



Relationship Between Everyday Health Information Literacy and Attitudes Towards Mobile Technology Among Older People

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“Grey” digital divide



Aging populations and age related digital divide are fundamental European-wide challenges (Niehaves & Plattfaut 2014).

“Grey” digital divide is not only caused by lack of access (first level digital divide) but by lack of use (second level digital divide).

In Finland, elderly people are relatively tech-savvy.



Everyday health information literacy (EHIL)

According the Medical Library Association (MLA) Health information literacy (HIL):

'the set of abilities needed to recognize a health information need, identify likely information sources and use them to retrieve relevant information, assess the quality of the information and its applicability to a specific situation, and analyze, understand, and use the information to make good health decisions'. (Shipman et al. 2009)

The idea of everyday health information literacy (EHIL) puts HIL in everyday life contexts (Niemelä et al. 2012) -> EHIL screening tool.



Advanced mobile information technology (AMIT)

Smartphones and tablet computers can be seen as advanced mobile information technology from the older adults perspective.

In order to benefit from these technologies in e-health services, people need competencies in finding, evaluating, and understanding health-related information in varying everyday life situations, i.e., abilities relating to EHIL.



How does everyday health information literacy relate to

- a) use of “traditional” information technology,
- b) use of advanced mobile information technology, and
- c) opinions about advanced mobile information technology among older people?



Random population-based study

A questionnaire was mailed to a random sample of 1500 subjects over 65 years old inhabitants of Oulu region in the beginning of November 2014.

Receivers were identified and randomized from the Finnish Population Register Centre.

17 page questionnaire survey included questions relating, for example, to self-estimated health status, physical activity, health information behaviour, EHIL and use of ICT.



Questions on EHIL and AMIT

4-item EHIL-screening tool – motivation, evaluation, authority and terminology (Niemelä et al. 2012).

Questions on opinions towards mobile technology (based on the constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al. 2003).

EHIL: two groups based on whether the respondent perceived problems in the area of everyday health information literacy.

an exploratory factor analysis: three dimensions with four questions each.

- 1) opinions on mobile information technology,**
- 2) mobile information technology use,**
and
- 3) “traditional” information technology use.**

Sum variables were formed accordingly.



The total response rate was 61.2% (n=918)

Mean age of the final study population was 73.4 (SD 6.8) and 57.5% were females.

Data were analysed statistically

- descriptive analyses
- cross-tabulation with Pearson's chi-squared test

The data were analyzed by using the software package SPSS 21 for Windows.



Results



EHIL

67% (n=590) agreed that they like to get health information from variety of sources (*Motivation*)

28% (n=234) agreed that 'It is easy to assess the reliability of health information from the Internet' (*Evaluation*)

60% (n=526) agreed that 'It is difficult to know who to believe in health issues' (*Authority*)

58% (n=510) thought that terms and sentences of health information are difficult to understand (*Terminology*)

25% had used tablet computer in the last 12 months.

31% had used a smartphone in the last 12 months.

Almost half of the respondents had at least some positive opinions about mobile information technology in that they are interested in it (43%), consider it beneficial (40%), necessary (34%), or easy to use (26%).

See more in Enwald et al.
(2016)



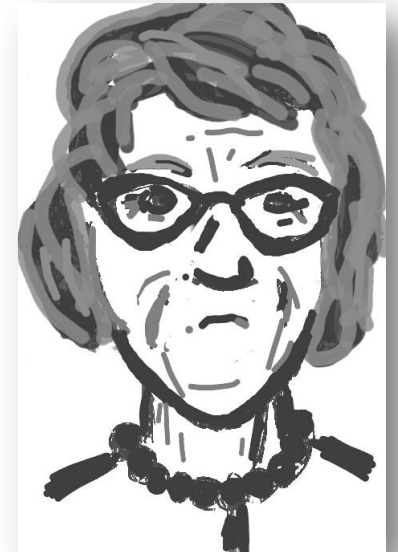
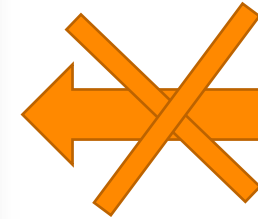
USAGE OF TRADITIONAL AND ADVANCED MOBILE INFORMATION TECHNOLOGY



Elderly who were confident in their abilities in evaluating online health information, determining who to believe in health issues and understanding health related terminology were more likely to use traditional and advanced mobile information technology than those who were unsure of their abilities (p-values $<.01$).



OPINIONS ABOUT MOBILE INFORMATION TECHNOLOGY



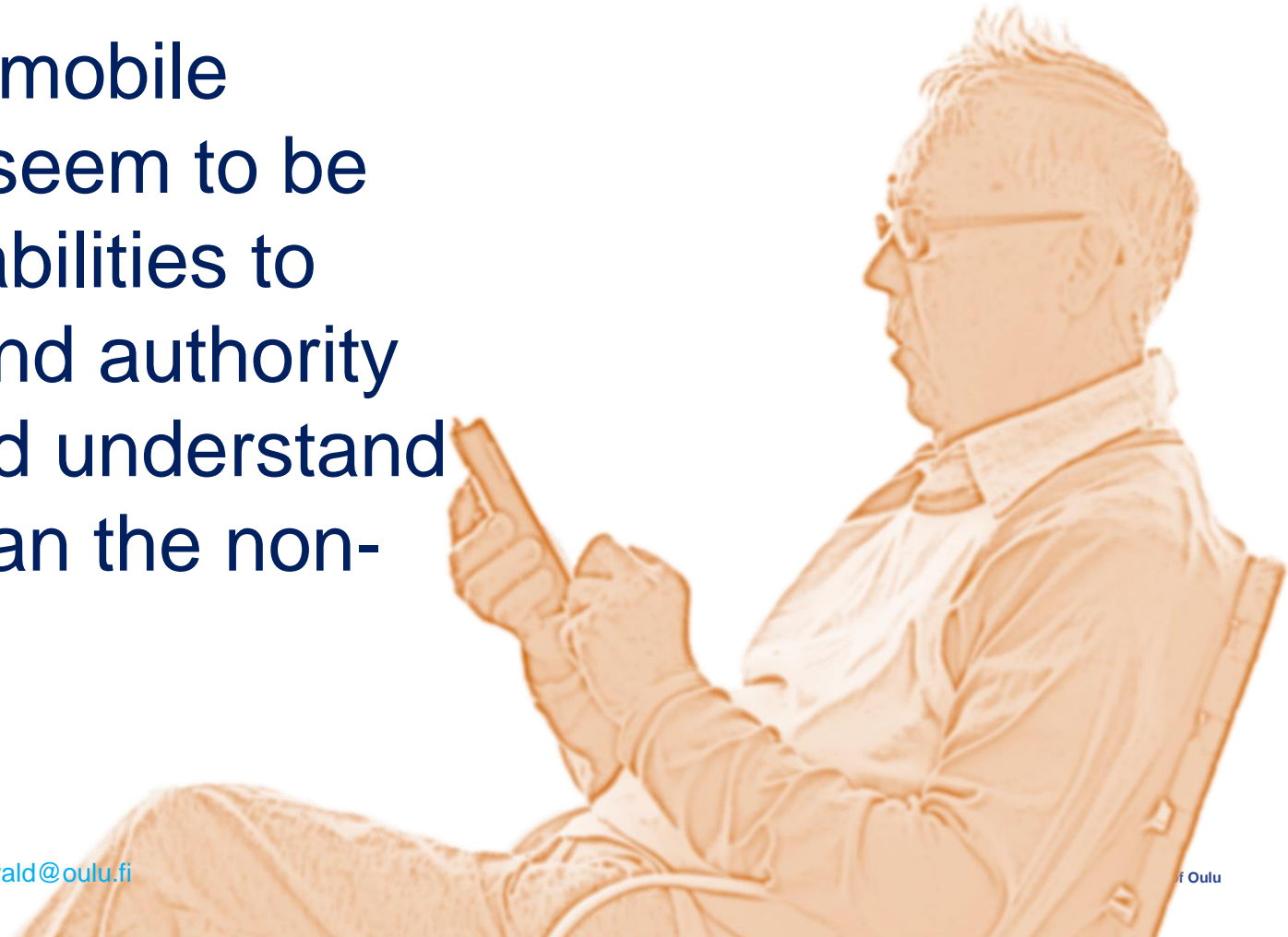
Elderly who were confident in their abilities relating all four aspects of EHIL were more likely to have positive opinion about mobile information technology than those who were unsure (p-values $<.003$).



Discussion



Perceived problems in EHIL are linked to technology use:
Users of traditional and mobile information technology seem to be more confident in their abilities to evaluate the reliability and authority of health information and understand the used terminology than the non-users.





PRACTICAL IMPLICATIONS

Older people with different levels of EHIL and utilization rate of advanced mobile information technology should be included in designing e-health services.

Results should be utilized by decision-makers and software designers in digitalization of services, for example, through tailoring health contents to better match the users' competencies and preferences.



STRENGTHS

- Large random population-based study
- High response rate
- Confounding factors that may influence both EHIL and advanced mobile technology use were not taken into account in this study.

LIMITATIONS

- Based on self-report
- Simple set of questions



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THANK YOU! ANY QUESTIONS!

This study is a part of...

- HIBA project, that focuses on taking health information behaviour into account in successful implementation of consumer health technologies on older adults (funded by Academy of Finland, 2015-2019)
- &
- Gamified Services for Elderly (GASEL) project, that examined the requirements for tailored and gamified e-health services in promoting wellbeing and health of older adults (funded by Tekes, the Finnish Funding Agency for Innovation, 2014-2016).

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