## LEVERAGING VIDEO CONFERENCING TECHNOLOGY TO FACILITATE SOCIAL ENGAGEMENT IN OLDER ADULTS

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Social engagement is critical for maintaining well-being and quality of life in older adults. However, typical age-related changes across bio-psychosocial dimensions as well as age-related conditions such as mild cognitive impairment (MCI), pose many challenges for older adults to remain socially connected. The development of technologies, specifically video conferencing, can be leveraged as a tool to facilitate the delivery of social engagement opportunities, both enhancing access and minimizing social isolation. For successful adoption of these tools, the needs and preferences of older adult users must be considered. We employed an iterative research process for designing and developing a social-engagement intervention using a platform called OneClick.chat. We provide community-dwelling older adults with opportunities to engage in casual conversations and reminisce with others on topics of shared interests (e.g., nature, food, hobbies). Our iterative design process involved an interdisciplinary team of engineers, human factors specialists, gerontologists, and neuropsychologists. We also evaluated the system with eight participants (aged 50-64) who provided their insights pertaining to the content, delivery, perceived ease of use, usefulness, and potential adoption of this video-conferencing platform. Based on the feedback received, we have optimized the intervention in preparation for a randomized controlled trial. Furthermore, we provide key insights related to the implementation of social engagement through video technologies with the aim of facilitating social connectivity. Our learnings can be used to guide future work involving video-technology-based interventions to facilitate social connectivity for older adults with varying cognitive abilities.

## THE ASSOCIATION BETWEEN SUBJECTIVE AGE AND TECHNOLOGY USE AMONG OLDER ADULTS

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Background: Subjective age (SA) (i.e., felt age) has been found to be a biopsychosocial marker of aging. This study examined the associations between SA and frequency of technology usage of older adults.

Methods: Data were collected via an online survey conducted in 2020. The study analyzed participants aged 65 to 89 (M = 71.9, SD = 3.91) years resided in Japan (N = 1855, 54.3% women). SA was indexed by asking participants to specify in years how old they felt. Proportional discrepancy scores (PDS) ((SA - chronological age) / chronological age) were calculated to indicate younger or older SAs and used as an independent variable. Participants were asked about the frequency of computer, smartphone, flip phone, and SNS use.

Results: Nearly 90% reported using computers for more than 2-3 days a week, 64.3% smartphones, 22.9% flip phones, and 36.6% SNS. Logistic regression analyses revealed that lower PDS (i.e., feeling younger) was associated with a significantly higher frequency of smartphone use (OR: 0.75; 95% CI: 0.59, 0.96) after adjusting for age, gender, education, and subjective health. No such association was found for computer, flip phone, and SNS use. Implications: Older adults who use smartphones daily may feel younger than those who do not. Since the present study was administered during the COVID-19 pandemic, the daily use of smartphones may have helped older adults stay in touch with friends and family members and obtain information they need. The use of smartphones possibly contributed to better mental health outcomes while practicing social distancing.

## REMEMBER STUFF: A PILOT FEASIBILITY TRIAL OF DYADIC-FOCUSED TECHNOLOGY TO SUPPORT PEOPLE WITH ADRD

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Technology to support caregivers of people with Alzheimer's disease or related dementias (ADRD) with tasks may be the next frontier for caregiving research. This single-arm 90-day pilot trial tested the usability, feasibility, and acceptability of a software system called RememberStuff® (R/S) by Eperture. We also tested R/S's impact on caregiver burden. R/S includes a web-based portal where caregivers add information to a touch screen used by patients. R/S is organized around four main features– Calendar, Messaging, Activities, and Remember, a personalized task list. We collected data from dyads at baseline, 30-, 60-, and 90-days. Measures included the Healthy Aging Brain Care (HABC) monitor, System Usability Scale (SUS), and satisfaction scales indicating caregiver's willingness to use and behavioral intention. We approached caregivers of patients with ADRD seen in primary care clinics. Of the 469 participants reached, 278 (59.28%) refused, 156 (33.26%) were ineligible due to nursing home placement and 35 dyads were enrolled (7.46%). Among enrolled participants, 65.7% completed data up to 90 days. 73.5% of the caregivers lived with the patients. Mean caregiver age was 59.1 years; 67.7% are female; 88.2% are white. Willingness to use R/S was consistent across time from 30 days (M=3.9, SD=0.7) through 90 days (M=3.8, SD=1.1), while usability decreased (30 days M=57.7, SD=7.5 to 90 days M=54.9, SD 8.7). Caregiver's overall HABC monitor also decreased from baseline (M=29.0,

SD=13.1) to 90 days (M=27.2, SD=12.2) indicating less burden at 90 days. These findings support the feasibility of R/S technology to support caregivers of people with ADRD.

### SERIAL MEDIATION BY DIGITAL ASSISTANCE, INTERNET SELF-EFFICACY, DIGITAL CITIZENSHIP, AND UNMET NEEDS

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Although many social services are getting digitalized with the rapidly growing digital technology, there is little information available on the specific process of meeting personal needs in digital aging contexts. The present study examined the serial mediation model from digital assistant to unmet needs via internet self-efficacy and digital citizenship. An online survey was used to collect data in December 2021, and the sample included 223 older Korean adults aged 65 and above (M=68.79, SD=4.18, range=65-84) who owned at least one digital device. Unmet needs, the dependent variable, was the number of problems (e.g., housing, physical functioning) that participants responded to as 'unmet.' The independent variable was digital assistance, meaning getting help from friends or others when having problems with the digital device. The first mediator was internet self-efficacy, and the second mediator was five subtypes of digital citizenship (internet political activism, technical skills, local/global awareness, critical perspective, and networking agency). Covariates were gender, age, education, and income. SPSS Process Macro was utilized for serial mediation analysis. The result showed that only a serial mediation path from digital assistance to unmet needs via internet self-efficacy and internet political activism was significant. Additionally, a simple mediation path from digital assistance to unmet needs via internet political activism was significant. Technical skills, local/global awareness, critical perspective, and networking agency did not reveal significant mediational paths. Findings imply providing digital assistance system may be useful to reduce unmet needs among older adults by enhancing self-efficacy and political participation in the current digitalized world.

### A COMPARISON OF TRADITIONAL REMOTE MONITORING (RPM) DEVICES VERSUS A NOVEL, TOILET SEAT–BASED MONITORING DEVICE

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As the aging population increases, older adults are disproportionately susceptible to cardiovascular disease(CVD). Routinely monitoring vital signs can alleviate CVD's burden. Current telemonitoring technologies targeting vital signs can be complex, generating inconsistent outputs and suboptimal adherence. In response, Casana developed the Heart Seat(THS), a passive toilet seat-based remote patient monitoring (RPM) device. This study aimed to compare older adults' (1) adherence between traditional telemonitoring(TT) devices and THS and (2) satisfaction across devices. A randomized control study (UFIRB202100869) was conducted in an active lifestyle retirement community-The Villages, Florida. Using a crossover design, participants (N=49) with CVD were followed for 12 weeks (8/12/2021-12/21/2021), beginning in TT or THS Arm and crossing over arms at 6 weeks. Adherence was calculated daily as ≥1 use for ≥90 seconds for THS, and ≥1 use of the blood pressure cuff and scale for TT. Descriptive statistics and t-tests were used to evaluate adherence rates and participant's experience and perception of RPM devices. Participants mean age was 73.4 years (SD=7.1,51% female). The majority (94%) of participants had previous experience using telemonitoring devices (e.g. scale, blood-pressure cuff, smartwatch) and 87.7% strongly agreed to feeling comfortable with at-home health monitoring. Overall, participants demonstrated greater adherence to THS than TT ($t(48)=4.86$, $p<.001$). These findings suggest older adults are becoming increasingly experienced and comfortable with at-home monitoring of health parameters. Overall, adherence was greatest in THS, suggesting that passive, easy-to-use telemonitoring devices may increase adherence, promote real-time health monitoring, and support adverse event prevention in older adults.

### INTERNET LITERACY FROM GRANDCHILDREN OR YOUNGER GENERATION: A NEW DIRECTION FOR GERONTECHNOLOGY

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Internet literacy offers a modern set of tools that can help older adults achieve the three pillars of successful aging, especially in the post-pandemic world. In the United States, older adults have shown significant growth in the usage of the internet and online services. However, information and social connectivity for older adults with lower incomes and education levels still lag. The current pandemic raises the public question of whether internet access and education should be deemed as a basic human right. Internet access is even more critical for older adults who need additional technology access and training, tailored to fit their varying experience, disability, and cognitive ability levels. The pandemic has demanded numerous technological skills for daily life: videoconferencing to carry on work, ordering groceries, taking exercise classes online, talking to family members and healthcare providers, and now registering for vaccination. Thus older adults need help with technology use more than ever. We need awareness of the "digital divide" and collaboration from designers, developers, services, products, and programs or interventions from various public and private sources. Identifying social and logistical barriers to technology literacy, we propose a conceptual model of using intergenerational training strategies to ameliorate the digital divide experienced by older adults. In this paper, we will review successful intergenerational programs like Students to Seniors, and Zoomers to Boomers, and introduce a similar model for internet literacy. The intergenerational mentoring model is advocated due to its wide-ranging potential benefits for both the older generation and the younger generation.