

# Can everyday technology use predict need of assistance in daily life among older adults with mild cognitive impairment or mild-stage Alzheimer's disease?

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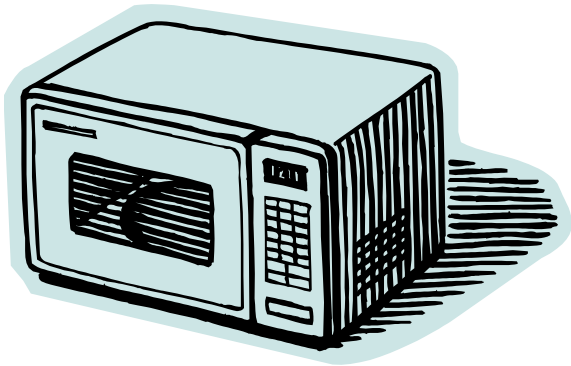
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# Introduction

- The number of older adults living with cognitive impairments increases.
- Many of them are diagnosed with Alzheimers Disease (AD) or mild cognitive impairment (MCI)
  - Individuals with dementia due to AD – ability to perform daily life activities is limited.
  - Individuals with MCI – expected to be independent in daily life but many have difficulties with more complex activities, e.g. handling finances or using technology
- Despite limited ability to manage daily life activities they are often expected to manage without support.

- Increased complexity and use of everyday technology has facilitated the performance of many daily life activities but also made them more demanding.
- To use everyday technology is extra challenging for older adults with MCI or mild-stage AD.



Number of/Measure(logits)		<more amount of relevant ET/higher ability>		
72				+
71				+
70				+
69	X			+
68	XX			+
67	X			+
66	XXX			+
65	X			+
64	XXX	X		+
63	XX	X		+
62	X	XX		+
61	XX	XX		+
60	XXXX	XXX		+
59		XX		+
58	X	X	X	+
57	XXXXX	XXXX	X	+
56	XXXX	XXX	XXX	+
55	XXXXXXX	XXXXXX	XXXX	+
54	XXXX	X	XXX	+
53	XXX	XXXX	X	+
52	X	XXXXX	XX	+
51	X	X	X	+
50	X	X	XX	+
49	X	XX	XXXXXXXX	+
48	X	XX	XX	+
47		X	XXX	+
46		X	X	+
45			XXX	+
44			XX	+
43			X	+
41			X	+
40				+
39				+
38				+
37				+
36				+
				<less amount of relevant ET/lower ability>

Without  
cognitive  
impairments

MCI

Mild AD

- Both amount of everyday technologies perceived as relevant and perceived ability to use them has proven to separate groups of older adults without cognitive impairment from groups of older adults with MCI or mild-stage AD.
- Perceived ability to use ET is significantly associated to the ability to perform ADL and to engagement in social activities and IADL among older adults with MCI or mild-stage AD.
  
- Aim: To investigate if the amount of everyday technologies perceived as relevant and perceived ability to use these has potential to predict level of needed assistance in daily life among older adults with MCI or mild stage AD

# Participants

- N: 67
- Mean age: 76
- 34 males, 33 females
- 39 with mild-stage AD, 28 with MCI

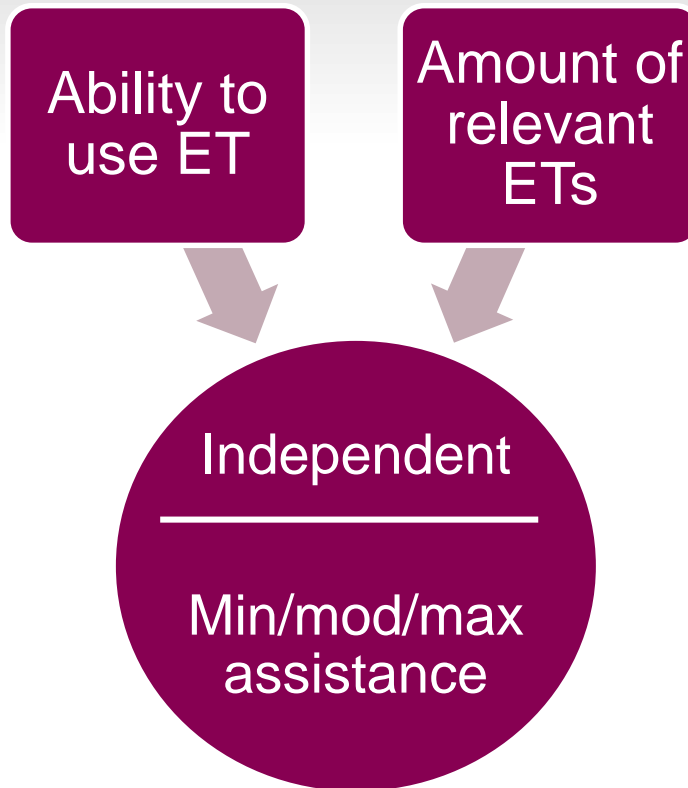
# Assessments

- **The Everyday Technology Use Questionnaire**
  - Interview instrument
  - Generates measures of amount of everyday technologies perceived as relevant and perceived ability to use these.
  - Amount of ETs perceived as relevant:  $M=16.4$ ,  $SD=4.4$
  - Perceived ability to use ET (ordinal scales transformed to linear measures by rasch analysis):  $M=53.3$ ,  $SD=5.9$
  
- **Estimation of needed assistance**
  - Based on all available information
  - Rated on a three step scale:
    - Independent,  $n=9$
    - need of minimal assistance,  $n=52$
    - need of moderate to maximal assistance,  $n=6$

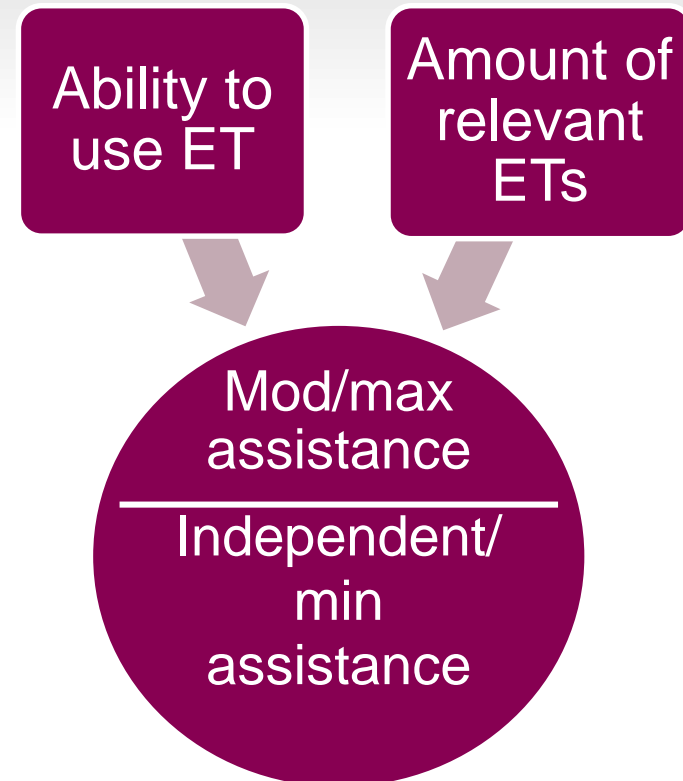
# Analysis

Two logistic regression models

**Model 1**

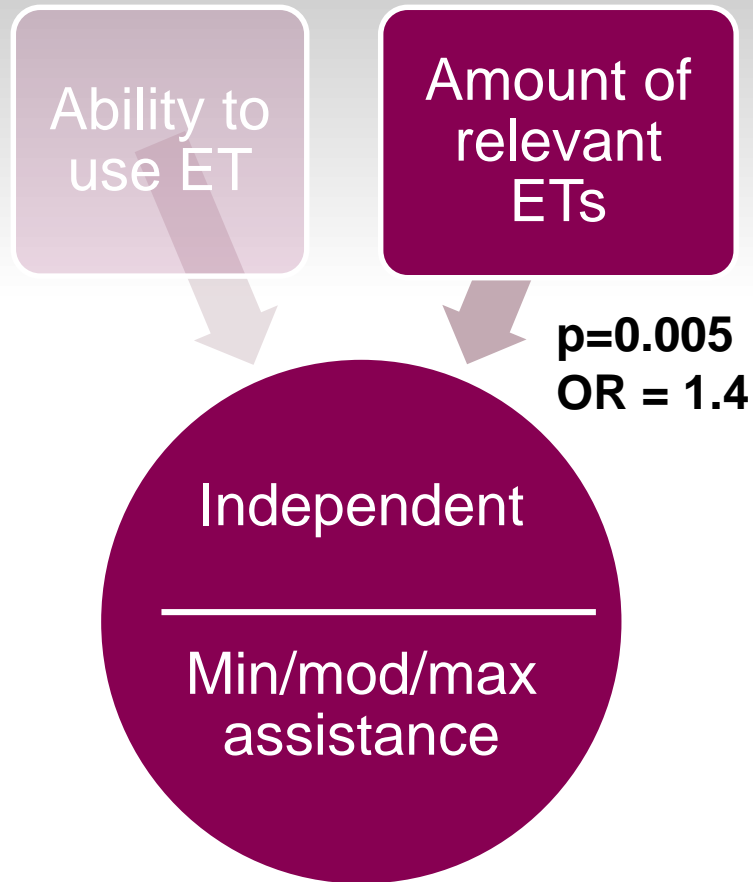


**Model 2**

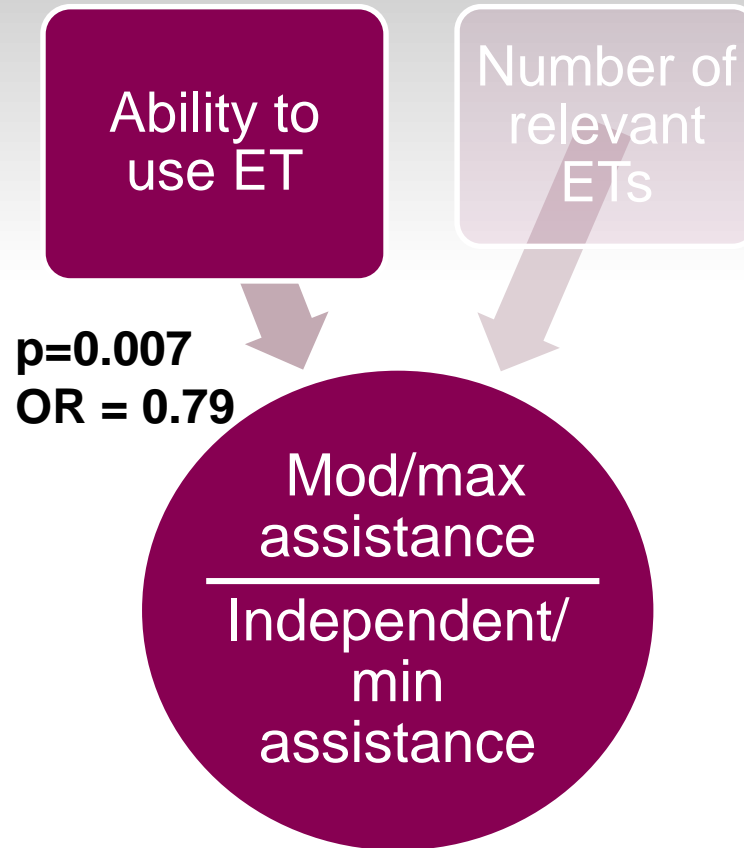




# Model 1



## Model 2



# Conclusion

- Both amount of everyday technologies perceived as relevant and perceived ability to use these had potential to predict level of needed assistance among the participants but in different ways.
- Having a low amount of everyday technologies perceived as relevant was an indication of need of assistance but a high amount was not a strong indication of independence.
- Having a high perceived ability to use everyday technology was an indication of no or minimal need of assistance but a low perceived ability to use everyday technology was not a strong indication of more extensive need of assistance.

- To develop cut-off criteria studies with more participants that has a greater variety in level of needed assistance is needed.
- The relationship between use of ET and daily life activities is complex and also needs to be explored with other methodological approaches eg. qualitative.

# Thank you for your attention!

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