

# Symposium: Health and Self-Esteem

**Interventions to Enhance Digital Literacy and Telehealth for Older Adults** E.T. Remillard (Convener).  
*Gerontechnology* 25(s)

**PARTICIPANTS.** P.P. Freddolino (USA), S. M. Mohamad (Brunei Darussalam), Czaja, S.J. (USA), & E.T. Remillard (USA).

**ISSUE.** Technology is increasingly ingrained in our everyday activities, such as managing finances, accessing resources, and socializing with others. A key example is the shift toward telehealth, which enables patients to receive remote healthcare services, communicate with staff and schedule appointments online, and participate in virtual wellness programs. Across a wide variety of sectors, many services now require the use of online portals or apps where users must create accounts, maintain passwords, and utilize email, in addition to navigating the platform itself. Digital services hold great potential to support the physical, mental, and social health of older adults, but individuals who lack technology skills can be left behind. While the proportion of older adults using technology has increased, many older individuals lack digital literacy or the cognitive and technical skills to use technology in order find, create, and communicate information effectively (American Library Association, 2011; Oh et al., 2021). Globally, there is a need to provide training and supportive services to ensure older adults can utilize everyday information and communication technologies (e.g., tablets, smartphones, computers) and participate in digital activities effectively and safely (e.g., avoiding scams, protecting their personal information). This symposium highlights interventions addressing this important need in various community settings. **CONTENT.** Freddolino (USA) will describe Virtual Connections – a community-based program to enhance basic digital skills (e.g., privacy, email, internet browsing) and awareness of telehealth resources by hard-to-reach older adults. He will present outcomes from distinct delivery models that provided the same resources via different means (e.g., home delivered meal recipients, in-person senior center groups) and devices (e.g., provided tablet, personal smart phone). Mohammad (Brunei Darussalam) will highlight two regional initiatives including 1) a community-based research collaboration in Southeast Asia focused on nurturing digital literacy skills and raising digital safety awareness among the older adult population and 2) BruHealth – a telehealth platform initially used to book COVID-19 vaccinations that has evolved into a widely used, multi-purpose telehealth platform. Czaja (USA) will describe the PRISM-CI software system, a tablet-based application designed to enhance access to resources, information, and social engagement for older adults with cognitive impairment. The presentation will highlight how the user-centered design approach and comprehensive instructional support can facilitate learning of new technology skills among this population. Remillard (USA) will present the Tele Tai Chi program which uses video conferencing to deliver a socially engaging, evidence-based exercise program. Her presentation will focus on deploying the virtual program in community-based settings and the technology support materials and training designed to enable instructors, staff, and participants to successfully deliver and/or engage in virtual wellness classes. **CONCLUSION.** Researchers demonstrate how user-centered digital literacy programs can facilitate technology use and skills among older adults and their participation in digital activities. Presentations underscore the importance of engaging community partners as collaborators in designing effective programs that meet the unique needs of a community. Shared success factors for sustainability include reciprocal community partnerships and adaptable technology support.

## References

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**Keywords:** digital literacy, telehealth, technology adoption

**Affiliation:** Center for Inclusive Design and Innovation, Georgia Institute of Technology, Atlanta, GA, United States

[elena.remillard@design.gatech.edu](mailto:elena.remillard@design.gatech.edu) ORCID ID: 0000-0001-5285-9069

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**Three Community Models for Enhancing Older Adult Digital Literacy** P.P. Freddolino, F. Sun, D. Wishart, H.N. Kim, A. Lingard, & A. Schneider. *Gerontechnology* 25(s)

**Purpose** Many older adults experience high levels of isolation, loneliness and physical health problems, often compounded by mental health or substance use issues. They rely on family caregivers, frequently older adults themselves. Resistance to learning about digital devices and services, or lack of knowledge about them, results in low use of available tools (like video chat, email, and social media) that can effectively connect older adults to health care, social care, and to family and friends. They can also connect caregivers to support, respite, and information that can reduce stress. The ever-increasing push by governments to make resources and required applications for relevant services available only online aggravates disparities caused by lack of digital skills. The goal of Virtual Connections has been to enhance the digital skills and awareness of telehealth resources by hard-to-reach older adults. **Method** Beginning in 2021, a series of community-based trials of a coaching model to enhance digital literacy and awareness of telehealth services like patient portals and virtual care led to piloting one initial model and then refining that model into varieties that used the same resources but delivered them by different means. In the initial model, recipients of home-delivered meals (Meals on Wheels) received a tablet computer, a 6-month data plan, a printed resource manual, and 10-12 weekly instructional home visits by volunteer coaches. Content covered basic privacy and security, tablet operation, email, internet browsing, cameras, free choice, and seven videos explaining telehealth basics including patient portals and virtual care. While successful, the model was seen as unsustainable, and the next models focused on participants' own smartphones, with resource manuals redeveloped to focus on smartphones. **Results and Discussion** Collaboration with six agencies led to evolution of three active models. First is the refinement of the initial model, utilizing volunteer coaches delivering in-home coaching to home-delivered-meal recipients using the updated manual and videos. Second is an effort focused on congregate or group sites. Two variants of this model emerged, one focused on meal sites where the agency brings free or low-cost meals, and the other focused on senior centers or senior residences without meals. Participants are recruited and volunteer coaches deliver the same content over six 1.5-hour sessions. The third model is essentially a 'free-choice' approach where local agencies or senior centers choose their own approach using our smartphone and telehealth resources. Data collection is not completed but we have some preliminary analyses. Baseline and post-test data on 13 home-delivered meal participants revealed that changes in outcome variables were not statistically significant, but all were in the predicted direction. The two variables that came closest to significance were a reduction in the technology anxiety scale and an increase in video device frequency of use. We will have additional data from a larger sample by the end of the project and will be able to report those results. Data will permit comparison of outcomes of the first and second models in two different counties for each model, as well as outcomes within one county for participants who received coaching using models one and two. Outcomes will include tech anxiety, tech usage (especially video calls), digital health literacy, and patient activation. We will also describe the factors that influenced each of the variations. We anticipate that many of the outcomes measured will prove to be statistically significant with the larger sample.

**Keywords:** digital literacy, telehealth, digital divide, caregivers, older adults

**Affiliations:** School of Social Work, Michigan State University; Wishart, Otsego County Commission on Aging

**Email:** freddoli@msu.edu

**ORCID iDs:**

Paul Freddolino: 0000-0002-4860-7085

Fei Sun 0000-0001-6291-1879

Ha-Neul Kim 0000-0002-1234-8296

Ayaka Lingard 0009-0008-9591-5241

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## Community-based Digital Literacy Programme and BruHealth 5.0 Application in Brunei Darussalam S. M. Mohamad. *Gerontechnology* 25(s)

**Purpose** The demographic shift towards ageing nation has profound implications for the nation's socio-economic landscape, healthcare system, and workforce dynamics. Brunei Darussalam requires solutions to navigate this shift, ensuring adequate support and care for its ageing population while maintaining economic growth and social cohesion. One of the many initiatives done to achieve successful ageing is through digital technology use, literacy and empowerment. In this presentation, I am sharing two initiatives run at the national and community level that includes older adults: (1) community-based digital literacy programmes and (2) the use of national mobile health application. **Results and Discussion** (1) A rising number of criminal cases concerning cybercrimes and fraud affecting older adults between 60 and 80 years old has been recorded in recent years. As such, several of the digital literacy community outreach programmes conducted in Brunei Darussalam focused on nurturing digital literacy skills and raising digital safety awareness among the older adult population (Borneo Bulletin, 2025). The importance of tackling this concern head on is responded by a digital literacy community-based research collaboration with universities and organisations in three Southeast Asian countries (Brunei, Malaysia and Indonesia). This project includes 'train the trainer' programmes for 100 older adults above 60 years old in selected areas in each of the countries that will begin in 2026. The Programme will be evaluated for the use of mobile devices, mobile navigation, communication and messaging, and online scams and fraud prevention. ChecBric Assessment Tool will be used to measure learning progress and confidence. (2) A BruHealth mobile application was launched in May 2020. It was initially used as a contact tracing tool during the COVID-19 pandemic but later developed into a platform for booking vaccination appointments and reporting post-vaccination effects (Jaafar and Gong, 2025). 63% of the total resident population logged in to their BruHealth weekly in mid 2022 (Koh et. al. 2022), and adults aged 60 and above were able to book their COVID-19 vaccination slots through the app. The mobile application continued to be developed for non-COVID-19 usage, including access to users' laboratory test data, booking of hospital visits, viewing imaging results, and logging travel data. Today, it is also used for video conferencing purposes (telehealth) where patient can have virtual consultations and monitoring through video calls or apps. The upgraded BruHealth 5.0 version in January 2025, made health management more accessible, personalised, and engaging for users (The Star, 2025; EVYD Technology, 2025). These two initiatives will demonstrate the use of digital technology and literacy in older adults' capacity building and improving their livelihood in the country.

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**Keywords:** BruHealth, digital literacy, Brunei, community, technology.

**Affiliations:** Center for Advanced Research (CARE) and Faculty of Arts and Social Sciences (FASS)  
Universiti Brunei Darussalam, Brunei Darussalam

**Corresponding Author Email:** [mazidah.mohamad@ubd.edu.bn](mailto:mazidah.mohamad@ubd.edu.bn)

**ORCID ID:** 0000-0003-1243-4554

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## Digital Literacy and Aging Adults: The Benefits of User Centered Design and Instructional Support S. J. Czaja, F. Falzarano. *Gerontechnology* 25(s)

**Purpose** Adoption of digital technology is becoming imperative for all areas of everyday living including health care, communication, resource access, education, work, and entertainment. Thus, having digital literacy, which refers to the ability to use digital technologies to find, evaluate, create, and communicate information is critically important in today's technology driven world. Digital literacy involves both technical skills, such as operating a smartphone, and cognitive skills, such as being able to search for, integrate, and critically evaluate online information, as well as issues related to trust/scams and "digital etiquette." Recent data<sup>1,2</sup> indicate that although uptake of technology is increasing among aging adults, the digital literacy of older people is still lower than that of younger cohorts. To ensure that older adults glean the maximum benefits from technology it is important to ensure that they are digitally literate. The aim of this presentation is to demonstrate how a user-centered design approach and instructional support can enhance the digital literacy of older adults with a cognitive impairment (CI). **Method** Participants were enrolled in a pilot trial (pre-test- post-test design) that evaluated the feasibility, acceptability, and preliminary efficacy of the PRISM-CI software system, a tablet-based application designed to enhance access to resources, information, and social engagement. The sample included 52 individuals with a CI ranging in age from 65-88 years ( $M=75.54$ ,  $SD=6.78$ ) who had access to PRISM-CI for five months. The software was designed using an iterative user-centered design approach, which involved representative older adults in the development of the software, training, and support materials. System development was informed by technology frameworks highlighting the importance *ease of use* and *usefulness* of technology as a driving force underlying ICT adoption<sup>3,4</sup>. Participants received three training sessions and were able to request additional training focusing on the topic(s) of their choice. The training included a basic touchscreen tutorial, followed by training and practice on the PRISM-CI features. Participants received independent homework assignments to complete after Sessions 2 and 3. All participants received a "check-in" call one week post final training to determine if they experienced any difficulty using PRISM-CI, a help manual, and a help card. **Results and Discussion** All participants were able to use the PRISM-CI system post training; twelve participants received between 1-6 extra tablet training sessions, averaging 2.5 supplemental trainings overall. Participants at follow-up exhibited significantly higher scores on the total Mobile Device Proficiency Questionnaire<sup>5</sup>, as well as on subscales measuring proficiency regarding mobile device basics ( $t = 3.25$ ,  $p = .002$ ), communication ( $t = 2.60$ ,  $p < .01$ ), internet ( $t = 3.35$ ,  $p < .002$ ), and use of the calendar ( $t = 41.2$ ,  $p < .001$ ). Most participants were satisfied with the amount of training received (77.1%), and 60% of participants reported being comfortable using PRISM-CI within one week of training. Overall, the result underscores the importance of using a user-centered design approach when developing technology applications as well as instructional and support materials. The findings also indicate that older adults with a CI, with the appropriate training, are capable of and willing to learn new technology skills.

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**Keywords:** Digital literacy, cognitive impairment, technology adoption

**Affiliation:** Department of Geriatrics and Palliative Medicine, Weill Cornell Medicine

**Email:** SJC7004@med.cornell.edu

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## Tele Tai Chi: Case Studies in Deploying a Virtual Wellness Program in Community-Based Settings

E.T. Remillard, T.L. Mitzner, & K.T. Mumma. *Gerontechnology* 25(s)

**Purpose** Telewellness classes use technology (e.g., videoconferencing software) to deliver wellness programs virtually. Accessible from anywhere, telewellness classes can expand access to specialized classes (e.g., evidence-based programs and those adapted for disabilities) to underserved populations of older adults, such as those in rural locations and those with mobility disabilities who experience significant barriers to in-person classes (e.g., transportation challenges, lack of appropriate instruction; Nikolajsen et al., 2021). Group-based telewellness classes that foster social connection may also be an impactful way to reduce loneliness and social isolation among older adults, and especially those with mobility disabilities who are at high risk (Sebastiao & Mirda, 2021; Tomida et al., 2024). In the Tele Tai Chi program, we translated an evidence-based tai chi program (Tai Chi for Health Institute's Tai Chi for Arthritis and Fall Prevention) to be delivered via Zoom with moderated social discussion for older adults with mobility disabilities (Remillard, Mitzner & Mumma, 2025). Results from a clinical trial evaluating the program's efficacy on physical activity and social connectedness are being analyzed. Building on this work, we are currently conducting a scale-up evaluation of the program to assess adoption and sustainability in community settings. **Method** We are partnering with community-based organizations (e.g., senior centers, senior living facilities, support groups) to develop custom telewellness infrastructures that meet their unique needs and preferences along with technology support materials so they can effectively deliver the 8-week program themselves. **Results and Discussion.** In this presentation, we highlight findings from deploying the program with our first two community partners with distinct Telewellness models. One community partner was a senior center that offered in-person classes with a virtual instructor, and the other was a support group for people with Multiple Sclerosis in which everyone (participants and instructor) joined remotely. We discuss the technology adaptations that were employed and lessons learned to optimize the experience for all parties (staff, participants, instructors), including ensuring participant safety and facilitating virtual interaction and social connection. Findings provide a roadmap of replicable models for deploying telewellness programs that 1) utilize affordable, off-the-shelf equipment and 2) provide comprehensive technology support materials and training to enable instructors, staff, and participants to successfully deliver and/or engage in virtual wellness classes. Through the deployment of telewellness programs in the community, we hope to empower older adults with digital skills to engage in telehealth and enable community-based organizations to deliver accessible, virtual health and wellness programs for this population.

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**Keywords:** telewellness, telehealth, social connection, exercise, mobility disability

**Affiliation:** Center for Inclusive Design and Innovation, Georgia Institute of Technology, Atlanta, GA, United States

**Email:** [elena.remillard@design.gatech.edu](mailto:elena.remillard@design.gatech.edu)

### ORCID iDs:

Elena Remillard (0000-0001-5285-9069)

Tracy Mitzner (0000-0002-5585-7306)

Kara Mumma (0000-0002-1979-2365)

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