Neuroempowerment for age management in high-level professional contexts: a comparison of junior and senior managers

The progressive aging of population is clearly associated with the systematic shift in employment quotas in favour of senior professionals (EUROSTAT, 2022). These changes have raised new challenges for the maintenance of performance and well-being at the workplace, especially at the light of increased attention to sustainability and positive lifestyles. In the context of age management, recent studies have shown the effectiveness of neurofeedback protocols on stress reduction and mental efficiency in professionals (Balconi et al., 2019, 2020; Crivelli et al., 2019). Yet, the potential role of age in modulating the efficacy of such protocols is underinvestigated. The present study aimed at exploring age-dependent effects of a neurofeedback-based neuroempowerment protocol by comparing its outcomes in junior and senior managers. 10 junior managers (JM, M-age=35.3) and 15 senior managers (SM, M-age=46.7) took part in the study and completed a 4-week intensive neuroempowerment protocol based on embodied awareness practices and wearable neurofeedback. Pre/post-training multimethod assessment focused on: perceived stress, mood, and self-awareness; neurocognitive tests; and electrophysiological (event-related potentials - ERP) markers of neurocognitive efficiency and orientation of neural resources. Data analysis highlighted, after training, a reduction of perceived stress in both JM and SM, paired with decreased anger and mental fatigue in the SM group. Both groups showed increased performance at a standardized cognitive flexibility task, greater in SM, as well as decreased response times at computerized Stroop task. As for ERP markers of neurocognitive efficiency, we observed a reduction of latency for the N2 component in SM and an increase of its amplitude in JM. Present finding, besides further corroborating the potential of intensive neuroempowerment protocols as preventive approaches to age management even in high-level professionals, suggests slightly different effects and training trajectories depending on trainee's age, consistent with lifespan neural adaptation and models of aging (Cabeza & Dennis, 2013; Gutchess, 2014).

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