Older Adults’ Intent to Utilize Apple Watch-Based Fall Detection Technology

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1. INTRODUCTION

- One in four older adults experiences at least one fall each year.
- Technology may be useful in mitigating negative fall-related outcomes.
- It is not well understood how older adults perceive wearable fall detection technology and what factors may limit or encourage them to utilize such technology.
- The Theory of Planned Behavior (TPB) can provide a useful structure for understanding older adults’ decision-making regarding wearable fall detection technology.

2. OBJECTIVES

- To elicit the beliefs of older adults regarding wearable fall detection technology.

3. METHODS

Recruitment and Procedure
- Participants were recruited from an older adult participant pool (Wyoming Older Adult Research Pool) through two large mailings.
- Participants were aged 60 years and older and had previously agreed to be contacted for research opportunities by the Wyoming Center on Aging.
- A semi-structured interview was completed by telephone.

Instruments
- A semi-structured interview comprising a sociodemographic form, emergency response device interview, and salient beliefs questionnaire created by the researchers was used.

Analysis
- SPSS version 24 was used to examine demographics.
- Thematic analysis was utilized to identify common themes.
- A codebook was developed from coded telephone interviews. Saturation was achieved.

4. RESULTS

Participant Characteristics
- Wyoming residents (n = 23) with mean age of 73.5 years (SD = 7.8).
- Majority non-Hispanic (n = 21, 91.3%) and female (n = 16, 69.6%).
- “Very good” (n = 11, 52.4%) or “excellent” (n = 2; 8.7%) self-reported health ratings.
- Majority (n = 21; 91.3%) familiar with fall detection devices but had not used one themselves.

Themes
- Responses were consistent with TPB constructs, along with a theme corresponding to technology-specific factors.
  - Subjective Norms
  - Attitudes Toward the Behavior
  - Perceived Behavioral Control
  - Perceived vulnerability/control
  - Cost/accessibility
  - Technology-Specific Factors

5. CONCLUSIONS

- Results revealed favorable beliefs of older adults towards wearable fall detection technology.
- Theory of Planned Behavior constructs in conjunction with technology-specific factors are useful in understanding the decision-making process of older adults regarding such wearable fall-detection technology.
- Future research will include developing and testing a Theory of Planned Behavior questionnaire to measure intention to use wearable fall detection technologies like the Apple Watch.

Table 1. Themes and Associated Participant Responses.