

2024
INNOVATIVE RESEARCH
ON AGING AWARDS



The Innovative Research on Aging Awards recognize recent applied research that offers important implications for the senior living and aging services industries. Created to inspire next practices, the annual award honors groups and individuals for their research that can make a difference in the lives of older adults.

Each year, Mather Institute reviews dozens of submissions on a wide range of topics, including health and well-being of senior living residents, technological advancements for older adults, senior living workforce, and aging in place. The Institute selects award recipients based on:

- relevance to important issues in the senior living and aging services industries
- quality of research methods
- actionability of findings and recommendations
- originality of investigations

We hope these findings will benefit the industry as a whole, as organizations transform them into next practices.



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2024 GOLD AWARD RECIPIENT



CONNECTING GENERATIONS ONLINE TO EASE LONELINESS Creating Relationships & Erasing Ageism with Online Art Classes

Miami University: Elizabeth Lokon, PhD, MGS; Rosemarie Oakman, MNM

Case Western Reserve University School of Medicine: Vidushri Mehrotra, BA

University Hospitals Cleveland Medical Center: Sanjana Murali, MD

FOCUS: Can a virtual arts program ease loneliness in older adults AND combat ageism in students?

“ Students reported that they became more positive in their attitudes toward older adults; they became less fearful of the aging process; and they came to appreciate the diversity of older adults. ”

Even before the COVID-19 pandemic, loneliness and isolation among older adults were serious concerns in the US. The good news is that an arts-based intergenerational program can address not only loneliness in older participants, but also ageism in younger adults.

Researchers set out to address both issues with a virtual class based on the Opening Minds through Art (OMA) program developed by

Scripps Gerontology Center at Miami University in 2007.

The lead researcher, who had 16 years' experience designing and teaching OMA, developed an online undergraduate course based on the program, which Miami University offered in fall 2021 and spring 2022. Local older adults were recruited to participate, and matched with college students to explore visual art, music, fiction writing, and poetry in hands-on creative exercises and small-group discussion.

The researchers interviewed 14 older participants and analyzed 16 students' responses to identical questions.

FINDINGS

Although both groups felt that online engagement in general is not as valuable as in-person engagement, virtual OMA had a positive impact on their lives:

- Both older and younger participants discussed how the pandemic reduced their ability to socialize, yet also afforded them additional time and opportunities to pursue activities that were previously inaccessible to them and to prioritize what matters most in life.
- Both groups discussed how they were able to learn more about each other, reduce loneliness, and form relationships that were personal and life changing.
- Students reported that they became more positive in their attitudes toward older adults; they became less fearful of the aging process; and they came to appreciate the diversity of older adults.
- The older adults were able to break their stereotypes of college students.

READ THE ABSTRACT

Lokon, E., Mehrotra, V., Murali, S., & Oakman, R. (2024). Using Art and Technology to Address Loneliness and Bridge the Age Divide. *Journal of Intergenerational Relationships*, 1–17.

<https://doi.org/10.1080/15350770.2024.2307983>

FROM RESEARCH TO REAL LIFE



The researchers stress that a well-designed intergenerational program needs to meet the criteria below. Since the 1950s, interpersonal interaction, when structured properly, has been one of the most effective means of overcoming prejudices against marginalized groups. Levy (2018) identified five conditions for effective intergenerational programming:

- (a) individualized or one-to-one interactions that
- (b) provide or promote equal status during the interaction, and are
- (c) cooperative or involve working toward a common goal (e.g., an intergenerational service project),
- (d) involve sharing of personal information (e.g., life lessons and significant events), and
- (e) are sanctioned within the setting, such as by authority figures.

2024 SILVER AWARD RECIPIENTS



FOSTERING COMPANIONSHIP WITH FOSTER CATS Alleviating Older Adults' Loneliness & Reducing Pet Shelter Overpopulation

College of Veterinary Medicine, University of Georgia: Sherry L. Sanderson, DVM, PhD

Institute of Gerontology, University of Georgia: Kerstin G. Emerson, PhD

AU/UGA Medical Partnership and the Institute of Gerontology, University Georgia: Donald W. Scott, MD, MHS

Mary Inez Grindle School of Nursing, Brenau University: Maureen Vidrine, DNP, APRN-PMH, BC

Office of Vice President for Research, University of Georgia: Diane L. Hartzell, BS

Kaleidoscope Statistics, LLC: Deborah A. Keys, PhD

FOCUS: Can fostering a homeless cat significantly reduce loneliness in older adults?

Many older adults struggle with loneliness and social isolation, which increases the risk for serious medical conditions and can even cause premature death. At the same time, approximately 6.3 million homeless dogs and cats end up in shelters every year. Pairing older adults who live alone and have no other pets with cats from animal shelters is one way to address both loneliness and pet overpopulation simultaneously.

Researchers paired older adults (age 60 or better, living alone, and not currently a pet owner) with foster cats from a local animal shelter. Participants were screened for living in an acceptable and safe environment for an indoor cat and had to pass functional and cognitive assessments. Validated assessments for physical and mental health, and for loneliness, were collected prior to placement with a cat, and again one and four months after placement. If a participant chose to adopt their cat, an additional assessment was done 12 months post-placement with the cat. The study provided food and all supplies needed for fostering a cat.

READ THE ABSTRACT

Sanderson, S. L., Emerson, K. G., Scott, D. W., Vidrine, M., Hartzell, D. L., & Keys, D. A. (2024). The impact of cat fostering on older adult well-being and loneliness: A feasibility study. *The Journals of Gerontology, Series B; Psychological Sciences and Social Sciences*, 79(1), 1-8. <https://doi.org/10.1093/geronb/gbad140>

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Fostering a shelter cat with the option for adoption may be an effective solution in alleviating loneliness and improving mental health in older adults.

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FINDINGS

There was a statistically significant improvement in loneliness among the human participants by four months after placement of a foster cat. A similar four-month improvement that was close to being statistical significance was also observed for mental health. The majority (95.7%) of participants who remained in the study for a minimum of four months chose to adopt their foster cat permanently. As a result, fostering a shelter cat with the option for adoption may be an effective solution for alleviating loneliness and improving mental health in older adults.

FROM RESEARCH TO REAL LIFE



Loneliness and isolation are found even among senior living residents who are part of a larger community. There is a need for more pet-friendly senior living communities to help alleviate this situation. Cats make an ideal pet for many residents: They do not need to be taken outside, they can be left at home alone for several hours, and they are quiet.

If your community has rules restricting residents having pets, consider relaxing these. You might pursue a partnership with a local animal shelter, and work with a “cat expert” there who can recommend cats that have appropriate traits for living in a resident’s apartment or suite. You might even facilitate meetups between interested residents and cats in those shelters. Be sure to clearly outline the terms of fostering a cat, financial and otherwise.

MAKING STRIDES FOR THOSE AGING IN PLACE Connecting Walkable Neighborhoods to Health & Happiness

University of Galway: Kevin M. Leyden, PhD; Michael J. Hogan, PhD; Sebastiaan Bierema, PhD
Technological University Dublin: Lorraine D'Arcy, PhD
Ulster University: Brendan Bunting, PhD

FOCUS: Does living in a walkable neighborhood improve the likelihood of successfully aging in place?

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The survey results
reveal that for
older adults, walkable
places matter for
happiness.
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For older adults who want to age in place, their neighborhood plays a key role in how successful they'll be. Researchers recently explored how living in a walkable neighborhood—one where residents can walk to attain their daily needs—impacts personal well-being and independence in ways that are different than for older adults living in car-dependent neighborhoods.

The data for this study comes from a household population survey of 1,064 adults living in 16 neighborhoods in Dublin, Ireland, and its suburbs. About half of the surveys were conducted in neighborhoods that were walkable and about half were conducted in places that were car-dependent, allowing researchers to compare people living in different types of neighborhoods.

FINDINGS

The survey results reveal that for older adults, walkable places matter for happiness. This relationship comes about via a higher likelihood that residents will feel healthier, more socially connected, and more trusting of others in walkable neighborhoods, and this in turn affects their happiness. Walkable parts of cities, or walkable towns and suburbs, best enable older adults to age in place.

Mixed-use neighborhood designs, which enable residents to shop, socialize, or visit green spaces within walking distance of their homes, have direct and indirect effects on happiness for people of all ages. A key component of this happiness is that walkable places better enable social connections and trust in others. And perhaps because of this—and the fact that people tend to walk more in walkable places—residents are more likely to report feeling healthier and happier, especially as they age.

FROM RESEARCH TO REAL LIFE

The researchers hope that their findings encourage senior living providers to consider where communities are located, so that those residents can feel as independent as possible, and as part of the larger areas in which they live.

- Communities that are already situated in walkable neighborhoods could consider strengthening ties with nearby businesses, parks, and other locations to foster an overall sense of community. Perhaps they could become a walkable destination for non-residents, offering their outdoor areas as a park, or inviting locals to certain programs or events.
- For communities that are not located in walkable neighborhoods, consider whether changes in zoning could transform the area. Zoning laws are changeable, and may be incentivized by state or federal policy or even tax law.
- Hyper-local volunteer opportunities for senior living residents offer another way to build connections within a neighborhood. The researchers point out that older adults need community, and communities need older adults.

READ THE ABSTRACT

Leyden, K. M., Hogan, M. J., D'Arcy, L., Bunting, B., & Bierema, S. (2024). Walkable neighborhoods: Linkages between place, health, and happiness in younger and older adults. *Journal of the American Planning Association*, 90(1), 101-114. <https://doi.org/10.1080/01944363.2022.2123382>

MAPPING MINDFULNESS & BRAIN HEALTH

Revealing How Mindfulness-Based Interventions Support Behaviors

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Department of Psychiatry, Massachusetts General Hospital/Harvard Medical School: Christina M. Luberto, PhD
Treadwell Library, Massachusetts General Hospital: Lisa L. Philpotts, BSN, MSLS

FOCUS: How well do mindfulness-based interventions support older adults' brain health?

Given the growing numbers of older adults, experts are increasingly eyeing the potential of mindfulness to enhance their quality of life, improve brain health, and reduce cognitive decline. Mindfulness is paying attention to what is happening right now. Mindfulness-based interventions (MBIs) are programs that teach mindfulness to manage stress and improve well-being, often in groups over several weeks.

Although mindfulness is increasingly studied and talked about, there is still a gap in understanding how MBIs influence key lifestyle behaviors critical for brain health, like physical activity, sleep, and diet.

This research aims to fill that gap. In the largest study of its kind, researchers conducted a comprehensive literature search, focusing on randomized clinical trials of MBIs targeting modifiable lifestyle behaviors affecting brain health across the adult lifespan. They reviewed 79 articles that met their criteria, from a pool of 4,462 potential articles. Their goals included exploring the range of research methods in these trials and estimating the effects of MBIs on key lifestyle pillars of brain health.

FINDINGS

The analysis found that MBIs significantly improve key lifestyle behaviors affecting brain health, including reduced sleep disturbances, lower tobacco and alcohol use, and increased physical activity—pointing to MBIs' diverse benefits.

No link was found with social activity, and data on diet and cognitive activities were insufficient. These findings underscore the need for consistent measures in research and highlight how intervention design influences outcomes.

MBIs designed for specific conditions or populations (e.g., insomnia) were more effective in improving sleep compared to standard MBIs (e.g., mindfulness-based stress reduction). This suggests that MBIs can be customized to meet individual needs.

Ultimately, this study indicates that MBIs can be pivotal for innovation in senior living, since they are not only effective but also versatile, scalable tools within “brain health services” for primary and preventative care.

FROM RESEARCH TO REAL LIFE

The researchers recommend the following to providers who want to optimize the integration of MBIs:

1. Encourage mindfulness practice by promoting its simplicity and accessibility.
2. Share free guided meditations (e.g., <https://insighttimer.com/guided-meditations>).
3. Embed structured MBI programs like Mindfulness-Based Stress Reduction (MBSR) or Mindfulness-Based Cognitive Therapy (MBCT) into wellness offerings to improve sleep quality and physical activity levels.
4. Customize MBIs to address specific lifestyle behaviors or health concerns among residents.
5. Provide staff with mindfulness training to support the facilitation of MBI programs effectively.
6. Adopt shared medical visits for MBIs, combined with education on brain health and personalized coaching, to foster community and scalability.
7. Advocate for a comprehensive wellness strategy that includes MBIs alongside current activities to address the broad determinants of brain health.
8. Tackle challenges to MBI implementation by partnering with local mindfulness centers or leveraging publicly available digital platforms.

READ THE ABSTRACT

Mace, R. A., Stauder, M. J., Hopkins, S. W., Cohen, J. E., Pietrzykowski, M. O., Philpotts, L. L., Luberto, C. M., & Vranceanu, A. (2024). Mindfulness-Based Interventions Targeting Modifiable Lifestyle Behaviors Associated With Brain Health: A Systematic Review and Meta-Analysis. *American Journal of Lifestyle Medicine*. <https://doi.org/10.1177/15598276241230467>

MONITORING STRESSORS IN LONG-TERM CARE STAFF Tackling Staff Turnover with Data on Stress during Shifts

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Abaneh Ebangwese, BSN, RN

University of Maryland Baltimore County: K. Lira Yoon, PhD; Ethan Ray Fischer, BS; Shifali Sharma, MS;
G.S. Charan Duggirala, BS; Lujie Karen Chen, MS, PhD

FOCUS: How stressed are our long-term care nursing assistants?

The high turnover rate of nursing assistants working in long-term care must be addressed, and this group of researchers is focusing on reducing stress to help with retention rates. Their first step is to understand the individual stress experience of nursing assistants working in long-term care—so their novel pilot study was to have nursing assistants use wearable sensors to monitor stress levels throughout their day.

The researchers used E4 Empatica watches, ecological momentary assessment (EMA) surveys, and end-of-day interviews to assess the stress of eight nursing assistants during two working shifts. The watches measured physical activity, electrodermal activity, heart rate, and heart rate variability, and the surveys assessed the occurrence and intensity of stressful events twice a day while participants were wearing the sensors. Lastly, they employed the Day Reconstruction Method to conduct end-of-day interviews on each day sensors were worn to triangulate the data.

FINDINGS

Researchers found 83 stressful events (on average, five per shift), which they classified under 10 causes. The three most common causes of stress were:

- work demands and pressure (28.35%)
- heavy workload and staffing (19.69%)
- safety issues and COVID-19 concerns (17.32%)

Most of the reported events were rated up to a moderate intensity. The researchers also explored the difference in stress events and intensity among different shifts. Disrespect from residents (22.73%) was the most commonly reported stressor during day shifts. Feeling rushed was the most commonly reported stressor during evening (22.47%) and night (38.46%) shifts.

“ This pilot study had nursing assistants use wearable sensors to monitor stress levels throughout their day. ”

READ THE ABSTRACT

Doran, K., Witmer, S., Yoon, K. L., Fischer, E. R., Ebangwese, A., Sharma, S., Duggirala, G. S. C., & Chen, L. K. (2024). Gauging the stress of long-term care nursing assistants using ecological momentary assessment, wearable sensors and end of day reconstruction. *International Journal of Older People Nursing*, 19(1), e12592. <https://doi.org/10.1111/opn.12592>

FROM RESEARCH TO REAL LIFE

The researchers focus on details that can help senior living providers alleviate stress in workers:

- 1. Offer respite areas.** Although the intensity of stress reported was lower than expected (low to moderate), stressful events occurred throughout the entire community, including spaces that are supposed to provide an escape from work (e.g., break rooms, outside). Worksites can offer employees stress-free areas, such as meditation rooms, where they can get a break from their workday.
- 2. Rethink your wellness programs.** A number of stressful events happen during off shifts. Worksites can make sure their wellness programs encompass all shifts, not just the daytime workers.
- 3. Tailor wellness programs to participants.** Wellness interventions may need to be tailored to shifts and/or units to address unique stressors. It's encouraging that study participants reported lower intensity levels of stress, because interventions that participants could engage in while working (e.g., mindfulness) often target and are most effective for lower levels of stress.

2024 BRONZE AWARD RECIPIENTS



MEASURING BRAIN BENEFITS OF LIFELONG LEARNING Can We Protect Our Cognition from Age-Related Declines?

Clemson University: Karen Carnicello Wenzel, PhD; Marieke Van Puymbroeck, PhD; Stephen Lewis, PhD; Francis McGuire, PhD; Julie Vidotto, EdD

FOCUS: Is participating in lifelong learning associated with better cognition?

Lifelong learning programs are a promising strategy to promote successful and active aging. This study examined characteristics of lifelong learners to determine whether individuals who participate in lifelong learning programs exhibit higher levels of cognitive reserve than other older adult populations. Cognitive reserve protects against deteriorating cognitive function and even the risk of dementia.

This observational study used cross-sectional data from a nationwide survey administered to people age 65 and better recruited through nine Osher Lifelong Learning Institutes (OLLI). Data collected included general demographics and measures of physical and mental health, cognitive ability, meaning and purpose, cognitive reserve, and successful aging.

FINDINGS

The survey findings were clear: The lifelong learners had significantly higher scores on measures of cognitive reserve than other older adult populations. Additional differences included significantly higher levels of physical and mental health, as well as high levels of self-reported cognitive ability, meaning and purpose, and successful aging.

Following the surveys, the population of lifelong learners was revealed as predominantly White and female, the majority of whom were married, retired, and reported high levels of educational attainment.

This study supports the importance of lifelong learning as a strategy to support cognition in aging as well as overall successful aging. It also suggests that enhanced engagement in aging supports cognition and successful aging.

READ THE ABSTRACT

Wenzel, K. C., Van Puymbroeck, M., Lewis, S., McGuire, F., & Vidotto, J. (2024), Characteristics and cognition of older adults engaged in lifelong learning. *Educational Gerontology*, 50(5), 423–442. <https://doi.org/10.1080/03601277.2023.2299647>

FROM RESEARCH TO REAL LIFE



Previous research has shown that in general, older adults tend to decrease their engagement, and/or maintain engagement in familiar activities. It's important to stress that the cognitive benefits enjoyed by lifelong learners come from learning about new subjects.

The researchers of this study encourage senior living providers to find an Osher Lifelong Learning Institute (OLLI) in their area. There are 124 OLLIs in the US, and many similar organizations that essentially offer college-level learning opportunities. In addition, most colleges and universities allow older adults to audit classes for free. Seek out resources offering intellectually challenging content, and encourage residents to engage in new topics to increase their engagement.

“
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adult populations.
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DRAWING ON ART TO PAINT A CLEARER PICTURE OF LONELINESS Exploring Silent Suffering in Nursing Home Residents

Sydney Centre for Healthy Societies, University of Sydney, Camperdown, New South Wales, Australia:

Barbara Barbosa Neves, PhD, FRSA, FHEA

Monash University, Clayton, Victoria, Australia: Alexandra Sanders, BA, GDip; Kate Burns, PhD

Murdoch University, Perth, Australia: Josephine Wilson, PhD

RMIT University, Melbourne, Australia: Renata Kokanović, PhD

FOCUS: How can we shine a light on resident loneliness and give them a sense of control?

As declared by the US Surgeon General in 2023, loneliness is a public health crisis, increasing the risk of depression and dementia. Research into the experiences of lonely care home residents is sparse but shows their attempts to process loneliness are often brushed aside by family, staff, and other residents, reinforcing stigma.

This study used a qualitative collaborative arts approach in two nursing homes, drawing on 101 hours of ethnographic observation, 22 semi-structured interviews with lonely residents age 65 to 95, and narrative thematic analysis. Collaborations with award-winning author Josephine Wilson and illustrator Amanda Brooks then expanded understandings of the data. The artists worked with interview recordings and transcripts, ethnographic field notes, and researchers' sociological narratives to write creative stories and develop illustrations of two case studies featuring Gurney and Patricia. By fictionalizing and visualizing them, they created a sensory-rich analysis that goes beyond standard methods, allowing for a more nuanced grasp and communication of participants' experiences.

FINDINGS

Narrative analysis identified three overarching themes:

1. meanings, causes, and management of loneliness as silent suffering
2. participants' sense of invisibility within the institutionalization of long-term care environments
3. the ageism, stigma, and frailty linked to aging

The artistic analyses enriched these themes by emphasizing the sensorial aspects of loneliness. For example, neon lights and cold tea evoked a vivid, corporeal understanding of institutionalized loneliness. They also illustrated highlights of participants' lives showing how they used hobbies, distractions, reminiscence, and imagination as forms of resistance. Our interdisciplinary approach fostered an embodied understanding of participants' experiences—something scientific readings alone don't always enable.

READ THE ABSTRACT

Neves, B. B., Wilson, J., Sanders, A., Kokanović, R., & Burns, K. (2023). "Live gerontology": Understanding and representing aging, loneliness, and long-term care through science and art. *The Gerontologist*, 63(10), 1581-1590. <https://doi.org/10.1093/geront/gnad080>

FROM RESEARCH TO REAL LIFE

This study offers the senior living industry novel and creative ways of capturing and understanding the complexity of loneliness, amplifying residents' voices without marginalizing them. The researchers recommend the following:

- Develop innovative approaches to program delivery by fostering interprofessional collaboration, such as collaborative arts programs or research projects that connect interdisciplinary researchers, residents, and staff and promote creative expression and social engagement.
- Prioritize resident narratives by emphasizing the importance of listening to and valuing their stories, including of challenging or stigmatized experiences.
- Address loneliness by fostering meaningful social connections among residents through arts programs, outings, and peer support groups.
- Create sensory-rich, stimulating environments incorporating visual, auditory, olfactory, gustatory, and tactile materials that enhance well-being and quality of life.
- Support resident autonomy through holistic, person-centered care that empowers older adults to make meaningful choices and maintain a sense of control over their daily lives.

BUILDING BETTER CARE ROBOTS Involving Care Recipients & Caregivers in Designing Their Assistive Robots

University of Illinois Urbana-Champaign: Samuel A. Olatunji, PhD; Wendy A. Rogers, PhD; Harshal P. Mahajan, PhD
Hello Robot Inc: Vy Nguyen, PhD; Aaron Edsinger, PhD; Charles C. Kemp, PhD
University of Washington: Maya Cakmak, PhD

FOCUS: What if we could work with developers to customize robots for resident care?

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The goal was to ensure the couple could use the robot in the way they want, when they want, with whom they want, and where they want.
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Finding ways for older adults to age in place in their homes can save long-term costs while also maintaining good quality of life. However, a significant care gap exists between the rapidly increasing demographic of people age 65 and better and available professional support staff.

Several assistive robots have been piloted as promising solutions. However, the potential posed by these robots may not be fully realized if the older user's needs, abilities, and concerns are not adequately incorporated during the robot's design process.

With this in mind, researchers designed an immersive participatory process in which an older adult with significant mobility disabilities (Henry), and his care partner worked with an occupational therapist (OT) and an engineer over two years to improve the design of Stretch, an assistive robot from Hello Robot Inc. The couple actually contributed to the design of its components and features. The goal was to ensure they could use Stretch in the way they want, when they want, with whom they want, and where they want. Quantitative measures (workload, trust, etc.) and semi-structured interviews were analyzed to generate design recommendations.

FINDINGS

The project's person-centered, goal-oriented approach was beneficial in narrowing down tasks and identifying goals around self-care, productivity, and leisure. Outcomes included:

- Henry's performance and satisfaction while performing daily activities improved by 68% and 72%, respectively, when using Stretch.
- Usability aspects and limits to robot performance were successfully identified.
- Henry and the OT designed tools for Stretch to carry out some tasks, such as helping Henry self-feed, play cards, and provide assistance during chores.
- The researchers also identified facilitators and barriers to using Stretch in a home environment of an individual with a disability.

READ THE ABSTRACT

Olatunji, S. A., Nguyen, V., Cakmak, M., Edsinger, A., Kemp, C. C., Rogers, W. A., & Mahajan, H. P. (2024). Immersive participatory design of assistive robots to support older adults. *Ergonomics*, 1-15. <https://doi.org/10.1080/00140139.2024.2312529>

FROM RESEARCH TO REAL LIFE

In the long term, accepting robots, along with other technologies, to support senior living communities can be instrumental in holistically improving the quality of life for a wider range of older adults across different abilities. The researchers recommend that providers interested in integrating assistive robots take the following steps:

- Involve all stakeholders, including residents and caregivers, in selecting, customizing, and deploying any robots. Identifying the needs of older adults with a range of abilities, clinicians, and other care staff is critical to designing robots that truly support all stakeholders.
- Collaborate with researchers and robot designers in improving development of affordable assistive robots that can support care staff and improve productivity.
- Perform periodic technology needs assessments to ensure the user's needs are still met and technologies are customized or replaced as necessary. Older adults have age-related changes, and technologies must adapt to individuals' changing needs.

MAKING PHYSICAL ACTIVITY APPEALING WITH VR Targeting Older Adults with Virtual Reality Exercise Programs

School of Nursing, University of Maryland, Baltimore: Brittany F. Drazich, PhD, MSN, RN; Debora Anokye; Shijun Zhu, PhD, DrE; Jejomar Teleb; Elizabeth Galik, PhD, CRNP; Luana Colloca, MD, PhD, MS; Barbara Resnick, PhD, CRNP

FOCUS: Can we harness VR to encourage older adults to be more physically active?

Physical activity among older adults can prevent and treat a host of chronic conditions and reduce mortality by 22%. However, older adults who are high-income are almost twice as likely to meet the physical activity guidelines compared to their low-income peers. Virtual reality (VR) physical activity is an innovative approach to address barriers to exercise experienced by low-income older adults living in urban settings. The pilot study Motivating Older Adults Through Immersive Virtual Exercise (MOTIVE) tested the feasibility and preliminary efficacy of the MOTIVE intervention at increasing physical activity.

A total of 10 older adults randomized into the MOTIVE intervention group used the VR exercise applications HOLOFIT and Supernatural twice a week for eight weeks during supervised sessions. The 10 older adults randomized into the physical activity education only control group received education on physical activity guided by the National Institute of Aging’s “Get Fit for Life” booklet. The researchers then analyzed the data using descriptive statistics and linear mixed models, testing the interaction of time and the treatment condition.

FINDINGS

Participants in the MOTIVE intervention group attended an average of 15 out of the 16 sessions. A total of 90% of intervention group participants “completely agreed” that the intervention was acceptable, compared to 30% of education control group participants. In terms of preliminary efficacy, although the intervention group did not significantly increase their physical activity compared to the control group, data did show a moderate effect favoring the MOTIVE intervention group. These results provide strong evidence for the need for a larger effectiveness study.

“ This study indicates that a fully immersive virtual reality physical activity intervention is feasible among older adults who might not otherwise exercise. ”

READ THE ABSTRACT

Drazich, B. F., Anokye, D., Zhu, S., Teleb, J., Galik, E., Colloca, L., & Resnick, B. (2023). Motivating older adults through immersive virtual exercise (MOTIVE): A randomized pilot study. *Geriatric Nursing*, 54, 229–236. <https://doi.org/10.1016/j.gerinurse.2023.09.019>. PMC Journal – In Process.

FROM RESEARCH TO REAL LIFE



Not only is VR exercise an option for those with limitations that may prevent them from outdoor exercise, but VR can also be a motivator for older adults who struggle to maintain exercise routines; the novelty and gamification of VR activity applications can be very fun.

There are many applications to choose from, but the researchers used HOLOFIT and Supernatural. In HOLOFIT, participants virtually explore beautiful nature environments as they pedal on a (real) exercise bike. Supernatural has (seated for the MOTIVE Study) participants hitting or swatting virtual targets to the rhythm of a favorite song. The combination of the two programs targets both upper and lower body, with a low risk of falls.

The VR apps were used by individuals rather than groups, but providers might set up a tournament-style competition to increase interest and introduce a social component to the exercise program.

SUBMIT YOUR RESEARCH FOR NEXT YEAR'S INNOVATIVE RESEARCH ON AGING AWARDS.

The call for submissions will open in February 2025.
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