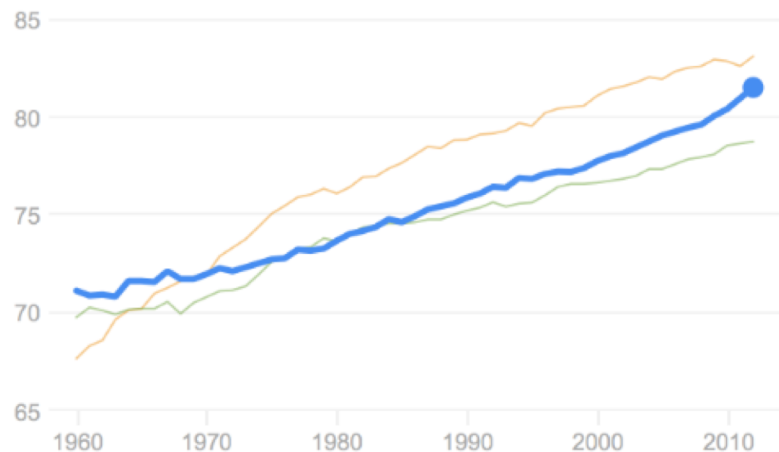


# Rethinking the Design of Robotic Pets for Older Adults

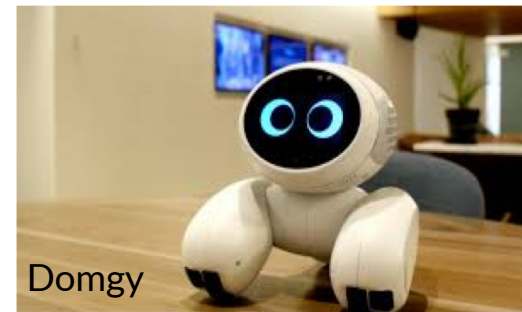
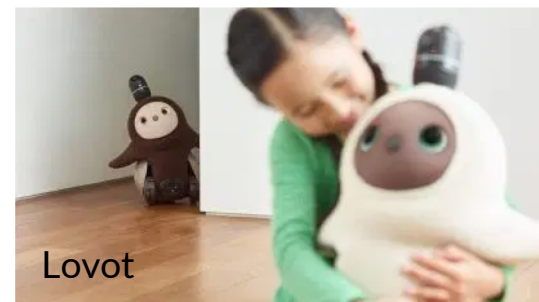
Lazar, Thompson, Piper & Demiris 2016

# Introduction

## Life expectancy



Source: [Google data](#)



<https://www.youtube.com/watch?v=LsQ33ImFUI4>



# User-Informed Design



- Users input their desires/concerns about a product
- Could be in initial stages or further down line when making choices
- Perceptions of robot pets
- What qualities of real pets should be inherited?
- How might they fit into life?
- How do they extend/complement what a real pet offers?

# Method

- N = 41 older adults (Mage=77, 35 females)
- Numerous focus groups
  - Draw/Describe “ideal robot pet”
  - Passed around & explained function of 6 robot pets
  - Questions - consider one, how they would interact...
  - Perceived concerns
  - Back & forth about real vs robot pets
- Audio recorded, transcribed & “verified by 1 other”

# Method

## Grounded Theory Approach

- Two 'coders'
  - Open Code Transcripts -->
  - Generate Codes
  - Group Codes into Themes
- Merge codes of the two
- Iterative
- Aim: Data informs theory

Qualitative data	Code
I want to see more bins..	Waste
I also want to see more lighting in the streets	Safety

# Other Types of Qualitative Analysis

- Thematic Analysis
  - Patterns → Themes
- Content Analysis
  - Frequencies...
- Interpretative Phenomenological Analysis
  - Meaningful events for a person
- Narrative Analysis
  - Text & Stories
- Discourse Analysis
  - Language & vocals

# Results

## Theme 1: 'Comfort & Companionship: Giving in to Fiction'

- “Snuggling benefits mental health & satisfies basic human need”
- “Could we be friends? ... I love your eyes”
- “Greeting at door... transformative to a mood”



# Results

## Theme 2: 'Social Opportunities rather than Social Isolation'

- "I have a husband so I don't have a big need for a companion animal right now"
- "It gives you laugh, but it's the same laugh because it does the same thing, it's not spontaneous. You get tired of it quick"

# Results

## Theme 3: 'Balancing Functional Benefits with Reciprocity'

- “I think being responsible for something makes you more attached to it... [because of the feeling] that it needs you in order to function”
- “... if a pet, even if robotic, needs to be cared for in some way, then that gives me a reason to get up in the morning and give the pet a breakfast.”

# Discussion

- Split between ethics & design considerations based on themes

# Any Burning Thoughts?

Anything you liked?

Disliked?

Were frustrated by?

Anything you'd add/change? Add another measure?

# Do you think the 3 themes were justified?

- 1) 'Comfort & Companionship: Giving in to Fiction'
- 2) 'Social Opportunities rather than Social Isolation'
- 3) 'Balancing Functional Benefits with Reciprocity'

Key - with Qualitative research, the researcher has an influence based on their background, expertise, knowledge, biases etc. There can be disagreement about codes - but both opinions could be valid. But you could miss things!

# Thoughts about 'iterative' code creation?

One person coded the data, this was sent to the next, and they sent back and forth until the final 'themes' were created.

Would you do it differently?

# Would a designer find this document useful?

Good they tied in the design ideas at the end... but numbers might be useful for consideration (e.g. 90% said fur desirable). Combining Qualitative with other methods could make this more insightful & practically useful

# What could qualitative add to your work?

Can complement other methods

Deepen understanding of human experience (feelings, thoughts etc. that brain can't tap into)

Method validation



# Would you consider qualitative for your work? If not, why? Barriers, challenges etc.

Time consuming - doesn't have to be

How can you tell if people are truthful? - Why would people attempt to lie/deceive you? Create environment for honesty and disclosure

# What are your thoughts about involving potential users in the design process, early on?

Agree it's positive?

What are some barriers/issues?

- Time consuming
- Do people know what they want?

# What are your thoughts about robot pets?

## Positives? Concerns?

Theoretically ease loneliness

Neglected long term - problem for those designing such systems

Overdependence is a concern

# Reflecting on the session

What did you learn? Did you think about things in a different way or find something interesting/useful/inspiring?