**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**

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

**METHOD**

**Participants Criteria**
- 25-30 older adults (60+)
- Self-identify as having a mobility disability for ≥ 10yrs
- 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**

**SCREENING**
- Assessing inclusion/exclusion criteria
- Scheduling orientation session

**ORIENTATION**
- Pre-field trial interview + measures
- Extracting info for DAB
- Scheduling initial setup
- Internal DAB prep mailing

**INITIAL SETUP**
- Setup of DAB
- Basic Use demonstration for all tech to ensure proper setup
- Interview + measures

**FOLLOW-UP (1-WEEK)**
- Data collection (interview + measures)
- Check-in contact to ensure tech is working as expected

**FOLLOW-UP (5-WEEK)**
- Post-field trial interview + measures
- Cessation of primary field trial experience

**FOLLOW-UP (10-WEEK)**
- Longitudinal interview incl. privacy/security questions
- Additional measures
- Command history extraction

**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/errs

**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).