

Aging and Disability

Examining technology adoption and ongoing use by older Australians with mild cognitive impairment S. B. Schmidt, B. John, R. Subramanian, S. Isbel, N. M. D'Cunha. *Gerontechnology* 25(s)

Purpose Mild cognitive impairment (MCI) results in decline in one or more cognitive domains greater than expected for a person's age and education. Incidence of MCI is increasing, and up to 20% of people aged over 65 in Australia may have MCI [1]. Gerontechnology could support independent living and reduce pressure on already extended health services, however use of digital health solutions is lower for older than younger people [2], so it is vital we increase understanding of factors which motivate adoption and ongoing use of technology by older Australians with MCI. Classic models of technology adoption [3, 4] highlight the importance of usefulness and ease of use, and the Model for Adoption of Technology by Older Adults (MATOA) [5] specifically considers older users. These models provide important foundations; however, they do not consider cognitive impairment, or changes over time [6-9]. The aim of this research is to explore technology adoption from a temporal perspective to identify motivators across the entire usage lifecycle. This will expand understanding of factors which impact adoption and ongoing use of technology, by older Australians with MCI, and whether these differ. **Method** A qualitative study design and semi-structured interviews with people over 65 living in the Australian Capital Territory (n=12) were used to collect data about (i) needs, (ii) technology use, (iii) preferred devices and interaction, and (iv) challenges. Participants were sourced using non-random, purposeful, convenience sampling, and individual interviews up to one hour were conducted between July 22 and August 15, 2025. Interviews were face-to-face, recorded, and transcribed verbatim. Data were analysed and coded using a 'bottom-up', inductive, reflexive, thematic analysis approach with both semantic and latent coding [10]. **Results and Discussion** Results indicate most older Australians with MCI are not interested in technology, however they own multiple devices, with a mobile phone being the most common. Interaction mode is dependent on task and context, with voice and touch being popular. Multimodal solutions are preferred for convenience and flexibility. Findings suggest there are similarities and differences between factors which motivate initial adoption and those which motivate sustained use. In particular, (i) results support adoption factors identified by MATOA and propose addition of Cost as a factor for adoption, (ii) need and perceived ease of use motivate adoption, (iii) need, actual ease of use, positive first impressions (satisfaction), and high frequency of use (to form habits), motivate ongoing use, (iv) IT literacy is an enabler for adoption and ongoing use, and (v) technology change is a disabler for both IT literacy and ongoing use. The Protection Motivation Theory [11] can be used to explain why older Australians with MCI expend effort to become IT literate even though interest levels are low. They associate technology with independence and quality of life, and are motivated by a threat and fear their standard of living will deteriorate. Constant technology change makes solutions unpredictable, and reduces confidence and perception of IT literacy. Cognitive decline makes learning and retaining new information harder, and technology becomes harder to use. Technology change has a negative impact on Coping Appraisal by reducing perception of Response Efficacy and Self-efficacy, and increasing perception of Response Costs. Changes must be managed thoughtfully with older users with cognitive impairments in mind, to maximise adoption and ongoing use by this population.

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