

## **The mindful eye: Smooth pursuit and saccadic eye movements in meditators and non-meditators**

### **ABSTRACT:**

#### **Background**

There is growing evidence for a positive effect of cultivated (i.e. developed through training) mindfulness on a range of cognitive functions. There are limited data at present examining the association between dispositional (trait) mindfulness, as measured in the general non-meditating population using self-report questionnaires, and cognitive function.

#### **Aim of the study**

To examine the effects of cultivated and dispositional (trait) mindfulness on smooth pursuit (SPEM) and anti-saccade (AS) tasks known to engage the fronto-parietal network implicated in attentional and motion detection processes, and the fronto-striatal network implicated in cognitive control, respectively.

#### **Method**

Sixty healthy men (19-59 years), of whom 30 were experienced mindfulness practitioners and 30 meditation-naïve, underwent infrared oculographic assessment of SPEM and AS performance. Trait mindfulness was assessed using the self-report Five Facet Mindfulness Questionnaire (FFMQ).

#### **Results**

Meditators, relative to meditation-naïve individuals, made significantly fewer catch-up and anticipatory saccades during the SPEM task, and had significantly lower intra-individual variability in gain and spatial error during the AS task. No SPEM or AS measure correlated significantly with FFMQ scores in meditation-naïve individuals.

#### **Conclusions**

Cultivated, but not dispositional, mindfulness is associated with improved attention and sensorimotor control as indexed by SPEM and AS tasks.

#### **Keywords**

Eye movements, Mindfulness, Attention, Inhibition

### **Published Work:**

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