

# Compassionate imagery helps suppress physical pain response, research finds

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Using imagery focused on compassion can help people suffering from stress associated with physical pain, a new study from the University of Derby has shown.

The research is the first of its kind to monitor [physiological responses](#) to "affiliative" imagery—which is intended to make people feel loved or cared for—by asking them to imagine being the recipient of acts of compassion, such as kindness and wisdom.

Monitoring physical reactions associated with sensations and suppression of [physical pain](#) under controlled conditions with a group of 37 participants at the University of Derby's Human Sciences Research Center, Dr. Frances Maratos, Associate Professor and Reader in Emotion Science, and fellow psychologist Professor David Sheffield, established that using compassion-focused imagery (CFI) "can curtail a physiological stress response to pain."

Dr. Maratos said: "Compassion-based interventions are now demonstrated as an efficacious treatment for over 15 [psychological](#)

[disorders](#), ranging from depression and anxiety to psychosis and body dysmorphia, with a rapidly growing [evidence base](#). In moving research and practice forward, we are now beginning to explore the effectiveness of compassion interventions for coping with physical and physiological disorders, including [chronic pain](#)."

The study involved participants being played an audio narrative of compassionate imagery and asked to imagine being the recipient of that compassion before placing their hand in ice cold water for up to five minutes. They were also played the narrative while their hand was immersed in the water.

As part of the study, saliva samples were taken and analyzed. The measurement of Salivary Alpha Amylase (sAA) – a hormonal 'biomarker' that increases in response to stress—showed that the participants who engaged with the compassion-focused imagery while placing their hand in the water showed no increase in the body's stress response to pain.

When non-compassionate focused imagery was instead used, increases in sAA were recorded, suggesting that the "control" imagery (imagining a woodland walk, for example) was less effective in reducing the stress response to pain. The findings have now been published in the international journal *Mindfulness*.

Professor Sheffield said: "That engaging in compassion-focused [imagery](#) can dampen the body's physiological [stress](#) response to pain, potentially allows for new therapeutic avenues, not only in the treatment of pain disorders, but also when individuals must undergo painful procedures. Indeed, during the COVID-19 pandemic, people suffering with pain may find using CFI can help when it flares up. We hope our research now encourages others to also investigate the utility of compassion-based interventions in [pain](#) coping,

including both the psychological and physiological aspects of this coping."

**More information:** Frances A. Maratos et al. Brief Compassion-Focused Imagery Dampens Physiological Pain Responses, *Mindfulness* (2020).  
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