

**Supplementary Materials for**

The Neural Basis of Understanding the Expression of the Emotions in Man and Animals

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**Table S1**

Details for the set of left hemisphere regions of interest (ROIs) used to test our primary hypotheses.

<i>ROI Name</i>	<i>Extent</i>	<u>Peak MNI Coordinates</u>		
		<i>x</i>	<i>y</i>	<i>z</i>
Lateral Orbitofrontal Cortex (LOFC)	516	-48	27	-6
Temporoparietal Junction (TPJ)	521	-48	-66	30
Anterior Superior Temporal Sulcus (aSTS)	650	-57	-9	-18
Dorsomedial Prefrontal Cortex (dmPFC)	1000	-6	57	36

**Table S2**

Repeated measures analysis of variance for behavioral outcomes of interest. See **Table 2** in the main text for descriptive data summarizing the outcomes.

Outcome	Effect	SS	df	MS	F	p	<i>Partial</i> $\eta^2$	95% CI	
<i>Acceptance Rate</i>									
	Within-Subjects								
	- Question	0.008	1	0.008	0.039	0.847	0.003	0.00	0.36
	- Target	0.453	2	0.226	2.426	0.106	0.139	0.01	0.45
	- Question*Target	0.222	2	0.111	1.354	0.274	0.083	0.01	0.35
	Within-Cells	12.137	90	0.135					
	- Subjects	3.935	15	0.262					
	- Question*Subj	2.942	15	0.196					
	- Target*Subj	2.800	30	0.093					
	- Question*Target*Subj	2.460	30	0.082					
	Total	12.819	95	0.135					
<i>Acceptance Response Time</i>									
	Within-Subjects								
	- Question	0.300	1	0.300	50.714	0.000	0.772	0.68	0.88
	- Target	0.053	2	0.027	11.031	0.000	0.424	0.24	0.71
	- Question*Target	0.003	2	0.001	0.776	0.469	0.049	0.01	0.29
	Within-Cells	1.074	90	0.012					
	- Subjects	0.858	15	0.057					
	- Question*Subj	0.089	15	0.006					
	- Target*Subj	0.072	30	0.002					
	- Question*Target*Subj	0.055	30	0.002					
	Total	1.430	95	0.015					
<i>Post-Task Emotion Understanding Ratings</i>									
	Within-Subjects	14.626	2	7.313	22.824	0.000	0.603	0.41	0.79
	- Human > Primate	11.915	1	11.915	37.187	0.000	0.553	0.36	0.74
	- Human > Dog	9.933	1	9.933	31.003	0.000	0.508	0.28	0.75
	- Primate > Dog	0.090	1	0.090	0.281	0.600	0.009	0.00	0.15
	Within-Groups	44.854	45	0.997					
	- Subj	35.242	15	2.349					
	- Group X Subj	9.612	30	0.320					
	Total	59.479	47	1.266					
<i>Post-Task Valence Ratings</i>									

Within-Subjects	0.626	2	0.313	1.434	0.254	0.087	0.01	0.35
- Human > Primate	0.606	1	0.606	2.780	0.106	0.085	0.00	0.33
- Human > Dog	0.260	1	0.260	1.192	0.284	0.038	0.00	0.22
- Primate > Dog	0.072	1	0.072	0.331	0.569	0.011	0.00	0.22
Within-Groups	13.515	45	0.300					
- Subj	6.971	15	0.465					
- Group X Subj	6.544	30	0.218					
Total	14.141	47	0.301					

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**Table S3**

Whole-brain results for contrasts used to test the conjunction hypotheses for both the Explicit and Implicit tasks. Clusters were identified using a cluster-forming threshold of  $p < .001$  (uncorrected) and a cluster-level family-wise error rate of 0.05. Within each cluster, we report a maximum of 3 local maxima separated by at least 20 mm. x, y, and z = Montreal Neurological Institute (MNI) coordinates in the left-right, anterior-posterior, and inferior-superior dimensions, respectively. L = Left; R = Right; LOFC = Lateral Orbitofrontal Cortex; aSTS = Anterior Superior Temporal Sulcus; PFC = Prefrontal Cortex; PCC = Posterior Cingulate Cortex.

Contrast Name	MNI Coordinates					
	Cluster Label	Extent	t-value	x	y	z
<i>Human<sub>Emotion&gt;Expression</sub> &amp; Primate<sub>Emotion&gt;Expression</sub> &amp; Dog<sub>Emotion&gt;Expression</sub></i>						
	L Dorsomedial PFC	481	6.256	-8	56	28
	L Lateral Orbitofrontal Cortex	357	5.745	-46	26	-14
<i>Human<sub>Expression&gt;Emotion</sub> &amp; Primate<sub>Expression&gt;Emotion</sub> &amp; Dog<sub>Expression&gt;Emotion</sub></i>						
	L rostral Inferior Parietal Lobule	214	5.896	-32	-44	40
	L SupraMarginal Gyrus	236	4.732	-58	-34	46
<i>Human<sub>Emotion&gt;Expression</sub> &gt; Primate<sub>Emotion&gt;Expression</sub> &amp; Human<sub>Emotion&gt;Expression</sub> &gt; Dog<sub>Emotion&gt;Expression</sub></i>						
<i>No suprathreshold clusters</i>						
<i>Primate<sub>Emotion&gt;Expression</sub> &gt; Human<sub>Emotion&gt;Expression</sub> &amp; Dog<sub>Emotion&gt;Expression</sub> &gt; Human<sub>Emotion&gt;Expression</sub></i>						
<i>No suprathreshold clusters</i>						
<i>Human<sub>Emotion+Expression</sub> &gt; Primate<sub>Emotion+Expression</sub> &amp; Human<sub>Emotion+Expression</sub> &gt; Dog<sub>Emotion+Expression</sub></i>						
	L PCC	632	6.003	-4	-54	26
	R aSTS	228	5.177	52	-8	-16
	R Ventromedial PFC	473	4.906	8	56	-12
	L aSTS	149	4.070	-52	-12	-16
<i>Primate<sub>Emotion+Expression</sub> &gt; Human<sub>Emotion+Expression</sub> &amp; Dog<sub>Emotion+Expression</sub> &gt; Human<sub>Emotion+Expression</sub></i>						
	R Middle Occipital Gyrus	1008	6.166	34	-88	10
	L Middle Occipital Gyrus	1072	6.082	-28	-92	12
	L Fusiform Gyrus	145	5.106	-40	-64	-8

R Inferior Temporal Gyrus	187	5.064	48	-60	-6
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*Human<sub>Face>Scramble</sub> & Primate<sub>Face>Scramble</sub> & Dog<sub>Face>Scramble</sub>*

R Fusiform Gyrus	2019	11.790	38	-48	-16
L Inferior Occipital Gyrus	1989	8.440	-36	-82	-4
L Ventromedial PFC	366	6.928	-4	44	-18
R Amygdala/ParaHippocampal Gyrus	188	6.357	18	-8	-14
L Dorsomedial PFC	162	5.994	-8	60	26
L Amygdala/ParaHippocampal Gyrus	140	5.718	-22	-12	-12
L Precuneus	88	5.159	-2	-52	22

*Human<sub>Face</sub> > Primate<sub>Face</sub> & Human<sub>Face</sub> > Dog<sub>Face</sub>*

*No suprathreshold clusters*

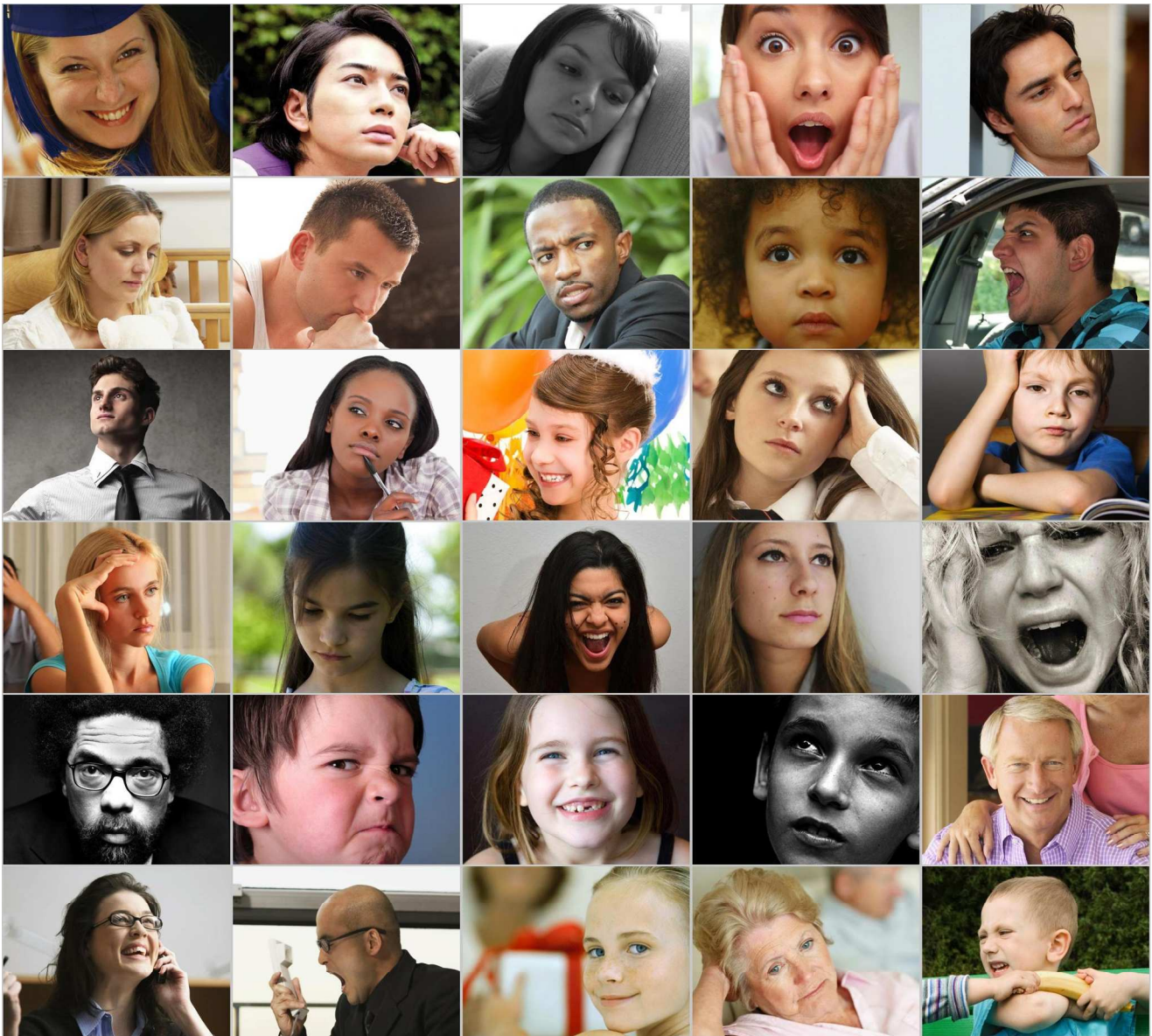
*Primate<sub>Face</sub> > Human<sub>Face</sub> & Dog<sub>Face</sub> > Human<sub>Face</sub>*

L Fusiform Gyrus	134	6.382	-30	-64	-4
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**Figure S1**

The set of human facial expressions used in both the Explicit and Implicit tasks.



**Figure S2**

The set of non-human primate facial expressions used in both the Explicit and Implicit tasks.





