

Supplemental Material: Multimodal Graph Convolutional Network on Brain Structure and Function in Adolescent Anxiety and Depression

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TABLE II

COMPARISON OF THE TOP 30 REGIONS OF INTEREST IDENTIFIED IN UNIMODAL SC, UNIMODAL FC, AND OUR PROPOSED METHOD FOR THE CLASSIFICATION OF CONTROL ADOLESCENTS AND ANXIOUS ADOLESCENTS

unimodal SC	unimodal FC	Proposed
RH_Hippocampus	LH_Visual_4	RH_Hippocampus
RH_pThalamus	LH_Visual_5	RH_pThalamus
RH_aThalamus	LH_Visual_10	RH_aThalamus
RH_GlobusPallidus	LH_Visual_13	RH_GlobusPallidus
RH_Putamen	LH_DMN_Temp_2	RH_Putamen
LH_Hippocampus	LH_DMN_Temp_4	RH_Caudate
LH_Amygdala	LH_DMN_Temp_6	LH_Hippocampus
LH_pThalamus	LH_DMN_Par_4	LH_pThalamus
LH_aThalamus	LH_DMN_Par_6	LH_aThalamus
LH_GlobusPallidus	LH_DMN_PFC_1	LH_Putamen
LH_Putamen	LH_DMN_PFC_3	LH_Caudate
LH_Caudate	LH_DMN_PFC_4	LH_Limbic_OFC_5
LH_Visual_6	LH_DMN_PFC_8	LH_DMN_PFC_11
LH_Visual_8	LH_DMN_PFC_9	LH_DMN_PFC_13
LH_Visual_17	LH_DMN_PFC_13	LH_DMN_PFC_14
LH_Visual_23	LH_DMN_PFC_14	RH_Visual_5
LH_DAN_Post_2	LH_DMN_PFC_18	RH_Visual_6
LH_DAN_Post_3	LH_DMN_PFC_19	RH_Visual_8
LH_DAN_Post_4	LH_DMN_pCunPCC_3	RH_Visual_15
LH_Cont_Par_3	LH_DMN_pCunPCC_6	RH_Visual_19
LH_Cont_Par_4	LH_DMN_pCunPCC_7	RH_Visual_20
LH_DMN_Temp_1	RH_Visual_6	RH_Visual_23
LH_DMN_Temp_6	RH_Visual_11	RH_Visual_29
LH_DMN_Par_3	RH_Visual_12	RH_SMN_16
LH_DMN_Par_4	RH_Visual_29	RH_SVAN_FrOperIns_3
LH_DMN_Par_6	RH_DMN_Temp_1	RH_Limbic_OFC_6
RH_Visual_5	RH_DMN_Temp_2	RH_Cont_PFCI_3
RH_Visual_15	RH_DMN_PFCdPFCm_4	RH_DMN_PFCdPFCm_2
RH_Visual_20	RH_DMN_PFCdPFCm_7	RH_DMN_PFCdPFCm_4
RH_Visual_29	RH_DMN_PFCdPFCm_9	RH_DMN_PFCdPFCm_5

RH: Right Hemisphere, LH: Left Hemisphere, pThalamus – posterior Thalamus, aThalamus – anterior Thalamus, DMN: Default Mode Network, Cont: Control Network, PFC: Prefrontal Cortex, DAN:Dorsal Attention Network, SVAN: Saliency Ventral Attention Network, Par: Parietal, Post: Posterior, Temp: Temporal, pCunPCC: precuneus posterior cingulate cortex, PFCdPFCm: dorsal PFC medial PFC, OFC: orbitofrontal cortex.

TABLE III

COMPARISON OF THE TOP 30 REGIONS OF INTEREST IDENTIFIED IN UNIMODAL SC, UNIMODAL FC, AND OUR PROPOSED METHOD FOR THE CLASSIFICATION OF CONTROL ADOLESCENTS AND DEPRESSED ADOLESCENTS

unimodal SC	unimodal FC	Proposed
RH_Hippocampus	LH_SMN_25	RH_Hippocampus
RH_pThalamus	LH_DMN_Temp_6	RH_pThalamus
RH_aThalamus	LH_DMN_Par_4	RH_aThalamus
RH_GlobusPallidus	LH_DMN_PFC_3	RH_Putamen
RH_Putamen	LH_DMN_PFC_13	RH_Caudate
RH_Caudate	LH_DMN_PFC_14	LH_Hippocampus
LH_Hippocampus	LH_DMN_PFC_18	LH_pThalamus
LH_pThalamus	LH_DMN_PFC_23	LH_aThalamus
LH_aThalamus	LH_DMN_pCunPCC_6	LH_Putamen
LH_GlobusPallidus	LH_DMN_pCunPCC_7	LH_Caudate
LH_Putamen	RH_SMN_9	LH_Visual_18
LH_Caudate	RH_Limbic_TempPole_3	LH_Visual_21
LH_Limbic_OFC_5	RH_Cont_Par_1	LH_Visual_22
LH_Cont_PFCI_1	RH_Cont_PFCI_2	LH_Visual_25
LH_DMN_PFC_11	RH_Cont_PFCmp_1	LH_DAN_Post_6
LH_DMN_PFC_13	RH_Cont_PFCmp_2	RH_Visual_15
LH_DMN_PFC_14	RH_DMN_Par_3	RH_Visual_19
RH_Visual_9	RH_DMN_Par_5	RH_Visual_20
RH_Visual_15	RH_DMN_Temp_2	RH_Visual_23
RH_Visual_20	RH_DMN_Temp_5	RH_Visual_26
RH_Visual_26	RH_DMN_PFCv_1	RH_Visual_28
RH_Visual_29	RH_DMN_PFCv_2	RH_Visual_29
RH_DAN_Post_1	RH_DMN_PFCv_3	RH_SMN_12
RH_Cont_Temp_1	RH_DMN_PFCdPFCm_4	RH_SMN_16
RH_Cont_PFCI_3	RH_DMN_PFCdPFCm_7	RH_SMN_17
RH_DMN_PFCdPFCm_5	RH_DMN_PFCdPFCm_8	RH_DAN_Post_6
RH_DMN_PFCdPFCm_6	RH_DMN_PFCdPFCm_9	RH_Limbic_OFC_3
RH_DMN_PFCdPFCm_7	RH_DMN_PFCdPFCm_11	RH_Limbic_OFC_6
RH_DMN_PFCdPFCm_9	RH_DMN_PFCdPFCm_13	RH_DMN_PFCdPFCm_2
RH_DMN_PFCdPFCm_11	RH_DMN_pCunPCC_8	RH_DMN_PFCdPFCm_5

RH: Right Hemisphere, LH: Left Hemisphere, pThalamus – posterior Thalamus, aThalamus – anterior Thalamus, SMN: Sensorimotor Network, DMN: Default Mode Network, Cont: Control Network, PFC: Prefrontal Cortex, DAN:Dorsal Attention Network, Par: Parietal, Post: Posterior, Temp: Temporal, pCunPCC: precuneus posterior cingulate cortex, PFCdPFCm: dorsal PFC medial PFC, OFC: orbitofrontal cortex, PFCv: ventral PFC, PFCmp: medial posterior PFC, PFCI: lateral PFC.

TABLE IV
COMPARISON OF THE TOP 30 REGIONS OF INTEREST IDENTIFIED IN
UNIMODAL SC, UNIMODAL FC, AND OUR PROPOSED METHOD FOR THE
CLASSIFICATION OF ANXIOUS ADOLESCENTS AND DEPRESSED
ADOLESCENTS

unimodal SC	unimodal FC	Proposed
RH_Hippocampus	LH_Cont_PFC1_4	RH_pThalamus
RH_pThalamus	LH_Cont_PFCmp_1	RH_aThalamus
RH_aThalamus	LH_DMN_Temp_2	RH_Putamen
RH_GlobusPallidus	LH_DMN_Temp_4	LH_pThalamus
RH_Putamen	LH_DMN_Par_4	LH_aThalamus
RH_Caudate	LH_DMN_Par_6	LH_Putamen
LH_Hippocampus	LH_DMN_PFC_3	LH_Visual_16
LH_pThalamus	LH_DMN_PFC_8	LH_Visual_18
LH_aThalamus	LH_DMN_PFC_13	LH_Visual_21
LH_GlobusPallidus	LH_DMN_PFC_14	LH_Visual_22
LH_Putamen	LH_DMN_PFC_18	LH_Visual_24
LH_Caudate	LH_DMN_PFC_19	LH_Visual_25
LH_Visual_22	LH_DMN_PFC_20	LH_Visual_26
RH_Visual_4	LH_DMN_PFC_22	LH_Visual_29
RH_Visual_5	LH_DMN_PFC_23	LH_Visual_30
RH_Visual_6	LH_DMN_pCunPCC_7	LH_DMN_PFC_3
RH_Visual_8	RH_Cont_Par_1	LH_DMN_PFC_4
RH_Visual_15	RH_Cont_Par_6	RH_Visual_15
RH_Visual_18	RH_Cont_PFC1_5	RH_Visual_19
RH_Visual_19	RH_Cont_PFC1_12	RH_Visual_20
RH_Visual_20	RH_Cont_PFC1_15	RH_Visual_23
RH_Visual_22	RH_DMN_Par_5	RH_Visual_24
RH_Visual_23	RH_DMN_Temp_2	RH_Visual_28
RH_Visual_26	RH_DMN_PFCdPFCm_4	RH_Visual_29
RH_Visual_28	RH_DMN_PFCdPFCm_5	RH_SMN_12
RH_Visual_29	RH_DMN_PFCdPFCm_8	RH_SMN_16
RH_Visual_30	RH_DMN_PFCdPFCm_9	RH_SMN_17
RH_Cont_pCun_1	RH_DMN_PFCdPFCm_11	RH_Limbic_OFC_3
RH_DMN_Temp_1	RH_DMN_PFCdPFCm_12	RH_Limbic_OFC_6
RH_DMN_pCunPCC_1	RH_DMN_pCunPCC_6	RH_DMN_pCunPCC_1

RH: Right Hemisphere, LH: Left Hemisphere, pThalamus – posterior Thalamus, aThalamus – anterior Thalamus, DMN: Default Mode Network, Cont: Control Network, PFC: Prefrontal Cortex, Par: Parietal, Post: Posterior, Temp: Temporal, pCunPCC: precuneus posterior cingulate cortex, PFCdPFCm: dorsal PFC medial PFC, OFC: orbitofrontal cortex, PFCmp: medial posterior PFC, pCun: precuneus.