Supplementary Information

Supplementary Tables

Supplementary Table S1

Handedness Task: Behavioral Responses. Each group, and each condition are described in terms of percentage accuracy and response times of correct responses (acquired during the execution of the task), and offline ratings of Arousal, Valence, Pain and Familiarity (acquired in a post-scanning debrief session). Each measure is reported in terms of average and bootstrap-based confidence intervals.

		Accuracy *[%]*	***RTs*** *[sec]*	***Arousal*** *[1; 10]*	***Valence*** *[-4; 4]*	***Pain*** *[1; 10]*	***Familiarity*** *[1; 10]*
Contr. *(N = 14)*	*PF*	73% [66, 77]	1.38 [1.24, 1.60]	8.29 [6.93, 9.07]	-3.46 [-3.79, -2.82]	8.57 [7.64, 9.21]	1.00 [1.00, 1.00]
	cPF	94% [91, 97]	1.24 [1.12, 1.40]	2.14 [1.64, 2.79]	-0.14 [-0.43, 0.14]	1.00 [1.00, 1.00]	3.68 [2.61, 4.79]
	PL	70% [62, 76]	1.42 [1.28, 1.61]	4.75 [3.79, 5.89]	-2.14 [-2.79, -1.64]	1.36 [1.00, 2.79]	2.19 [1.64, 2.79]
	cPL	89% [87, 91]	1.26 [1.14, 1.45]	2.39 [1.79, 3.32]	0.04 [-0.21, 0.54]	1.00 [1.00, 1.00]	3.86 [3.11, 4.57]
Med1 *(N = 15)*	*PF*	79% [76, 82]	1.38 [1.19, 1.77]	7.17 [6.47, 7.83]	-2.97 [-3.33, -2.30]	8.37 [7.60, 8.83]	1.80 [1.33, 2.67]
	cPF	92% [87, 95]	1.32 [1.13, 1.70]	2.73 [2.00, 3.44]	0.20 [-0.07, 0.93]	1.23 [1.00, 1.93]	4.13 [2.97, 5.50]
	PL	77% [72, 81]	1.57 [1.35, 1.92]	5.60 [4.70, 6.30]	-2.53 [-3.03, -2.07]	1.80 [1.13, 3.71]	2.50 [1.97, 3.30]
	cPL	89% [84, 92]	1.37 [1.17, 1.77]	3.37 [2.30, 4.47]	0.10 [-0.32, 0.77]	1.07 [1.00, 1.33]	4.60 [3.73, 5.53]
Med4 *(N = 14)*	*PF*	78% [76, 80]	1.27 [1.15, 1.39]	6.57 [5.29, 7.64]	-2.43 [-2.95, -1.50]	8.82 [7.68, 9.39]	3.39 [2.61, 4.29]
	cPF	94% [89, 97]	1.23 [1.11, 1.36]	1.96 [1.54, 2.50]	0.00 [-0.36, 0.50]	1.07 [1.00, 1.36]	6.78 [5.64, 7.79]
	PL	77% [73, 79]	1.47 [1.33, 1.61]	5.68 [4.57, 6.98]	-2.36 [-2.93, -1.86]	1.07 [1.00, 1.36]	1.93 [1.50, 2.43]
	cPL	90% [86, 93]	1.22 [1.11, 1.33]	2.82 [2.14, 3.86]	-0.18 [-0.50, 0.18]	1.00 [1.00, 1.00]	3.68 [3.14, 4.25]
Nurses *(N = 21)*	*PF*	77% [72, 79]	1.48 [1.37, 1.63]	6.65 [5.57, 7.70]	-2.07 [-2.62, -1.50]	8.90 [8.20, 9.30]	5.25 [4.14, 6.26]
	cPF	91% [87, 94]	1.39 [1.28, 1.50]	1.85 [1.40, 2.50]	0.17 [-0.16, 0.84]	2.35 [1.45, 3.90]	8.85 [8.25, 9.30]
	PL	75% [70, 78]	1.49 [1.36, 1.63]	7.37 [6.47, 8.00]	-3.25 [-3.57, -2.80]	3.30 [1.95, 5.33]	2.25 [1.75, 2.94]
	cPL	87% [83, 91]	1.38 [1.28, 1.49]	2.92 [2.33, 3.59]	-0.25 [-0.55, 0.10]	1.60 [1.20, 2.30]	4.65 [3.95, 5.40]

Supplementary Table S2

Handedness Task. Results from Repeated Measures ANOVAs with EMOTIONAL AROUSAL (*Neutral, Negative*) and STIMULI (*Painful, Painless*) as within-subjects factor, GROUP (*Controls Med1, Med4, Nurses*) as between-subjects factor, and AGE as nuisance covariate. The analysis was run on post-experimental ratings of Familiarity, Pain, Arousal and Valence, as well as on on-line Accuracy and Reaction Times of correct responses. For each dependent variable (displayed vertically), and for each effect of interest (horizontally), the table reports the *F*-value from the ANOVA. Significant effects are highlighted.

	***Accuracy** [%]*	***RTs** [sec]*	***Arousal** [1; 10]*	***Valence** [-4; 4]*	***Pain** [1; 10]*	***Familiarity** [1; 10]*
GROUP	$F_{(3,56)}$ = 0.80	0.64	$F_{(3,55)}$ = 0.60	0.30	**3.74**‡	**20.76***
AGE	$F_{(1,56)}$ = 0.14	0.36	$F_{(1,55)}$ = 3.26	0.05	1.17	1.32
GROUP*AGE	$F_{(3,56)}$ = 1.96	0.73	$F_{(3,55)}$ = **2.95**‡	1.84	0.13	0.56
EMOTIONAL AROUSAL [EA]	$F_{(1,56)}$ = **453.95***	**82.09***	$F_{(1,55)}$ = **499.23***	**450.21***	**942.48***	**230.30***
EA*GROUP	$F_{(3,56)}$ = **5.21**†	0.69	$F_{(3,55)}$ = 2.60	0.94	0.16	1.46
EA*AGE	$F_{(1,56)}$ = 1.46	2.58	$F_{(1,55)}$ = **5.76**‡	0.51	0.19	0.48
EA*GROUP*AGE	$F_{(3,56)}$ = 2.63	0.27	$F_{(3,55)}$ = 0.60	0.85	0.32	0.95
STIMULI	$F_{(1,56)}$ = **13.63***	**15.70***	$F_{(1,55)}$ = 0.76	0.24	**429.54***	**32.74***
STIMULI*GROUP	$F_{(3,56)}$ = 0.32	**4.33**†	$F_{(3,55)}$ = **5.84**†	**7.61***	0.91	**21.49***
STIMULI*AGE	$F_{(1,56)}$ = 0.93	2.00	$F_{(1,55)}$ = 0.59	< 0.01	0.16	3.31
STIMULI*GROUP*AGE	$F_{(3,56)}$ = 0.86	0.10	$F_{(3,55)}$ = 1.13	**3.21**‡	0.20	0.74
EA*STIMULI	$F_{(1,56)}$ = 1.49	**7.86**†	$F_{(1,55)}$ = **31.44***	1.02	**193.53***	**8.20**†
EA*STIMULI*GROUP	$F_{(3,56)}$ = 0.02	2.28	$F_{(3,55)}$ = **4.74***	**4.40**‡	2.02	0.59
EA*STIMULI*AGE	$F_{(1,56)}$ = 0.09	0.17	$F_{(1,55)}$ = 0.01	0.18	0.07	1.37
EA*STIMULI*GROUP*AGE	$F_{(3,56)}$ = 0.22	0.20	$F_{(3,55)}$ = 0.85	1.21	0.12	1.10

**p < 0.001; †p < 0.01; ‡p < 0.05*

Supplementary Table S3

Handedness Task. Regions displaying differential activity for the contrast *PF – cPF*. L and R refer to the left and right hemisphere, respectively. M refers to medial activations.

	SIDE	Coordinates			$T_{(59)}$	Cluster size
		x	*y*	*z*		
Main Effect: PF > cPF						
Middle Insula [MI]	R	40	-2	-2	11.51	1045*
Amygdala	R	22	-4	-18	6.55	
Inferior Frontal Gyrus [IFG]	R	44	38	6	8.49	298†
Middle Insula [MI]	L	-38	-4	2	7.08	841*
Amygdala	L	-22	-4	-20	6.94	
Anterior Insula [AI]	L	-32	24	4	5.11	268†
Inferior Frontal Gyrus [IFG]	L	-44	36	112	5.01	
Precentral Gyrus	R	50	8	20	6.87	504*
Precentral Gyrus	L	-46	4	26	6.01	337†
Supramarginal/Postcentral Gyrus [SMG/PCG]	R	60	-22	34	11.13	1164*
Supramarginal/Postcentral Gyrus [SMG/PCG]	L	-56	-24	34	10.11	826*
Middle Cingulate Cortex [MCC]	M	2	6	30	6.83	451†
Periaqueductal Gray/Midbrain	M	-8	-28	-6	6.50	489*
Inferior Temporal Gyrus	R	48	-60	-10	11.21	9696*
Middle Occipital Gyrus	R	34	-84	12	8.39	
Fusiform Gyrus	R	28	-42	-16	9.42	
Occipital Pole	R	14	-90	0	13.95	
Intraparietal Sulcus	R	24	-64	48	9.65	
Inferior Temporal Gyrus	L	-48	-60	-10	9.57	
Middle Occipital Gyrus	L	-30	-86	12	7.67	
Fusiform Gyrus	L	-28	-52	-12	9.22	
Occipital Pole	L	-12	-90	-6	13.07	
Intraparietal Sulcus	L	-20	-66	46	8.27	
$(PF > cPF)_{Med1} > (PF > cPF)_{Med4}$						
Periaqueductal Gray/Midbrain	M	12	-24	-22	4.16	227‡
$(PF > cPF)_{Med4} > (PF > cPF)_{Contr}$						
Posterior Cingulate Cortex	M	-4	-44	26	4.68	303†
$(PF > cPF)_{Nurses} > (PF > cPF)_{Contr}$						
Postcentral Gyrus	L	-38	-24	48	4.85	790*
Superior Temporal Gyrus	R	66	-30	4	4.84	454*
Superior Temporal Gyrus	L	-62	-26	6	7.19	1224*
Posterior Insula	L	-30	-24	14	4.29	
Parietal Operculum	L	-54	-18	12	4.26	
Precuneus/Cuneus	M	-4	-58	18	4.37	263‡
Cerebellum	R	20	-56	-16	5.94	1291*
Lingual Gyrus	R	12	-68	-4	4.56	
Lingual Gyrus	L	-14	-68	-12	4.63	
$(PF > cPF)_{Nurses} > (PF > cPF)_{Med1}$						
Superior Temporal Gyrus	L	-60	-26	6	4.85	227‡
Postcentral Gyrus	L	-38	-24	48	4.75	414†
Cuneus	M	12	-88	26	4.57	223‡
$(PF > cPF)_{Nurses} > (PF > cPF)_{Med4}$						
Postcentral Gyrus	L	-38	-24	48	5.05	542*
Cerebellum	R	16	-64	-18	4.47	286†

* $p < 0.001$; † $p < 0.01$; ‡ $p < 0.05$ corrected for multiple comparisons at the cluster level for the whole brain.

Supplementary Table S4

Handedness Task. Regions displaying differential activity for the contrast *PL – cPL*.

	SIDE	Coordinates			$T_{(59)}$	Cluster size
		x	y	z		
Main Effect: PL > cPL						
Anterior Insula [AI]	R	34	22	-8	4.91	480†
Anterior Insula [AI]	L	-32	28	-4	5.64	745*
Dorsolateral Prefrontal Cortex [DLPFC]	R	30	10	50	4.58	
Dorsolateral Prefrontal Cortex [DLPFC]	L	-24	-4	48	5.81	3276*
Supplementary Motor Area [SMA]	M	-6	22	44	6.03	
Superior Parietal Cortex	R	38	-44	44	5.53	843*
Middle/Inferior Occipital Gyrus	R	50	-70	12	5.38	370†
Superior Parietal Cortex	L	-34	-42	44	7.52	
Middle Occipital Gyrus	L	-40	-70	14	5.08	4608*
Precuneus	M	-8	-64	44	6.00	
posterior Middle Cingulate Cortex [pMCC]	M	-6	-24	30	4.69	384†
Periaqueductal Gray/Midbrain	M	-2	-34	-34	4.64	386†
Group Difference: $(PL > cPL)_{Med1} > (PL > cPL)_{Nurses}$						
Medial Prefrontal Cortex *(dorsal part)*	M	0	58	28	4.06	212‡
Group Difference: $(PL > cPL)_{Med4} > (PL > cPL)_{Nurses}$						
Anterior Insula [AI]	R	38	22	-6	4.39	300‡
Inferior Frontal Gyrus [IFG]	R	44	32	-14	4.80	
Dorsolateral Prefrontal Cortex [DLPFC]	L	-44	12	40	4.54	252‡
Periaqueductal Gray/Midbrain	M	10	-10	-14	5.38	281‡
Group Difference: $(PL > cPL)_{Nurses} > (PL > cPL)_{Contr.}$						
Precentral Gyrus	L	-30	-24	66	5.42	332†
Group Difference: $(PL > cPL)_{Nurses} > (PL > cPL)_{Med1}$						
Precentral Gyrus	L	-30	-24	66	5.01	278‡
Group Difference: $(PL > cPL)_{Nurses} > (PL > cPL)_{Med4}$						
Precentral Gyrus	L	-30	-24	66	5.58	980*
Superior Occipital Gyrus	R	16	-88	24	5.15	340†
Fusiform Gyrus	L	-26	-62	-12	4.78	493†
Lingual Gyrus	L	-10	-74	-6	4.57	

* $p < 0.001$; † $p < 0.01$; ‡ $p < 0.05$ corrected for multiple comparisons at the cluster level for the whole brain.

Supplementary Table S5

Handedness Task. Regions displaying suprathreshold activity for the interaction (*PF – cPF)* – (*PL – cPL)*.

	SIDE	Coordinates			$T_{(59)}$	Cluster size
		x	*y*	*z*		
Main Effect: (PF > cPF) > (PL > cPL)						
Middle Insula [MI]	R	40	-2	-2	9.81	815*
Amygdala	R	20	-4	-18	8.62	
Middle Insula [MI]	L	-38	-4	-6	5.95	743*
Amygdala	L	-22	-2	-20	8.22	
Inferior Frontal Gyrus [IFG]	R	46	38	8	7.24	231‡
Middle Cingulate Cortex [MCC]	M	0	14	28	3.81§	4
Precentral Gyrus	R	52	12	28	5.53	256‡
Supramarginal/Postcentral Gyrus [SMG/PCG]	R	62	-20	30	10.11	951*
Supramarginal/Postcentral Gyrus [SMG/PCG]	L	-60	-24	34	7.33	459‡
Intraparietal Sulcus	R	24	-64	48	5.16	270‡
Fusiform Gyrus	R	30	-46	-18	8.40	7932*
Occipital Pole	R	14	-90	-2	13.01	
Inferior Temporal/Occipital Gyrus	R	52	-58	-12	9.42	
Fusiform Gyrus	L	-28	-60	-12	9.25	
Occipital Pole	L	-12	-90	-6	11.54	
Inferior Temporal/Occipital Gyrus	L	-44	-58	-8	7.44	
Periaqueductal Gray/Midbrain	M	-18	-28	-6	5.50	205‡
[(PF > cPF) > (PL > cPL)]$_{Contr}$ > [(PF > cPF) > (PL > cPL)]$_{Med4}$						
Anterior Insula [AI]	R	42	10	-10	3.49§	1
Dorsolateral Prefrontal Cortex [DLPFC]	R	44	12	32	5.12	248‡
Periaqueductal Gray/Midbrain	M	2	-16	-4	4.76	514*
[(PF > cPF) > (PL > cPL)]$_{Med1}$ > [(PF > cPF) > (PL > cPL)]$_{Med4}$						
Periaqueductal Gray/Midbrain	M	8	-2	-2	4.43	197‡
Brain Stem	M	-6	-34	-34	4.89	571*

* $p < 0.001$; † $p < 0.01$; ‡ $p < 0.05$ corrected for multiple comparisons at the cluster level for the whole brain.
§ $p < 0.05$ Small Volume Corrected for multiple comparisons for the *Others' Pain* mask

Supplementary Table S6

Handedness Task: Vicarious Pain Signatures. Each group, and each condition are described in terms of the output (in arbitrary units) of two Vicarious Pain models: *Krishan*$_{2016}$ [38] and *Zhou-NS*$_{2020}$ [21]. Each measure is reported in terms of average and bootstrap-based confidence intervals.

		***Krishan*$_{2016}$**	***Zhou-NS*$_{2020}$**
Contr. *(N = 14)*	*PF*	46.08 [20.99, 72.47]	-11.45 [-16.33, -8.81]
	cPF	16.76 [-0.61, 32.97]	-14.04 [-16.31, -12.19]
	PL	35.19 [14.96, 56.47]	-12.52 [-15.87, -10.70]
	cPL	29.46 [12.50, 49.55]	-13.66 [-16.48, -11.30]
	Hot	28.97 [4.55, 54.20]	-0.68 [-3.91, 2.30]
	Warm	41.51 [21.09, 62.66]	-10.50 [-14.81, -5.97]
Med1 *(N = 15)*	*PF*	39.97 [10.15, 74.76]	-11.39 [-14.35, -8.60]
	cPF	20.16 [-10.71, 42.07]	-12.09 [-14.98, -8.96]
	PL	28.97 [-3.19, 59.05]	-9.07 [-11.62, -6.30]
	cPL	26.46 [12.50, 49.55]	-10.90 [-13.79, -8.38]
	Hot	30.30 [-21.06, 58.26]	0.55 [-3.29, 8.63]
	Warm	10.05 [-15.58, 33.04]	-8.53 [-11.67, -6.34]
Med4 *(N = 14)*	*PF*	38.17 [17.88, 61.53]	-14.78 [-19.52, -10.95]
	cPF	9.95 [-12.90, 32.67]	-12.98 [-16.69, -10.03]
	PL	22.30 [-1.69, 45.05]	-11.39 [-15.44, -8.42]
	cPL	20.39 [1.54, 39.20]	-14.46 [-19.15, -11.30]
	Hot	28.12 [-4.24, 53.01]	2.08 [-3.29, 8.63]
	Warm	8.66 [-26.91, 42.37]	-10.36 [-16.21, -5.75]
Nurses *(N = 21)*	*PF*	24.71 [8.72, 40.72]	-11.26 [-12.61, -9.91]
	cPF	3.21 [-10.30, 17.98]	-10.43 [-12.13, -8.94]
	PL	3.96 [-9.63, 18.18]	-9.14 [-10.83, -7.58]
	cPL	9.62 [-7.38, 26.42]	-10.64 [-12.53, -9.23]
	Hot	8.74 [-8.34, 29.61]	3.02 [0.35, 4.75]
	Warm	0.63 [-4.84, 6.76]	-0.51 [-1.48, 0.23]

Supplementary Table S7

Vicarious Pain Signature for Handedness Task. Results from Repeated Measures ANOVAs with EMOTIONAL AROUSAL (*Neutral, Negative*) and STIMULI (*Painful, Painless*) as within-subjects factor, GROUP (*Controls Med1, Med4, Nurses*) as between-subjects factor, and AGE as nuisance covariate. The analysis was run on the output of two Vicarious Pain models: *Krishan*$_{2016}$ [38] and *Zhou-NS*$_{2020}$ [21]. For each of these, and for each effect of interest, the table reports the *F*-value from the ANOVA. Significant effects are highlighted.

	***Krishnan*$_{2016}$**	***Zhou-NS*$_{2020}$**
GROUP	$F_{(3,56)}$ = 0.87	1.39
AGE	$F_{(1,56)}$ = 0.70	0.02
GROUP*AGE	$F_{(3,56)}$ = 0.93	1.51
EMOTIONAL AROUSAL [EA]	$F_{(1,56)}$ = **26.78***	**15.25***
EA*GROUP	$F_{(3,56)}$ = 0.85	1.96
EA*AGE	$F_{(1,56)}$ = 0.56	3.85
EA*GROUP*AGE	$F_{(3,56)}$ = 0.38	**3.19**‡
STIMULI	$F_{(1,56)}$ = 1.81	**11.61***
STIMULI*GROUP	$F_{(3,56)}$ = 0.53	2.68
STIMULI*AGE	$F_{(1,56)}$ = 1.12	< 0.01
STIMULI*GROUP*AGE	$F_{(3,56)}$ = 0.30	0.76
EA*STIMULI	$F_{(1,56)}$ = **34.36***	**7.42***
EA*STIMULI*GROUP	$F_{(3,56)}$ = 0.27	**3.58**‡
EA*STIMULI*AGE	$F_{(1,56)}$ < 0.01	0.14
EA*STIMULI*GROUP*AGE	$F_{(3,56)}$ = 0.75	0.09

**p < 0.001; †p < 0.01; ‡p < 0.05*

Supplementary Table S8

Cognitive and Affective Theory of Mind Task: Behavioral Responses. Each group, and each condition are described in terms of percentage accuracy and response times of correct responses (acquired during the execution of the task. Each measure is reported in terms of average and bootstrap-based confidence intervals.

		***Accuracy** [%]*	***RTs** [sec]*
Contr. *(N = 14)*	*B*	90% [82, 95]	2.81 [2.53, 3.25]
	E	90% [86, 95]	3.15 [2.87, 3.47]
	Pa	89% [86, 93]	3.33 [3.03, 3.73]
	Ph	88% [83, 94]	2.89 [2.62, 3.16]
Med1 *(N = 15)*	*B*	92% [83, 98]	3.05 [2.73, 3.65]
	E	84% [77, 90]	3.61 [3.18, 4.11]
	Pa	86% [77, 93]	3.77 [3.29, 4.30]
	Ph	89% [82, 96]	3.26 [2.85, 4.01]
Med4 *(N = 14)*	*B*	93% [86, 98]	2.82 [2.60, 3.22]
	E	89% [83, 94]	3.38 [3.07, 3.71]
	Pa	90% [87, 95]	3.68 [3.41, 4.10]
	Ph	89% [83, 94]	3.28 [2.99, 3.66]
Nurses *(N = 21)*	*B*	90% [83, 96]	3.21 [2.94, 3.42]
	E	85% [78, 91]	3.42 [3.26, 3.67]
	Pa	86% [78, 91]	3.97 [3.59, 4.42]
	Ph	81% [71, 88]	3.42 [3.17, 3.94]

Supplementary Table S9

Cognitive and Affective Theory of Mind Task. Results from Repeated Measures ANOVAs with STORY CATEGORY (*B, E, Pa, Ph*) as within-subjects factor, GROUP (*Controls Med1, Med4, Nurses*) as between-subjects factor, and AGE as nuisance covariate. The analysis was run on Accuracy and Reaction Times of correct responses. For each dependent variable (displayed vertically), and for each effect of interest (horizontally), the table reports the *F*-value from the ANOVA. Significant effects are highlighted.

	***Accuracy** [%]*	***RTs** [sec]*
GROUP	$F_{(3,56)}$ = 1.89	2.41
AGE	$F_{(1,56)}$ = 0.03	1.43
GROUP*AGE	$F_{(3,56)}$ = 0.74	0.83
STORY CATEGORY [SC]	$F_{(3,168)}$ = 2.62	**25.12***
SC*GROUP	$F_{(9,168)}$ = 0.63	0.64
SC*AGE	$F_{(3,168)}$ = 0.61	2.46
SC*GROUP*AGE	$F_{(9,168)}$ = 0.84	0.52

**p < 0.001; †p < 0.01; ‡p < 0.05*

Supplementary Table S10

Cognitive and Affective Theory of Mind Task. Regions displaying suprathreshold activity evoked by the attribution of *beliefs*, *emotions* and *pain* while reading the text-based *Scenarios*.

	SIDE	Coordinates			$T_{(59)}$	Cluster size
		x	y	z		
Main Effect: Attribution of Beliefs						
Temporo-Parietal Junction [TPJ]	R	50	-56	28	10.69	1941*
Temporo-Parietal Junction [TPJ]	L	-54	-60	26	7.93	1218*
Middle Temporal Gyrus	R	60	-24	-10	7.98	559†
Middle Temporal Gyrus	L	-58	-28	-12	4.81¥	15
Medial Prefrontal Cortex *(dorsal part)*	M	2	46	28	6.01	3617*
Dorsolateral Prefrontal Cortex [DLPFC]	R	46	20	38	6.97	
Dorsolateral Prefrontal Cortex [DLPFC]	L	-40	20	38	5.83	564***
Precuneus	M	0	-58	36	10.53	3154*
Posterior Cingulate Cortex	M	6	-52	22	7.13	
Main Effect: Attribution of Emotions						
Supramarginal Gyrus	R	62	-20	42	5.24	1075*
Parietal Operculum	R	56	-20	22	4.35	
Superior Temporal Sulcus	R	54	4	-6	4.69	353†
Supramarginal Gyrus	L	-52	-30	42	4.20	2806*
Precentral Gyrus	L	-50	-6	42	4.66	
Parietal Operculum	L	-42	-32	20	5.03	
Superior Temporal Sulcus	L	-56	0	-8	5.95	
Middle Insula [MI]	L	-34	2	10	4.55	
Postcentral Gyrus	R	22	-32	72	4.57	3191*
Postcentral Gyrus	L	-12	-36	70	5.32	
Middle Cingulate Cortex	M	-6	-2	40	4.52	
Medial Prefrontal Cortex *(ventral part)*	M	-4	48	-20	5.90	739*
Inferior Occipital Gyrus	R	44	-60	-12	4.55	382†
Cerebellum	R	16	-62	-18	5.02	304‡
Main Effect: Attribution of Pain						
Supramarginal/Postcentral Gyrus	L	-58	-40	42	8.25	782*
Supramarginal/Postcentral Gyrus	R	58	-34	38	5.67	384†
Inferior Frontal Gyrus	R	44	44	2	6.09	279‡
Dorsolateral Prefrontal Cortex	L	-40	26	36	5.83	943*
Inferior Frontal Gyrus	L	-42	42	10	6.24	
Posterior Orbital Gyrus	L	-24	32	-14	8.22	272‡
Precuneus	M	-8	-66	34	7.92	1703*
Posterior Cingulate Cortex	M	-8	-28	40	7.28	1462*
Middle Cingulate Cortex [MCC]	M	2	28	40	4.06§	25
Group Differences: Attribution of Pain$_{Control}$ – Attribution of Pain$_{Nurses}$						
Anterior Insula	R	42	16	-4	4.19§	15

* $p < 0.001$; † $p < 0.01$; ‡ $p < 0.05$ corrected for multiple comparisons at the cluster level for the whole.
§ $p < 0.05$ Small Volume Corrected for multiple comparisons for the *Others' Pain* mask
¥ $p < 0.05$ Small Volume Corrected for multiple comparisons for the *Theory of Mind* mask

Supplementary Table S11

Cognitive and Affective Theory of Mind Task. Regions displaying suprathreshold activity evoked by making active *judgment* about *beliefs*, *emotions* and *pain* compared to the control *photos* condition.

	SIDE	Coordinates			$T_{(59)}$	Cluster size
		x	y	z		
Main Effect: Beliefs – Photos Judgment						
Temporo-Parietal Junction [TPJ]	R	56	-50	28	4.29	316†
Temporo-Parietal Junction [TPJ]	L	-54	-58	40	5.30	356†
Precuneus	M	-2	-58	32	8.98	2715*
Posterior Cingulate Cortex	M	6	-50	26	7.38	
Medial Prefrontal Cortex *(dorsal part)*	M	4	60	14	4.18¥	6
Group Differences: (Beliefs – Photos)$_{Med1}$ – (Beliefs – Photos)$_{Med4}$						
Dorsolateral Prefrontal Cortex	R	38	10	42	4.32	168‡
Supplementary Motor Area [SMA]	M	4	26	46	5.16	464*
Group Differences: (Beliefs – Photos)$_{Med1}$ – (Beliefs – Photos)$_{Contr}$						
Temporo-Parietal Junction [TPJ]	L	-52	-44	28	4.68	170‡
Inferior Temporal Sulcus	L	-58	-4	-26	4.32¥	1
Main Effect: Emotions – Photos						
Inferior Frontal Gyrus	L	-44	22	-16	5.76	192‡
Precuneus	M	2	-68	36	5.76	933*
Posterior Cingulate Cortex	M	-6	-50	30	7.18	
Medial Prefrontal Cortex *(dorsal part)*	M	-6	60	22	5.70	431†
Group Differences: (Emotions – Photos)$_{Med1}$ – (Emotions – Photos)$_{Contr}$						
Temporo-Parietal Junction [TPJ]	R	48	-46	24	4.69	189‡
Posterior Cingulate Cortex	M	6	-50	30	4.87	206‡
Calcarine Cortex	R	24	-64	8	4.35	227‡

* $p < 0.001$; † $p < 0.01$; ‡ $p < 0.05$ corrected for multiple comparisons at the cluster level for the whole.
¥ $p < 0.05$ Small Volume Corrected for multiple comparisons for the *Theory of Mind* mask

Supplementary Table S12

Representational Similarity Analysis. Regions displaying group differences in their sensitivity to pain-specific information (within-pain *vs*. across domain).

	SIDE	Coordinates			$T_{(55)}$	Cluster size
		x	*y*	*z*		
Controls – Med1						
Anterior Insula [AI]	R	30	24	-4	3.54	
Dorsolateral Prefrontal Cortex [DLPFC]	R	44	30	36	4.24	1224†
Ventrolateral Prefrontal Cortex [VLPFC]	R	32	46	12	4.85	
Anterior Insula [AI]	L	-38	24	8	4.28	632‡
Dorsolateral Prefrontal Cortex [DLPFC]	L	-48	26	28	4.28	
Middle Cingulate Cortex [MCC]	M	-6	18	28	3.43§	15
Controls – Nurses						
Anterior Insula [AI]	R	30	26	2	4.09	640‡
Anterior Insula [AI]	L	-36	20	0	3.26§	15
Posterior Insula [PI]	R	32	-10	2	4.84	587‡
Occipital pole	R	18	-84	2	4.99	2522*
Occipital pole	L	-20	-84	0	4.70	

* $p < 0.001$; † $p < 0.01$; ‡ $p < 0.05$ corrected for multiple comparisons at the cluster level for the whole.
§ $p < 0.05$ Small Volume Corrected for multiple comparisons for the *Others' Pain* mask