

MRI scans show mindfulness can benefit preteens with anxiety and attention issues

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MRI scans have shown that practicing mindfulness can help rewire the brain connectivity of pre-teens with anxiety and attention issues, in new UniSC Thompson Institute research.

In encouraging results for families, Dr. Michelle Kennedy's University of the Sunshine Coast Ph.D. found that [mindfulness training](#) can be an effective intervention for children aged 9 to 11 who are anxious or have poor attention.

Believed to be a world-first, the collaborative CALM (Combatting Anxiousness for Learning Minds) study involved almost 100 children participating in MRI scanning, cognitive assessments and a 10-week mindfulness program. Parents also completed surveys.

"The results were particularly interesting because half of the participants completed their second assessment during the height of the COVID-19 pandemic in early 2020, when [anxiety](#) generally escalated," Dr. Kennedy said.

"Mindfulness training was shown to ease the symptoms of children's anxiety and attention issues and alter the functional connectivity of brain networks associated with these issues."

More than 85% of participants found the training beneficial, according to a mindfulness course evaluation.

Dr. Kennedy said the results showed that [mental health issues](#) were emerging earlier than adolescence.

"It's important to address these issues when they emerge and develop ways for children to recognize their triggers and understand how to deal with challenging experiences to support their transition to adolescence," she said.

"Practicing mindfulness can help children change their focus from worrying thoughts and help them to improve their attention to their current experience."

Common worries for children were sleep problems as well as stress or concern about school, friends and home life.

Two papers from the study, supervised by UniSC Professor of Youth Mental Health and Neurobiology Daniel Hermens and Professor Jim Lagopoulos, have been published in the journals [Brain Imaging and Behaviour](#) and [Psychiatric Research](#). A third paper is imminent.

Study collaborators included UniSC's Thompson Institute researchers Dr. Abdalla Mohamed, Dr. Paul Schwenn, Associate Professor Zach Shan and (former) Dr. Denise Beaudequin.

Professor Hermens said, "Pre-adolescence, the stage between childhood and adolescence, is characterized by significant changes in [brain development](#) as well as continued cognitive and [emotional development](#).

"Due to this critical and sensitive stage, disruption to this development can increase pre-teens' risk for mental health issues.

"Increasing our understanding of what contributes to emerging anxiety and attention issues can help us be more targeted with interventions.

In her postdoctoral research fellow role, Dr. Kennedy is now translating this research and data into a well-being program to be trialed next year in schools.

She is also analyzing other CALM data to determine any differences in anxiety levels of boys compared to girls, and whether there is a difference in parents' and children's perceptions of children's anxiety levels.

She has posted a [YouTube](#) four-minute mindfulness session (focusing on breathing) for [children](#).

More information: Michelle Kennedy et al, The effect of mindfulness training on resting-state networks in pre-adolescent children with sub-clinical anxiety related attention impairments, *Brain Imaging and Behavior* (2022). [DOI: 10.1007/s11682-022-00673-2](https://doi.org/10.1007/s11682-022-00673-2)

Michelle Kennedy et al, Elucidating the neural correlates of emotion recognition in children with sub-clinical anxiety, *Journal of Psychiatric Research* (2021). [DOI: 10.1016/j.jpsychires.2021.08.024](https://doi.org/10.1016/j.jpsychires.2021.08.024)

Provided by University of the Sunshine Coast

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