CHAPTER – 4

AIMS AND OBJECTIVES

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4.0 AIMS AND OBJECTIVES

To establish the impact of Cyclic Meditation on Creativity; Creative Cognition and Innovation and to attempt to understand its mechanism so as to promote and enhance Creativity. The primary aim of this study was to understand whether CM (Cyclic Meditation/CM) training can enhance the creativity in an individual and to use EEG to investigate whether frontal and parietal regions of the brain can have changes associated with the same.

In the first part of this study I aimed to study the impact of CM on the test of creativity (ATTA), i.e. during the first experiment. In the second experiment I aimed to measure frontal and parietal synchronization in the population of young adults using the 64 channels EEG and the (ATTA) tests of creativity.[201]

Based on the trend in the last 5 years [208] in the creativity and synchrony research, I expected a change in the brain wave i.e. gamma in the frontal and parietal regions of the brain, where the specialized and the domain knowledge is stored.[6]

Based on this foundation, my hypotheses were framed as below in section 4.3.

4.1 AIMS

i. To investigate influences of CM on Creativity and associated EEG synchrony.

ii. To evaluate any correlations between the two.

4.2 OBJECTIVES

1. To Measure Impact of Cyclic Meditation practice on ATTA Creativity Test
2. To follow associated changes in EEG synchrony
3. To identify any Correlations between these two sets of changes.
4. To compare these to any effects of *Shavasana* practice by controls.
5. To establish the impact of CM on Creative Cognition, in the young individuals.

4.3 RESEARCH QUESTION

Does Cyclic Meditation training influence the Creativity and the brain regions?
If so, what are the measurable influences?

4.4 HYPOTHESES

The hypotheses of the study were that:

1. Practice of CM will increase Creativity as measured by the 4 scales of the ATTA test.
2. Practice of CM will increase EEG synchrony between various regions of the brain.
3. There will be Positive Correlations between increases in Creativity and EEG synchrony.
4. Practice of CM will lower DMN activity, enhancing focus of attention and awareness

In more detail:
CM enhances wakeful awareness in turn enhancing the Attentional Network
This will then facilitate association between frontal and parietal regions of the brain
CM practice will promote a cognitive control state that drives divergent thinking.

4.4 NULL HYPOTHESES

The null hypothesis of the study was that:

1. There will be no increase in scores on any of the four scales of the ATTA creativity test.
2. There will be no improvement in EEG synchrony.
3. There will be no Correlations between changes in Creativity and EEG synchrony.
4. DMN activity will not be lowered.
5. CM does not enhance Wakeful Awareness, Attentional Network, or Divergent Thinking.
6. CM does not enhance association between frontal and parietal regions of the brain.

4.5 RATIONALE FOR THE STUDY

In the previous studies meditation has shown tremendous influence in the brain's electrical activity, and the brain wave shifts such as alpha, gamma and theta, increasing the creative cognition, mainly in the frontal, parietal and the occipital regions of the brain.[6,34,258].

Hence, in the present study I aimed to study the influence of the meditation technique innovated at SVYASA named Cyclic Meditation (CM) or Avaartan Dhyan.[72, 337]