

Embodied emotions in chronic pain patients

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Introduction

- * Self-reported bodily maps of emotions are highly consistent over a number of emotion elicitation methods [1] and in different cultures [2].
- * Chronic pain is known to be associated negative mood states [3] and emotional states [4]
- * The aim of this study was to see if the bodily maps of emotions are different for chronic pain patients compared to pain-free controls.

Methods

- * 135 chronic pain patients (42 CRPS, 37 neuropathic pain, 32 LBP, 14 fibromyalgia, 10 other/combo) and age and gender matched controls who reported having no history of chronic pain.
- * Subjects reported their current emotional state (scale 0-10) and completed the following colouring tasks using the emBODY tool (Figure 1): 1) locations of their current and chronic pain 2) topographical maps of high tactile, nociceptive, and hedonic sensitivity areas 3) emotional body maps.

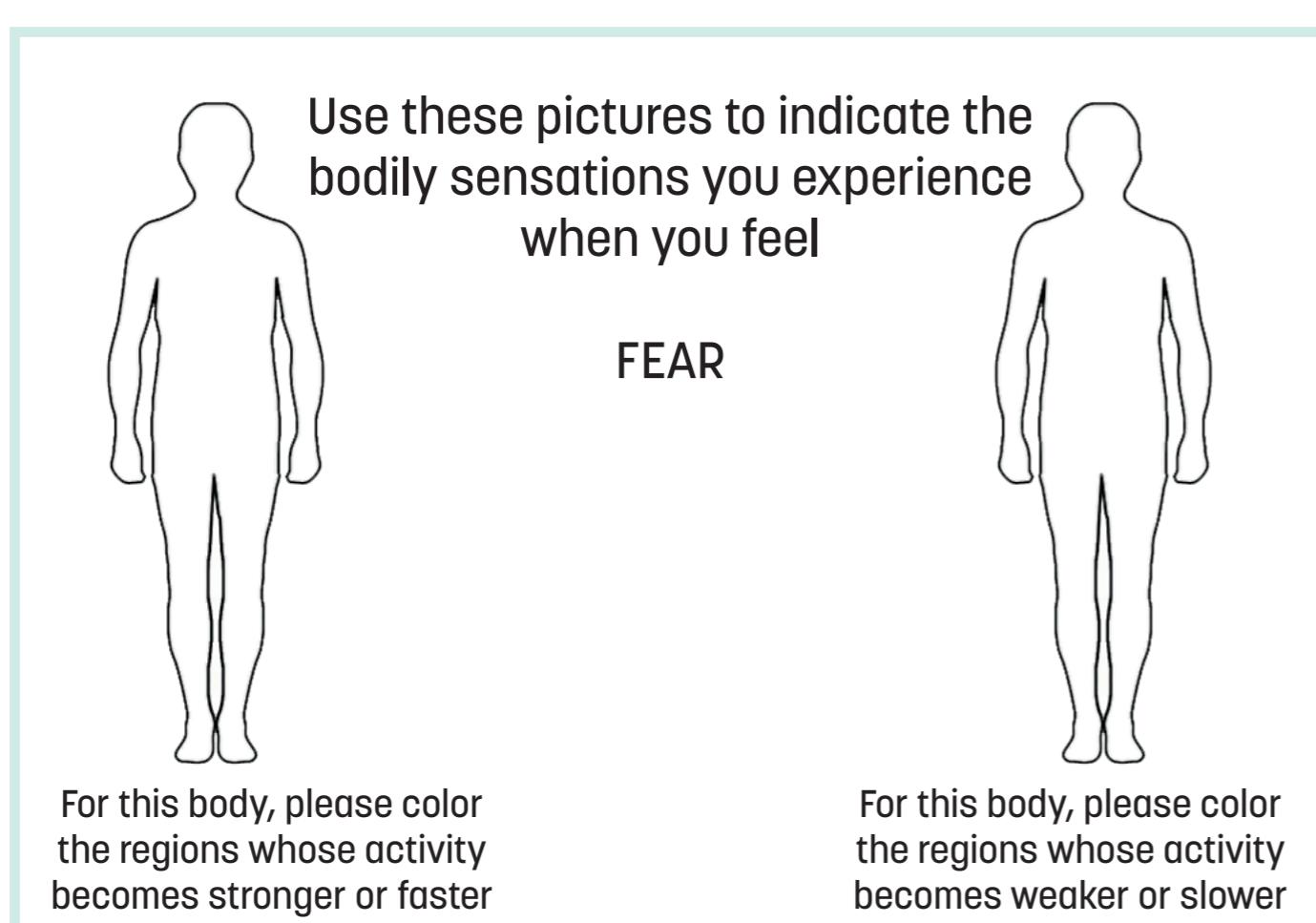


Figure 1 Data were collected using self-report tool

Results

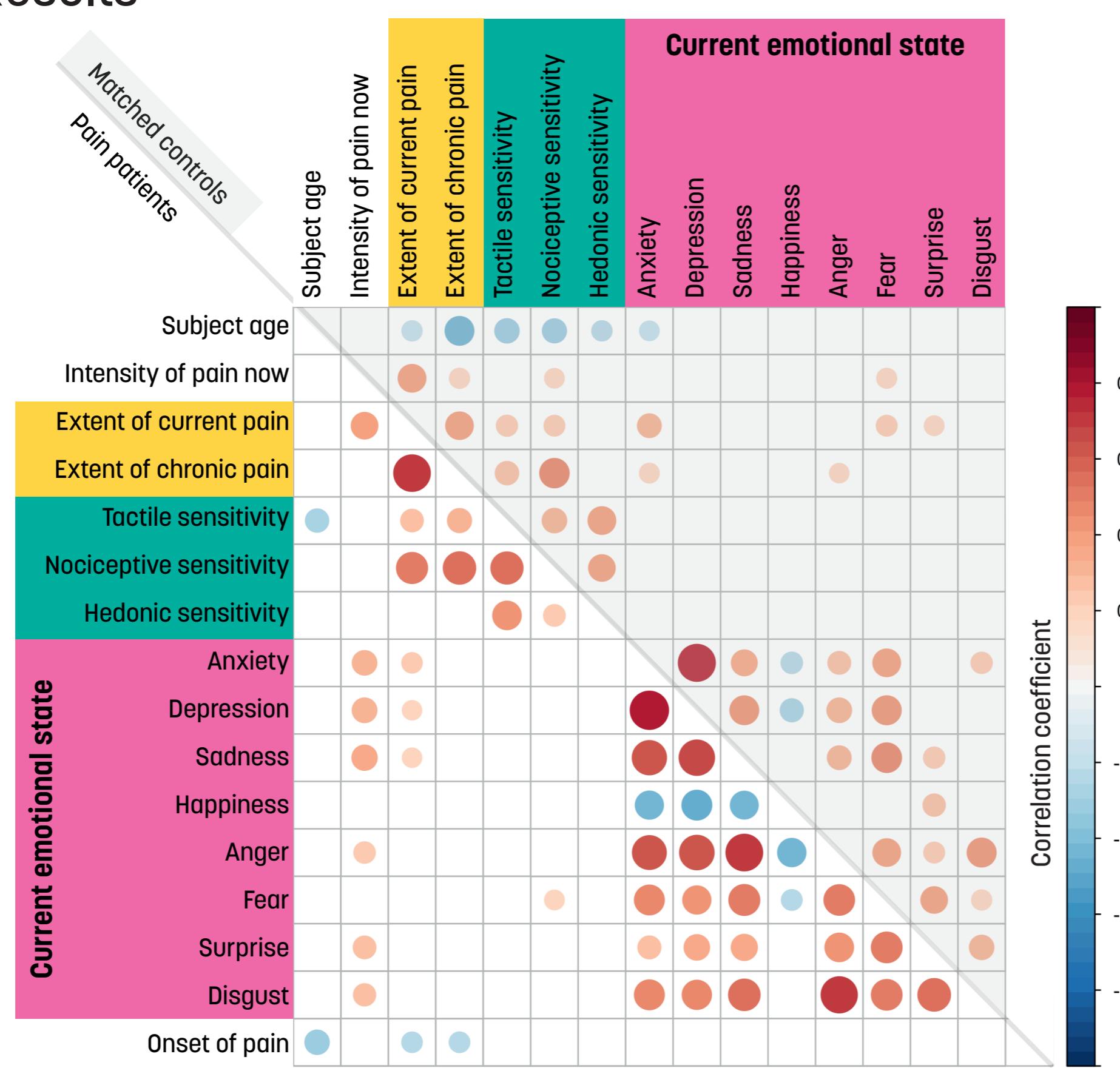


Figure 2 Correlation coefficients presented for pain patients (lower triangle) and healthy controls (upper triangle). Shown correlations significant at $\alpha=0.05$, FDR corrected.

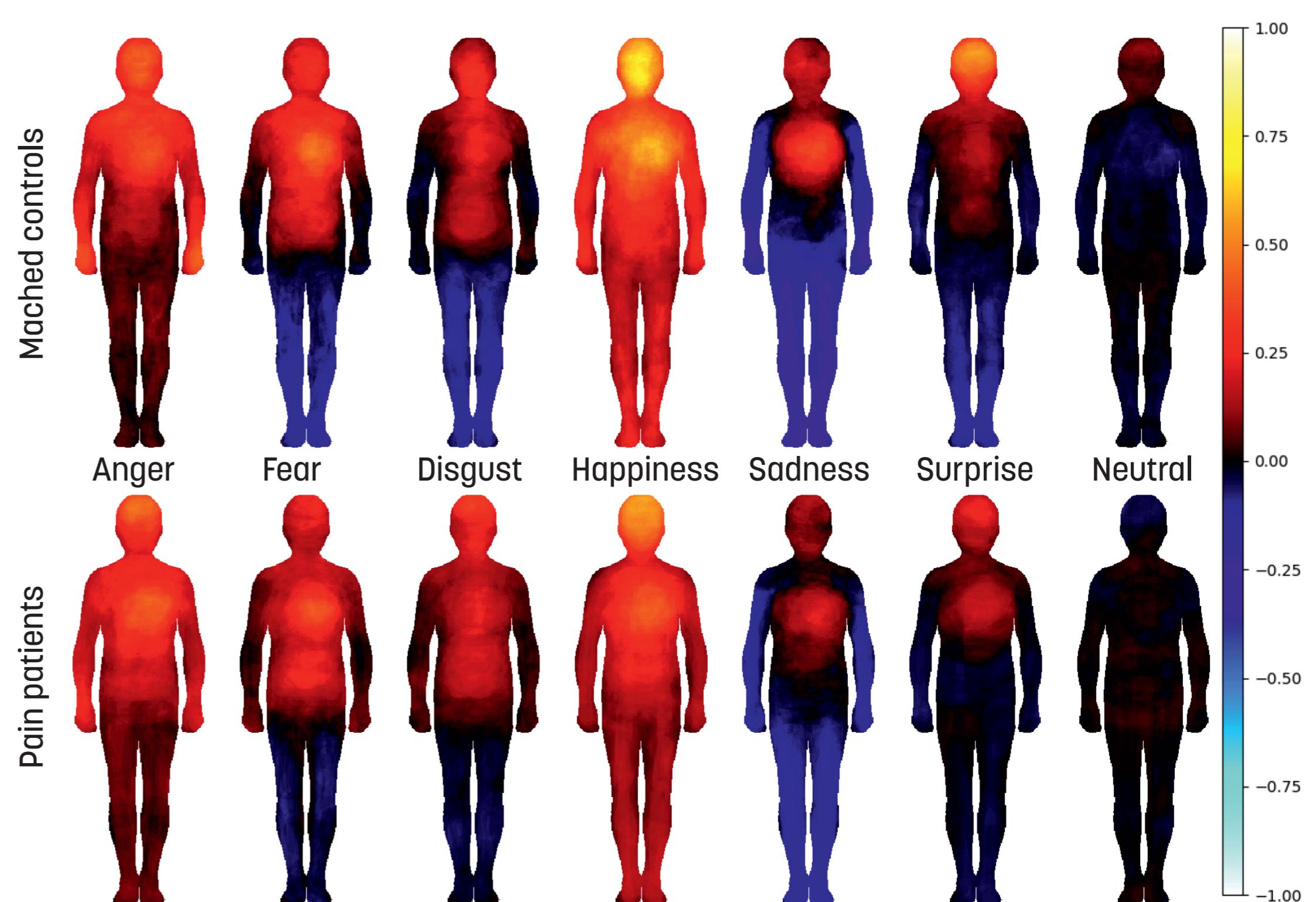


Figure 5 Body maps were less distinct for different emotions in chronic pain patients

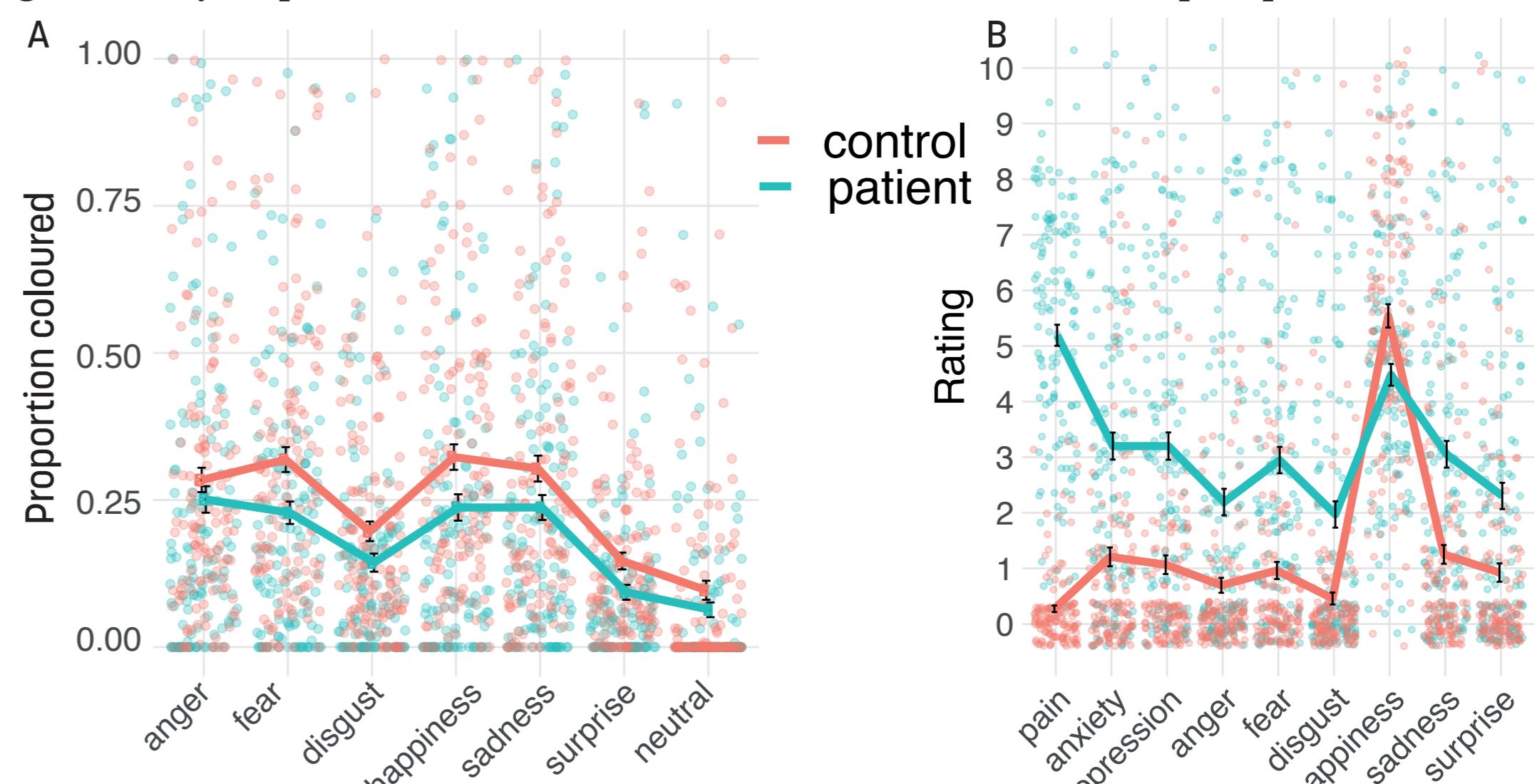


Figure 4
A) Controls coloured in significantly more pixels than patients $F(1,6) = 34$, $p \sim 10^{-9}$. No significant differences were found in the pixel-by-pixel comparison of the colouring maps.

B) Pain patients reported being more anxious and depressed and experiencing more negatively valenced emotions than matched controls. Controls reported feeling more happiness than pain patients.

Conclusions

- * Chronic pain patients have less specific emotional body maps but report feeling much more of negatively valenced emotions than matched controls
- * Experience of negatively valenced emotions more strongly intercorrelated in chronic pain patients than in matched controls

References

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