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DISTINCT PSYCHOPHYSIOLOGICAL PROFILES ASSOCIATED WITH EXPERIENCING THE PAIN OF OTHERS

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Background: Previous research (using univariate fMRI analyses) suggests shared neural resources between physical pain and empathy for pain, but recent research (using multivariate techniques) questions this finding. Most previous research neglects individual differences in phenomenology and our research fills this important gap. Specifically, three groups of people will be tested in fMRI: those who report feeling the pain of others ('responders' comprised of two groups depending on whether the pain responses are localised or general) and those who do not report feeling pain when seeing others in pain (the more common 'non-responder' group).

Aims: The aim of the research is to determine whether vicarious pain (seeing pain in other people) and physical pain share neural resources and to determine whether this differs from person to person.

Method: We have screened over 300 people, and tested 23 people for the fMRI pre-test (13 non-responders, and 10 responders collapsing across the two responder groups). The pre-test involves behavioural ratings for physical pain (feeling a shock) and empathy for pain (seeing a shock) and the main test involve fMRI, skin-conductance and heartrate responses to those stimuli.

Preliminary results: The pre-test establishes that all three groups have a similar subjective response to physical pain. There is a trend for the responder groups to report more empathy for pain and the ongoing fMRI study will determine whether this is underpinned by hyperactivity within a common system for empathy for pain, or if different networks are involved in different people (as a function of their phenomenology).

Keywords: Empathy for pain; Individual differences; fMRI; Multivariate; Psychophysiology

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