Table S1. Comparison of ICA components with Laird's 20 intrinsic connectivity networks and Yeo's 7 cortical parcellation. The table below shows the correlation between area connectivities identified as within a network using our analysis compared to networks derived from two analysis previously published. These are voxel wise correlations using the Smith et al. (2009) recommended procedure for comparing ICA results. Correlations of above .25 are typically considered to show reasonable similarity. In the case of our DMN and SN. we show substantial agreement with the networks so named in the two published studies. The single asterisks in the table indicate the matches with the other studies.

Component	with Laird's 20 ICN**	with Yeo 7 Cortical Networks***	Assessment
1	13 (r=0.21); 9 (r=0.22)	3 (r=0.23); 4 (r=0.22)	Attention
2	15(r=0.59)	6 (r=0.51)	Frontoparietal
3	7 (r=0.21); 12 (r=0.28)	1 (r=0.29)	
4	7 (r=0.27); 13 (r=0.34)	7 (r=0.29)	Posterior Default Mode
5	3 (r=0.2); 2 (r=0.34)		OFC
6	12 (r=0.31); 11 (r=0.35); 10 (r=0.55)	1 (r=0.51)	Visual
7	12 (r=0.59)	1 (r=0.38)	Visual
8	12 (r=0.21); 11 (r=0.41)	1 (r=0.21)	Visual
9	1 (r=0.2); 13* (r=0.34)	7* (r=0.29)	Default Mode Network
10	20 (r=0.21); 6 (r=0.33); 7(r=0.54)	3 (r=0.42)	Parietal, Attention
11	3 (r=0.22); 17 (r=0.26); 2 (r=0.28); 4*(r=0.5)	4* (r=0.44)	Salience Network
12	1 (r=0.33); 5(r=0.37); 3(r=0.52)		BG
13	16 (r=0.23); 17(r=0.54)	2 (r=0.42)	Dorsal Precentral, Somatomotor

14	13 (r=0.28); 2(r=0.33); 20(r=0.35)	7 (r=0.48)	
15	10 (r=0.22); 4(r=0.25); 13(r=0.26); 1(r=0.28); 16(r=0.47)	7 (r=0.31)	
16	17 (r=0.3); 8(r=0.46)	3 (r=0.39)	Ventral precentral gyri, Dorsal Attention
17	8 (r=0.27); 6(r=0.38); 9(r=0.4)	2 (r=0.42)	Superior Parietal,Somatomotor
18	2 (r=0.39)	5 (r=0.4)	OFC, Limbic
19	15 (r=0.2); 20(r=0.22); 18)0.51)	6 (r=0.35)	Left Frontal Parietal,Frontoparietal

*: Matched

** Laird's 20 ICN network (Laird et al., 2011): 1)Limbic and medial-temporal area, 2)Subgenual ACC and OFC, 3)Bilateral BG and thalamus, 4)Bilateral anterior insula, 5)Midbrain, 6)Superior and middle frontal gyri, 7)Middle frontal gyri and Superior parietal lobules, 8)Ventral precentral gyri, central sulci, postcentral gyri, superior and inferior cerebellum, 9)Superior parietal lobule, 10)Middle and inferior temporal gyri, 11&12)Lateral and medial posterior occipital cortices, 13)DMN, 14)Cerebellum, 15)Right-lateralized fronto-parietal regions, 16)Transverse temporal gyri, 17)Dorsal precentral gyri, central sulci, postcentral gyri superior and inferior cerebellum, 18)Left-lateralized fronto-parietal regions, 19&20)artifacts

*** Yeo's 7 Cortical Parcellations (Yeo et al., 2011): 1) Visual, 2) Somatomotor, 3) Dorsal Attention, 4) Ventral Attention, 5) Limbic, 6) Frontoparietal, 7) Default Mode

Table S2A. Regions in which the connectivity with mPFC seed positively correlated with high frequency heart rate variability (p<0.02, T>2.07, K>80)

		Cluster Size	Peak coordinates			Peak Z-value
		Threshold at T=2.07, p=0.02	X	y	z	
Cingulate Gyrus (dorsal)	BA24, 32	610	-2	16	28	3.76
Cingulate Gyrus (mid) ; Medial frontal Gyrus	BA24, BA6	776	0	-12	40	3.42
Cingulate Gyrus (posterior)	BA31	313	-8	-34	42	2.89
Anterior Cingulate (pgACC)	BA32, 24	377	-4	46	2	3.39
Medial Frontal Gyrus	BA9, BA10	83	-4	66	12	2.66
L Superior Temporal Gyrus; Precentral Gyrus	BA22, BA44, BA6	1647	-62	0	-8	4.33
R Superior Temporal Gyrus, Insula	BA22, BA44, BA13	569	50	-2	-10	3.34
L Insula (Anterior)	BA13	131	-42	20	4	3.28
Thalamus		85	10	-16	0	3.12
R Cuneus, Precuneus	BA7	805	14	-72	36	4.35
R Cuneus	BA17, BA18	571	8	-94	22	2.97
L/R Postcentral Gyrus	BA7	1127	20	-44	72	4.46
R Inferior Parietal Lobule	BA40	349	68	-20	28	3.28
R Middle/Inferior Occipital Gyrus	BA18, BA19	431	44	-82	4	2.90
L Lingual Gyrus; Middle Occipital Gyrus (some white matter)	BA19	896	-34	-62	6	3.71
Cerebellum		778	28	-68	-22	3.46

Table S2B. Regions in which the connectivity with mPFC seed negatively correlated with high frequency heart rate variability (p<0.02, T>2.07, K>80)

	Cluster Size Threshold at T=2.07, p=0.02	Peak coordinates			Peak Z-value
		X	y	z	
Cerebellum	1066	-42	-70	-44	4.73
Pons	114	-4	-44	-42	3.06
	126	-0	-12	-36	2.89

Table S3. Clusters within DMN and SN showed the connectivity with SN or DMN correlated with high frequency heart rate variability (HF-HRV); SPM result threshold at p≤0.01 and cluster size k≥49

(A) DMN connectivity positively correlated with HF-HRV

Clusters		Cluster Size Threshold at p=0.01	Peak coordinates X	y	z	Effect Size r (df=203)
Anterior Cingulate (pgACC)	BA 32	58	10	46	-4	0.27
Right Insula		95	42	10	-2	0.26

(B) DMN connectivity negatively correlated with HF-HRV

Left Putaman		303	-28	6	4	0.27
Lateral Globus Pallidus		56	-2	6	48	0.24
Right Putamen		52	22	10	-12	0.23

(C) SN connectivity positively correlated with HF-HRV

|						
Anterior Cingulate (pgACC)	BA32	85	-4	48	2	0.29
Posterior Cingulate	BA30	75	-12	-64	14	0.27
Insula	BA13, 47	49	38	16	-14	0.23
Precentral Gyrus	BA 6,44	72	-56	4	8	0.23
Thalamus		68	-2	-10	-2	0.22
Superior Occipital Gyrus	BA 19	64	38	-76	36	0.22
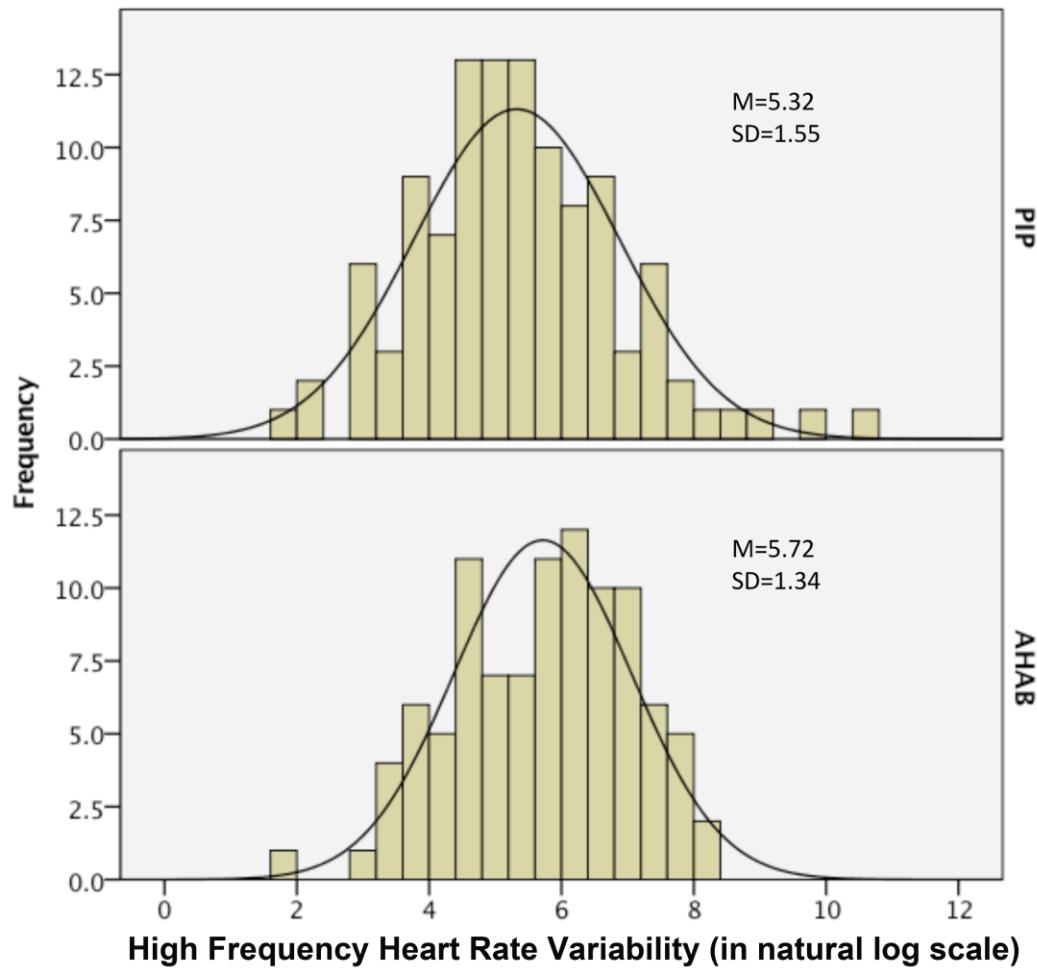
Figure S1 Distribution of High Frequency Heart Rate Variability for PIP and AHAB projects
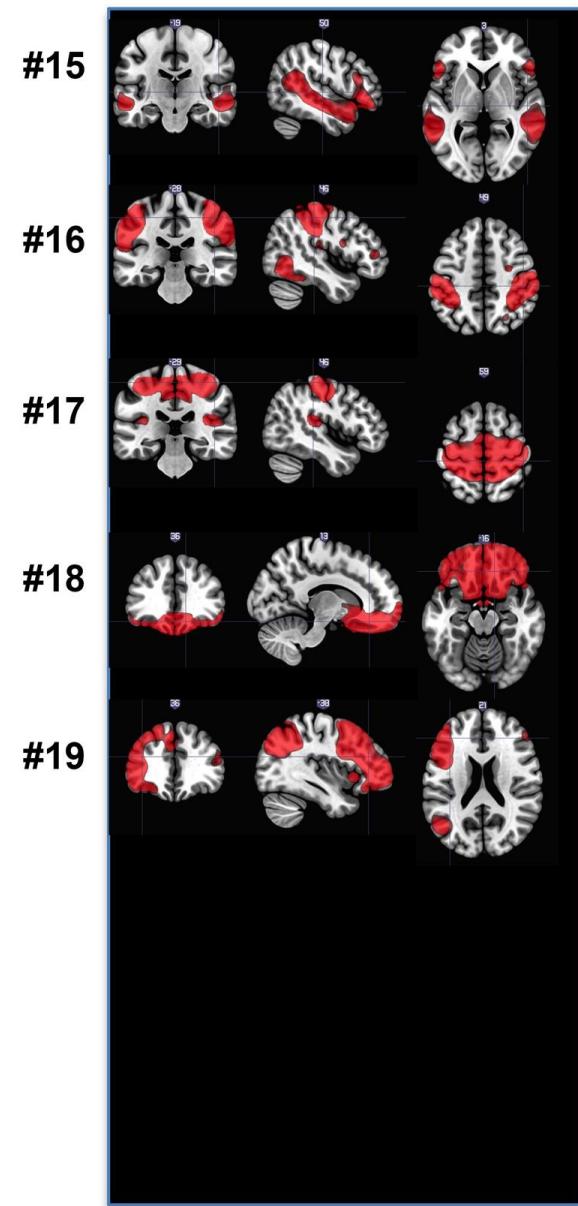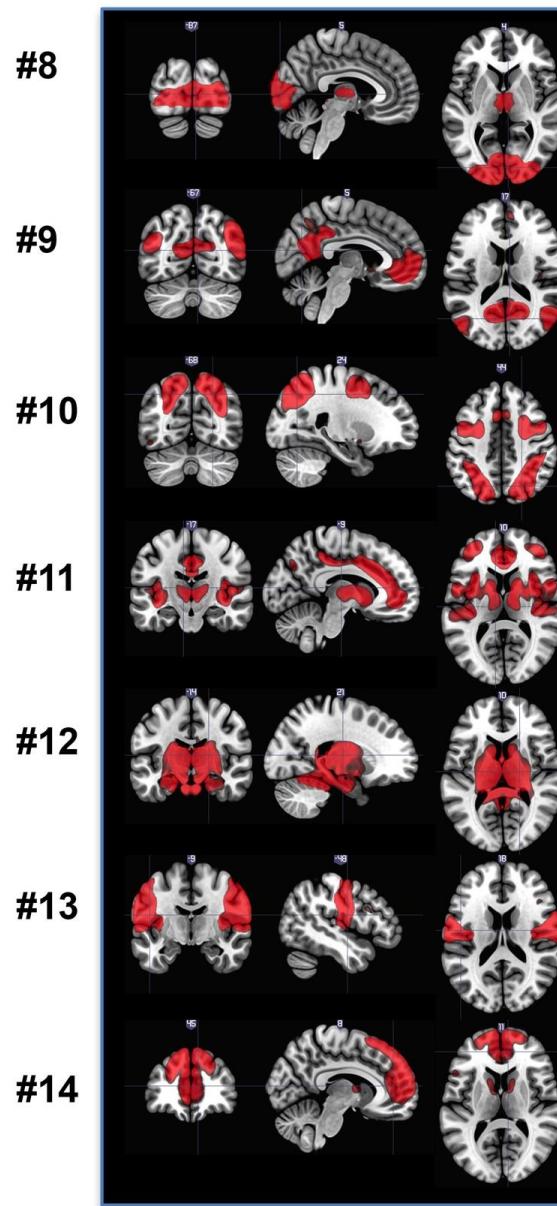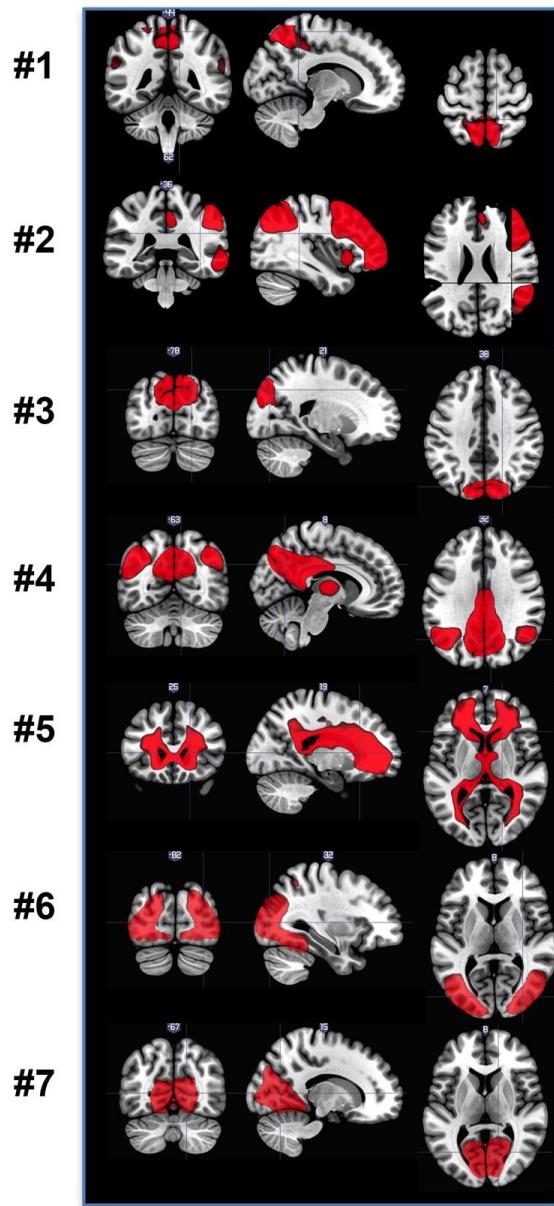
Figure S2. 19 Independent Components were extracted from resting BOLD signals. IC#9 was identified as DMN and IC#11 the SN.
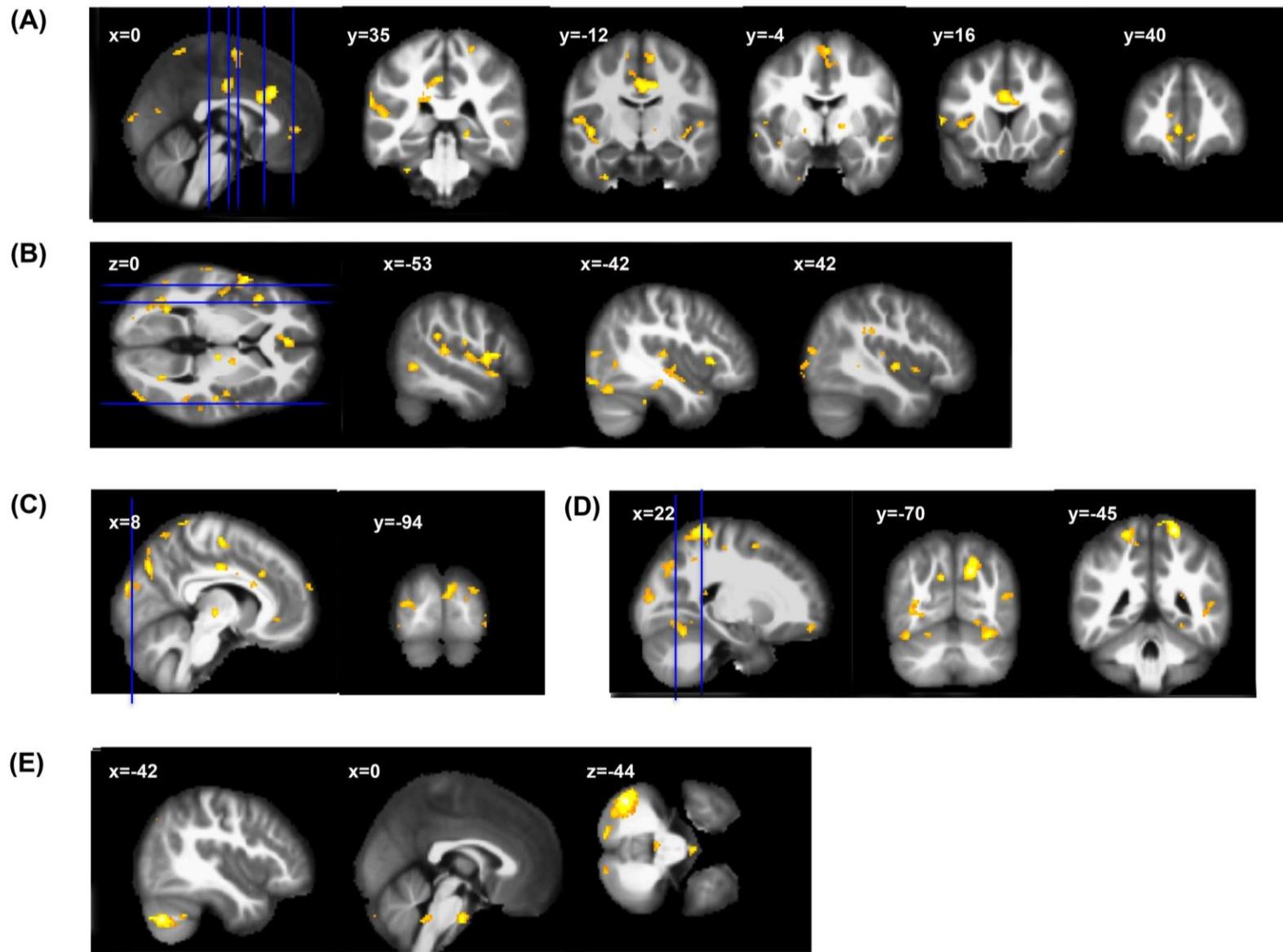
Figure S3. Whole brain search result. Shown are regions where the connectivity with mPFC seed correlated with high frequency heart rate variability (p<0.02, T>2.07). Detailed coordinates and statistics are shown in Tables S2A and S2B. (A)-(D) are for positive correlations and (E) are for negative correlations. (A) Medial view, including posterior cingulate (y=-35), mid cingulate gyrus (y=-12), medial frontal gyrus (y=-4), dorsal cingulate gyrus (y=16), and anterior cingulate (y=40);(B) Lateral view: including superior temporal gyrus (y=-53) and Insula lobe(y=+42);(C) occipital ;(D) cerebellum and postcentral gyrus(y=-45); (E) Cerebellum and pons.