Supplementary Information

Functional connectivity of music-induced analgesia in fibromyalgia.

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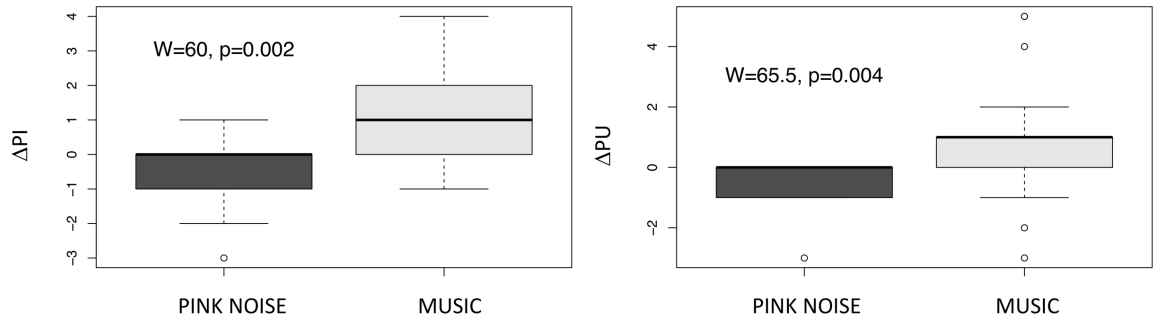
Supplementary Table 1 reports the center of MNI coordinates that were used to create the pain matrix in our study. The ROIs were obtained from peak coordinates of several pain studies, both experimental and clinical[1–6], and cross-referenced with brain atlases (Harvard-Oxford atlas FSLview; Juelich Histological Atlas FSLview), and Neurosynth[7] using "pain" and "chronic pain" as search terms, to ensure the precision of the obtained coordinates. Most of the seeds were derived from the study by Cifre et al. (2012)[5], given that it showed for the first time a disrupted brain functional connectivity in FM patients.

Supplementary Table 1. MNI Coordinates of Seeds' Center for the Pain Matrix.

	Right Hemisphere			Left Hemisphere		
Seed	x	y	z	x	y	z
ACC[ab]	1	8	30	-2	8	30
AMYG[b]	26	0	-22	-24	-2	-22
AnG[b]	54	-57	33	33	-48	-60
BA41[b]	50	-21	7	-52	-19	7
CAU[ab]	14	4	20	-12	14	8
GP[ba]	18	-2	-4	-12	0	2
INS[a]	36	6	6	-48	12	-2
M1[c]	10	-30	70	-10	-26	68
mPFC[bd]	2	46	-16	-2	46	-16
PAG[eb]	6	-32	-10	-6	-32	-10
PCC[ab]	12	-56	6	-12	-56	6
PUT[ab]	28	6	-2	-22	8	-4
SI[a]	52	-16	44	-48	-24	52
SII[a]	52	-20	16	-58	-24	14
SMA[ab]	12	2	68	-12	2	68
STS[eb]	60	-46	-4	-60	-48	-4
THA[fb]	20	-18	12	-10	-22	6

MNI, Montreal Neurological Institute; ACC, anterior cingulate cortex; AMYG, amygdala; AnG, angular gyrus; BA41, primary auditory cortex; CAU, caudate; GP, globus pallidus; INS, insular cortex; M1, primary motor cortex; mPFC, medial prefrontal cortex; PAG, periaqueductal gray matter; PCC, posterior cingulate cortex; PUT, putamen; SI, primary somatosensory cortex; SII, secondary somatosensory cortex; SMA, supplementary motor area; STS, superior temporal sulcus; THA, thalamus. a, Gracely et al., 2002; b, Harvard-Oxford atlas FSLview; c, Juelich Histological atlas FSLview; d, Baliki et al., 2008; e, Zaki et al., 2007; f, Burgmer et al., 2009.

Supplementary Figure 1 shows the boxplots for the Mann-Whitney Rank test, measuring the effect of experimental conditions on pain intensity (PI) and pain unpleasantness (PU) in fibromyalgia (FM) patients. The figure shows that pink noise and music were significantly different in both ΔPI (W=60, p=0.002) and ΔPU (W=65.5, p=0.004). In other words, FM patients reported lower pain levels after listening to music, but not after listening to the pink noise. Pink noise produced a small increase of pain perception in FM patients (~1point VRS), which was non- significant in both PI and PU.



Supplementary Figure 1. Pain Intensity and Pain Unpleasantness Measures. Music vs Pink Noise; ΔPI, Difference in Pain intensity; ΔPU, Difference in Pain Unpleasantness; W, Mann-Whitney Rank test; p, statistical significance.

References

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