Neurocognitive Enhancement: Mindfulness Practices Applied to Management

Irene Venturella (Catholic University of the Sacred Heart, Milan), Davide Crivelli (Catholic University of the Sacred Heart, Milan), Giulia Fronda (Catholic University of the Sacred Heart, Milan) and Michela Balconi (Catholic University of the Sacred Heart, Milan)

Managerial world is usually characterized by environmental and performance distress. A longlasting distress often brings to maladaptive organism's coping, which may in turns influence mental and cognitive abilities. Mindfulness practices could help managers to enhance peak performance and to manage emotional, behavioral and interpersonal aspects of their daily living by training awareness of bodily and automatic affective reactions (Balconi, Fronda, Venturella, & Crivelli, 2017; Tang et al., 2007). The aim of the present research was to study the potential impact of an intensive empowerment intervention, based on awareness practices and supported by a wearable brain sensing device, on psychological, neuropsychological, cognitive profiles and on stress levels in a professional management context. A sample of 16 managers took part to the experiment and it was assessed at the start, at the middle and at the end of the training. Neuropsychological and cognitive performance measures, psychometric measures of stress management, and restingstate/task-related electrophysiological indices (electroencephalography and biofeedback) were collected. Managers carried out a 14-days training, which consisted of daily practices based on focusing on breathing and related bodily sensations. During the training, duration of practices was gradually increased starting from 10 minutes to 20 minutes per day. Electrophysiological measures highlighted an increased alpha/beta index, suggesting a balance between relaxation and activation. In addition, increased alpha blocking measures allowed to infer heightened responsiveness and reactivity of the system. These findings of the training effect were supported by greater focus and control of arousal gained by managers also in a stressful condition. This could be seen in the increase of the heart rate variability index. The intervention seemed then to be useful in enhancing fundamental managerial skills with higher executive control and inhibition processes, decrease of clear perceived stress levels and slight decrease of anxiety levels. These encouraging results could find interesting further implications for stress prevention to others applied fields.

References

- Balconi M., Fronda G., Venturella I., Crivelli D. (2017). Conscious, pre-conscious and unconscious mechanisms in emotional behaviour. Some applications to the mindfulness approach with wearable devices. *Applied Sciences*, 7, 1280
- Tang, Y.-Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., … Posner, M. I. (2007). Short-term meditation training improves attention and self-regulation. *Proceedings of the National Academy of Sciences*, 104(43), 17152–17156.