

## Session 3: Mental effects of meditation

From the ability to concentrate stems increased mental clarity, a heightened ability to learn, mental strength, more grounding, and increased empathy (with the ability to remain detached). Several studies show meditators have an increased ability to prioritise and manage tasks, voluntarily focus on specific information, stay alert to the environment (these are three sub-components of attention). All these effects are linked to neuroplasticity of the human brain. Both the brain and the nervous system can change structurally and functionally under the influence of the signals from the environment. Meditation changes neural paths in the brain, which can result in a dramatic change in your outlook on life events.

“Your life is the creation of your mind” – The Buddha

In this session we have discussed the following concepts:

- 1. Concentration:** ability to concentrate can be learned and improved; major impact on all areas of life when we are able to stay focused. This leads to increased mental clarity, heightened ability to learn.
- 2. Concentration brings relaxation** – the narrowing of our focus of attention means disturbances die down and we naturally begin to relax.
- 3. Principal barrier to mindfulness** – lack of willingness to see things as they really are. Summon up the courage to see things as they really are. Just allow things to arise and pass, to resolve, letting them go. This process is deeply healing.
- 4. Neuroplasticity:** Development of the mind is possible, contrary to long-held beliefs.
- 5. Koans:** like spiritual questions, not solvable using your reasoning mind. Encourages unity, a oneness, a new way of problemsolving. Homework Practice koan meditation (Who am I?) once a day and note your experiences in your meditation diary. In addition, once a day when you're walking, slow down just little and bring your breath and your question to mind in the same way you do when you're sitting. See how it feels and record your experience.

### Key research studies on the effects of meditation on concentration:

**STUDY 1:** Jha & Baime, 2007, Cognitive, Affective, & Behavioral Neuroscience

<http://www.upenn.edu/pennnews/news/meditateto-concentrate-penn-researchers-demonstrateimproved-attention-mindfulness-training>

This study shows that even small doses of daily meditation improves focus and performance. It's the first study to examine how meditation may modify the three subcomponents of attention, including the ability to prioritize and manage tasks and goals, the ability to voluntarily focus on specific information and the ability to stay alert to the environment. Subjects were split into two categories:

- those new to mindfulness took part in an 8-week course with up to 30 mins of daily meditation.
- more experienced group attended an intensive one-month retreat.

Participants performed tasks at a computer that measured response speeds and accuracy. They found, even for beginners, meditation enhanced performance and the ability to focus attention. Performance-based measures of cognitive function demonstrated improvements in a matter of weeks. At the outset, experienced meditators demonstrated better executive functioning skills, the cognitive ability to voluntarily focus, manage tasks and prioritize goals. Upon completion of the eight-week training, participants new to meditation had greater improvement in their ability to quickly and accurately move and focus attention, a process known as "orienting." After the one-month intensive retreat, participants also improved their ability to keep attention "at the ready."

**Conclusion:** meditation, even as little as 30 minutes daily, may improve attention and focus

While practicing meditation may itself may not be relaxing or restful, the attention-performance improvements that come with practice may paradoxically allow us to be more relaxed. “attention-performance improvements that come with practice may paradoxically allow us to be more relaxed”!

This study suggests a new, non-medical means for improving focus and cognitive ability among disparate populations and has implications for workplace performance and learning.

## **STUDY 2: Zeidan et al., 2010, Consciousness and Cognition**

<http://www.sciencedaily.com/releases/2010/04/100414184220.htm>

In the past, neuro-imaging technology has shown that meditation techniques can promote significant changes in brain areas associated with concentration, but it was thought that the effect required extensive training to achieve.

However, according to the new research, the benefits may be achievable with much less effort. It suggests that the mind may be more easily trained to focus than we previously believed.

63 student volunteers divided into two groups, one with meditation training while the other listened to a book (J.R.R. Tolkien’s *The Hobbit*) being read aloud for equivalent periods of time.

Before and after meditation/reading sessions participants were given a battery of behavioural tests assessing mood, memory, visual attention, attention processing, and vigilance.

Both groups improved at the end of the experiment in measures of mood, but only the meditation group scored as much as 10 times better in cognitive measures. The meditation group scored as much as 10 times better on one challenging test that involved sustaining the ability to focus while holding other information in mind.

**Conclusion:** Participants who meditated for 20 minutes a day for four days showed an evident improvement in their critical cognition skills and performed significantly better in cognitive tests than a control group.

“The meditation group did especially better on all the cognitive tests that were timed,” “In tasks where participants had to process information under time constraints causing stress, the group briefly trained in mindfulness performed significantly better.”

Comparable to results that have been documented after far more extensive training – “shows the mind is easily changeable and highly influenced, especially by meditation.”

## **Homework**

Practice koan meditation (Who am I?) once a day and note your experiences in your meditation diary. In addition, once a day when you’re walking, slow down just little and bring your breath and your question to mind in the same way you do when you’re sitting. See how it feels and record your experience.

## **Koan meditation reminder:**

First finding your comfortable sitting position, with your stable triangular base, spine upright and erect, eyes lowered and either open or closed, hands in your lap, tongue relaxed.

As you relax, introduce your question. As you breathe out, asking yourself silently within, “who am I?”. Turning all your senses within. Listening, feeling, looking deeply within. Who are you?

Allowing all kinds of responses: memories, theories, words, images, sounds, to arise. Letting them all come, but know that you are more than any theory. Crystallising this question into a “ball of doubt”, or a ball of questioning, in your belly.

Staying steadily, breath-by-breath, with the question – it’s the door to enlightenment. The most important question a human can ever ask.