Skill clusters of ability to manage everyday technology among people with and without cognitive impairment, dementia and acquired brain injury

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Introduction: In order to develop supporting interventions for people demonstrating problems in use of everyday technology (ET) use (e.g. coffeemakers, computers, and ticket machines), a detailed level of description of strengths and deficits is needed.

Objectives: To explore clusters of specific performance skills required when using ET, and to evaluate if and in what way such clusters are associated with age, gender, diagnosis, and types of ETs managed.

Method: A secondary analysis of 661 data records of assessments with the Management of Everyday Technology Assessment of 203 participants divided into four different diagnostic groups (I) older adults without known cognitive impairment, persons with (II) mild cognitive impairment, MCI (III) Alzheimer's disease, AD or (IV) acquired brain injury, ABI was performed. Ward's method and a hierarchical tree cluster analysis were used to determine and define the skill clusters.

Results: Four distinct clusters of performance skill item profiles were found, across the 661 data records. These were then, based on each individuals' cluster profiles in ET use, categorized into two groups (1: minimal/no problems in ET use and 2: more pronounced problems in ET use). The two groups were associated with diagnosis, a relatively higher proportion of people with AD, MCI, and ABI was found in Group 2. Also, the two groups were associated with type of ETs used.

Conclusion: The findings support a more dyadic person-ET approach in evaluation of ET management. The information from the skill clusters can be used to develop targeted intervention guides for occupational therapy and healthcare.