



Front Porch Residents Exercise Minds and Muscles on CyberCycle *Studies show many benefits to using interactive, virtual reality cycle*

It's 5:30 am and Walnut Village Retirement Community resident Lucy Kano feels like a bike ride. She knows regular exercise keeps her in good shape, but like many, sometimes she is not motivated to stay on a program. But instead of heading out to the sometimes dangerous city streets on a traditional two-wheeler or sitting in front of a TV set on an upright stationary bike, Kano has another option that's more fun, gives her a better workout, gets her competitive juices flowing, could improve her cognitive abilities and lets her interact with fellow riders all in the comfort of Walnut Village's Fitness Center.

"Today, I'm going to try the mountain lake trail," Kano says. "Tomorrow I may try something by the beach."

Kano is referring to the more than 40 virtual "tours" available on the CyberCycle, an innovative, interactive recumbent exercise bicycle created by Interactive Fitness



(www.ifholdings.com). CyberCycle riders experience virtual tours and can race against a "ghost rider," an avatar based on their last best ride or can compete against fellow riders.

Biometric feedback including Kano's power output, heart rate and calories burned are displayed live as she rides so she knows exactly how hard to push. The heads up display shows her RPM, grade, gear and position compared to other riders. Resistance automatically adjusts to the terrain on screen for a realistic feel unlike any other exercise bike. An interactive component tracks her progress individually and/or with fellow riders. All of these functions combine to motivate her and other rides to have fun. Meanwhile, physical activity increases and cognitive abilities improve as confirmed by recent studies.

Impressed with the CyberCycle's capabilities, the Front Porch Center for Innovation and Wellbeing decided to look specifically at how the cycle increased social interaction and improved fitness among its riders. To do so, the Front Porch Center developed a seven-week pilot project at Front Porch retirement communities Walnut Village in Anaheim and Carlsbad By The Sea in Carlsbad during which volunteer teams from the two communities competed against each other in a series of group challenges.

"Never underestimate the power of fun, especially when it comes to older adults," said Kari Olson, president of the Front Porch Center. "If your program emphasizes fun and wellbeing rather than health per se, it will be adopted much more easily and you'll achieve sustained use much more quickly. We got some wonderful outcomes in terms of health, and we also got wonderful engagement. People who hadn't exercised in many years said they felt like the bike was an easy way for them to get started again. On the other end of the spectrum, we had active exercisers who set challenging goals for themselves."

"It is good exercise, that's the reason I do it," said Jimmy Kennedy, a cyclist from Walnut Village. "Along with that, there's a lot of competition here and there's even competition between my wife and I, and she's out-biking me right now. And then there's the competition between us and Carlsbad By The Sea. That kind of creates a new aspect to it. We work out every day and we ride the CyberCycle every morning, and it takes the monotony of exercising out of it. Because you're looking at the screen that has the cycle paths, and the scenery is different. The time just flies by as you're maneuvering down these paths. You're competing against yourself too. It kind of takes your mind off the fact you're exercising, but it exercises your body and mind at the same time."

"I enjoy it," said Kano, an avid bike rider in her younger days and one of the 'most improved riders,' according to several performance metrics collected from the pilot. "It is much more interesting than riding a regular bike and the competition between our team and the team from Carlsbad By The Sea was definitely a motivating factor." The pilot was completed in February 2013 with the Walnut Village riders edging out those from Carlsbad By The Sea, according to performance metrics. Olson points out that practical feedback from participants was also given to Interactive Fitness about possible future improvements.

According to data from the Front Porch Center, pilot riders' average speed increased about 5 percent from 10.25 MPH to 10.79 MPH over the seven-week period.

"Another way to measure health is with efficiency or power divided by heart rate," said Ross Stensrud, chief marketing officer for Interactive Fitness. "This ratio shows we must work to pedal the bike. The higher the efficiency the better shape someone is in. If we compare efficiency from week 1 with week 7, the results are incredible. Eleven of the 16 riders at Walnut Village and Carlsbad By The Sea improved their efficiency and three riders maintained the same efficiency. This means that after seven weeks, 88 percent of

the riders have maintained or improved their fitness level. And across all riders, they are now 20 percent more efficient now than they were to start. This is simply remarkable.”

“It’s exciting to be working with a partner like Interactive Fitness that is looking for feedback and working together with us to ensure great results for everyone,” Olson said. She also said due to the success of the pilot, that the Front Porch communities of Carlsbad By The Sea, Walnut Village, Fredericka Manor and Vista del Monte have now purchased their own CyberCycles, opening up a wider field of riders and teams in Front Porch to promote competition and wellness.

The Science Behind CyberCycle: Recumbent Bike Increases Cognitive Ability, Studies Show

Recent clinical studies conducted on CyberCycle riders reported in the American Journal of Preventative Medicine found “... that for older adults, virtual-reality enhanced interactive exercise, or ‘Cybercycling’ two to three times per week for three months, yielded greater cognitive benefit, and perhaps added protection against mild cognitive impairment than a similar dose of traditional exercise,” explains lead investigator Cay Anderson-Hanley, PhD, from the Healthy Aging and Neuropsychology Lab and Department of Psychology at Union College, Schenectady, NY.

Research shows that exercise may prevent or delay dementia and improve cognitive functioning in normal aging. However, only 14 percent of adults aged 65-74 years old, and only 7 percent of those over 75 report regular exercise. So-called exergames like CyberCycle and other virtual, interactive exercises have the potential to increase exercise by shifting attention from less stimulating features to motivating features such as competition and three-dimensional scenery which the CyberCycle provides, leading to greater frequency and intensity of exercise, and enhanced health outcomes, according to the Healthy Aging study.

The study enrolled 101 volunteers, ranging in age from 58 to 99 years from independent living communities with indoor access to an exercise bike. Seventy-nine participants completed initial evaluations and training and rode identical recumbent stationary bikes, except the experimental bike was equipped with a virtual reality display.

“The CyberCycle riders had significantly better executive function (a set of mental skills that are coordinated in the brain's frontal lobe that work together to help a person achieve goals) than those who rode a traditional stationary bike, and Cybercyclists experienced a 23 percent reduction in progression to mild cognitive impairment compared to traditional exercisers,” the report states. Co-principal investigator on the project, Paul Arciero, PhD, professor of health and exercise sciences at Skidmore College, comments, “No difference in exercise frequency, intensity, or duration was

found between the two groups, indicating that factors other than effort and fitness were responsible for the cognitive benefit.”

“Navigating a 3D landscape, anticipating turns, and competing with others require additional focus, expanded divided attention, and enhanced decision making. These activities depend in part on executive function, which was significantly affected,” notes Dr. Anderson-Hanley.

About Front Porch

Front Porch is one of the largest not-for-profit providers of retirement living communities in Southern California. Front Porch active adult and full-service retirement communities offer a full range of options from independent living to continuing care, along with specialized programs like memory support. With innovative communities and programs that meet the changing needs of people as they age, Front Porch communities represent a leading-edge approach to wellness in aging. Front Porch is comprised of 11 full-service retirement communities in California and two adult living communities: one in Louisiana and one in Florida. Of these, five are Continuing Care Retirement Communities (CCRC). Front Porch, based in Burbank, Calif. and founded in 1999, is a not-for-profit organization that gives back to its residents and the communities it serves.

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