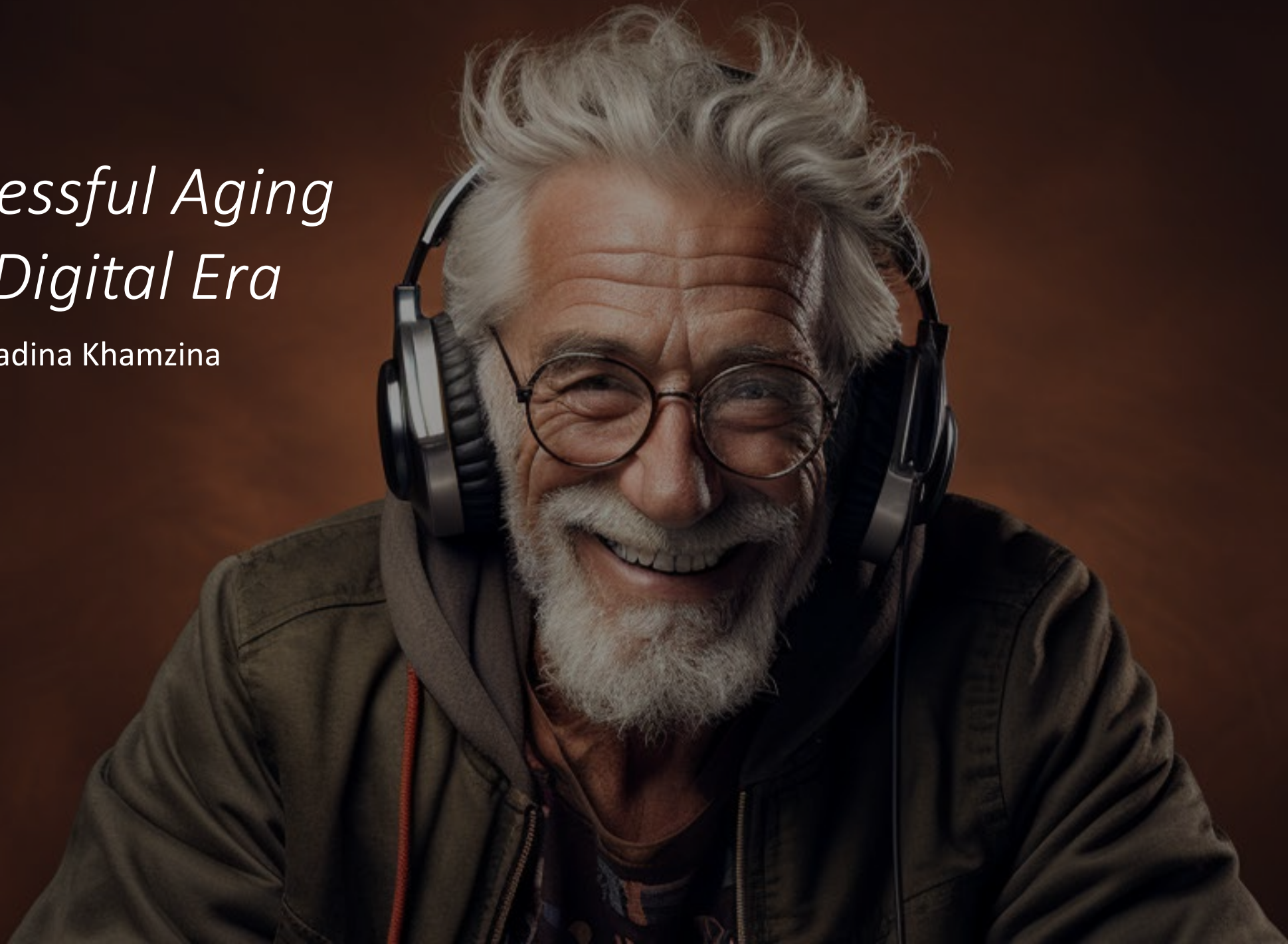# Successful Aging in Digital Era
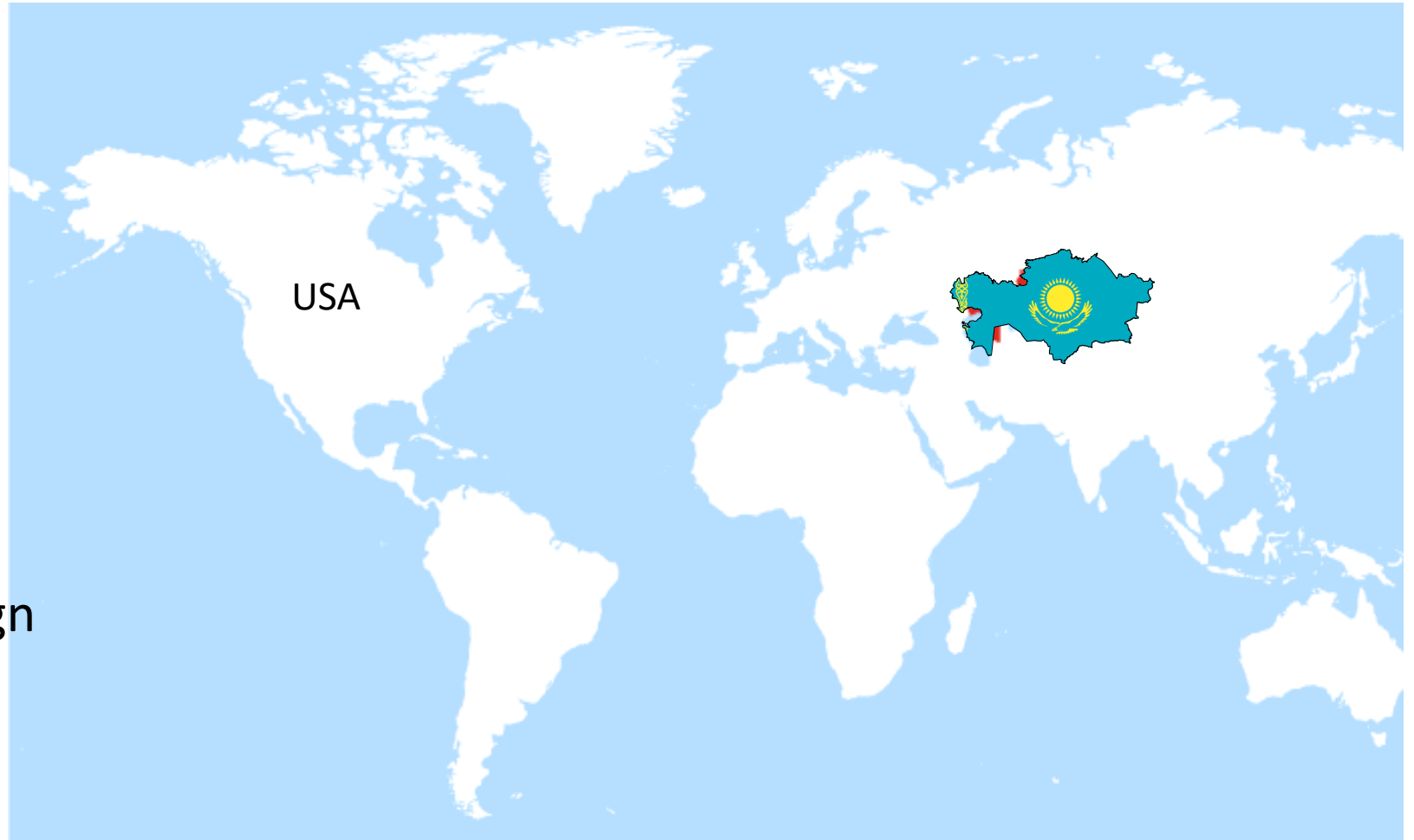
Madina Khamzina

About me

Originally

- Astana, Kazakhstan

Education

- B.A. – University of Michigan Dearborn
- MPH – Boston University
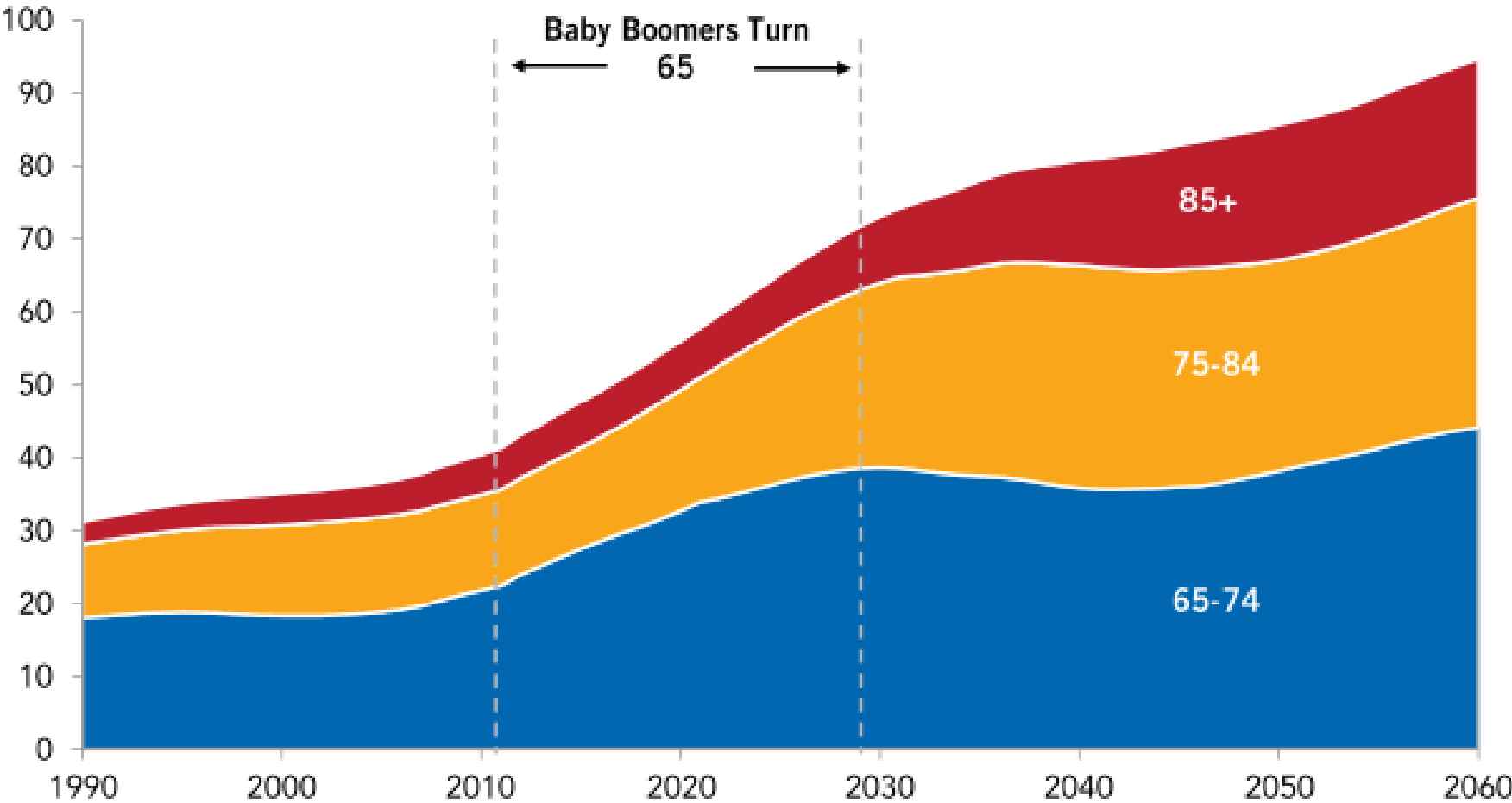- Ph.D. – University of Illinois Urbana Chamapaign

Today

- Postdoctoral Associate School of Public Health and UM Extension

USA

Research to improve the health and well-being of older adults through the thoughtful integration of technology.

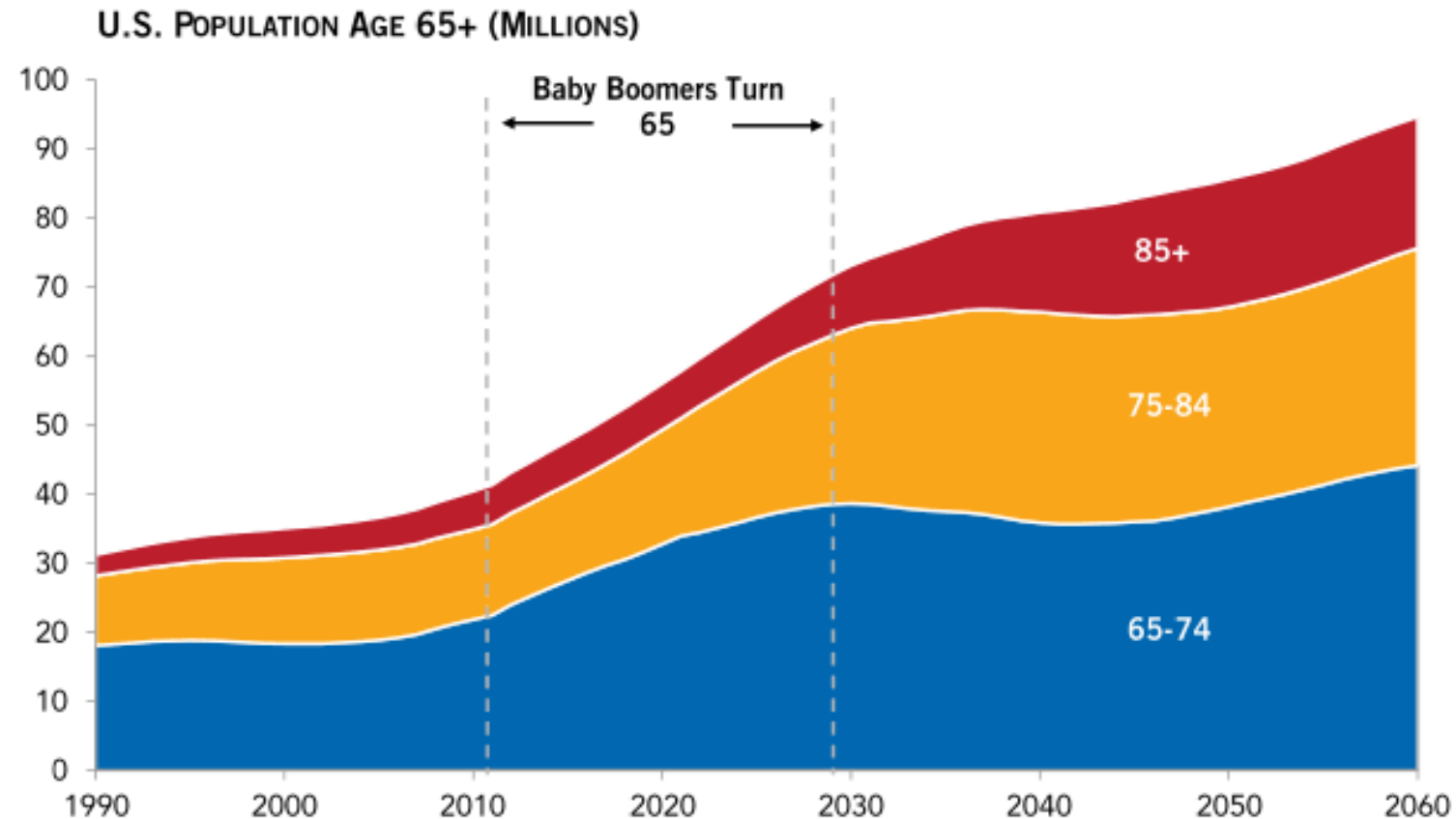## U.S. POPULATION AGE 65+ (MILLIONS)

SOURCE: U.S. Census Bureau, *National Intercensal Estimates*; *2016 Population Estimates*, June 2017; and *2017 National Population Projections*, September 2018. Compiled by PGPF.

Older adults today are different from previous generations

- Increased Life Expectancy
- Health and Well-Being
- Workforce Participation
- Interconnectedness
- Social isolation

} Ph.D. Thesis

- Technology Adoption

U.S. POPULATION AGE 65+ (MILLIONS)

Baby Boomers Turn 65

85+

75-84

65-74

1990 2000 2010 2020 2030 2040 2050 2060

Adults 65+ are living longer...

but are they aging successfully?

2060

94.7 million

2034

77.0 million

2016

49.2 million

(Busetta & Bono, 2021; Habib & Saha, 2010; U.S. Census, 2018)
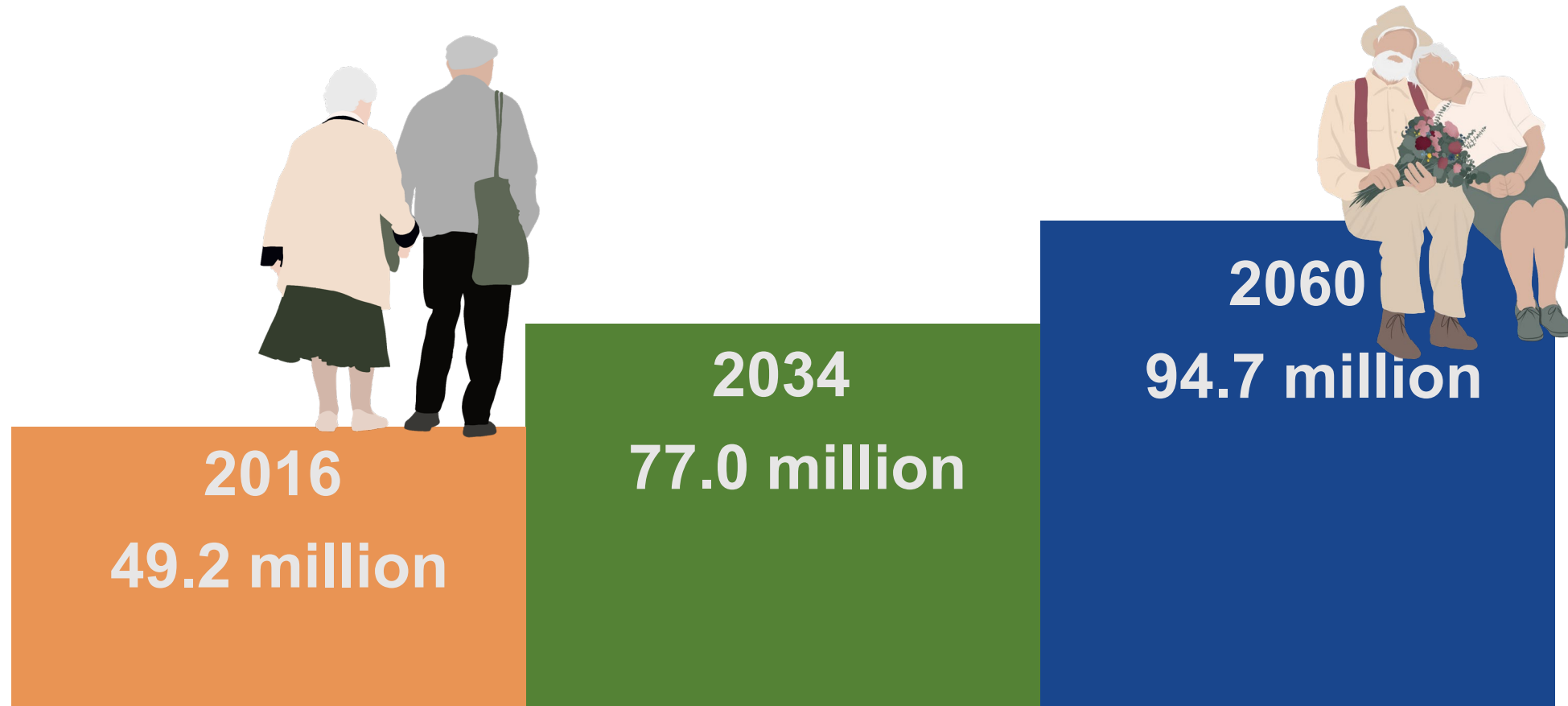
What is successful aging?

Rowe and Kahn's model has three components:

- (a) minimizing risk disability
- (b) engaging in active life
- (c) maximizing physical and mental activities

(Rowe & Kahn, 1997)

Thesis Rationale

- More older adults aging *with* and *into* disability

- 2 in 5 adults aged 65 years and older have a disability

- Disability ≠ Successful Aging?

- Older adults with disability do not meet researchers' definition for successful aging *still perceive themselves as aging successfully*

Thesis Objective

- Explore successful aging in the presence of disability

- Explore the role of social and physical activity
  - 1:Quantitative part: population level analysis
  - 2:Qualitative part: interviewing older adults with disability

Dissertation Contributions

Theoretical:

- expanding the knowledge about successful aging experience in the context of disability

- testing proposed framework on population and individual levels

- in-depth exploration of subjective successful aging with disability

- to our knowledge, first study to estimate successful agers with disability

Practical:

- greater awareness and understanding how older adults perceive successful aging

- enhancing the relevance of public health interventions and policies to improving the lives and aging experiences of older populations

Dissertation Take Out

- 30% of older Americans are aging successfully based on our proposed definition for subjective "success"

- Successful aging is possible in the presence of disability based on conducted qualitative interviews (88%)

- Definitions of successful aging are based on:
  - current abilities and capabilities rather than losses
  - positive attitude
  - acceptance and coping strategies
  - use of resources
  - importance of social participation and physical activity

Older adults today are different from previous generations

- Increased Life Expectancy

- Health and Well-Being

- Workforce Participation

- Interconnectedness

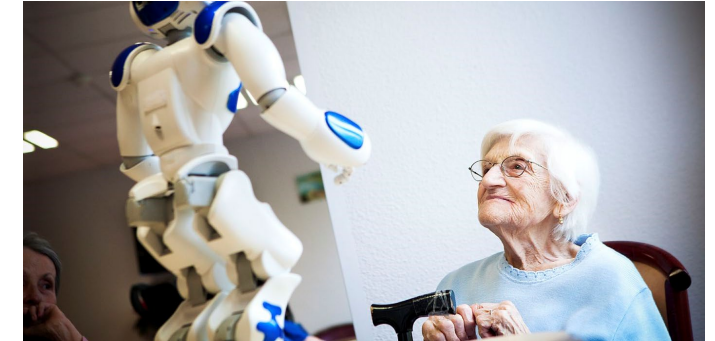- Social isolation

- Technology Adoption

Research at UMD Extension
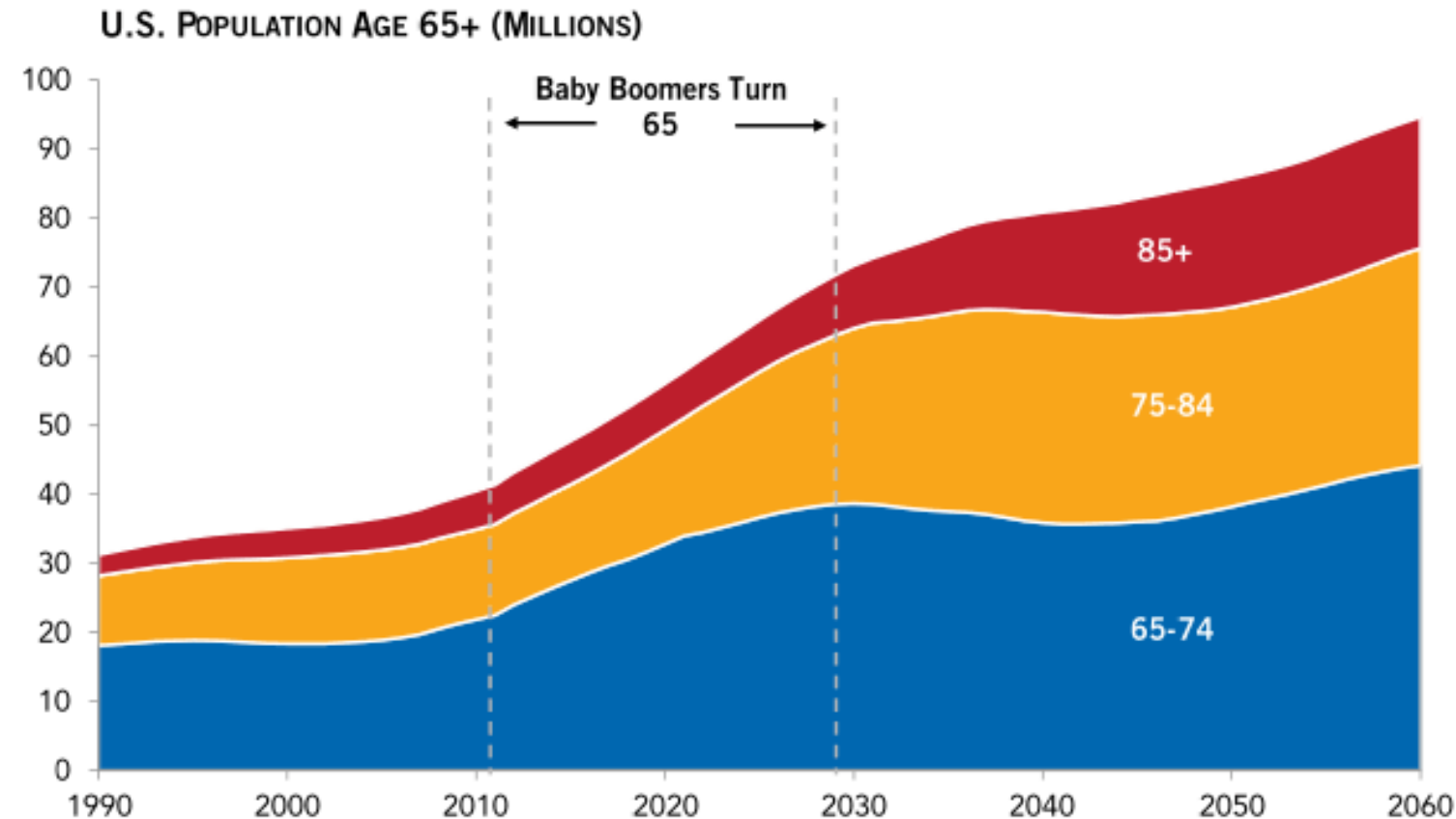
U.S. POPULATION AGE 65+ (MILLIONS)

Baby Boomers Turn 65

85+

75-84

65-74

PGPF.ORG

Technological Progress

- Plethora of current/emerging in-home technologies + systems that facilitate:
  - Aging in place
  - Activities of daily living
  - Dementia care
  - Social interactions
  - Physical activity
  - Leisure activities
  - Transportation
  - Healthcare
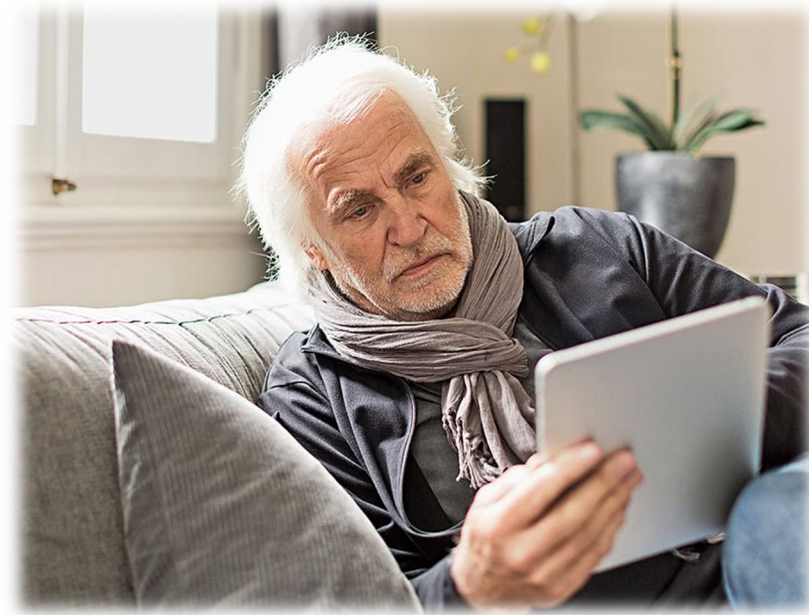
The way we think about older adults and technology is changing

Then...   Now...

The rise in new technologies have potential to benefit healthy ageing and longevity

Technology and Older Adults After 2020

- Older adults are buying more smartphones, home assistant technology (e.g., Amazon's Echo), wearable technology (e.g., smartwatches), and tablets (e.g., iPads)
  - Among 70+ about 53% own a tablet (up from 40% in 2019)
- 44% say they have a more positive feeling toward tech now
- Streaming content has increased as well
- 76% of adults 50+ have wireline high-speed internet

Smartphone ownership and social media use among older adults continue to grow

% of U.S. adults who say they ...

Own a smartphone / Use social media / Own a tablet computer
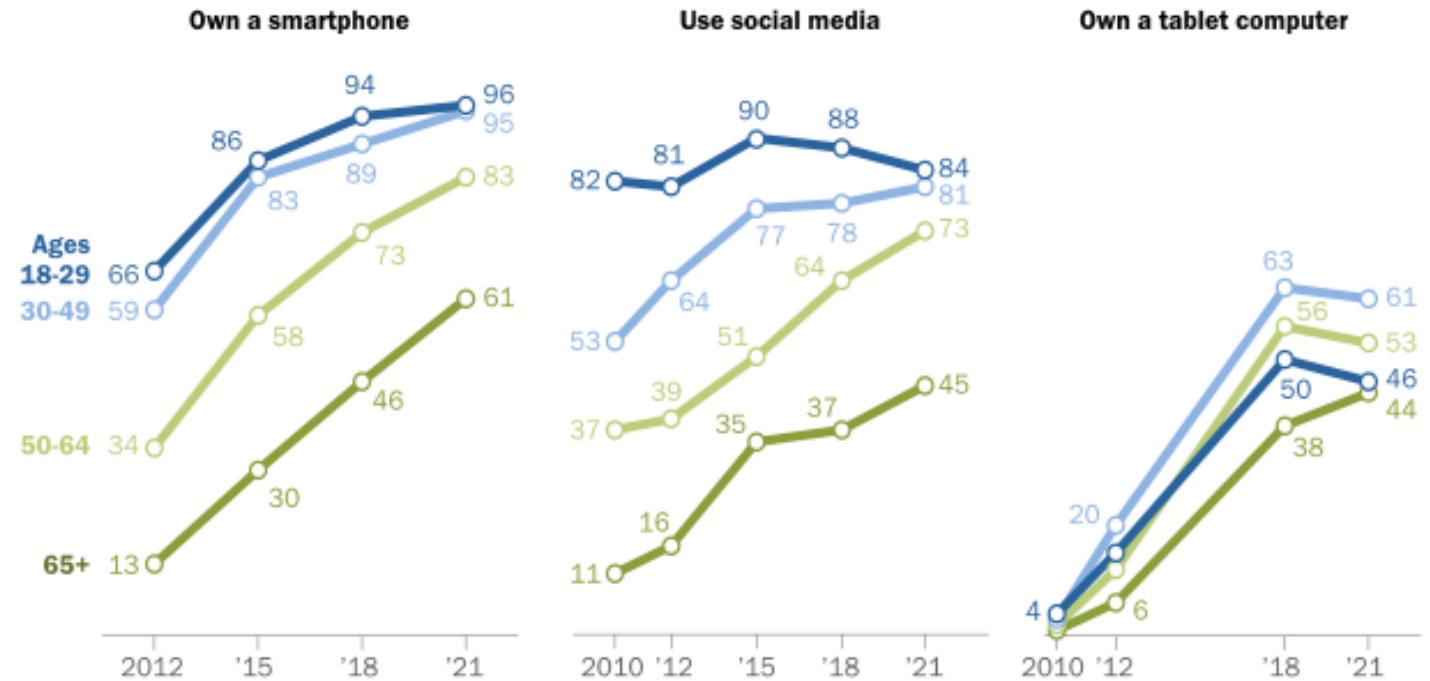
Note: Respondents who did not give an answer are not shown.
Source: Survey of U.S. adults conducted Jan. 25-Feb. 8, 2021.

PEW RESEARCH CENTER

Kakulla, Brittne. *2021 Tech Trends and the 50-Plus: Top 10 Biggest Trends.* Washington, DC: AARP Research, April 2021. https://doi.org/10.26419/res.00420.001

Although older adults are currently much more likely to use the internet and technology compared to a few decades ago, usage is still far lower compared to younger groups
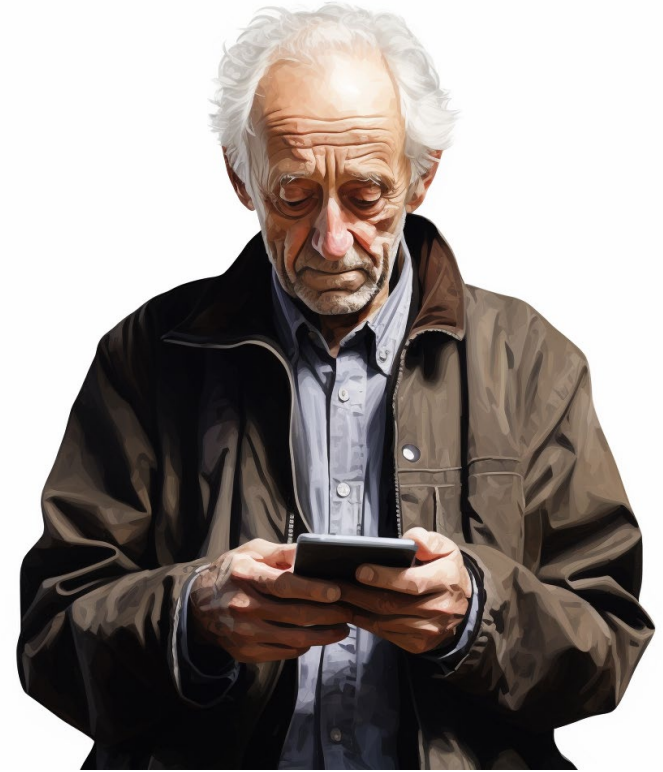
Challenges in Technology Adoption and Use

Learning to use technology can be a significant barrier for older adults to incorporate systems into their lives (Mitzner et al., 2008)

- Health-related
  - E.g: Conditions that makes reading difficult
- Cost and accessibility
- Attitude
  - Lack of confidence
  - Stigma around learning new things
  - Lack of motivation
- Knowledge and skills
  - Lack of instructions adopted for older adults
- Too complex
  - Not older adults' user friendly
- Privacy issues

Challenges in Technology Adoption and Use

- Needs and preferences of older adults are seldom considered when designing technology (Czaja et al., 2013)
- There is no typical older person
  - "one size fits all" design strategies will not adequately address the needs, preferences, and abilities of all older adults

Models of Technology Use and Adoption

Technology use and adoption can potentially be predicted by two factors:

- the extend to which older adults perceive the technology as useful and
- the extent to which older adults perceive the technology as easy to use

# Models of Technology Use and Adoption

Technology Acceptance
Model (TAM)
(Davis, 1989)

Unified Theory of the
Acceptance and Use of
Technology (UTAUT)
(Venkatesh et al., 2012)

"If a piece of technology is perceived as useful to accomplish a task and easy to use, it is more likely to be accepted and adopted"

Unified Theory of the Acceptance and Use of Technology (UTAUT) 2 (Venkatesh et al., 2012)
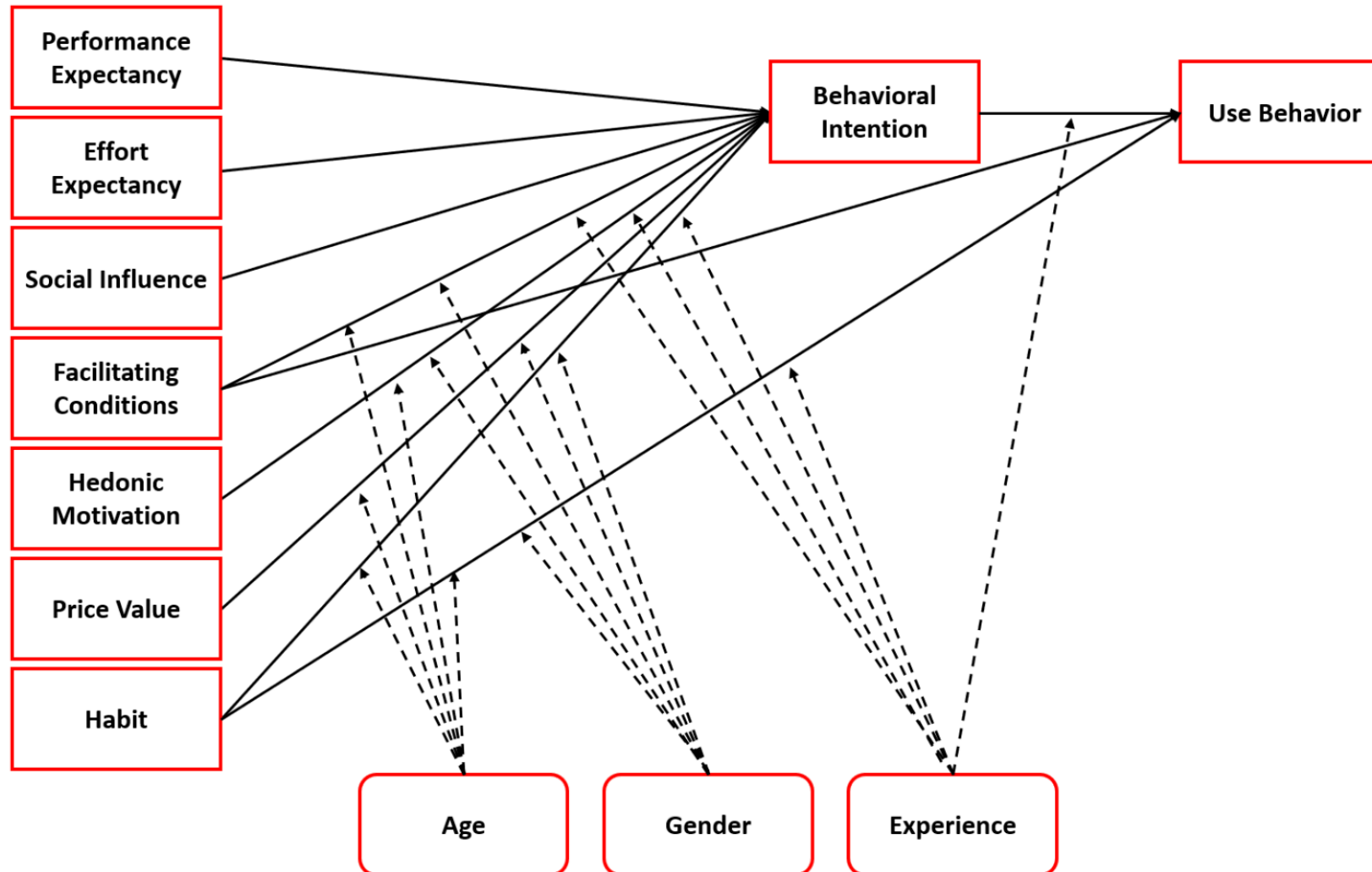
UTAUT 2

1. Performance expectancy: *I find using broadband internet useful in my daily life*

2. Effort expectancy: *I find using PC easy*

3. Social influence: *People who are important to me think that I should use smartphone*

4. Facilitating conditions: *I have the resources necessary to use broadband internet*

5. Hedonic motivation: *Using technology is fun*

6. Price value*: Internet service is reasonably priced*

7. Habit: *The use of PC has become a habit for me*

Moderating factors (age, gender, experience)

Models of Technology Use and Adoption

- Demographic and cognitive variables also shape technology adoption and use
    - Not modifiable
- Attitudes are malleable through the use of models and different frameworks
- Technology self-efficacy might be enhanced by providing enough **training** to express mastery

Training for Older Adults

- Need for instruction
  - Older adults over age 65 have less experience with technology
  - Perpetual, motor, and cognitive declines in fluence technology interactions and learning
  - 48%: *"when I get a new electronic device, I usually need someone else to set it up or show me how to use it"* (Pew Internet and American Lise Survey, 2017)

Good instructional design for older adults is usually good instructional design for all (Czaja et al., 2019)

How to start training program

- Initial step is <u>a needs assessment</u>
  - Identify necessary knowledge, skills, and abilities (task analysis) and
  - Understand user characteristics (person analysis)

Broadband Internet and Technology Adoption among Older Adults in Maryland

UNIVERSITY OF MARYLAND EXTENSION

FAMILY & CONSUMER SCIENCES

A needs Assessment Study

Research Objectives

- What are the levels of digital literacy, broadband adoption, and different technology use among older adults from different socio-demographic, and health backgrounds?

- What are the barriers and challenges older adults face concerning broadband services? (e.g., accessibility, attitude, affordability, privacy and security, awareness, skills, knowledge, etc.)

Methods

- Needs Assessment Survey

- 60 older adults (60+) residing in Maryland

- Recruiting via extension service organizations

- Step 1- quantitative survey
  - Demographic, socio-economic, and health information
  - Internet and technology use

- Step 2 - qualitative follow-up interview
  - UTAUT2
  - Technology Readiness
  - Open-ended interview

UNIVERSITY OF
MARYLAND
EXTENSION

FAMILY & CONSUMER SCIENCES

Healthier People, Healthier

RESEARCH PARTICIPANTS WANTED

We would like to learn about your experience interacting with technology and internet, even if you have none

You may be eligible to participate if you are:
- 60 years old or older
- Resident of Maryland
- Able to consent
- Speak English

Earn up to 60$ for your participation in
1 hour survey and 1.5-hour interview
(Permission to be audio recorded in the interview is required for participation)

If interested, please contact at 217-418-6259 or email: khamzina@umd.edu

IRB-Approved research study # 2069173-1, PI: Dr. Madina Khamzina

University of Maryland Extension's Family and Consumer Sciences Program educates and provides unbiased, research-based knowledge every Maryland resident needs to be healthy and economically successful.

University programs, activities, and facilities are available to all without regard to race, color, sex, gender identity or expression, sexual orientation, marital status, age, national origin, political affiliation, physical or mental disability, religion, protected veteran status, genetic information, personal appearance, or any other legally protected class.

Expected outcomes

- Gain valuable insights into subjective perceptions of technology

- Understand internet adoption among a diverse group of older adults

- Assist interventionists in promoting technology adoption for healthier and better aging

Current Initiatives

Marylanders Online - the University of Maryland Extension's newest program with a goal to increase the digital literacy skills and competency of Maryland residents:

- *Digital Navigation-* provides basic technical support over the phone to enhance digital access and inclusion in Maryland.
- *Digital Literacy Tech Education* - enhance Marylanders' digital literacy skills through education and training

# Dispelling Myths and Providing Opportunities

- Aging – multi-dimensional process

- Change in social roles or/and change on living arrangements

- Chronic illness or functional impairment

However

Dispelling Myths and Providing Opportunities

- Aging in the 21st century is vastly different than in prior time periods

- Definitions of "who is old" and "what it means to be old" are constantly evolving

- Older adult population is not a homogeneous group

- Recognizing this diversity, technology has the potential to address various challenges faced by older adults, improving their quality of life and overall well-being

- Essential to ensure that older adults have access to and can harness its full potential
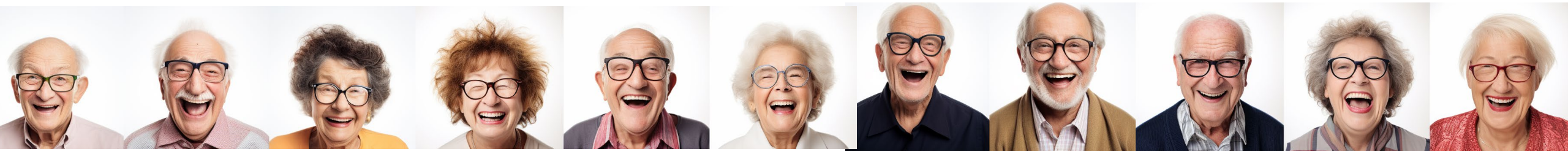
"Older adults are not technophobes; they are tech explorers waiting for the right opportunity."

- Jose Baez

Thank you!