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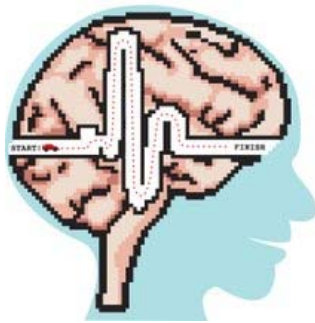
Features

Video games help many escape depression, other mental disorders

For many, playing seems to offer relief

Shankar Vedantam / Washington Post

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Washington Post

Gail Nichols has suffered from depression for years. When the 49-year-old St. Marys, Kan., resident can't sleep, she falls back on a form of entertainment that is gaining increasing credibility as a medical intervention: video games.

Nichols says she discovered the mental health benefits of video games some years ago during a particularly bad spell of depression. She had just started playing a game called Bejeweled, which requires players to move gems into rows based on their color.

When she could not get to sleep one night and was tormented by mental pain, she said, she turned on the computer and played the game for hours.

"In the day, you can find someone to talk to," Nichols says. "Games are a big help in getting through to the next morning."

Nichols liked the game so much that she got in touch with the manufacturer, PopCap Games. The inventors of the game were surprised to hear about its possible mental health benefits, and decided to study its potential for relief.

In a preliminary study that PopCap commissioned and funded, researchers found that volunteers who played Bejeweled displayed improved mood and heart rhythms compared with volunteers who weren't playing. That study was published this year in the Annual Review of Cybertherapy and Telemedicine.

Now, the company is about to launch a second phase of testing to see if the video games can have measurable effects on clinical markers of depression.

The research is part of a broad array of unconventional efforts that video game companies are devising to find new markets for their products.

Many of these steps are based on the idea that depression and other disorders – as well as everyday stress and worry – involve systematic patterns of thought and self-doubt, and that games can distract people and put them in a different mental zone.

You don't have to play with a computer or an Xbox 360 to notice the effect. Anyone who has used a crossword puzzle or Sudoku game to decompress after a difficult day recognizes the concept.

Nichols says she liked a version of the game where she was not competing against anyone or trying to rack up mammoth points, one in which colored gems drop endlessly onto the screen.

She says she falls into a trance of simultaneous concentration and relaxation while playing that she calls Zen.

Carmen Russoniello, who directs the psychophysiology lab and biofeedback clinic at East Carolina University in Greenville, N.C., is conducting the controlled research studies for PopCap.

He says he has found the same pattern among many volunteers: Certain games allow people to fall into a rhythm where they can play without either effort or boredom.

Russoniello says some games seem to activate the parasympathetic nervous system, which can reduce the heightened tension that is a natural response to stress.

He hypothesizes that one reason for the apparent mental health benefits of video games is that many people in Western countries find it impossible to switch off; they are always alert and stressed out. When those Type A people try to relax, they get bored because they have come to require a certain level of stressful arousal.

Playing certain video games, Russoniello says, offers just enough mental challenge to keep such people occupied while putting them into a state of relative mindlessness. That appears to have beneficial effects on stress and other mental problems.

In the next phase of the PopCap study, he says, he'll randomize patients who meet clinical criteria for depression into two groups. One will be assigned to look up material on the Internet related to mental disorders; the other will be asked to play video games.

Volunteers will participate for a month while he studies salivary markers of stress, breathing and heart rhythms.

Russoniello and several other researchers say that one of the breakthrough ideas in combating stress and other mental disturbances was manipulating a factor known as heart rate variability.

Different emotions seem to produce heart rhythm "signatures," and several devices have been invented to measure that variability. Companies such as HeartMath, of Boulder Creek, Calif., have developed video games in which winning requires players to regulate their heart rate variability, thus gaining greater control over their emotional responses to stressful situations.

HeartMath's "emWave" system, for example, has a sensor that can pick up a person's heart rate variability and feed those measurements into a computer.

The screen then displays a game that gives people feedback about their heart rhythms and challenges them to play in such a way as to smooth them out. The biofeedback allows people to see how they can control their stress levels through conscious effort.

Rollin McCraty, a psychophysicologist who directs research at the Institute of HeartMath, says dozens of studies demonstrate that the intervals between a person's heartbeats are linked with various emotional states.

McCraty says his institute functions as an independent body from the HeartMath company and receives no funding from it, instead seeking out research funds from various grant-making bodies.

He acknowledges that people do not need an electronic system to tell them they are stressed; most people know that already. But he adds that people are usually aware when

stress levels reach an extreme, not when they are starting to slip into stress.

Soldiers who have become habituated to being hyper-vigilant may no longer realize that they are not relaxed because their bodies have established a new threshold for "normal." When they are hooked up to the biofeedback machines, they come to see that even in everyday settings they are stressed out.

McCraty is studying whether soldiers who learn to control their cardiac rhythms by playing certain video games can perform more efficiently under pressure and whether they recover more quickly from traumatic events.

A study among correctional officers funded by California and several studies among nursing staff at leading hospitals have shown that giving people greater control over their internal states allows them to work better and reduces the risk of burnout, McCraty says.

While the new tools, games and biofeedback gizmos make it easier to develop control over your heart rate variability, he acknowledges that people could learn to develop smoother heart rhythms without external aids.

One system for this, he says, is described at www.heartmath.org/for-you/destress-kit-for-the-changing-times.html.

Concludes McCraty: "We have more power to self-regulate our feelings than most people know."

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