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Dissociating meditation proficiency and experience dependent EEG changes during traditional Vipassana meditation practice

Ratna Jyothi[a1], Ajay Kumar Nair[a1], Rahul Venugopal[a], Arun Sasidharan[a], Prasanta Kumar Ghosh[b], John P John[c], Seema Mehrotra[d], Ravindra Panth[e], Bindu M Kutty[a]*

[a]Department of Neurophysiology, [c]Department of Psychiatry, [d]Department of Clinical Psychology, National Institute of Mental Health and Neuro Sciences (NIMHANS), Bengaluru-560029, India.
[b]Department of Electrical Engineering, Indian Institute of Science (IISc), Bengaluru-560012, India
[e]Department of Buddhist Philosophy, Nava Nalanda Mahavihara, Nalanda, Bihar, India.

[1]These authors contributed equally to this work.

*Corresponding author,
Bindu M. Kutty, Professor and Head, Department of Neurophysiology,
National Institute of Mental Health and Neuro Sciences (NIMHANS),
P.B. No. 2900, Dharmaram P.O, Hosur Main Road, Bengaluru-560029, Karnataka, India.
Tel: +91 80 2699 5170. Fax: +91 80 2656 2121
Email: bindu.nimhans@gmail.com

Email addresses of all the authors: jyothi.maanu@gmail.com, ajay.nimhans@gmail.com, rahul.nimhans@gmail.com, arunsasi84@gmail.com, prasantag@gmail.com, jpjinc@yahoo.com, drmehrotra_seema@yahoo.com, panthr2011@gmail.com, bindu.nimhans@gmail.com

Highlights

- Different EEG signatures of attention, mindfulness and loving-kindness meditation
- Ecologically sound design using traditional Vipassana meditation module
- Dissociation between proficiency and duration of practice
- Converging evidence from power spectra, permutation entropy and fractal dimensions

Abstract

Meditation, as taught by most schools of practice, consists of a set of heterogeneous techniques. We wanted to assess if EEG profiles varied across different meditation techniques, proficiency levels and experience of the practitioners. We examined EEG dynamics in Vipassana meditators (Novice, Senior meditators and Teachers) while they engaged in their traditional meditation practice (concentration, mindfulness and loving kindness in a structured manner) as taught by S.N. Goenka.

Seniors and Teachers (vs Novices) showed trait increases in delta (1-4 Hz), theta-alpha (6-10 Hz) and low-gamma power (30-40 Hz) at baseline rest; state-trait increases in low-alpha (8-10 Hz) and low-