Supporting Physical Activity in Later Life: Navigating Older Adults through the Interrelated Barriers to Remaining Physically Active

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RESEARCH PROBLEM

Older adults, especially those living alone, often fall short of recommended physical activity levels, but existing physical activity promoting technologies are poorly matched to their needs. It remains unclear how technology can meet their unique needs of physical activity support.

RESEARCH QUESTIONS

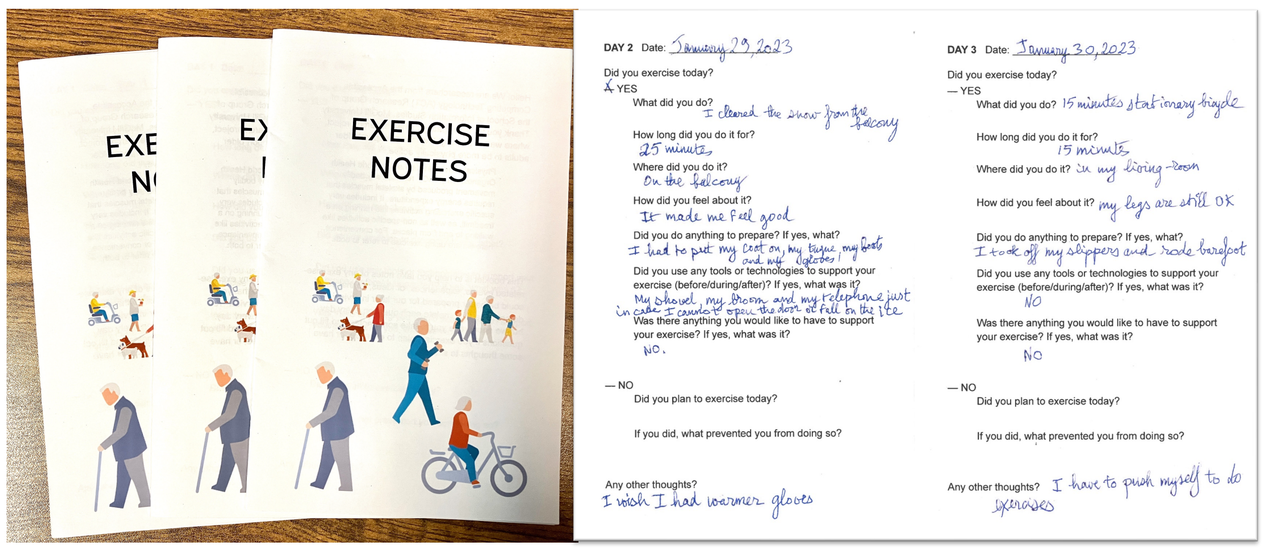
- For inactive older adults living alone, what are their challenges and needs about engaging in physical activity?
- What are their perceptions and needs regarding technology for supporting physical activity ?
- How can technology be better designed to support their physical activity needs?

PHASE 1: UNDERSTANDING NEEDS

Objectives: To understand older adults' needs and challenges regarding remaining physically active.

Methods: Diaries, semi-structured interviews (n=17).

Findings: Older adults' activity routines are often disrupted by multidimensional and interrelated barriers, which diminish the potential of existing physical activity promoting technologies. [1]



Booklets of participant diaries and an example of a participant's completed diary.

Setting of a co-design workshop.

PHASE 2: CO-DESIGNING SOLUTIONS

Objectives: To explore older adults' perspectives on how technology can be designed to address the interrelated barriers that inhibit them from engaging in physical activity.

Methods: Co-design workshops (n=8).

Findings: OA envisioned technologies beyond current offerings, suggesting holistic support from healthcare, social, and information services.

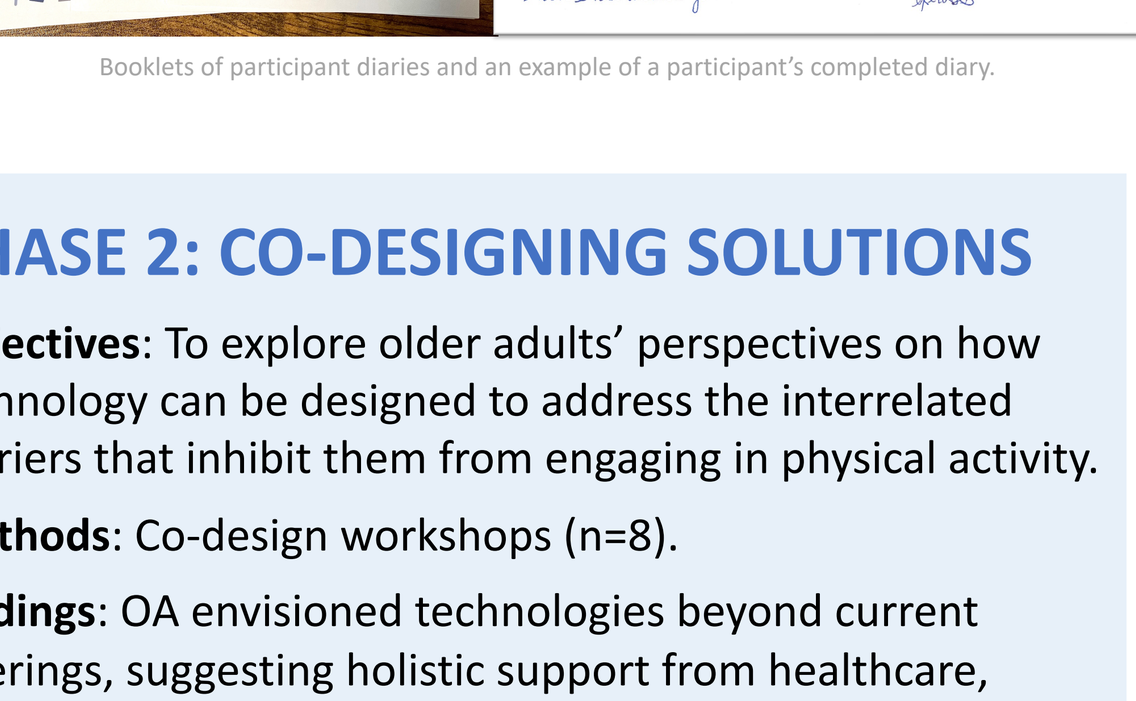
PHASE 3: EVALUATING SOLUTIONS

Objectives: To investigate how to better design technology to support older adults living alone in maintaining their physical activity routines.

Methods: Semi-structured interviews (n=15) to elicit participants' views on 15 design concepts.

Findings:

- Older adults would like to take control of their own activity routines and health.
- Technologies should help older adults adapt to changes (e.g., by offering alternative exercises). [2]



A design concept about providing alternative exercises in response to routine disruptions.

[1] Muhe Yang and Karyn Moffatt. 2024. Navigating the Maze of Routine Disruption: Exploring How Older Adults Living Alone Navigate Barriers to Establishing and Maintaining Physical Activity Habits. In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (*CHI '24*). 1–15.
[2] Muhe Yang and Karyn Moffatt. 2024. A Preliminary Analysis of Older Adults' Reactions to Design Concepts for Physical Activity Support. *Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '24)*. 1–5.

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