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## Research

### Potential Role for Video Games in Improving Certain Health Outcomes

By

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(HealthNewsDigest.com) - PITTSBURGH, May 18 – Certain video games may be useful tools for psychological and physical therapy, according to University of Pittsburgh School of Medicine researchers who reviewed randomized controlled trials that tested the ability of video games to improve or promote health outcomes.

Video gaming has grown into a multi-billion dollar business, and much of the research about the effects of games on health has focused on negative outcomes. Violence in some games has been linked to aggressive behavior, and prolonged gaming has been linked to inactivity, obesity and repetitive strain injuries. But increasingly, video games also are being developed to encourage physical activity, distract people from chronic pain, and promote health education.

“Although it is very important to continue to assess the negative impact that video games can have on health, it also is valuable to study how the power of this technology may be used to improve health,” said Brian Primack, M.D., Ph.D., associate professor of medicine and pediatrics and director of the Program for Research on Media and Health at Pitt’s School of Medicine, who led the study. It will appear in the June issue of the American Journal of Preventive Medicine.

Researchers identified 38 peer-reviewed journal articles that tested whether a video game could improve a particular health outcome. Some of the games aimed to improve psychological outcomes. For example, one study focused on anxiety reduction with Bejeweled, a common tile-matching puzzle game, and another used Rise of Nations to lessen cognitive decline in the elderly. Some video games, such as Neverball, were used to improve physical function and stability. Another study looked at Playstation EyeToy games to help with rehabilitation from stroke.

“Of course, one of the most publicized areas of video game uses for health is in the physical activity category. Schools and public health initiatives are actively investing in these games in order to get kids active, but the evidence that they work is mixed,” Dr. Primack said. “Video games also have been tested to see if they help doctors gain skills. For example, two articles looked at whether playing video games with visuo-spatial demands help surgeons perform better at simulated laparoscopic surgery.”

Many games aim to improve health through education. Re-Mission helps adolescent cancer patients understand more about cancer, and Packy & Marlon is an interactive video game in which two adolescent elephants save a summer diabetes camp from rats and mice that have disrupted the camp’s food and diabetes supplies. Virtual reality and other video games are used for pain distraction during distressing medical procedures.

In the 38 studies identified, the researchers examined a total of 190 health outcomes and found that video games improved 69 percent of psychological therapy outcomes, 59 percent of physical therapy outcomes, 50 percent of physical activity outcomes, 46 percent of clinician skills outcomes, 42 percent of health education outcomes, 42 percent of pain distraction outcomes and 37 percent of disease self-management outcomes.

“Most of the games that have been studied thus far were aimed at children and the elderly, so there may

be an opportunity to develop more for the middle-age adult population, who also like playing video games for fun,” Dr. Primack said. “We see opportunity for additional research of video games to improve health in innovative and enjoyable ways.”

A video describing the study is posted at <http://www.scivee.tv/node/48059>.

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#### About the University of Pittsburgh School of Medicine

As one of the nation’s leading academic centers for biomedical research, the University of Pittsburgh School of Medicine integrates advanced technology with basic science across a broad range of disciplines in a continuous quest to harness the power of new knowledge and improve the human condition. Driven mainly by the School of Medicine and its affiliates, Pitt has ranked among the top 10 recipients of funding from the National Institutes of Health since 1997.

Likewise, the School of Medicine is equally committed to advancing the quality and strength of its medical and graduate education programs, for which it is recognized as an innovative leader, and to training highly skilled, compassionate clinicians and creative scientists well-equipped to engage in world-class research. The School of Medicine is the academic partner of UPMC, which has collaborated with the University to raise the standard of medical excellence in Pittsburgh and to position health care as a driving force behind the region’s economy. For more information about the School of Medicine, see [www.medschool.pitt.edu](http://www.medschool.pitt.edu).

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