

Can video games improve the health of older adults with schizophrenia?

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According to the National Institute of Mental Health, schizophrenia and related psychotic disorders affect an estimated 820,000 to 2.1 million people in the United States, many of whom have co-occurring disorders

like heart disease or diabetes that contribute to an increased risk of premature death. Heather Leutwyler, associate professor of Physiological Nursing at the UC San Francisco School of Nursing, aims to lower the toll these disorders have on older people with schizophrenia and improve their functioning by getting them up and moving.

The method? Video games.

Creating an Effective and Enjoyable Exercise Program

Though the use of video games to promote exercise might seem counterintuitive, over the past six years, Leutwyler has secured funding from several sources to design and test an intervention that uses the Kinect system for Xbox – a video game platform – to provide an engaging and entertaining group exercise [program](#) for older adults with schizophrenia in a variety of treatment settings (e.g., inpatient, transitional residential). The funding came from various sources: the National Institute on Aging, the Claude D. Pepper Older Americans Independence Centers, the UCSF Clinical & Translational Science Institute and the UCSF Academic Senate. She and her co-investigators chose the [video game](#)-based program because the self-paced nature of the games offers a safe and easy way for a sedentary population to get started with exercise.

The researchers began with a once-per-week pilot program to gauge interest and test feasibility, and found that both residents and staff liked it, which led them to expand it to a 10-week program that met for one-hour sessions three times per week. Each session focused on a different mobility skill: strength and flexibility through tai chi; aerobic fitness with games like soccer or skiing; and balance and coordination with a game called "20,000 Leaks," which requires participants to use their

hands, feet and other parts of the body to "plug" leaks in a virtual tank.

"The participants said it was a really nice thing to do – to come play video games at the end of a long day of going to psychotherapy," says Leutwyler. "We weren't expecting it because [\[people with schizophrenia\]](#) tend to be more socially isolated. Instead they were really supportive of each other, but they also were competitive – they wanted to see their scores go up."

Early Successes

Mid- and end-point measures of the program found that it was achieving the hoped-for aims. There were clinically and statistically significant improvements in walking speed, and investigators saw improvement in negative mental health symptoms like social withdrawal and lack of motivation.

"In focus groups, [participants] have been telling us they feel more engaged in their health and that it's easier to get around and do daily activities," says Leutwyler. "They even tell us they notice others in the group having an easier time doing chores around the house."

The pilot project was designed to show the efficacy of the program, and Leutwyler and her co-investigators have submitted a journal article outlining the findings and discussing how similar programs could be implemented in similar settings. She hopes it will pave the way for more funding to further explore the program's possibilities and to expand it to more facilities.

A Multifactorial Problem

Leutwyler's interest in the health of people with serious mental illness

began when, as a new family nurse practitioner, she was providing primary care to people living in a locked mental health facility. "I noticed that all my patients' [physical health](#) was very poor, but that the older adults had the most health issues and the most difficulty trying to be healthier," she says. "Prescribing meds and talking with them one-on-one wasn't going to make the impact I wanted."

Thus, she pursued a doctoral degree at UCSF. Researching her dissertation helped her realize how many challenges people with schizophrenia face in managing their health. Homelessness, precarious housing and lack of access to care are problems for many, and the symptoms of schizophrenia can add an extra layer of difficulty for people trying to manage the chronic health conditions that accompany aging. The problem is likely to increase as people with severe [mental health issues](#) live longer, thanks in part to improved treatment.

After joining the UCSF faculty in 2009, Leutwyler continued to study older people with schizophrenia. "I really wanted to understand the relationship between their neurocognition, the symptoms of their mental illness and how it impacted their physical health." She began to think about how exercise and improved mobility could not only mitigate health problems, but also improve their mental health.

That's part of why, as she continues to pursue her work, Leutwyler left the [game](#) systems at one of the pilot sites, where residents have continued to play the games. She doesn't think simply putting an Xbox in a [mental health](#) facility is a panacea for improving the physical [health](#) of residents, but offering a simple, facilitated program might be a cost-effective start.

Provided by University of California, San Francisco

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