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The effects of Mindful Movement on emotional and neurophysiological well-being

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As we are immersed in exponentially growing external technological development, internal tools and neuroplasticity may help us to better cope with induced stress. In fact, through training, the brain can undergo neuroplasticity, which in turn can advance emotional and cognitive state. Neuroimaging and electrophysiological studies have consistently demonstrated that training, such as mindfulness practices, can modify the White Matter (WM) pathways and functional connectivity, thus improving mental well-being. Yet, only few investigations examined the effects of whole-body mindful movement practices on WM architecture and the possible relation between WM and behavioral changes. Recently, a new whole-body mindful movement paradigm, the Quadrato Motor Training (QMT) was developed with the aim of enhancing attention, coordination, creativity and self-awareness. QMT was found to enhance WM pathways related to cognitive and emotional well-being, as well as to increase creativity, self-efficacy and emotion regulation. QMT was further found to increase reflectivity and reduce impulsivity and automatic responses, as it requires the ability to wait for the coming command in an attentive way. QMT was also linked to improved coordination and attention, in contrast to two control groups. Together, the current results support the usefulness of integrating mindful movement training such as the QMT across the lifespan and suggest that it may help in enhancing cognitive functions and well-being.

Biography

Tal Dotan Ben-Soussan is the Director of Neuroscientific Research Unit of the Patrizio Paoletti Foundation, Italy. She leads studies examining the effects of sensorimotor and contemplative training paradigms on neuroplasticity, cognition and well-being. Her multidisciplinary approach utilizes electrophysiological, neuroanatomical and molecular tools to examine the underlying mechanisms mediating cognitive and emotional change. Her pioneering work on the Quadrato Motor Training has demonstrated that specifically-structured sensorimotor activity can improve neuronal functions, as well as enhance creativity, reflectivity and spatial cognition.

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