Therapeutic Robots for Older Adults: Investigating the Potential of Paro

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Introduction

- The older adult population is growing, and is in need of social and emotional support (Administration on Aging, 2010)
- Animal-assisted therapy is beneficial, but may not be a realistic option for many older adults (Banks & Banks, 2002)
- Pet-type robots such as Paro present an opportunity to provide socio-emotional support, but research has focused largely on dementia patients (Filan & Llewellyn-Jones, 2006; Shibata & Wada, 2010)
- Further investigation is needed on the factors that influence interaction with and acceptance of Paro, especially in normally aging older adults

Goals of Research

- What are older adults’ initial perceptions of and thoughts about Paro?
  - What do they like and dislike about Paro?
  - Do they think Paro could be beneficial to themselves and others?
  - Does the way Paro is first introduced (framed) influence these perceptions, and does engagement with this robot change as a result?
  - Does interaction with Paro have an effect on:
    1) Perceived ease of use and perceived usefulness
    2) Positive and negative affective states
    3) Thoughts about Paro’s potential role in the home

Method

"Today you'll be given the opportunity to interact with the ___ Paro..."

Framing

"Pet" OR "Robot" OR "Toy"

Initial reaction

Pre-Assessments

Re-assess Reaction

Interaction

Post-Assessments

What do you think about Paro now?
- Demonstration
- Interviewer leaves
- Demographics/Health
- PANAS
- PEU/PF
- Interview
- Robot Familiarity
- Pet Experience
- Tech Experience

If you offered to give you Paro to take home would you want it?
- "He's cute. Like I said he'd make a perfect smoke alarm or if someone were trying to come in the house...trying to break in I think he'd alert me to that"
- "It would be nice to have a pet"

If we offered to give you Paro to take home would you want it?
- "I don't know what function it has. I'm not into cat and furry creatures."

Do you think that Paro could be beneficial to people?
- "...more beneficial to a person who was physically or mentally inhibited in one way or another...if they could pet Paro and Paro would respond...that would be beneficial to that person."
- "I think he could produce some endorphins...to Paro right buddy?"

Do you think Paro would be useful to you?
- "It would be interesting to have around and you'd find yourself talking to it."
- "It's really something you could just play with for an indefinite amount of time just making him react to you...it's almost like having a real pet in the house"
- "He's just affectionate...After a while you begin to think it's a real being, it just shocked me when it opened its eyes."

Second interview quotes:
- "Its eyes are disconcerting...It reminds me of cats I don't care for cats...The eyes are too big."
- "I'm just kind of concerned about the size, because for me a cuddle toy...I have to be able to cuddle it."

Coding Scheme Development

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Participants: Older adults (ages 65-80) in the Greater Atlanta area

Paro: Designed by Dr. Takanori Shibata for therapeutic purposes

Engagement: Touch/look frequency during interaction with Paro

Note: Data collection for this experiment is ongoing

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