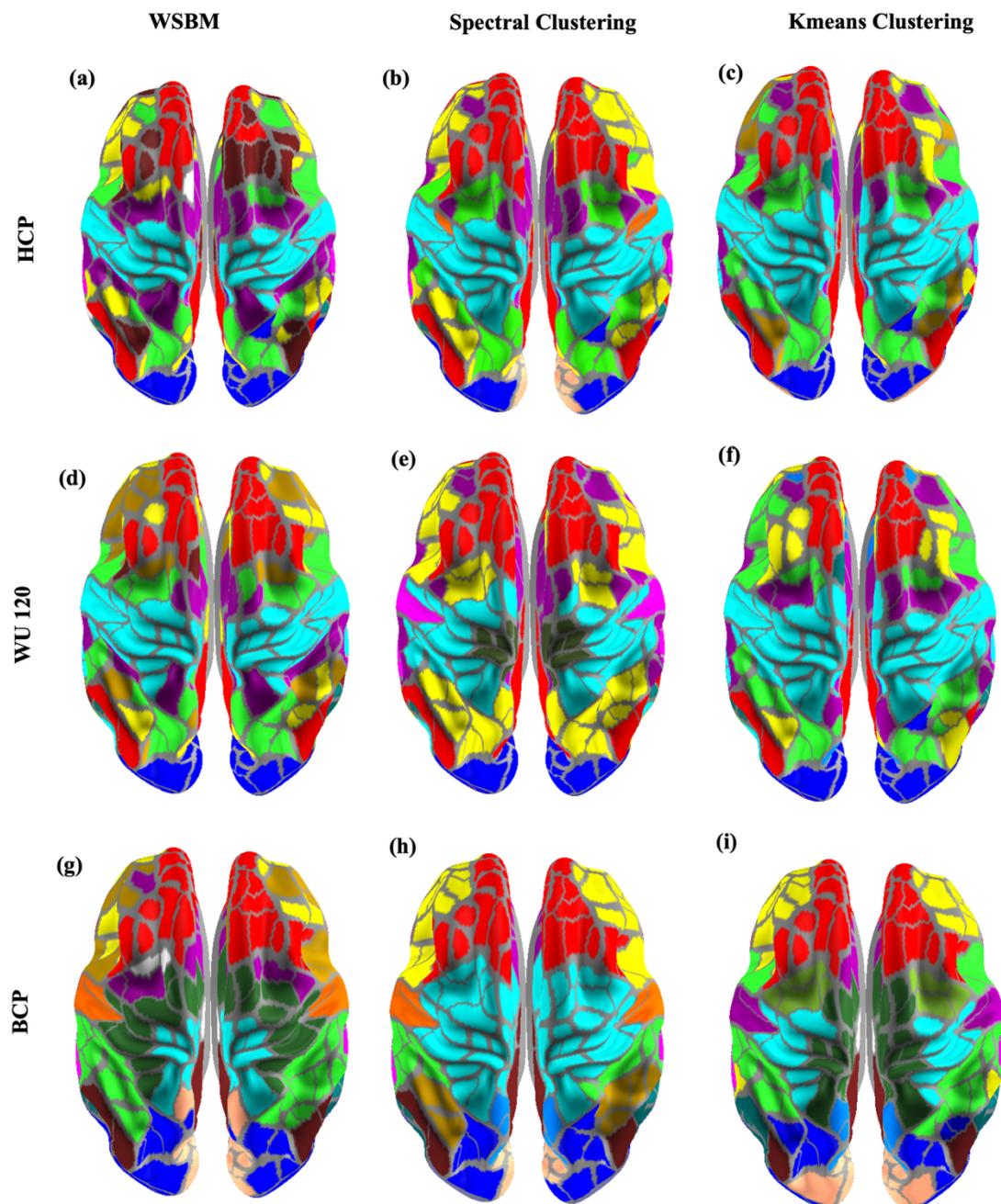


Figure S5: (a-f) Brain Surface plots for adult data with 11 communities. (g-i) Brain surface plots baby data with 15 communities.

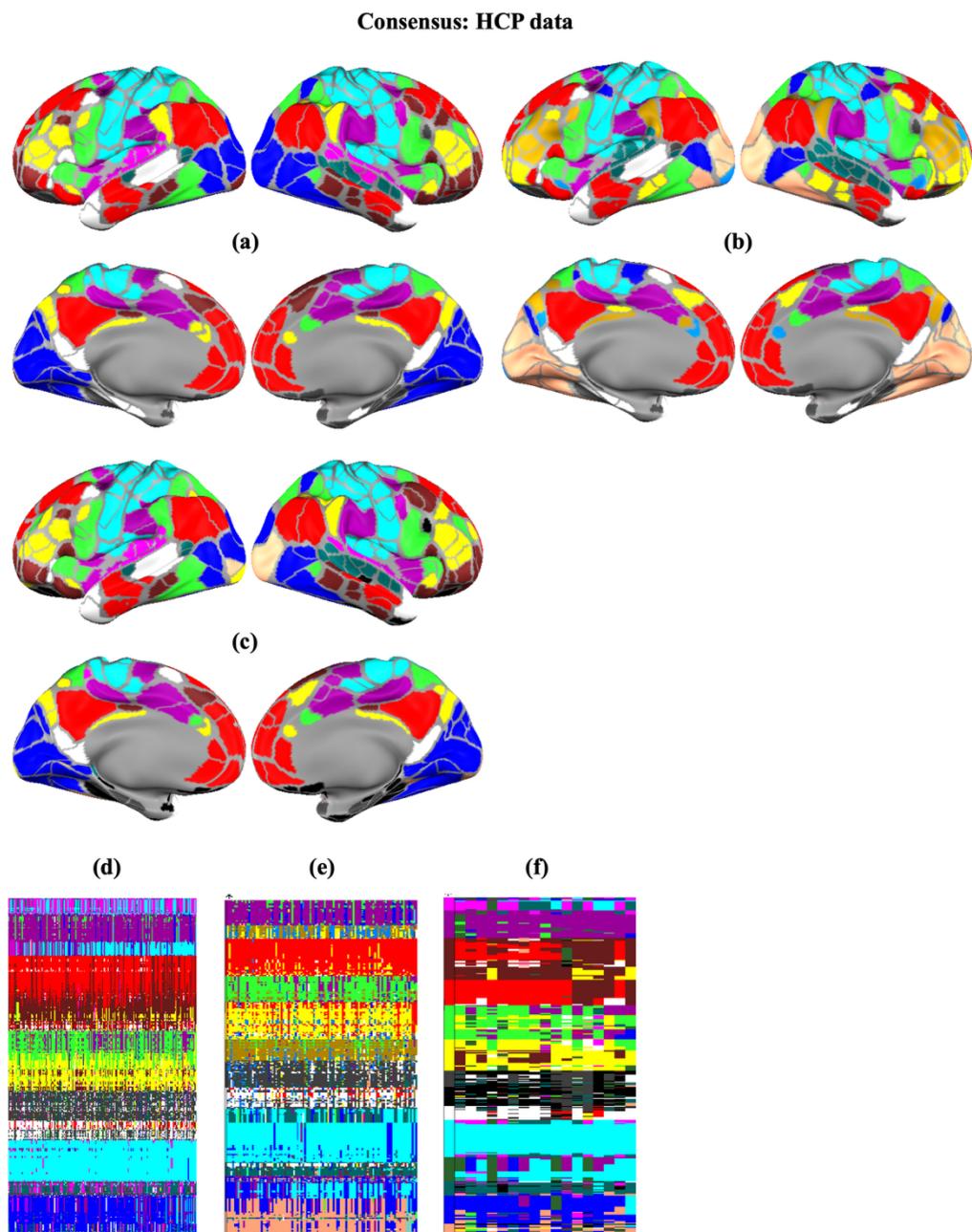


Figure S6: (a-c) Brain Surface plots of consensus for WSBM on HCP data with $K = 11, 12$, and 14 respectively. (d-f) Community assignments for valid replications of WSBM on HCP data with $K = 11, 12$, and 14 respectively.

Consensus: WU 120 data

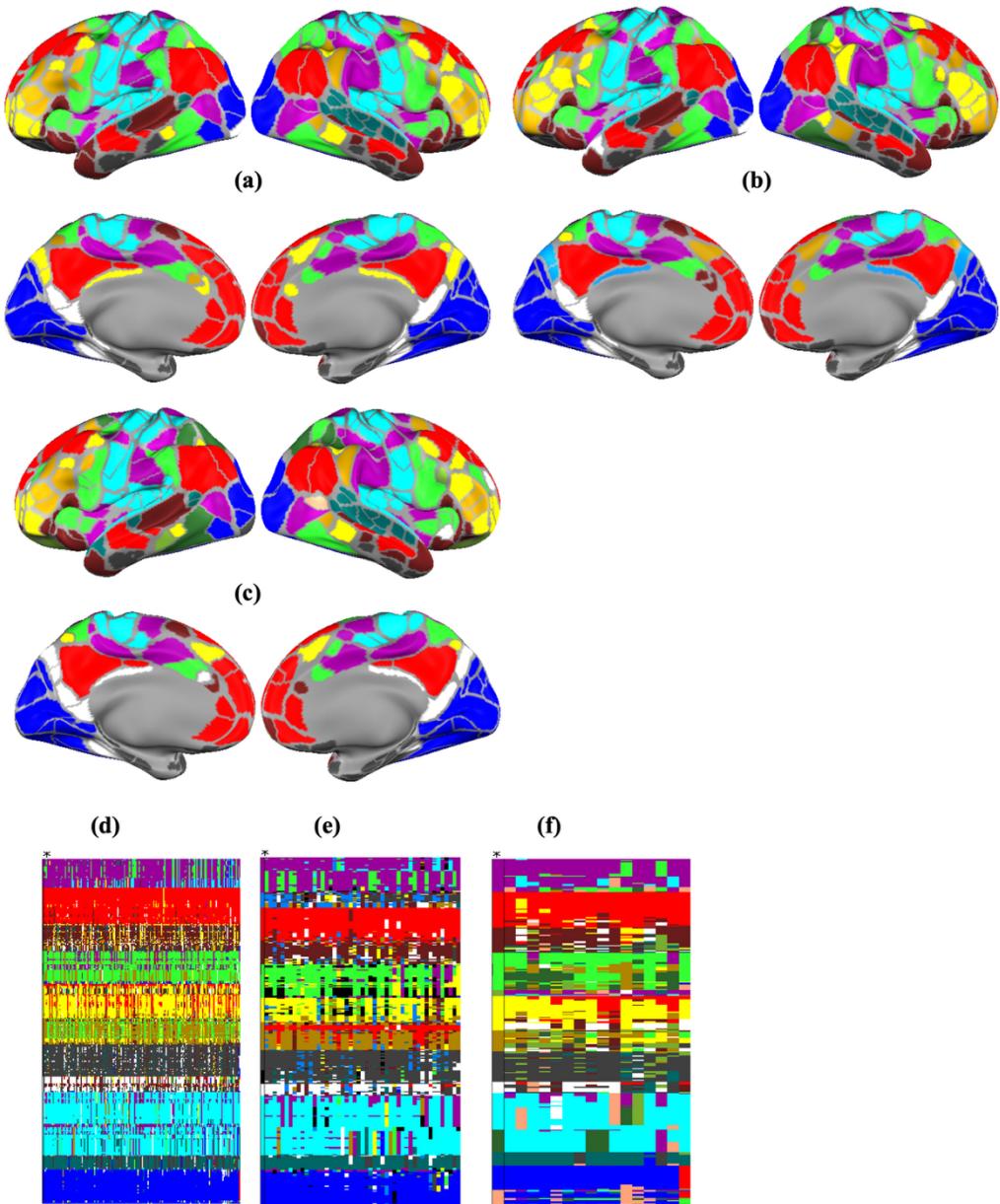


Figure S7: (a-c) Brain Surface plots of consensus for WSBM on WashU 120 data with $K = 11, 13$ and 14 respectively. (d-f) Community assignments for valid replications of WSBM on WashU 120 data with $K = 11, 13$ and 14 respectively.

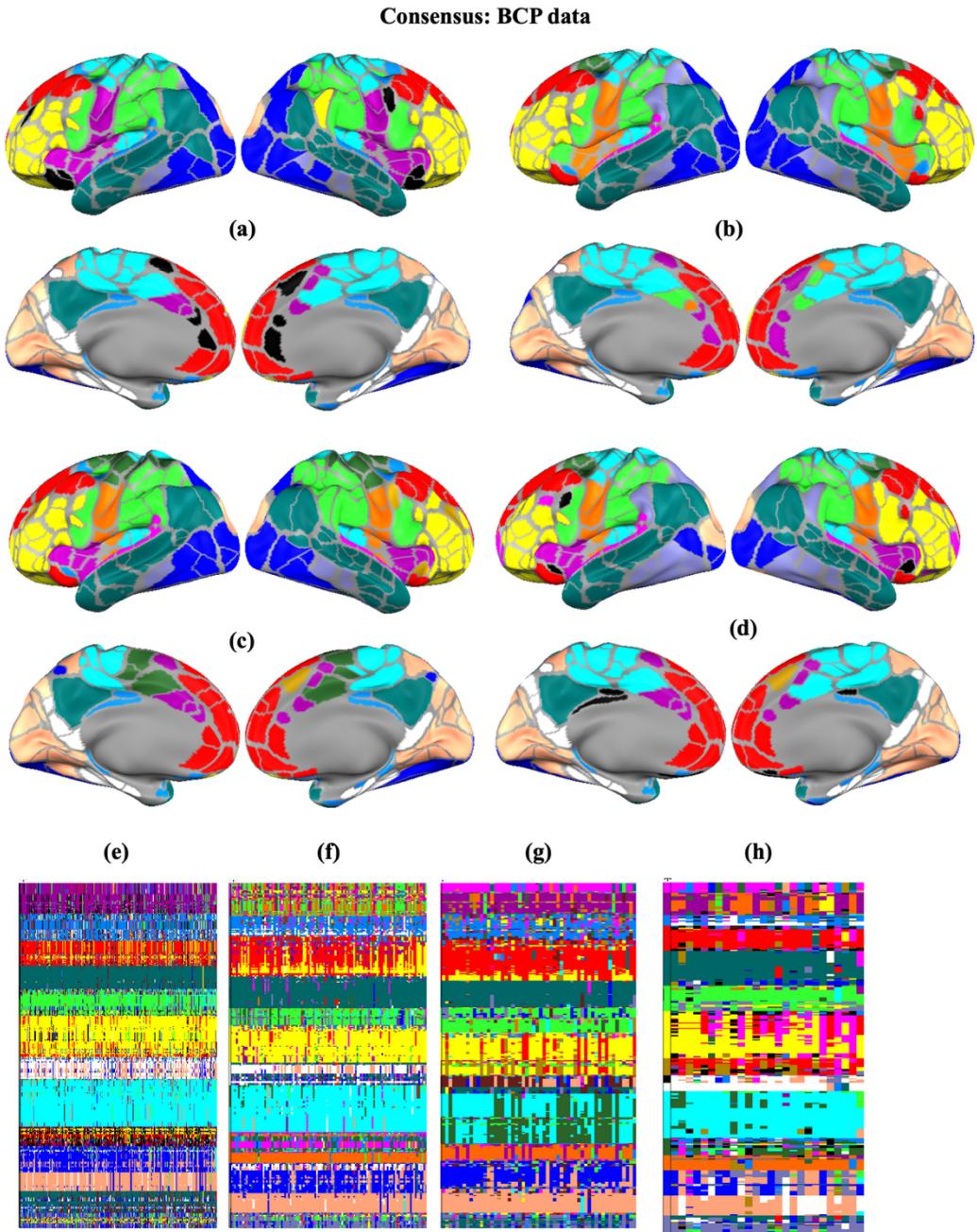


Figure S8: (a-d) Brain Surface plots of consensus for WSBM on BCP data with $K = 13, 14, 15$ and 16 respectively. (e-f) Community assignments for valid replications of WSBM on BCP data with $K = 13, 14, 15$ and 16 respectively.

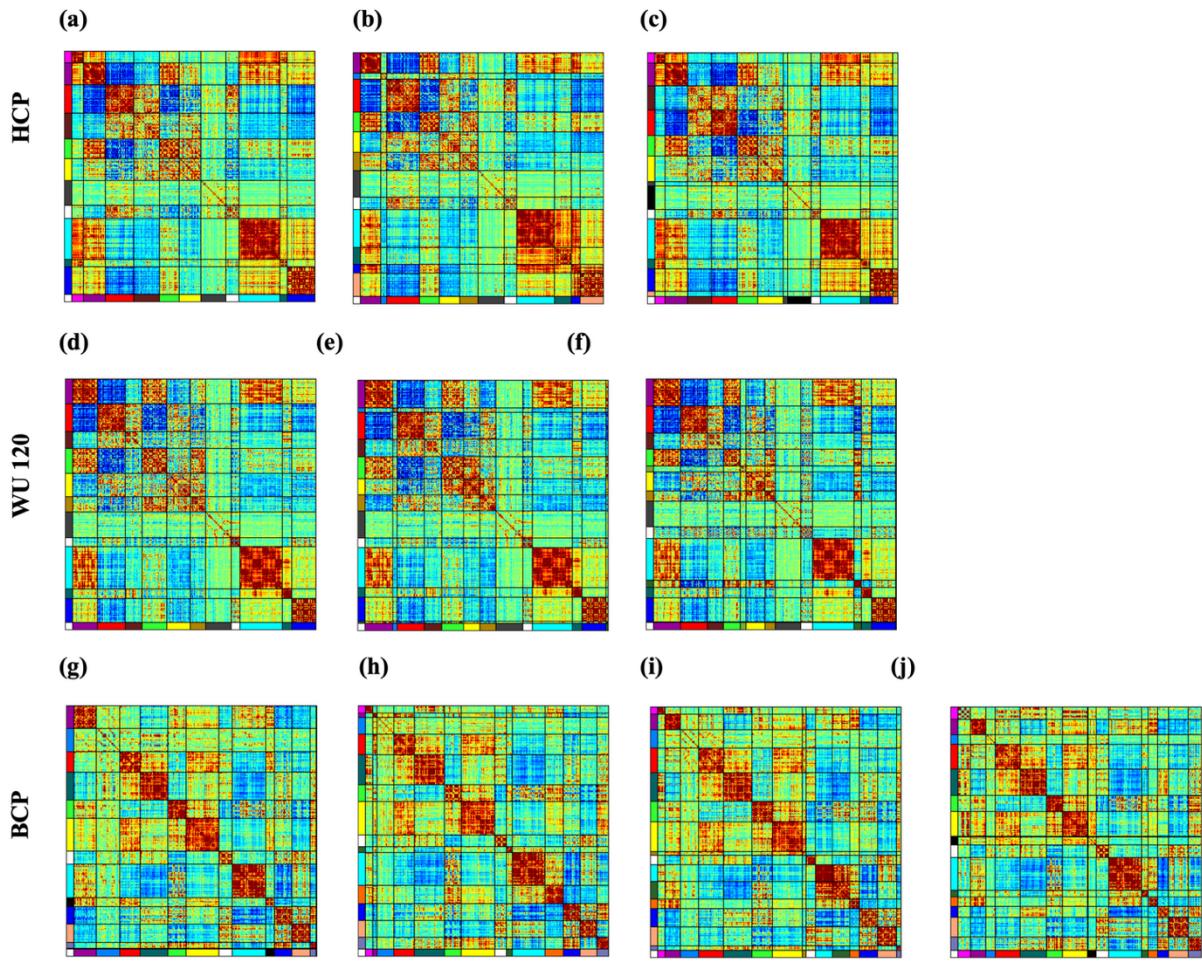


Figure S9: **(a-c)** Average FC matrix plots of consensus for WSBM on HCP data with $K = 11, 12$ and 14 respectively. **(d-f)** Average FC matrix plots of consensus for WSBM on WashU 120 data with $K = 11, 13$ and 14 respectively. **(g-j)** Average FC matrix plots of consensus for WSBM on BCP data with $K = 13, 14, 15$ and 16 respectively.