

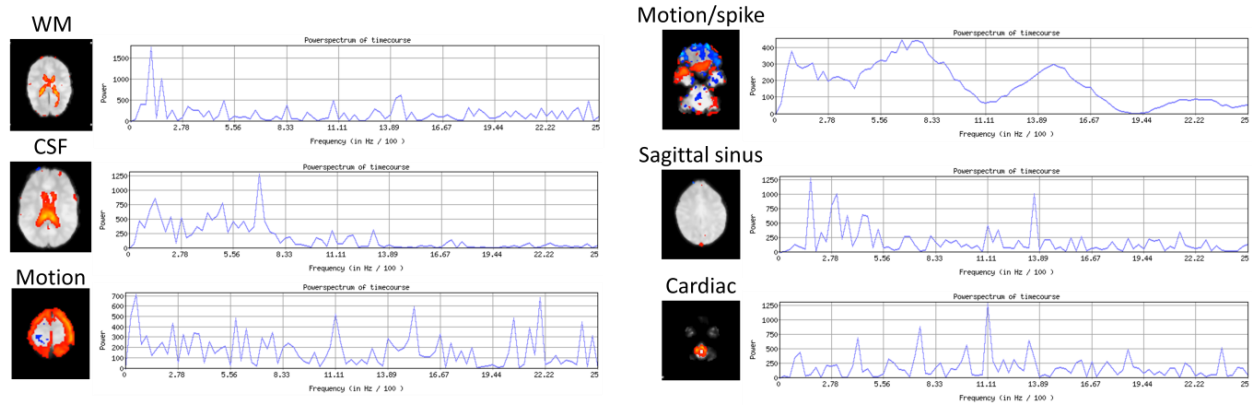
<Supplementary>

Negative functional coupling between the right fronto-parietal and limbic resting state networks predicts increased self-control and later substance use onset in adolescence

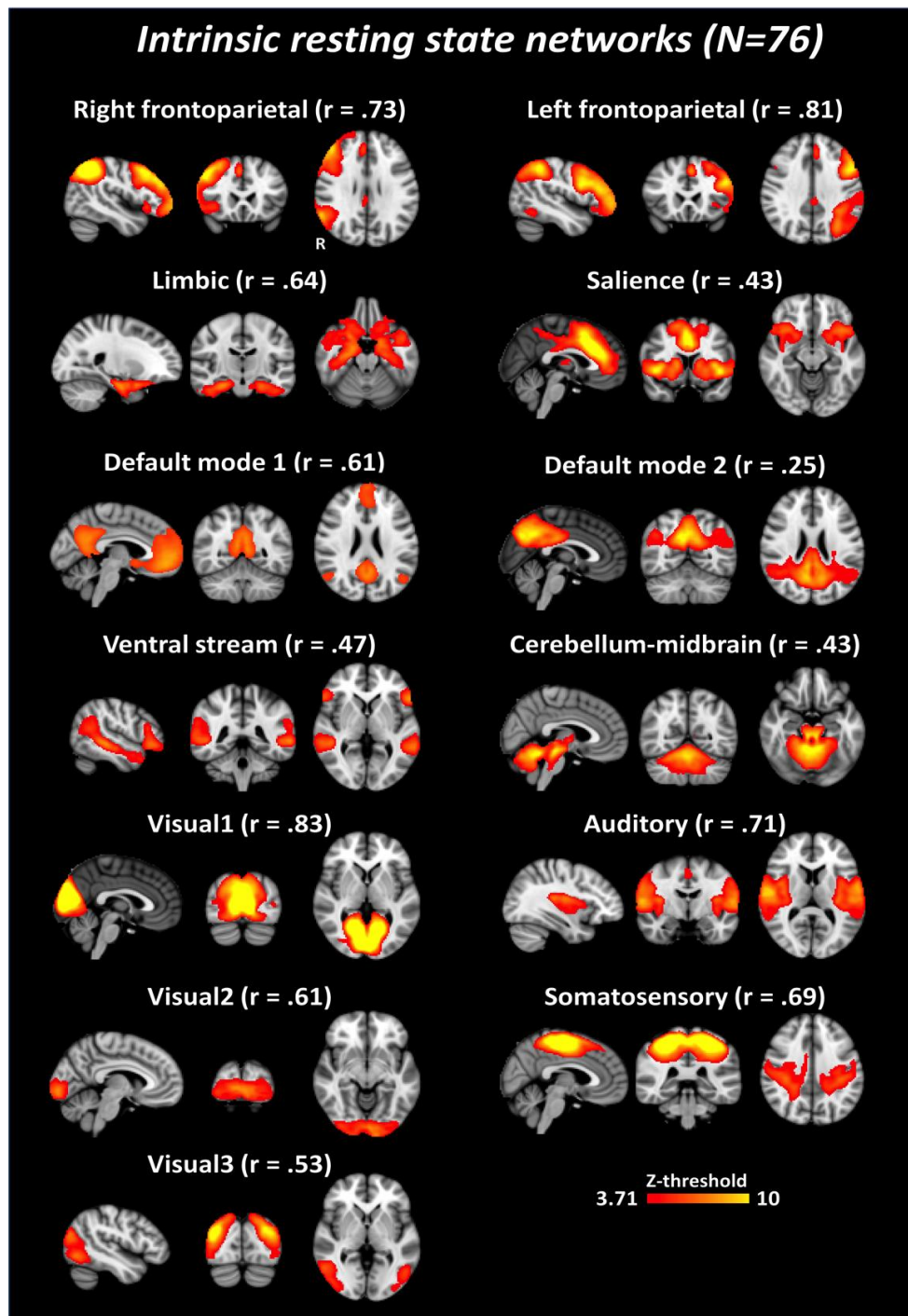
Tae-Ho Lee¹, and Eva H. Telzer^{1,2}

¹ Department of Psychology, University of Illinois at Urbana-Champaign (UIUC)

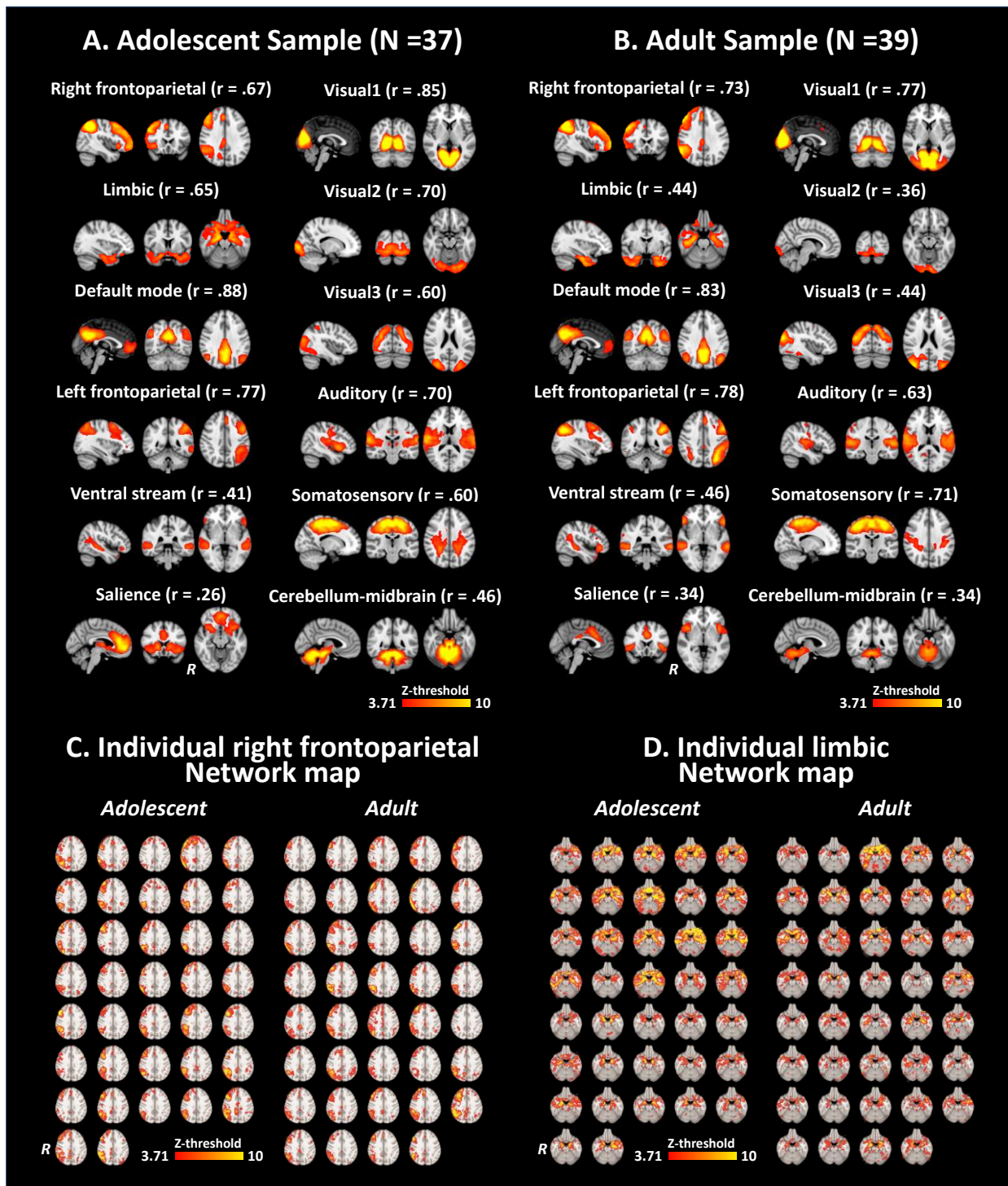
² Beckman Institute for Advanced Science and Technology, UIUC



Supplementary Figure 1. Examples of noise *components* removed at the individual level of ICA denoising. For denoising process, we first trained and tested an automated signal classifier (Tohka et al., 2008) and removed an average of 4.3 components (13.7%) from each individual.

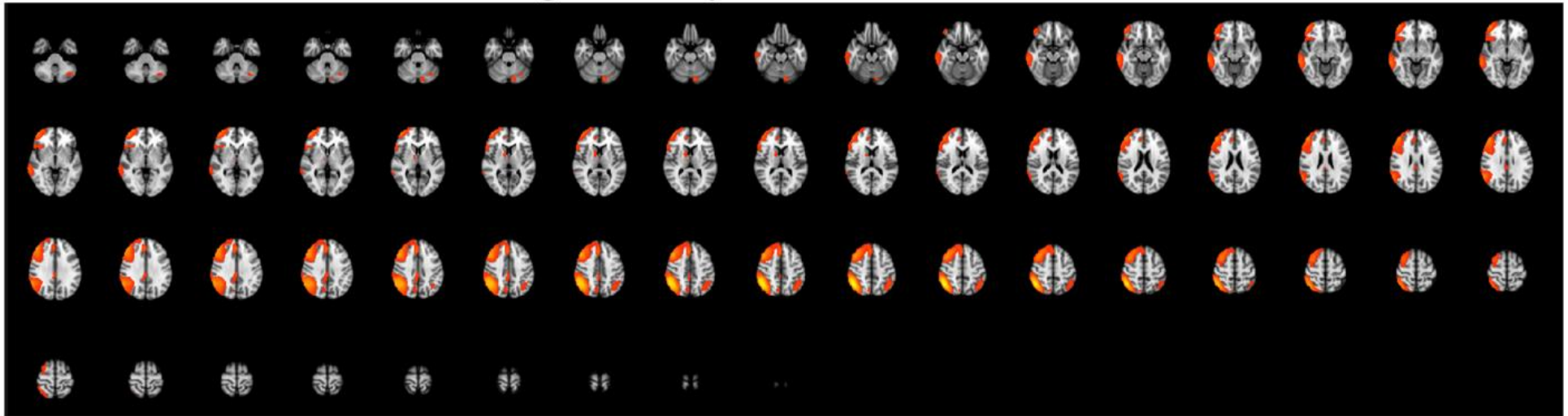


Supplementary Figure 2. Identified intrinsic resting state networks from group level ICA in the current study. Each “ r ” indicates spatially cross-correlation coefficient value with canonical resting-state network templates acquired from previous studies (Laird et al., 2011; Shirer, Ryali, Rykhlevskaia, Menon, & Greicius, 2012; Smith et al., 2009; see also Clewett et al., 2014)



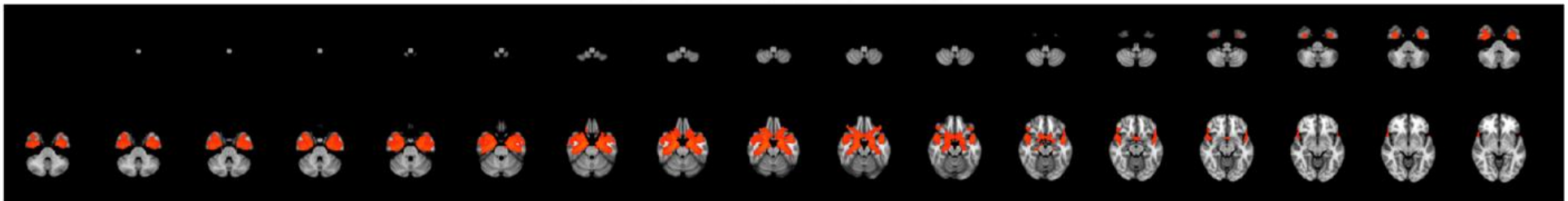
Supplementary Figure 3. (A-B) Identified the RSN from both age group and (C-D) each individual's right frontoparietal network depending on the group. Each "r" indicates spatially cross-correlation coefficient value with canonical resting-state network templates acquired from previous studies (Laird et al., 2011; Shirer, Ryali, Rykhlevskaia, Menon, & Greicius, 2012; Smith et al., 2009; see also Clewett et al., 2014)

IC10. Right frontoparietal executive network



Z-threshold
3.71 10

IC16. Limbic network



Z-threshold
3.71 10

Supplementary Figure 4. Slices for each network of interest in the current study.

Supplementary references

- Clewett, D., Luo, S., Hsu, E., Ainslie, G., Mather, M., & Monterosso, J. (2014). Increased functional coupling between the left fronto-parietal network and anterior insula predicts steeper delay discounting in smokers. *Human brain mapping, 35*(8), 3774-3787.
- Laird, A. R., Fox, P. M., Eickhoff, S. B., Turner, J. A., Ray, K. L., McKay, D. R., . . . Fox, P. T. (2011). Behavioral interpretations of intrinsic connectivity networks. *Journal of cognitive neuroscience, 23*(12), 4022-4037.
- Shirer, W., Ryali, S., Rykhlevskaia, E., Menon, V., & Greicius, M. (2012). Decoding subject-driven cognitive states with whole-brain connectivity patterns. *Cerebral cortex, 22*(1), 158-165.
- Smith, S. M., Fox, P. T., Miller, K. L., Glahn, D. C., Fox, P. M., Mackay, C. E., . . . Beckmann, C. F. (2009). Correspondence of the brain's functional architecture during activation and rest. *Proceedings of the National Academy of Sciences, 106*(31), 13040-13045. doi: 10.1073/pnas.0905267106
- Tohka, J., Foerde, K., Aron, A. R., Tom, S. M., Toga, A. W., & Poldrack, R. A. (2008). Automatic independent component labeling for artifact removal in fMRI. *Neuroimage, 39*(3), 1227-1245.