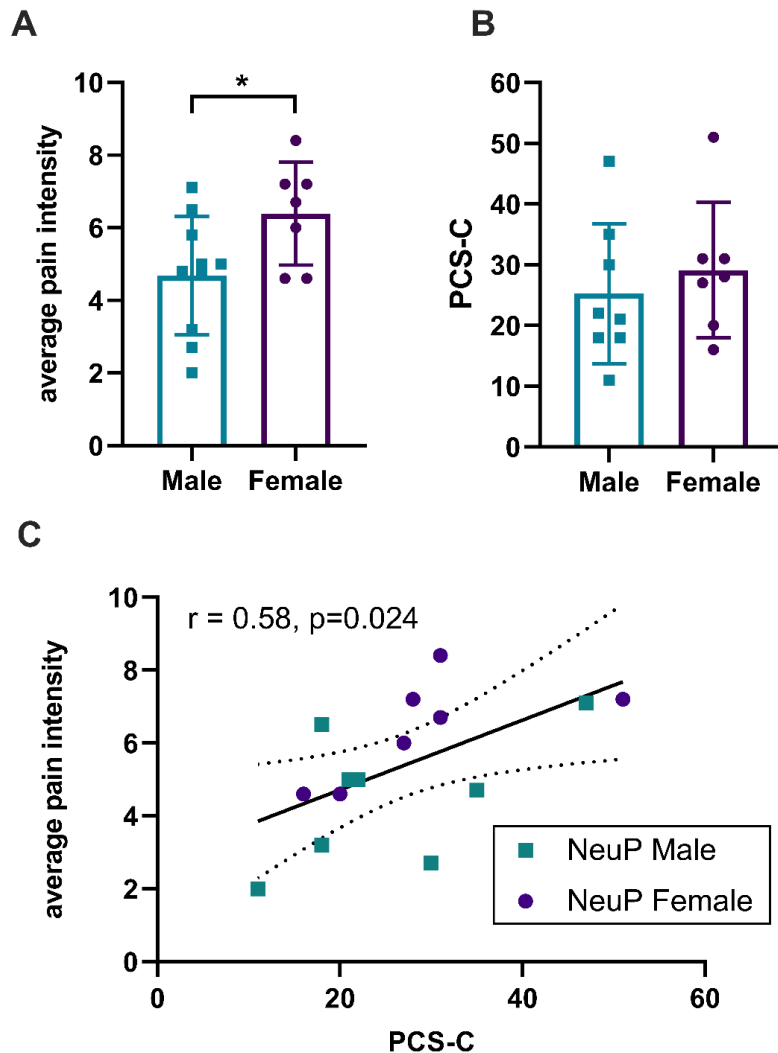


Supplementary Material

1 Supplementary Figures



Supplementary Figure 1. Pain ratings and pain catastrophizing in adolescents with NeuP. (A) Individual participant ratings for average pain intensity in the last week, plotted separately for male and female NeuP patients. (B) Individual participant pain catastrophizing scores, plotted separately for male and female NeuP patients. (C) Pain catastrophizing correlated positively with average pain intensity in the last week; $n=15$. (A-B) Data points represent individual values; bars represent mean [SD]; asterisk indicates significance at $P<0.05$. (C) Data points represent individual values; solid lines represent regression line for correlation; dotted lines represent 95% confidence interval. *Abbreviations:* NeuP, neuropathic pain; PCS-C, Pain Catastrophizing Scale, child version.

2 Supplementary Tables

Supplementary Table 1. Comparative ICA-AROMA independent component and head motion data for patients and control participants.

	NeuP (n=17)	HC (n=17)	Group Comparisons	Effect size
Independent Components				
Mean ICs	72.5±10.2	70.0±8.7	$t_{(32)}=0.473, P=0.640$	0.158
Mean %noise ICs	57±9	53±13	$t_{(32)}=0.918, P=0.365$	0.307
Head motion				
Mean FD (mm)	0.12 (0.11-0.16) [0.08-0.28]	0.12 (0.10-0.15) [0.06-0.24]	$Z=0.60, P=0.547$	0.011
Maximum FD (mm)	0.66 (0.36-1.04) [0.22-1.76]	0.44 (0.30-2.38) [0.13-9.10]	$Z=0.36, P=0.718$	0.004

Data = mean±SD or, if assumptions of normality were not met, data = median (25th-75th percentile)[min-max]. Effect size = η^2 for Mann-Whitney tests and Hedge's g for independent samples t-tests. Standardised test statistic (Z-value) is reported for Mann-Whitney test.

Abbreviations: FD, framewise displacement (in millimetres); HC, healthy control participants; IC, independent component; NeuP, patients with neuropathic pain.

Supplementary Table 2. Right amygdala rsFC network within adolescents with NeuP.

Brain Region	Peak MNI			Peak T-value	Number of voxels
	X	Y	Z		
<i>Positive rsFC</i>					
Right Amygdala	26	2	-18	43.40	2402
Right Parahippocampal Gyrus	18	0	-20	30.47	
Right Hippocampus	22	-8	-14	24.80	
Left Amygdala	-24	-6	-10	16.43	1409
Left Hippocampus	-28	-20	-18	12.47	
Left Amygdala	-18	0	-16	12.24	
Left Inferior Temporal Gyrus	-46	-50	-24	5.77	247
Left Fusiform Cortex	-36	-42	-26	5.74	
Left Fusiform Cortex	-40	-42	-18	5.45	
Left Primary Motor Cortex	-46	-16	56	6.20	127
Left Primary Somatosensory Cortex	-48	-22	62	5.45	
Right Middle Temporal Gyrus	52	-48	-2	6.97	105
Right Inferior Temporal Gyrus	54	-42	-14	6.21	
Posterior Midcingulate Cortex	4	-2	42	7.57	75
Anterior Midcingulate Cortex	6	6	34	6.28	
Right Rectus Gyrus	8	48	-18	5.32	67
Left Frontal Medial Orbital Cortex	-6	40	-12	5.07	
Left Frontal Medial Orbital Cortex	0	54	-6	4.78	
Left Primary Somatosensory Cortex	-66	-14	20	6.33	65
Subcallosal Cortex	4	6	-2	5.91	64
Subcallosal Cortex	2	8	-16	5.85	
Right Middle Temporal Gyrus/Inferior Temporal Gyrus	64	-34	-18	8.92	59
Right Primary Motor Cortex	46	-10	38	5.94	49
Left Angular Gyrus	-36	-66	30	6.82	45
Left Angular Gyrus	-34	-74	36	5.61	
Right Premotor Cortex	58	2	28	5.12	39
Right Primary Motor Cortex	60	-2	18	4.93	
Left Paracentral Lobule	-6	-36	56	5.69	36
<i>Negative rsFC</i>					
Right Dorsolateral Prefrontal Cortex	36	52	24	-5.16	45
Right Dorsolateral Prefrontal Cortex	32	46	18	-5.01	
Right Angular Gyrus	54	-48	34	-5.80	39

Peak MNI coordinates for brain regions with significant right amygdala rsFC in adolescents with NeuP, significant at cluster-corrected threshold $P_{FDR} < 0.025$ and cluster-forming height threshold $P < 0.001$ (uncorrected). *Abbreviations:* MNI, Montreal Neurological Institute.

Supplementary Table 3. Right amygdala rsFC network within HC adolescents.

Brain Region	Peak MNI			Peak T- value	Number of voxels
	X	Y	Z		
<i>Positive rsFC</i>					
Right Hippocampus	28	-6	-16	23.13	1904
Right Amygdala	28	2	-20	13.90	
Right Hippocampus/Parahippocampal Gyrus	18	-12	-18	12.89	
Left Hippocampus	-22	-10	-16	9.98	771
Left Hippocampus	-14	-8	-14	8.73	
Left Parahippocampal Gyrus/Amygdala	-20	0	-28	8.72	
Right Superior Temporal Gyrus	64	-4	2	6.50	210
Right Superior Temporal Gyrus/Middle Temporal Gyrus	62	-2	-10	6.42	
Right Ventral Premotor Cortex	60	0	14	5.82	
Left Primary Somatosensory Cortex	-60	-16	38	6.51	158
Left Primary Somatosensory Cortex	-58	-24	40	4.40	
Right Superior Temporal Pole	48	24	-24	7.10	124
Right Middle Temporal Pole	52	18	-30	4.93	
Right Primary Somatosensory Cortex	62	-10	36	5.48	113
Right Primary Motor Cortex	54	-6	34	5.25	
Right Primary Somatosensory Cortex/Primary Motor Cortex	64	-2	32	4.52	
Left Premotor Cortex	-46	-10	32	5.60	48
Right Temporooccipital Inferior Temporal Gyrus	46	-56	-14	6.30	45

Peak MNI coordinates for brain regions with significant right amygdala rsFC in HC adolescents, significant at cluster-corrected threshold $P_{FDR} < 0.025$ and cluster-forming height threshold $P < 0.001$ (uncorrected). *Abbreviations:* MNI, Montreal Neurological Institute.

Supplementary Table 4. Left amygdala rsFC network within adolescents with NeuP.

Brain Region	Peak MNI			Peak T-value	Number of voxels
	X	Y	Z		
<i>Positive rsFC</i>					
Left Amygdala	-18	0	-18	38.33	2940
Left Hippocampus	-26	-4	-20	31.10	
Left Parahippocampal Gyrus/Fusiform Cortex	-26	-2	-30	16.30	
Right Hippocampus	30	-20	-14	13.05	1295
Right Parahippocampal Gyrus	16	-2	-18	12.74	
Right Amygdala	28	-6	-14	10.87	
Left Primary Somatosensory Cortex	-64	-8	16	7.41	212
Left Primary Somatosensory Cortex/Primary Motor Cortex	-60	-4	30	7.23	
Left Somatosensory Cortex	-68	-10	24	5.23	
Right Cerebellum/Fusiform Cortex	36	-42	-26	6.23	191
Right Cerebellum	14	-52	-18	5.98	
Right Cerebellum	34	-34	-30	5.32	
Anterior Midcingulate Cortex	-2	-2	36	10.52	125
Anterior Midcingulate Cortex	6	4	36	9.07	
Left Superior Temporal Gyrus	-54	-6	-4	7.06	86
Left Middle Temporal Gyrus	-62	-14	-2	5.59	
Left Middle Temporal Gyrus	-58	-12	-10	5.01	
Left Primary Motor Cortex	-42	-18	68	5.87	85
Left Primary Motor Cortex	-42	-14	60	5.42	
Left Primary Motor Cortex	-40	-10	52	5.08	
Right Lateral Orbitofrontal Cortex	30	30	-16	6.59	43

Peak MNI coordinates for brain regions with significant left amygdala rsFC in adolescents with NeuP, significant at cluster-corrected threshold $P_{FDR} < 0.025$ and cluster-forming height threshold $P < 0.001$ (uncorrected). *Abbreviations:* MNI, Montreal Neurological Institute.

Supplementary Table 5. Left amygdala rsFC network within HC adolescents.

Brain Region	Peak MNI			Peak T- value	Number of voxels
	X	Y	Z		
<i>Positive rsFC</i>					
Left Hippocampus/Amygdala	-26	-6	-18	26.73	2095
Left Hippocampus/Amygdala	-18	-6	-12	18.21	
Left Hippocampus	-26	-14	-10	17.59	
Right Hippocampus	24	-14	-10	10.32	887
Right Hippocampus/Parahippocampal Gyrus	30	-12	-20	9.48	
Right Amygdala	26	0	-10	8.06	
Left Fusiform Cortex	-40	-46	-22	6.00	87
Left Fusiform Cortex	-30	-46	-20	4.54	
Left Fusiform Cortex/Inferior Temporal Gyrus	-46	-52	-18	4.52	
Left Middle Temporal Gyrus	-54	-60	0	5.85	83
Left Middle Temporal Gyrus/Lateral Occipital Cortex	-46	-64	2	5.50	
Left Inferior Temporal Gyrus	-42	-60	-6	7.23	64
Left Fusiform Cortex	-40	-50	-6	5.73	
Pregenua Cingulate Cortex	-6	36	2	7.04	48
Pregenua Cingulate Cortex	2	34	12	4.58	
Left Lateral Orbitofrontal Cortex	-40	28	-16	4.84	46
Left Lateral Orbitofrontal Cortex	-42	36	-20	4.84	

Peak MNI coordinates for brain regions with significant left amygdala rsFC in HC adolescents, significant at cluster-corrected threshold $P_{FDR} < 0.025$ and cluster-forming height threshold $P < 0.001$ (uncorrected). *Abbreviations:* MNI, Montreal Neurological Institute.