The impact of Assistive Technology Devise Use on the Social Participation Levels of Older Adults

By: Judith E. Walsh and Jennifer L. Troyer

Comments by Ofira Schwartz-Soicher
5th Workshop on Social Capital and Health
Toronto, Canada
6-7 October, 2014

Overview

- Examination of whether the use of assistive technology devices (ADT's) is associated with older adults' participation in societal and civic engagement activities.
- A very important and interesting topic given the aging of the population (18% increase in population 65 and older since 2000, AOA)
- Interesting results:
  - hearing aids use is associated with increased participation in many activities.
  - Mobility devices' use is associated with decreased social activity.

Literature Review

- A bit too general; literature discussing the specific question at hand should be added.

- Related “smaller” studies should also be mentioned, e.g.,:
  - Older adults report both positive and negative psychosocial impact on their lives because of medical device use (Thomson, Martin and Sharples, 2013).

  - A study not limited to older adults found evidence that mobility device improved user’s activity and participation and increased mobility (Salminen et al. , 2009).

Framing/Hypotheses

- What is the role of the different societal and civic engagement activities in older adults' life?

- How and why would specific ADTs be expected to affect certain types of activities?

- The hypotheses should be more developed and should be referred to in the discussion of the results.

Data

- National Health and Aging Trends Study (NHATS) – Two waves: 2011 and 2012.
- This is a contemporary, nationally representative dataset, very appropriate to the research question.
- How does the analytic sample compare to the relevant U.S. population?

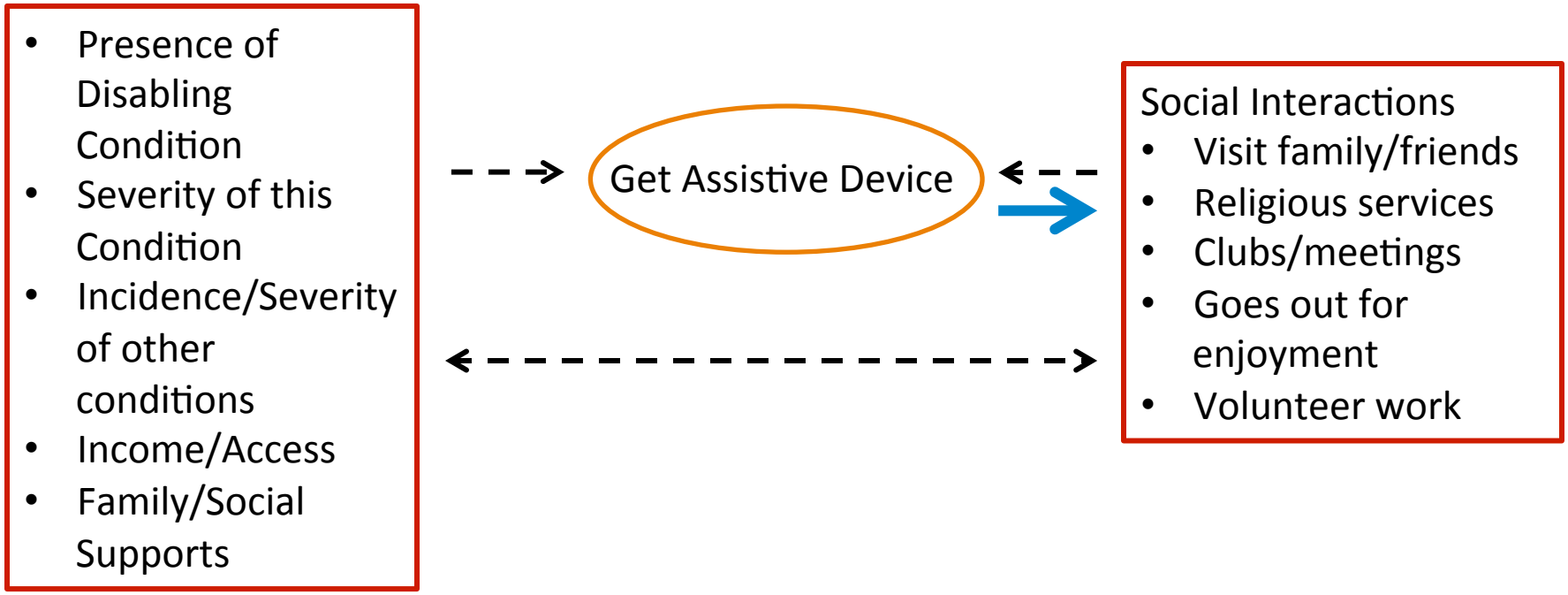
Methods-Measures

- Outcome variables are not explicitly defined. Showing the specific questions' wording may be informative.
- Confounding variables are not clearly defined and definitions would be helpful.
- There may be variation in quality of specific types of ATDs (e.g., different hearing aids) – this could cause some measurement error.
- Self-reported nature of key variables could cause measurement error.
- May want to consider controlling (if available in survey) for mental health, number of devices used and cognitive ability.
- May want to consider excluding those diagnosed with dementia from the sample.

Methods - Analysis

- Endogeneity – difficult to disentangle the use of the device from the presence/severity of the problem.
  - How was severity addressed/controlled?
  - Is it possible to assess sensitivity to alternative criteria?
  - Reverse causality – people may get device because they participate in an activity.

Model Assistive Devices/Social Interactions



Why is endogeneity such a problem? Blue arrow is what is estimated. Black dotted lines are the confounding relationships. Some of the right-hand variables included in the model (barriers, importance of activity, social supports, problem performing without supports) may add to the confounding. Try simpler models.

Methods - Analysis

- First difference (FE) models don't add much.
- Rationale for random effect models is not clear.
- In general, more transparency about both measurements and analytic models would be helpful.
- Robustness and sensitivity analysis.
  - Cross-sectional logistic regression
  - Controlling for the outcome at wave 1 in wave 2 model.

Results

- **Descriptive Statistics**
  1. May be more interesting to compare characteristics of users and non-users of the different ATDs.

- **Empirical Results**
  1. Try to tell a story.
  2. Several of the findings are perverse (e.g., dressing assistive devices) underscoring the concerns about endogeneity.

Interesting Findings

- Mobility devices are negatively associated with participation in social activities. What may explain these unexpected results?

- Hearing aids use is associated with increased participation in societal and civic engagement activities. May have implication for policy makers.

Thank You!