OPP: DEMENTIA & TECHNOLOGY

The relationship between neurocognitive impairment, technology experience, and mobile device proficiency: A cross-sectional exploratory study in older adults

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Purpose To explore the technological experience and competence with mobile devices in a group of older adults from the province of Quebec, Canada. Understanding current use of technology can help researchers, scientists, clinicians, and the industry to promote their use among dyads of family caregivers and older adults with unimpaired cognition (Moreno et al., 2024a) and individuals with dementia (Moreno et al., 2024b). **Method** A total of 194 older adults were recruited from the CIMA-Q study (Consortium for the Early Identification of Alzheimer's Disease – Quebec, Belleville et al., 2019). They were mostly women (62.9%), with university degrees (56.2%), and a mean age of 65.4 (SD=5.9) years. The sample included individuals with different degrees of cognitive functioning with an average Montreal Cognitive Assessment (MoCA) score of 25.7 (SD = 3.5, range = 7 - 30). The group included people with a confirmed clinical diagnosis of normal cognition or neurocognitive impairment by expert physicians or a memory clinic as follows: a) Unimpaired cognition (n = 12), b) Subjective cognitive decline without dementia (n = 120), c) Mild Cognitive Impairment (n = 59), and d) Major Neurocognitive Disorders (n = 3). Measures included the Technology Experience Profile (TEP) and the Mobile Device Proficiency Questionnaire – Short Form (MDPQ). **Results and Discussion** MoCA scores were inversely associated with age (r = -3.8, p < .01), but positively associated with technological experience (r = 3.7, p < .01) and mobile device proficiency (r = 3.5, p < .01). Age was negatively associated with technological experience (r = -3.8, p < .01) and mobile device proficiency (r = -4.8, p < .01). Although they are medium correlations, the visual representation indicates that mobile device proficiency seems to be more affected by cognitive impairment than technology experience (Figure 1). Older adults with subjective or objective cognitive impairment report using technologies less frequently and mention more difficulties using mobile devices. AgeTech solutions must adapt technologies to effectively respond to the challenges that older adults may encounter when their cognition is subjectively or objectively affected. As such, flexibility and personalization are key issues when designing technologies for older adults.
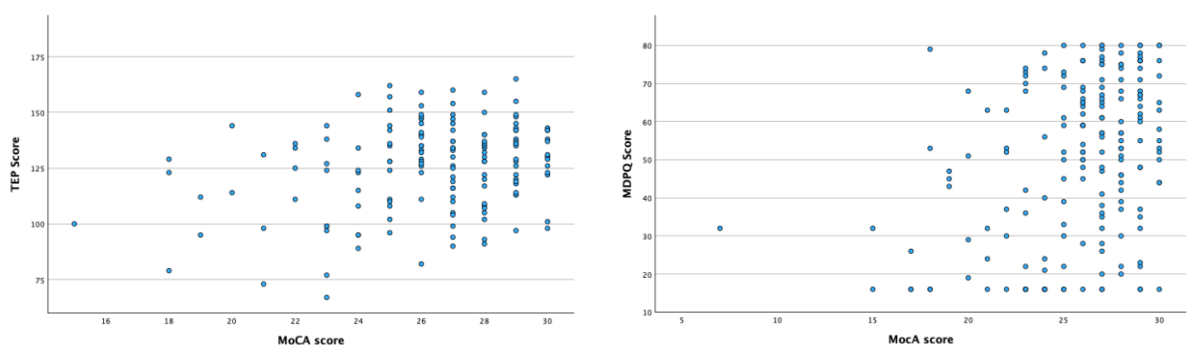
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a) Technology Experience Profile and Cognition

b) Mobile Device Proficiency Questionnaire – Short Form and Cognition

Figure 1. Scatterplots between Cognitive Performance (MoCA Scores), the Technology Experience Profile (TEP), and the Mobile Device Proficiency Questionnaire – Short Form (MDPQ)