



**Karolinska
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Institutionen för Neurobiologi, Vårdvetenskap och Samhälle

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MANAGING TECHNOLOGY IN EVERYDAY ACTIVITIES

**A study of older adults with dementia, MCI, and
no cognitive impairment**

AKADEMISK AVHANDLING

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ABSTRACT

The general aim of this thesis was to generate new knowledge of the ability to manage technology in everyday life activities among older adults with or without cognitive impairment, how this ability can be assessed, and how knowledge of this can be translated into healthcare practice.

In **Study I** the psychometric properties of the Management of Everyday Technology Assessment (META) were investigated using a Rasch rating scale model. The META is used to assess the ability to manage everyday technology (ET) in older adults with and without cognitive impairment. In **Study II** the ability to manage ET, assessed with the META, was compared among three groups of older adults using ANCOVA. The groups included persons with mild Alzheimer's disease (AD), mild cognitive impairment (MCI), and no known cognitive impairment. Furthermore, in **Study III**, aspects that could influence the ability to manage ET in a sample of older adults with or without cognitive impairment were investigated using ANOVA. In **Study IV**, the applicability of a model with the intention to support healthcare professionals to advice and support technology use among older adults with dementia was investigated using a qualitative, constant comparative approach. The model included a one-day course, clinical tools, and interviews (focus group discussions and individual telephone interviews) during and after a period of clinical tryout.

The findings in **Study I** indicated that the META demonstrated acceptable person response validity and ET goodness-of-fit. The META could separate individuals with higher ability from individuals with lower ability to manage ET. **Study II** showed significant differences in ability to manage ET between all three groups. Persons with mild AD demonstrated the lowest ability, followed by persons with MCI and older adults with no known cognitive impairment. However, there were overlaps between the groups in ability to manage ET. In **Study III** three aspects that significantly influenced the ability to manage ET were found: variation in the intrapersonal capacities, central tendency in the environmental characteristics, and the diagnostic group. **Study IV** revealed that the healthcare professionals had had more focus on assistive technology than on ET. The model gave them an eye-opening experience of ET use among persons with dementia. They also described how they had incorporated the knowledge and tools in the model as a new way of thinking to support and inspire new investigations and to support collaboration. The model seemed to be an applicable way to translate knowledge produced in research into utilization in clinical practice.

This thesis contributed new knowledge about the ability to manage ET in older adults, particularly those with mild AD or MCI. The thesis also contributed important knowledge about aspects that influence the ability to manage ET, and this may have consequences for assessments and support of the ability to manage ET. Additionally, the findings indicated that the META is an assessment that generates valid measures of the ability to manage ET. The detailed information of the ability to manage ET gained from the META may be applied by researchers and clinicians. The thesis provided an applicable model of how research knowledge about technology use among older adults can be translated into clinical practice, and how this model can be used by healthcare professionals to support the ability to use ET for persons with dementia.

Key words: Alzheimer's disease, assistive technology, everyday technology, grounded theory, healthcare professionals, IADL, mild cognitive impairment, occupational therapy, older adults, Rasch measurement model

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