The influence of human distractors with different desk position configurations in a sharing office on the performance of tasks requiring attention and creativity

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I. EXTENDED ABSTRACT

Performance and productivity of the task requiring creativity and attention are likely affected by distractors (e.g., people) and noises (e.g., clock ticking or phone ring sound) from surroundings, particularly in a sharing office. However, its behavioral and neurophysiological influences are not clearly investigated yet. Further, it is assumed that personal interactions and degree of distractions might be modulated by the configurations of desk position. Thus, the aim of the current study was to assess the influence of human distractors in different desk position configurations on task performance. 40 participants were instructed to perform two cognitive tasks requiring attention or creativity, while another person is working in various desk positions with reference to the desk position of the participant in the same office. During the cognitive task, their EEGs were recorded using a portable, EEG device. The influences of human distractors will be examined by gender and big five personality (i.e., openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism). Power spectrum and entropy of the EEG were estimated to investigate potential relationship between the degree of distractions and neurophysiological changes. We demonstrated that the desk positions of coworkers significantly influence performances of both tasks requiring attention or creativity. Further, the power spectral profiles are quite different depending on the desk position. We suggest that neuroarchitectural investigation can provide with an insight into the most suitable positional configurations of desks in the office depending on the goal or style of job in a corporate.

Keywords: distractions, creativity, attention, desk position, EEG