Supplemental tables and figures

Table S1. ANOVA and pairwise comparisons in brain regions showing a significant group X condition (criticism vs. neutral) interaction

Brain region	BA	Temporal regions: significant group X condition	Repeated measures group x condition ANOVA	Pairwise comparisons MDD (criticism vs. neutral)	CON (criticism vs. neutral)
L Superior Parietal Lobe	7	15.03 ~ 30.06	Huynh-Feldt $F(1, 46) = 10.37$, $p = .002$, partial $\eta^2 = .18$	$t(19) = 2.439$, $p = .025$	$t(27) = -1.853$, $p = .075$
R Postcentral Gyrus	5	10.02 ~ 15.03	Huynh-Feldt $F(1, 46) = 5.28$, $p = .026$, partial $\eta^2 = .10$	$t(19) = 1.085$, $p = .291$	$t(27) = -2.553$, $p = .017$
		23.38 ~ 30.06	Huynh-Feldt $F(1, 46) = 8.00$, $p = .007$, partial $\eta^2 = .15$	$t(19) = 2.314$, $p = .032$	$t(27) = -1.338$, $p = .192$
L Postcentral Gyrus	6	13.36 ~ 26.72	Huynh-Feldt $F(1, 46) = 13.60$, $p = .001$, partial $\eta^2 = .23$	$t(19) = 3.089$, $p = .006$	$t(27) = -1.926$, $p = .065$
R Postcentral Gyrus	2/40	10.02 ~ 18.37	Huynh-Feldt $F(1, 46) = 7.04$, $p = .011$, partial $\eta^2 = .13$	$t(19) = 1.706$, $p = .104$	$t(27) = -2.103$, $p = .045$
		21.71 ~ 30.06	Huynh-Feldt $F(1, 46) = 8.38$, $p = .006$, partial $\eta^2 = .15$	$t(19) = 3.398$, $p = .003$	$t(27) = -.292$, $p = .773$
R Precuneus	7	20.04 ~ 30.06	Huynh-Feldt $F(1, 46) = 6.93$, $p = .011$, partial $\eta^2 = .13$	$t(19) = 2.493$, $p = .022$	$t(27) = -1.090$, $p = .286$
R Postcentral Gyrus	3	10.02 ~ 20.04	Huynh-Feldt $F(1, 46) = 9.74$, $p = .003$, partial $\eta^2 = .18$	$t(19) = 3.726$, $p = .001$	$t(27) = -1.012$, $p = .321$
		21.71 ~ 26.72	Huynh-Feldt $F(1, 46) = 5.26$, $p = .026$, partial $\eta^2 = .10$	$t(19) = 3.083$, $p = .006$	$t(27) = .729$, $p = .472$
R Cingulate Gyrus	31	11.69 ~ 20.04	Huynh-Feldt $F(1, 46) = 8.53$, $p = .005$, partial $\eta^2 = .16$	$t(19) = .688$, $p = .500$	$t(27) = -4.001$, $p = .000$
		21.71 ~ 28.39	Huynh-Feldt $F(1, 46) = 6.33$, $p = .015$, partial $\eta^2 = .12$	$t(19) = 1.580$, $p = .131$	$t(27) = -1.998$, $p = .056$
L Angular Gyrus/Inferior Parietal Lobe	39	10.02 ~ 30.06	Huynh-Feldt $F(1, 46) = 13.76$, $p = .001$, partial $\eta^2 = .23$	$t(19) = 1.766$, $p = .094$	$t(27) = -3.662$, $p = .001$
R Medial Frontal Gyrus	10/11	25.05 ~ 28.39	Huynh-Feldt $F(1, 46) = 4.91$, $p = .032$, partial $\eta^2 = .10$	$t(19) = 2.449$, $p = .024$	$t(27) = -.444$, $p = .660$
*L Parahippocampal Gyrus	35/36	8.35 ~ 30.06	Huynh-Feldt $F(1, 46) = 11.78$, $p = .001$, partial $\eta^2 = .20$	$t(19) = 2.401$, $p = .027$	$t(27) = -2.928$, $p = .007$
L Culmen		8.35 ~ 16.7	Huynh-Feldt $F(1, 46) = 12.14$, $p = .001$, partial $\eta^2 = .21$	$t(19) = 2.478$, $p = .023$	$t(27) = -2.584$, $p = .015$
R Culmen		6.68 ~ 28.39	Huynh-Feldt $F(1, 46) = 14.58$, $p = .000$, partial $\eta^2 = .24$	$t(19) = 2.707$, $p = .014$	$t(27) = -3.156$, $p = .004$

Note. F value = F value of centroid; R = Right; L = Left;

*average brain activity across the temporal regions that displayed significant group X condition interactions and time-series in these regions are presented in Figure 1 and Figure S3, respectively. Other regions not consistent with Neurosynth.org brain maps implicated in emotional, memory, social, or self-related processing in the literature.

Table S2. ANOVA and pairwise comparisons in brain regions showing a significant group X condition (praise vs. neutral) interaction

Brain region	BA	Temporal regions: significant group X condition	Repeated measures group x condition ANOVA	MDD (praise vs. neutral)	CON (praise vs. neutral)
				Pairwise comparisons	
L Postcentral Gyrus	5	21.71 ~ 30.06	Huynh-Feldt $F(1, 46) = 6.50$, $p = .014$, partial $\eta^2 = .12$	$t(19)= 3.537$, $p = .002$	$t(27)= .107$, $p = .916$
R Superior Parietal Lobule	7/40	13.36 ~ 20.04	Huynh-Feldt $F(1, 46) = 5.89$, $p = .019$, partial $\eta^2 = .11$	$t(19)= -2.898$, $p = .009$	$t(27)= -.007$, $p = .994$
L Precentral Gyrus	6	21.71 ~ 30.06	Huynh-Feldt $F(1, 46) = 8.65$, $p = .005$, partial $\eta^2 = .16$	$t(19)= 3.039$, $p = .007$	$t(27)= -.968$, $p = .341$
*Precuneus	7	15.03 ~ 18.37	Huynh-Feldt $F(1, 46) = 4.45$, $p = .04$, partial $\eta^2 = .09$	$t(19)= -4.039$, $p = .001$	$t(27)= -1.431$, $p = .164$
R Inferior Frontal Gyrus	44/45	25.05 ~ 30.06	Huynh-Feldt $F(1, 46) = 11.05$, $p = .002$, partial $\eta^2 = .19$	$t(19)= 2.627$, $p = .017$	$t(27)= -2.070$, $p = .048$
R Middle Occipital Gyrus	19	21.71 ~ 28.39	Huynh-Feldt $F(1, 46) = 6.46$, $p = .014$, partial $\eta^2 = .12$	$t(19)= 2.325$, $p = .031$	$t(27)= -.936$, $p = .358$
R Cuneus	18/17	11.69 ~ 16.7	Huynh-Feldt $F(1, 46) = 5.43$, $p = .024$, partial $\eta^2 = .11$	$t(19)= -2.490$, $p = .022$	$t(27)= .348$, $p = .731$
*R Thalamus extending to Caudate	-	3.34 ~ 10.02	Huynh-Feldt $F(1, 46) = 9.04$, $p = .004$, partial $\eta^2= .16$	$t(19)= -3.841$, $p = .001$	$t(27)= -.199$, $p = .843$
		13.36 ~ 20.04	Huynh-Feldt $F(1, 46) = 7.43$, $p = .009$, partial $\eta^2 = .14$	$t(19)= -3.673$, $p = .002$	$t(27)= .250$, $p = .804$
L Lingual Gyrus	17/18	23.38 ~ 26.72	Huynh-Feldt $F(1, 46) = 5.20$, $p = .027$, partial $\eta^2 = .10$	$t(19)= 2.247$, $p = .037$	$t(27)= -.533$, $p = .598$
Subgenual ACC extending to Caudate	25	18.37 ~ 25.05	Huynh-Feldt $F(1, 46) = 6.93$, $p = .012$, partial $\eta^2 = .13$	$t(19)= 1.726$, $p = .101$	$t(27)= -1.958$, $p = .061$
*R Parahippocampal Gyrus	37	3.34 ~ 8.35	Huynh-Feldt $F(1, 46) = 5.80$, $p = .020$, partial $\eta^2 = .11$	$t(19)= -2.372$, $p = .028$	$t(27)= .888$, $p = .382$
*Medial Prefrontal Cortex	11/10	13.36 ~ 30.06	Huynh-Feldt $F(1, 46) = 8.80$, $p = .005$, partial $\eta^2 = .16$	$t(19)= -2.667$, $p = .015$	$t(27)= 1.007$, $p = .323$
R Anterior Middle Temporal Gyrus	21	20.04 ~ 30.06	Huynh-Feldt $F(1, 46) = 8.33$, $p = .006$, partial $\eta^2 = .15$	$t(19)= 1.839$, $p = .082$	$t(27)= -2.378$, $p = .025$

Note. F value = F value of centroid; R = Right; L = Left; ACC=Anterior Cingulate Cortex

*average brain activity across the temporal regions that displayed significant group X condition interactions and time-series in these regions are presented in Figure 2 and Figure S4, respectively. Other regions not consistent with Neurosynth.org brain maps implicated in emotional, memory, social, or self-related processing in the literature.

Table S3. ANOVA and pairwise comparisons in brain regions showing a significant group X condition (criticism vs. neutral) interaction, controlling for anxiety symptoms.

Brain region	BA	Temporal regions: significant group X condition	Repeated measures group x condition ANOVA	Pairwise comparisons MDD (criticism vs. neutral)	CON (criticism vs. neutral)
L Superior Parietal Lobe	7	15.03 ~ 30.06	Huynh-Feldt $F(1, 42) = 6.36$, p = .016, partial η^2 = .13	t(17)= 1.972, p = .065	t(26)= -1.591, p = .124
R Postcentral Gyrus	5	10.02 ~ 15.03	Huynh-Feldt $F(1, 42) = 4.68$, p = .036, partial η^2 = .10	t(17)= .909, p = .376	t(26)= -2.921, p = .007
		23.38 ~ 30.06	Huynh-Feldt $F(1, 42) = 10.61$, p = .002, partial η^2 = .20	t(17)= 2.310, p = .034	t(26)= -1.722, p = .097
L Postcentral Gyrus	6	13.36 ~ 26.72	Huynh-Feldt $F(1, 42) = 9.92$, p = .003, partial η^2 = .19	t(17)= 3.415, p = .003	t(26)= -1.899, p = .069
R Postcentral Gyrus	2/40	10.02 ~ 18.37	Huynh-Feldt $F(1, 42) = 1.50$, p = .227, partial η^2 = .04	t(17)= 1.378, p = .186	t(26)= -2.162, p = .040
		21.71 ~ 30.06	Huynh-Feldt $F(1, 42) = 5.20$, p = .028, partial η^2 = .11	t(17)= 3.497, p = .003	t(26)= -.446, p = .659
R Precuneus	7	20.04 ~ 30.06	Huynh-Feldt $F(1, 42) = 7.30$, p = .010, partial η^2 = .15	t(17)= 2.027, p = .059	t(26)= -.932, p = .360
R Postcentral Gyrus	3	10.02 ~ 20.04	Huynh-Feldt $F(1, 42) = 4.91$, p = .032, partial η^2 = .11	t(17)= 3.390, p = .003	t(26)= -1.207, p = .238
		21.71 ~ 26.72	Huynh-Feldt $F(1, 42) = 6.89$, p = .012, partial η^2 = .14	t(17)= 2.913, p = .010	t(26)= .545, p = .591
R Cingulate Gyrus	31	11.69 ~ 20.04	Huynh-Feldt $F(1, 42) = 1.80$, p = .187, partial η^2 = .04	t(17)= .384, p = .705	t(26)= -4.118, p = .000
		21.71 ~ 28.39	Huynh-Feldt $F(1, 42) = 3.26$, p = .078, partial η^2 = .07	t(17)= 1.369, p = .189	t(26)= -2.017, p = .054
L Angular Gyrus/Inferior Parietal Lobe	39	10.02 ~ 30.06	Huynh-Feldt $F(1, 42) = 10.95$, p = .002, partial η^2 = .21	t(17)= 1.398, p = .180	t(26)= -3.398, p = .002
R Medial Frontal Gyrus	10/11	25.05 ~ 28.39	Huynh-Feldt $F(1, 42) = 7.27$, p = .010, partial η^2 = .15	t(17)= 2.429, p = .027	t(26)= -.444, p = .661
*L Parahippocampal Gyrus	35/36	8.35 ~ 30.06	Huynh-Feldt $F(1, 42) = 5.07$, p = .030, partial η^2 = .11	t(17)= 2.238, p = .039	t(26)= -2.771, p = .010
L Culmen		8.35 ~ 16.7	Huynh-Feldt $F(1, 42) = 4.52$, p = .039, partial η^2 = .10	t(17)= 2.343, p = .032	t(26)= -2.370, p = .026
R Culmen		6.68 ~ 28.39	Huynh-Feldt $F(1, 42) = 1.91$, p = .174, partial η^2 = .04	t(17)= 2.203, p = .042	t(26)= -3.049, p = .005

Note. F value = F value of centroid; R = Right; L = Left; N= 45 (3 participants missing anxiety symptom data).

*key region interpreted in paper; other regions not consistent with Neurosynth.org brain maps implicated in emotional, memory, social, or self-related processing in the literature.

Table S4. ANOVA and pairwise comparisons in brain regions showing a significant group X condition (praise vs. neutral) interaction, controlling for anxiety symptoms

Brain region	BA	Temporal regions: significant group X condition	Repeated measures group x condition ANOVA	Pairwise comparisons MDD (praise vs. neutral)	CON (praise vs. neutral)
L Postcentral Gyrus	5	21.71 ~ 30.06	Huynh-Feldt $F(1, 42) = 4.94$, $p = .032$, partial $\eta^2 = .11$	$t(17)= 3.308$, $p = .004$	$t(26)= .129$, $p = .898$
R Superior Parietal Lobule	7/40	13.36 ~ 20.04	Huynh-Feldt $F(1, 42) = 12.14$, $p = .001$, partial $\eta^2 = .22$	$t(17)= -3.086$, $p = .007$	$t(26)= .225$, $p = .823$
L Precentral Gyrus	6	21.71 ~ 30.06	Huynh-Feldt $F(1, 42) = 7.37$, $p = .010$, partial $\eta^2 = .15$	$t(17)= 2.916$, $p = .010$	$t(26)= -.448$, $p = .658$
*Precuneus	7	15.03 ~ 18.37	Huynh-Feldt $F(1, 42) = 7.16$, $p = .011$, partial $\eta^2 = .15$	$t(17)= -5.526$, $p = .000$	$t(26)= -1.091$, $p = .285$
R Inferior Frontal Gyrus	44/45	25.05 ~ 30.06	Huynh-Feldt $F(1, 42) = 11.14$, $p = .002$, partial $\eta^2 = .21$	$t(17)= 2.339$, $p = .032$	$t(26)= -1.791$, $p = .085$
R Middle Occipital Gyrus	19	21.71 ~ 28.39	Huynh-Feldt $F(1, 42) = 8.00$, $p = .007$, partial $\eta^2 = .16$	$t(17)= 2.060$, $p = .055$	$t(26)= -.295$, $p = .770$
R Cuneus	18/17	11.69 ~ 16.7	Huynh-Feldt $F(1, 42) = 1.19$, $p = .282$, partial $\eta^2 = .03$	$t(17)= -2.365$, $p = .030$	$t(26)= .947$, $p = .352$
*R Thalamus extending to Caudate	-	3.34 ~ 10.02	Huynh-Feldt $F(1, 42) = 9.61$, $p = .003$, partial $\eta^2= .19$	$t(17)= -3.448$, $p = .003$	$t(26)= -.108$, $p = .915$
		13.36 ~ 20.04	Huynh-Feldt $F(1, 42) = 9.06$, $p = .004$, partial $\eta^2 = .18$	$t(17)= -3.332$, $p = .004$	$t(26)= .508$, $p = .616$
L Lingual Gyrus	17/18	23.38 ~ 26.72	Huynh-Feldt $F(1, 42) = 6.85$, $p = .012$, partial $\eta^2 = .14$	$t(17)= 1.802$, $p = .089$	$t(26)= -.060$, $p = .953$
Subgenual ACC extending to Caudate	25	18.37 ~ 25.05	Huynh-Feldt $F(1, 42) = 8.53$, $p = .006$, partial $\eta^2 = .17$	$t(17)= 1.414$, $p = .175$	$t(26)= -2.037$, $p = .052$
*R Parahippocampal Gyrus	37	3.34 ~ 8.35	Huynh-Feldt $F(1, 42) = 1.02$, $p = .319$, partial $\eta^2 = .02$	$t(17)= -2.210$, $p = .041$	$t(26)= 1.228$, $p = .230$
*Medial Prefrontal Cortex	11/10	13.36 ~ 30.06	Huynh-Feldt $F(1, 42) = 9.66$, $p = .003$, partial $\eta^2 = .19$	$t(17)= -2.734$, $p = .014$	$t(26)= 1.038$, $p = .309$
R Anterior Middle Temporal Gyrus	21	20.04 ~ 30.06	Huynh-Feldt $F(1, 42) = 10.11$, $p = .003$, partial $\eta^2 = .19$	$t(17)= 1.859$, $p = .080$	$t(26)= -2.188$, $p = .038$

Note. F value = F value of centroid; R = Right; L = Left; N= 45 (3 participants missing anxiety symptom data).

*key region interpreted in paper; other regions not consistent with Neurosynth.org brain maps implicated in emotional, memory, social, or self-related processing in the literature.

Table S5. Bivariate correlations between age and neural activity in response to criticism and praise, for entire sample and by group

	Neural response to criticism				Neural response to praise		
Brain region	MDD	CON	ALL	Brain region	MDD	CON	ALL
L Superior Parietal Lobe	-.345	-.036	-.155	L Postcentral Gyrus	-.144	-.175	-.162
R Postcentral Gyrus	-.411	-.262	-.315*	R Superior Parietal Lobule	.127	-.210	-.078
	-.490*	-.229	-.332*	L Precentral Gyrus	-.152	-.022	-.074
L Postcentral Gyrus	-.215	-.151	-.159	*Precuneus	.108	.118	.102
R Postcentral Gyrus	-.411	-.230	-.279	R Inferior Frontal Gyrus	.113	-.210	-.079
	-.538*	-.322	-.401**	R Middle Occipital Gyrus	-.224	.121	-.002
R Precuneus	-.358	.052	-.099	R Cuneus	-.357	.032	-.097
R Postcentral Gyrus	-.068	-.112	-.094	*R Thalamus extending to Caudate	.488*	-.094	.103
	-.374	-.150	-.205		-.084	-.240	-.176
R Cingulate Gyrus	.342	.111	.166	L Lingual Gyrus	.038	.230	.137
	-.007	.178	.107	Subgenual ACC extending to Caudate	-.072	-.136	-.114
L Angular Gyrus/Inferior Parietal Lobe	-.234	-.054	-.108	*R Parahippocampal Gyrus	.401	.078	.197
R Medial Frontal Gyrus	-.269	-.015	-.099	*Medial Prefrontal Cortex	-.399	.259	-.062
*L Parahippocampal Gyrus	-.718**	-.037	-.149	R Anterior Middle Temporal Gyrus	-.013	.124	.075
L Culmen	-.431	.093	-.043	-			
R Culmen	-.233	-.174	-.160	-			

*key region interpreted in paper; other regions not consistent with Neurosynth.org brain maps implicated in emotional, memory, social, or self-related processing in the literature.
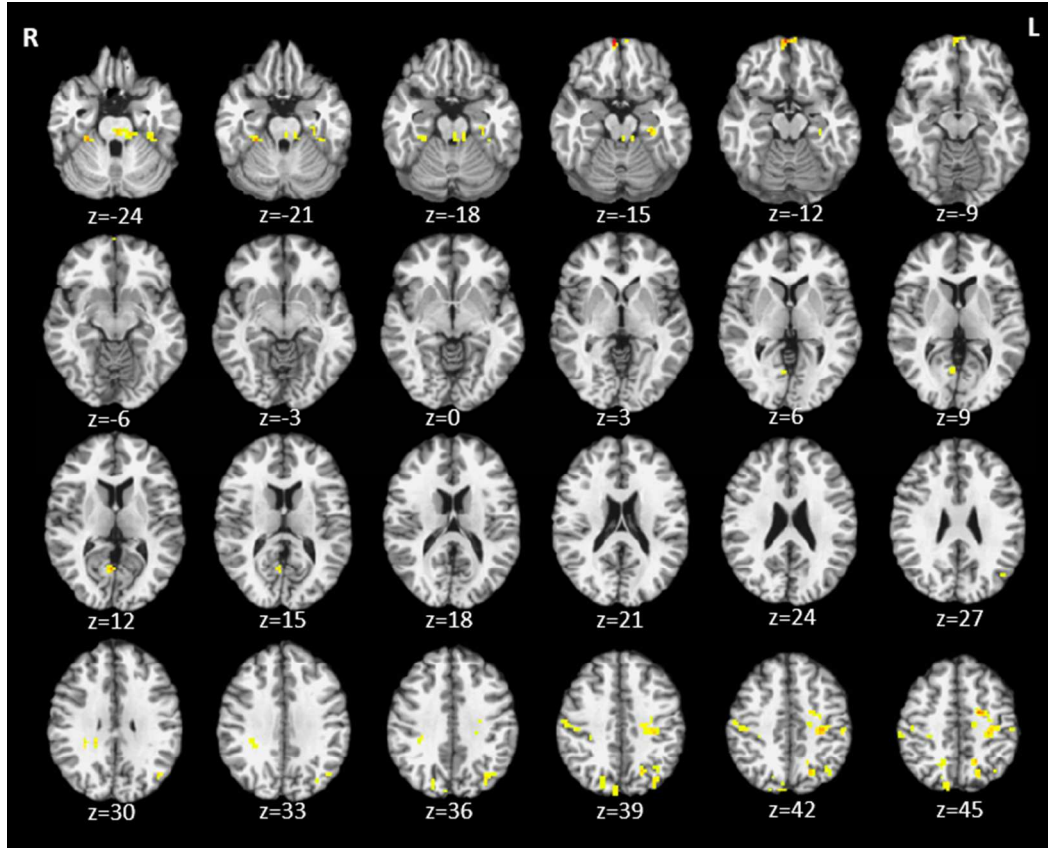
Note. * $p < .05$, ** $p < .01$.

Figure S1. Result of whole-brain voxelwise ANOVA showing significant group (MDD vs. CON)

X condition (criticism vs. neutral) x time interaction effects (p<.001, 21 voxels contiguity)
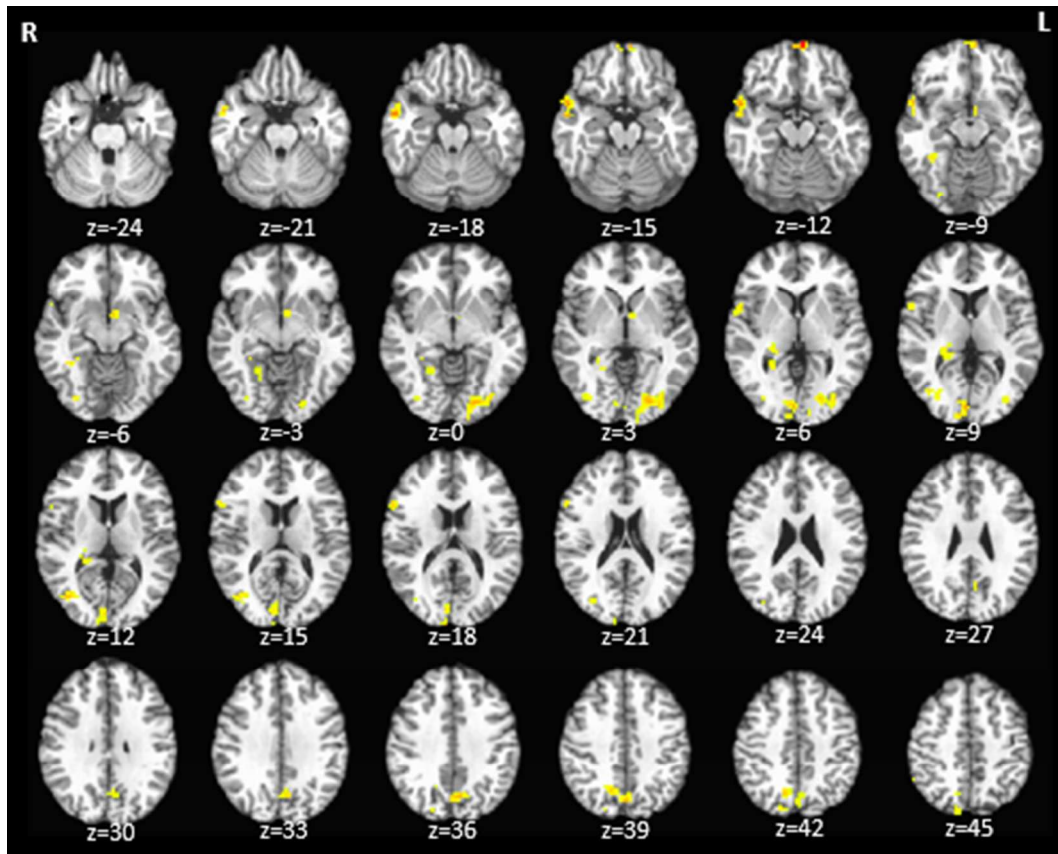
Figure S2. Result of whole-brain voxelwise ANOVA showing significant group (MDD vs. CON)

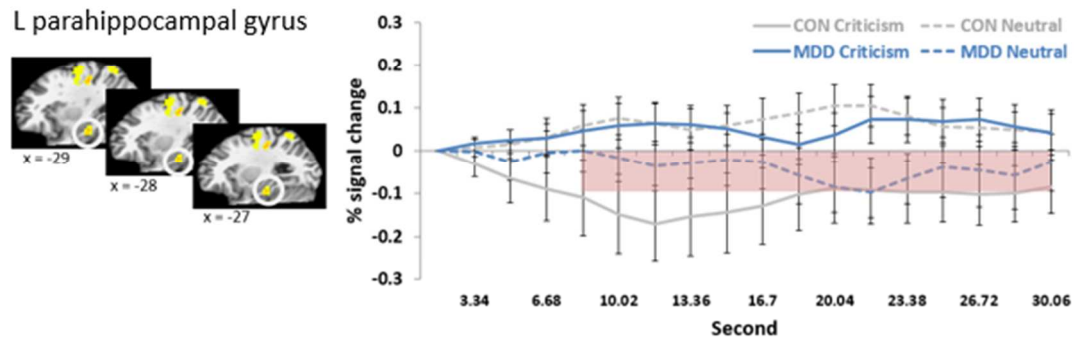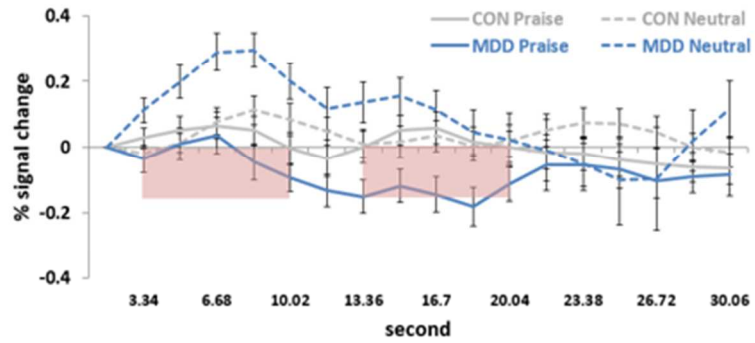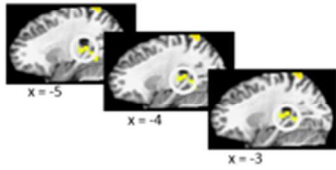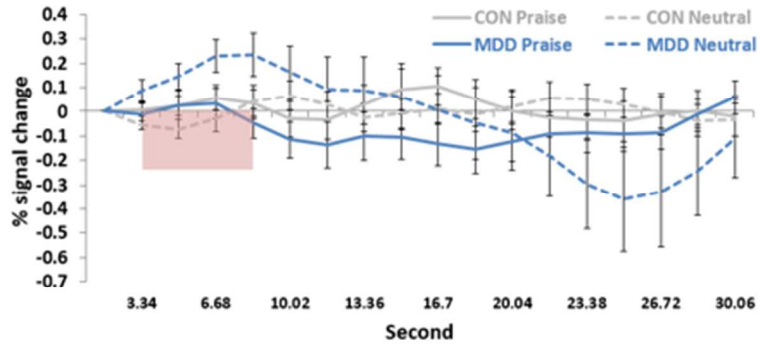X condition (praise vs. neutral) x time interaction effects (p<.001, 18 voxels contiguity)

Figure S3. Time-course in the left parahippocampal gyrus showing group X condition X time interaction effects from whole-brain analysis. The temporal regions that displayed significant group (MDD vs. CON) X condition (criticism vs. neutral) interactions are marked below the x axis (pink: p < .05).
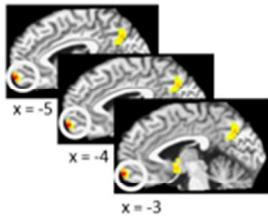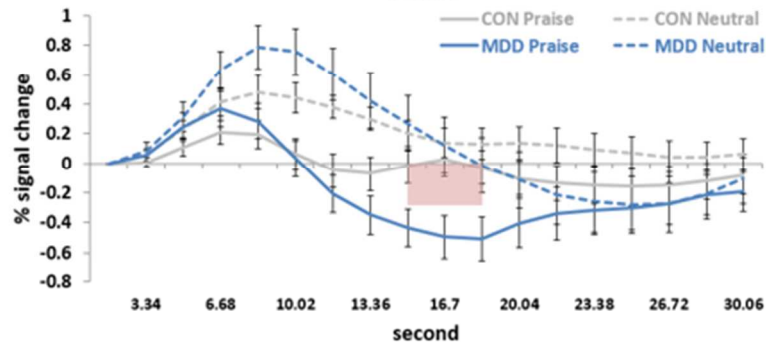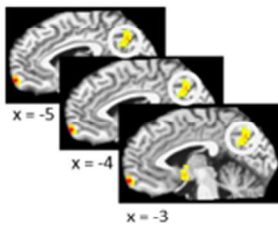
Figure S4. Time-courses in a) the thalamus/caudate, b) right parahippocampal gyrus, c) VMPFC, and d) precuneus showing group X condition X time interaction effects from whole-brain analysis. The temporal regions that displayed significant group (MDD vs. CON) X condition (praise vs. neutral) interactions are marked below the x axis (pink: $p < .05$).