Citation for published version


DOI

Link to record in KAR

http://kar.kent.ac.uk/56833/

Document Version

Presentation

Copyright & reuse
Content in the Kent Academic Repository is made available for research purposes. Unless otherwise stated all content is protected by copyright and in the absence of an open licence (eg Creative Commons), permissions for further reuse of content should be sought from the publisher, author or other copyright holder.

Versions of research
The version in the Kent Academic Repository may differ from the final published version. Users are advised to check http://kar.kent.ac.uk for the status of the paper. Users should always cite the published version of record.

Enquiries
For any further enquiries regarding the licence status of this document, please contact:
researchsupport@kent.ac.uk

If you believe this document infringes copyright then please contact the KAR admin team with the take-down information provided at http://kar.kent.ac.uk/contact.html
Do 8-minute Meditations Help You Stay Alert?
The Effects of Longitudinal Short Meditation Interventions on the Cognitive Alerting Network.

Zaffie Cox & Dinkar Sharma

1. Introduction
- Mindfulness meditation: Training to increase non-judgmental awareness in the present moment.
- Believed to work by training cognitive processes such as the attentional networks
- Relatively little research on the cognitive effects of mindfulness
- Understanding these effects could lead to more targeted uses
- The alerting network: the individual’s readiness for a stimulus to appear
- Differences have been found in long-term meditators but not in short-term interventions (Tang, Hölzel, & Posner, 2015).

2. Method
- 57 meditation-novices.
- Three different 8-minute interventions:
  - Meditation
  - Colouring (active control) and a nature Video (control)
- Mindfulness measured using MAAS State
- Alerting was measured using the Attention Network Test (ANT).
- A modified flanker task
- Four cueing conditions
- An ANT with alternative stimuli was used to control for stimulus learning (ANT) Filtered by reported extra mindfulness practice:
- Alerting scores (session 1 & 9) show a two-way interaction by session and intervention,
  \( F(2, 29)=3.89; p=0.05, \eta^2_p=.104 \)
- Effects were not found in the ANT

3. Results

<table>
<thead>
<tr>
<th>Session</th>
<th>Video</th>
<th>Meditation</th>
<th>Colouring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>48.76</td>
<td>46.93</td>
<td>51.00</td>
</tr>
<tr>
<td>9</td>
<td>78.82</td>
<td>54.18</td>
<td>61.68</td>
</tr>
</tbody>
</table>

   Alerting (ANT)
   - Mean ‘double cue’ RTs - Mean ‘no cue’ RTs.
   - Alerting scores of session 1 & 9 show a two-way interaction by session and intervention, \( F(2, 29)=3.13; p=0.05, \eta^2_p=.212 \)
   - Video group show increased alerting scores
   - Effects not found in the ANT

   State Mindfulness Scores
   - There was a two-way interaction by session, post intervention and intervention,
     \( F(2, 29)=3.89; p=0.05, \eta^2_p=.212 \)
   - Effects were not found in the ANT

4. Discussion
- Alerting may be manipulated over only a few short sessions
- Colouring conditions showed similar effects to Meditation
- Unclear which element(s) of the two tasks created similar effects
- Findings converge with previous studies (MacLean et al., 2010)
- Mindfulness can help you stay alert (improve sustained voluntary attention)
- Effects may not have been found in the ANT with alternative stimuli as the effects of the intervention may not have lasted that long

5. Where Next?
- Break down the Colouring condition
  - Splitting the elements of the Colouring task should help to identify the elements that are leading to maintained alerting scores
  - These could then be compared to mindfulness Meditation

Want to give colouring a go?
Here’s what to do: first grab a pattern...
Sit comfortably & allow yourself to focus on the pattern.
Move your focus to the lowest point of the pattern.
Slowly spread your awareness up the pattern, until the whole pattern is in your awareness.
Pick an area and start to colour...

Zaffie Cox
zecj@kent.ac.uk
University of Kent

Dinkar Sharma
d.sharma@kent.ac.uk
University of Kent

References