Medical Xpress

Gaming to improve eyesight and 'hearing' colors

February 17 2012

How we perceive the world tells us a lot about how the brain processes sensory information.

At this week's meeting of the American Association for the Advancement of Science (AAAS) in Vancouver, McMaster University psychologist Daphne Maurer will report on how vision develops in individuals born with cataracts in both eyes. Although such persons have their vision "corrected" by surgery and contact lenses, Maurer's study shows that they experience specific visual processing deficiencies into adulthood.

But the studies reveal good news as well. Some of these effects can be reversed if the individual follows a short program of video gaming.

"After playing an action video game for just 40 hours over four weeks, the patients were better at seeing small print, the direction of moving dots, and the identity of faces. Those improvements tell us that the adult brain is still plastic enough to be trained to overcome sensory deficiencies," says Maurer.

Maurer is also internationally known for her work on synaesthetes—individuals whose brains mix and link different senses. For example, in one form, adults literally hear a colour. Every time a particular note is played on the piano, they perceive a specific colour. The phenomenon is more common than expected, and runs in families. In Maurer's lab, these individuals are opening up new perspectives in

understanding the development of perception and language.

"Our work suggests that babies and toddlers start out with a bit of synaesthesia that usually goes underground as we develop."

Maurer will take part in the AAAS session The Effects of Early Experience on Lifelong Functioning: Commitment and Resilience that will take place on Friday, February 17. The symposium is organized by University of British Columbia psychologist Janet Werker, who will present on the effects of early experience in acquiring language.

Provided by Natural Sciences and Engineering Research Council

Citation: Gaming to improve eyesight and 'hearing' colors (2012, February 17) retrieved 13 May 2024 from https://medicalxpress.com/news/2012-02-gaming-eyesight.html