

Scientists urge game designers and brain scientists to work together

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Neuroscientists should help to develop compelling digital games that boost brain function and improve well-being, say two professors specializing in the field in a commentary article published in the science journal *Nature*.

In the Feb. 28 issue, the two—Daphne Bavelier of the University of Rochester and Richard J. Davidson of the University of Wisconsin-Madison—urge [game designers](#) and brain scientists to work together to design new games that train the brain, producing positive effects on behavior, such as decreasing anxiety, sharpening attention and improving empathy. Already, some video games are designed to treat depression and to encourage cancer patients to stick with treatment, the authors note.

Davidson is founder and chair of the Center for Investigating Healthy Minds at the UW's Waisman Center. Bavelier is a professor in the Department of Brain and Cognitive Sciences at Rochester.

Video game usage, which continues to rise among American children, has been associated with a number of negative outcomes, such as obesity, aggressiveness, [antisocial behavior](#) and, in extreme cases, addiction. "At the same time, evidence is mounting that playing games can have a beneficial effects on the brain," the authors write.

Last year, Bavelier and Davidson presided over a meeting at the White House in which neuroscientists met with entertainment media experts to

discuss ways of using [interactive technology](#) such as video games to further understanding of brain functions, as well as to provide new, engaging tools for boosting attention and well-being.

Bavelier's work is focused on how humans learn and how the brain adapts to changes in experience, either by nature (as in deafness) or by training (such as [playing video games](#)). Her lab investigates how new media, including video games, can be leveraged to foster learning and [brain plasticity](#).

Davidson, who studies emotion and the brain, is leading a project funded by the Bill & Melinda Gates Foundation in collaboration with UW-Madison's Games + Learning + Society to develop two video games designed to help middle school students develop social and emotional skills, such as empathy, cooperation, mental focus and self-regulation.

"Gradually, this work will begin to document the burning social question of how technology is having an impact on our brains and our lives, and enable us to make evidence-based choices about the technologies of the future, to produce a new set of tools to cultivate positive habits of mind," the authors conclude.

Provided by University of Wisconsin-Madison

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