

# Video games: The bad, the ugly, and the (potentially) good

AAAS Neuroscience & Society event showcases games' effects on brain, behavior

By **Michaela Jarvis**

The typical client at ReSTART treatment center is young, male, depressed, anxious, sleep-deprived, failing in school or at work, poorly developed physically, unfamiliar with normal dating relationships—and living every possible moment in front of a screen.

“The young, mostly men who are coming to ReSTART are coming for their video game use,” said Hilarie Cash, ReSTART co-founder and chief clinical officer. “They haven’t been brushing their teeth, they haven’t been taking good showers, they haven’t been eating well. They haven’t been learning how to build and maintain relationships, so they don’t have a clue, and at this point, it’s highly anxiety-provoking.”

Cash spoke at a 15 March Neuroscience & Society event cosponsored by AAAS and the Dana Foundation. The Neuroscience & Society lecture series began in 2012 to provide a forum for members of the community to hear outstanding speakers discuss new findings about the brain and what they might mean for ordinary individuals, as well as for society. This event focused on the effect on brain and behavior of video games, which are played by 155 million Americans at least three times a week, according to Deborah Runkle, senior program associate with the AAAS Center of Science, Policy and Society, who introduced the speakers. The event’s three experts spoke about video game addiction, the connection between violent video games and aggression, and the possible benefits of strategy-based video games for older adults.

Cash, predicting that “Internet gaming disorder” will become part of the Diagnostic and Statistical Manual of Mental Disorders (DSM), said that many of her clients come to ReSTART having already been treated by psychotherapists for years and often have diagnoses of depression, anxiety, and attention deficit disorder. “But the therapists are not addressing the problem that’s standing in the way, which is their addiction to gaming and other aspects of the Internet.”

Cash said ReSTART clients take a sabbatical from their screens for 45 to 90 days, followed by a slow reintroduction to screens during a transition period. They have to give up a main source of their self-esteem (their gaming prowess) and develop “a new identity” through a healthy lifestyle, work, communication workshops, instruction in life skills such as grocery shopping and cooking, and counseling.

Outlining a different topic related to video games, speaker Craig Anderson, Distinguished Professor in the Department of Psychology at Iowa State University, said research has consistently shown an indisputable causal link between violent video games and aggressive behavior.

“No matter what research design you use, you come to the same con-

clusions,” said Anderson, who has been studying the effects of violent video games for more than 20 years, adding that excessive violent video game play has been linked to increases in hitting, kicking, punching, biting, fights at school, sexual assault, violent juvenile delinquency, and robbery. Asked whether the connection might be due to more violent people being attracted to the games, Anderson said no. “The experimental studies rule that out. The longitudinal studies rule it out.”

A new, recently accepted study of violent video games, television, and films involving seven different countries shows that the effect of media violence on levels of aggression is basically the same across the different cultures of the United States, Australia, Germany, China, Japan, Croatia, and Romania, Anderson said, even after controlling for other risk factors such as child abuse and peer violence. The study of more than 2000 participants found that the media violence effect on aggression was partially the result of increased aggressive thought patterns and partially the result of decreased empathy, replicating the findings of earlier longitudinal studies.

Referring to strategy-based games similar to speed chess, rather than action video games, the third speaker at the Neuroscience & Society event explained ongoing research into game-related benefits to the cognitive abilities of older adults. Preliminary research has suggested that “if the target is to improve older adults’ cognitive control, reasoning, and higher-order cognitive skills, and stave off dementia and Alzheimer’s as long as possible, then maybe strategy games are the way to go,” said Chandramallika Basak, assistant professor at the Center for Vital Longevity and School of Behavioral and Brain Sciences at the University of Texas at Dallas.



A young man plays a video game at an electronic entertainment show.

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