

# Assessing the Potential of Voice-Activated Digital Home Assistants for Older Adults with Mobility Disability

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## INTRODUCTION

Digital home assistants (DHAs; e.g., Amazon Echo) and connected smart technologies hold great potential in assisting older adults with mobility disability to engage in important daily activities such as:

- controlling home environment
- managing health
- maintaining social interaction

Research is needed to better understand the **facilitators** and **barriers** of using these technologies by these individuals, as well as the **resources that best support their onboarding and continued use**

**GOAL:** Understand initial supportive needs and real-world utility of these technologies when installed in the homes of older adults with mobility disability for up to 10 weeks

## RESEARCH QUESTIONS

- How do voice-activated digital assistants support environmental control, social engagement, entertainment, and health/wellness for older adults with mobility disability?
- Do perceptions of these smart technologies change over time?
- What facilitating conditions support use of digital home assistants and connected environmental technologies by older adults?

## METHOD

### Participant Criteria

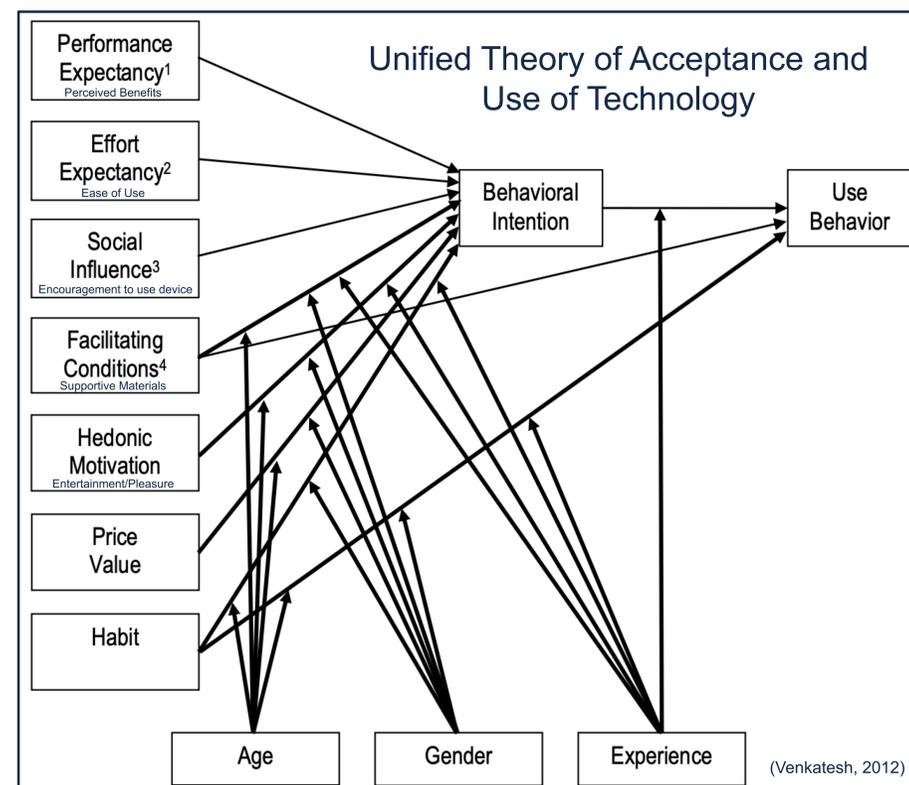
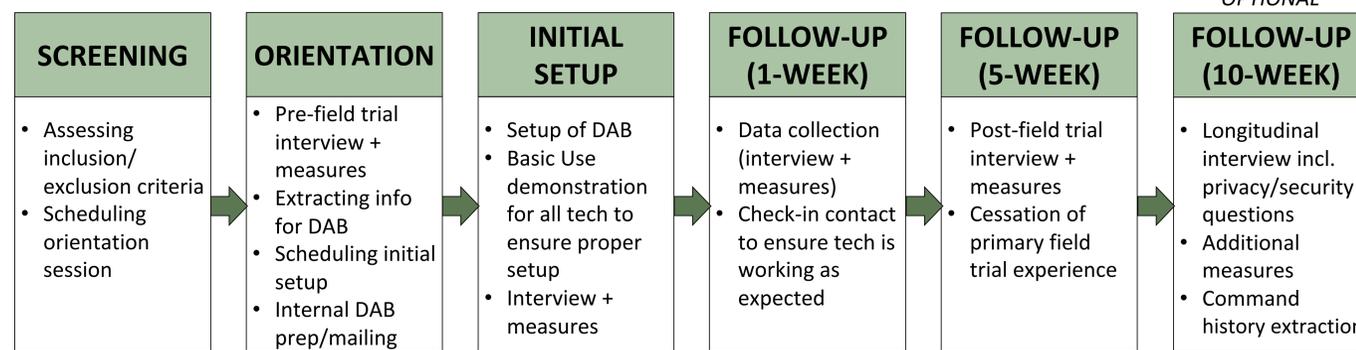
- 25-30 older adults (60+)
- Self-identify as having a mobility disability for  $\geq 10$  yrs
- Have no experience with DHAs and connected technologies

### Digital Assistance in a Box (DAB)

Pre-setup technology suite shipped to participants comprised of:

Echo Show 8 + Smart Plug + Smart Light + Informational Postcards + User Guides

## STUDY FLOW



### DATA ANALYSES

Analyzing **qualitative** (interview) and **quantitative** (questionnaire) data regarding:

- Digital Assistance System Evaluation
- Echo Usage
- Perceived Competency
- Privacy
- Security
- Social Connectedness
- Support Utilization
- System Usability
- Technology Acceptance (e.g., UTAUT2; Venkatesh, 2012)
- Technology Proficiency

Analyzing **command history** to assess usage/errors

## EXPECTED CONTRIBUTIONS

**Improved understanding of potential** of smart technologies to provide in-home assistance for older adults with mobility disability to age as they desire

In-depth **understanding of the experiences, opinions, learning preferences, and perceived facilitators/barriers** of older adults with mobility disability in integrating smart technology into their lives

**Informing smart technology designers** about topics essential to improving the utility of these devices for older adults, especially those with mobility disability (e.g., design, support)