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Can meditation change our brain?

Meditation has received increasing attention among clinicians and researcher because there has been speculation that meditation would associate with significant beneficial effects on both cognitive and effective functioning of the brain. Empirical evidence accumulated thus far has pointed at the positive relationship between meditation and attention. Beneficial affective effects have also been reported. On this topic, we have conducted a series of neuroimaging studies examining the neural underpinning of meditation. We have reported the distinct differences in brain activity between experts of focused-attention meditation and loving-kindness meditation. Based on these findings, we developed a meditation training program that integrated elements of both forms of meditation and investigated the direct neural effects of short-term meditation training on slowing age-related degeneration in older adults. We found that an 8-week training program played a protective role and produced specific effects on functional neural network organization. Further supporting the beneficial effects of meditation, we have shown that meditation has potential therapeutic effects in treating affective dysregulation. In this presentation, the neural effects of mediation, explored via behavioral and neural imaging studies, will be presented. Findings suggest dissociable patterns of neural activity associated with forms of meditation practice, reflecting that plastic changes in neural activity are task-specific. This is consistent with the notion of “experience-dependent neural changes”. Since emotion regulation is extremely important for adaptive social functioning and mental well-being, experience-induced neuroplastic changes and the potential beneficial effect of these changes on emotion regulation will also be discussed.

Biography

Tatia MC Lee is Chair Professor of Psychology at The University of Hong Kong. During her tenure at the University, she has received numerous awards in recognition of her excellence in teaching and research. Because of her contributions to the advancement of knowledge in neuropsychology, the University has bestowed upon her an endowed professorship titled May Professorship in Neuropsychology. Professor Lee is a co-director of the State Key Laboratory of Brain and Cognitive Sciences of the University. She is an elected fellow of the American Psychological Association (both in the Society of Clinical Psychology and the Division of Clinical Neuropsychology). She is also a fellow of the International Society of Affective Disorders. Professor Lee endeavors to understand how the human brain functions. Her team employs both behavioral and neuroimaging research methodologies and work in collaboration with clinicians and neuroscientists to investigate the neural mechanisms underpinning those social cognitive and affective processes that define the human nature of an individual. She has published extensively, over 200 publications, and in high impact journals including *Molecular Psychiatry* (Nature Publishing Group) and *Cerebral Cortex*.

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