

## Studying the Effect of Heartfulness Meditation on Brain Activity

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**Abstract :** Long term meditation practice is increasingly recognized for its health benefits. Among a diversity of contemplative traditions, Heartfulness meditation represents a quickly growing set of practices that is largely unstudied. Heartfulness is unique in that it is a meditation practice that focuses on the Heart. It helps individuals to connect to themselves and find inner peace while meditating. In order to deepen ones' meditation on the heart, the element of Yogic Energy ('pranahuti') is used as an aid during meditation. The purpose of this study was to determine whether consistent EEG effects of Heartfulness meditation be observed in sixty experienced Heartfulness meditators, each of whom attended 6 testing sessions. In each session, participants performed three conditions: a set of cognitive tasks, Heartfulness guided relaxation, and Heartfulness Meditation. To measure EEG, the MUSE EEG head band (product of Interaxon Inc) was used. Participants during the cognitive portion were required to answer questions that tested their logical thinking (Cognitive Reflective Test) and creative thinking skills. (Random Associative Test) The order of condition was randomly counter balanced across six sessions. It was hypothesized that Heartfulness meditation would bring increased alpha (8-12Hz) brain activity during meditation and better cognitive task scores in sessions where the tasks followed meditation. Results show that cognitive task scores were higher after meditation in both CRT and RAT, suggesting stronger right brain and left brain activation. Heartfulness meditation produces a significant decrease in brain activity (as indexed by higher levels of alpha) during the early stages of meditation. As the meditation progressed deep meditative state (as indexed by higher levels of delta) were observed until the end of the condition. This lead to the conclusion that Heartfulness Meditation produces a state that is clearly distinguishable from effortful problem solving.

**Keywords :** heartfulness meditation, neuroplasticity, brain activity, relaxation response

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