Neural correlates of reduction in self-judgement after Mindful Self-Compassion training

D Joss. et al.

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Introduction

- Self-judgement—common symptom across mental health conditions like generalized anxiety, depression, and social anxiety
  - As a mental activity: “the process of casting negative evaluation for oneself and things related to oneself”
  - As a personality trait: “the tendency for consistently and readily judging oneself in a negative light with feelings of inferiority, guilt, and worthlessness”
- Seen to perpetuate symptoms, hinder psychological healing, and compromise psychotherapy effectiveness
  - Researchers saw a need to understand the neural mechanisms of the trait

Introduction

- Mindful Self-Compassion (MSC) program training was used to target and reduce self-judgement
  - Self-compassion: “being warm and kind towards one’s shortcomings and taking a balanced, non-judgmental view of one’s emotions”
- Previous studies found MSC to be useful in cultivating self-compassion and in turn improving some psychological outcomes
  - Neural mechanisms of this process are not well known, this study sought to discover them

Methods

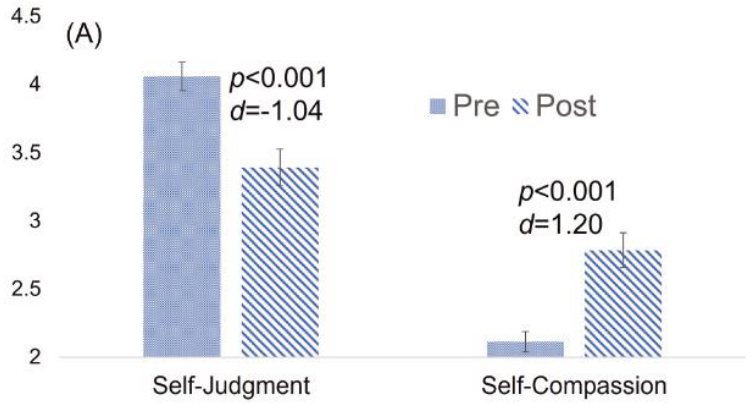
- Sample made up of adults with high levels of self-judgement
  - Completed a set of questionnaires to self-report information that would make them eligible for the study
- MSC program involved mindfulness practices, repeated self-kindness phrases, and meditation based on ancient Buddhist practices for “cultivating good will for oneself and others”
  - 8-weeks long, also including weekly 2.5 hour group meetings

Methods

- Data collection involved resting-state fMRI scans
  - Pre-training fMRI scan to collect baseline brain activity
  - Post-training scan after 8-week MSC program
- In addition, more questionnaires for participants to self-report improvements
  - Self-Compassion Scale used
- Analysis: seed-based connectivity analysis
  - Targeted Medial Prefrontal Cortex, Posterior Cingulate Cortex, and Default Mode Network

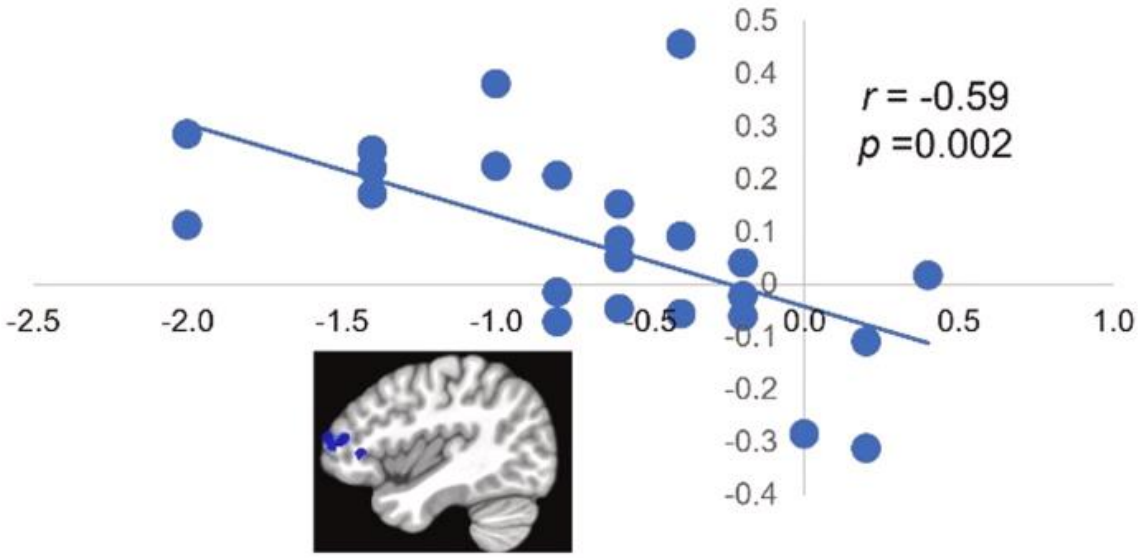
Results

- Findings showed self-judgement was reduced significantly and self-compassion scores increased in participants after self-compassion training
- Neural correlates: reduced connectivity in Default Mode Network and increased connectivity between Medial Prefrontal Cortex and other brain regions at work in emotion regulation

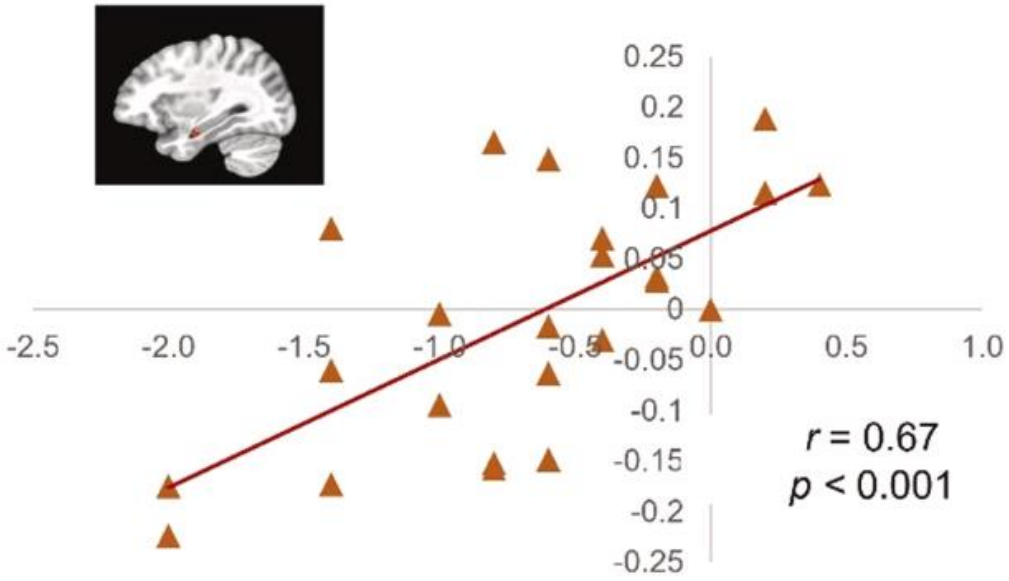


Results

(B) PCC-Dorsal Lateral Prefrontal Cortex



(C) PCC-Amygdala-Hippocampal Complex



Implications

- The intervention of the Mindful Self-Compassion program decreased the participants self-judgement habits and offered them tools for emotional-regulation
- Neural changes seen in fMRI scans suggests that participants moved away from maladaptive rumination and toward adaptive emotional control

Discussion

- Main takeaway from Joss et al.: Mindful-Self Compassion training provides outcomes that reduce consistent self-judgement and changes brain connectivity patterns
  - Basically, it works
- An opportunity to use this method to reduce vulnerability to anxiety and depression all together, or even prevent an individual's condition from progressing
- Limitations include no control group and small sample size (pilot study)
  - Would offer more impressive results in a large sample, randomized controlled trial

Citation

Joss, D., Datko, M., Washington, C. I., Tresvalles, M. A., Mete, M., Lazar, S. W., Schuman-Olivier, Z., & Hoge, E. A. (2025). Neural correlates of reduction in self-judgment after mindful self-compassion training: A pilot study with resting state fMRI. *Journal of Mood & Anxiety Disorders*, *9*, 100096. https://doi.org/10.1016/j.xjmad.2024.100096