Testing for Older Users: Engagement, Acceptability, and Value

RCCN Workshop: AI and Health Behaviors for Healthy Aging

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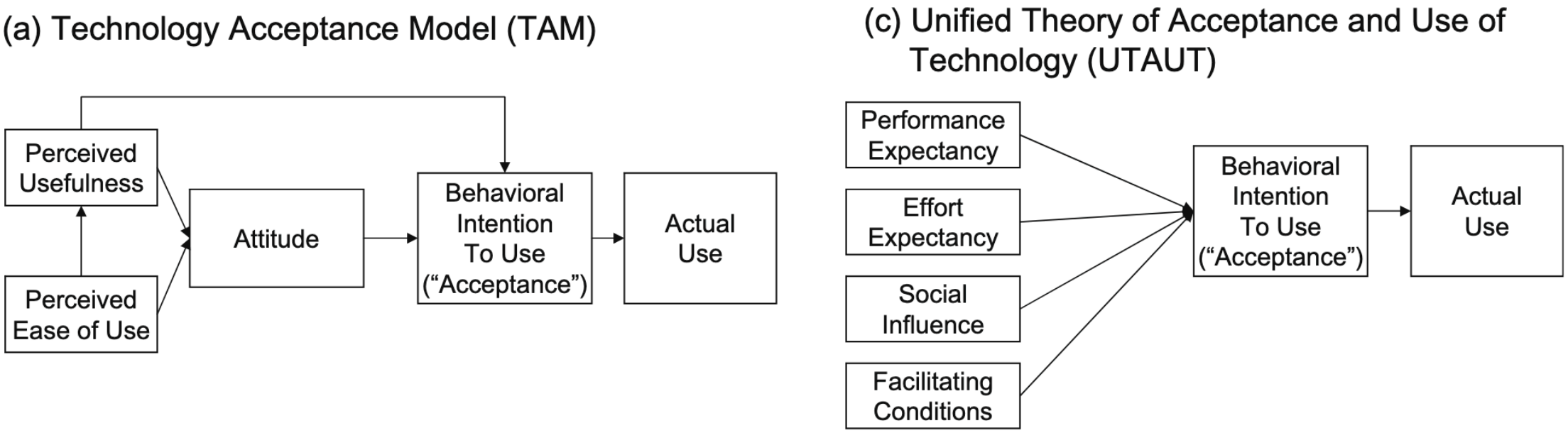


Figure from Holden & Karsh (2010). The technology acceptance model: its past and its future in health care. *JBI.*

Perceived usefulness and ease of use impact older adults' technology acceptance

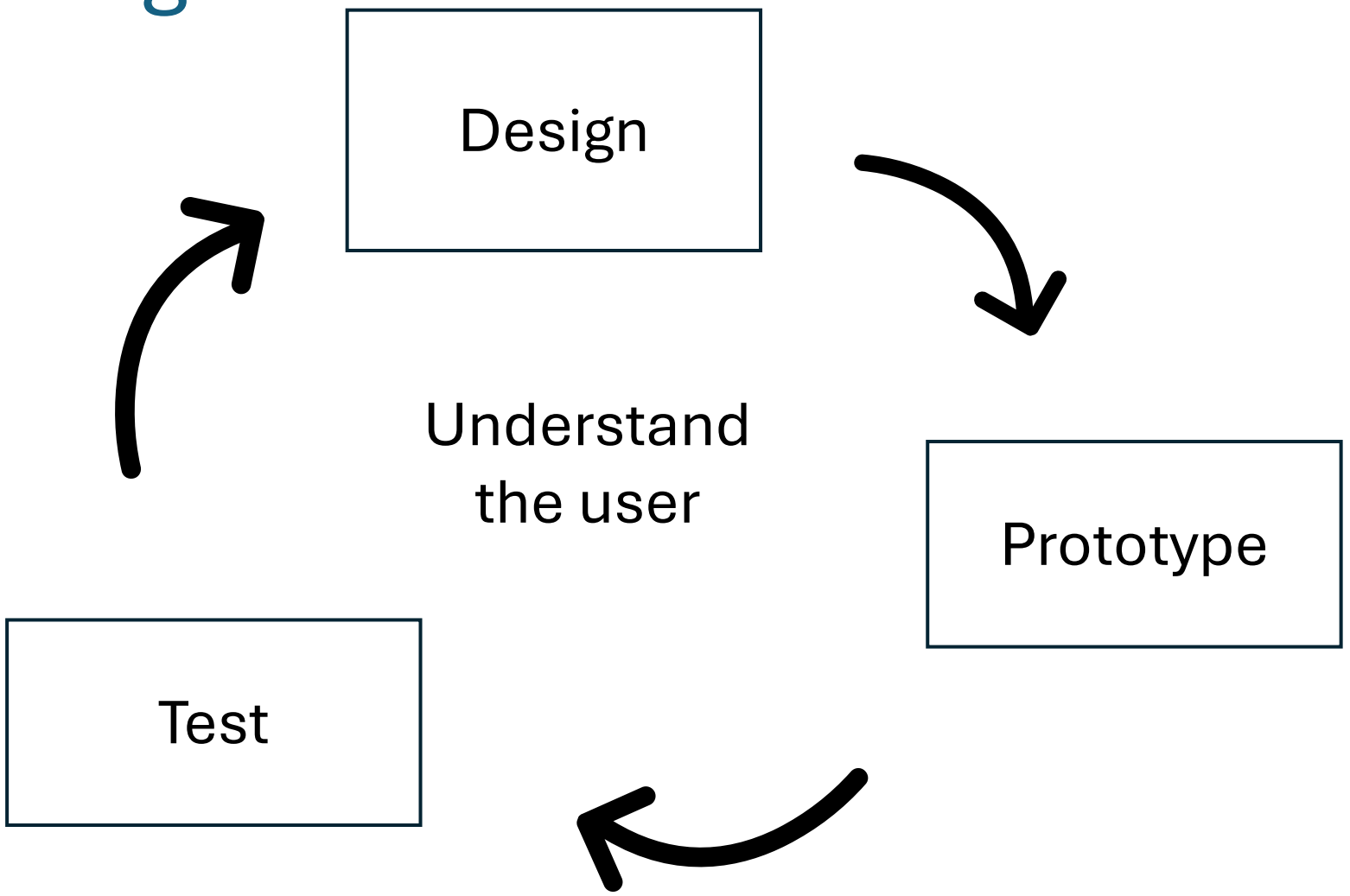
Yang, Lee & Lee. (2025). Factors Influencing Health Care Technology Acceptance in Older Adults Based on the Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology: Meta-Analysis. *JMIR.*

Missing the question: Is this worth introducing?

The value proposition	**Is the technology worth introducing?**
The condition	What is the nature of the condition and relevant sociocultural factors?
The technology	What are key features and what knowledge is required?
The adopter system	Will staff, patients, and caregivers be able and available to use the system?

The NASSS framework for patient-facing health and care technologies. From Greenhalgh et al. 2017 “Beyond Adoption: A new framework for Theorizing and Evaluating Nonadoption, Abandonment, and Challenges to the Scale-Up, Spread, and Sustainability of Health and Care Technologies”

User-centered design



We have a rich toolbox of methods to understand the user's technology needs and experiences

Knowledge in the mind

- Can be verbalized
- Tells us about preferences
- Details of use often poorly remembered
- **Methods**: interviews, focus groups

Knowledge in the world

- Challenging to articulate without probes or in the moment
- May not reveal preferences
- **Methods**: observations, logs, usability testing

Bridging methods: cognitive walkthrough, Wizard of Oz, Diary study

There are still gaps in how we co-design health technologies with older people

- Older people are included late in the process
- We “bracket out” the harder problems
- Designs occur within the constraints of business and healthcare system at the time
- Age stereotypes creep into every phase of the design and deployment process

Age stereotyping includes myths about technology use

Myths	**Reality**
Older people are the same	Older adults are diverse,
socially isolated and lonely	have meaningful relationships,
a burden on society	contribute to society,
chronically ill	“manage age-related illness while maintaining wellbeing”,
incapable of learning new, mainstream, technologies	can learn new technologies
unable to use technology	can use technology – ‘how’ and ‘how often’ is affected by design and culture

Durick, Robertson, Brereton, Vetere, & Nansen (2013). “Dispelling ageing myths in technology design”. Proceedings of OzCHI.

Age stereotypes impact technology design, development, and adoption at multiple levels

Individual

Social

Institutional

Individual-level age stereotyping

A belief that technologies are better for older, frailer people: “not for me”

Neven 2010; D'Haeseleer et al., 2019; Pritchard & Brittain, 2022; Lazar et al. 2016

Image from https://www.medicalalert.com/fall-detection/

Individual-level age stereotyping

"Most of the time, I certainly do not wear it… One of my neighbours who is pretty frail wears it all the time, but I'm always going out and moving around, up and down… and I don't want to wear it when I'm out on the street. That's why the telecare pendant is usually hanging in the kitchen…"

López Gómez, D. (2015). Little arrangements that matter. Rethinking autonomy-enabling innovations for later life. *Technological Forecasting and Social Change*, *93*, 91–101.

Image from https://www.medicalalert.com/fall-detection/

Social: researcher stereotypes

Researchers make stereotyping assumptions during technology design and development – even when older adults are included in co-design

Compagna & Kohlbacher, 2015; Neven, 2010; Neven 2014

Social: stereotyping other older people

Workshop 1 (Focus group)

"Generally [for] older adults health is the issue... **[this topic] would be more in common, probably between all of us.**" [P6, W1]

Follow up 1:1 interviews

"I **wasn't very excited** about it in the first day..." [P6, follow up]

Pradhan, A., Jelen, B., Siek, K. A., Chan, J., & Lazar, A. (2020). Understanding older adults' participation in design workshops. In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (pp. 1-15).

Takeaways

- Select methods that give the right information at the right time in the design process
- Make sure the technology is perceived as useful by the people who will be using them
- Recognize the context that affects use “beyond the interface”
- Account for the presence of age stereotyping at multiple levels

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