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## **Violent Games DO Alter Your Brain – and the effect is visible in MRI scans in just a week**



By **ROB WAUGH**

**Violent video games and other computer entertainment have long been criticised for damaging youngsters' brain.**

**But activists such as Oxford Professor Baroness Greenfield have often presented little science to back up their allegations.**

**However, extensive research into the subject has now provided worrying results that support her claims.**

**'Screen technologies cause high arousal which in turn activates the brain system's underlying addiction,' the neurologist said last month in an attack that accused games of causing 'dementia' in children.**

**'This results in the attraction of yet more screen-based activity.'**

**And now the first genuinely scientific attempt to analyse the emotive subject has thrown up astonishing results that suggest she is right.**

**Differences in brain activity between young men who played violent games and ones who didn't were visible in a randomly assigned sample in just one week.**

**A presentation at the annual meeting of the Radiological Society of North America told how fMRI scans were used to analyse the effects of playing violent videogames on brain activity.**

**The study took in 22 young men, and used magnetic-resonance scanning, as well as verbal psychological tests and counting tasks.**

**One control group played a violent shoot 'em up for 10 hours during one week, then refrained afterwards.**

**The other group did not play any games in either week.**



Shoot 'em ups such as Modern Warfare 2 offer relentless action - and MRI scans of gamers who play for more than 10 hours per week show that the games DO change activity in crucial brain regions

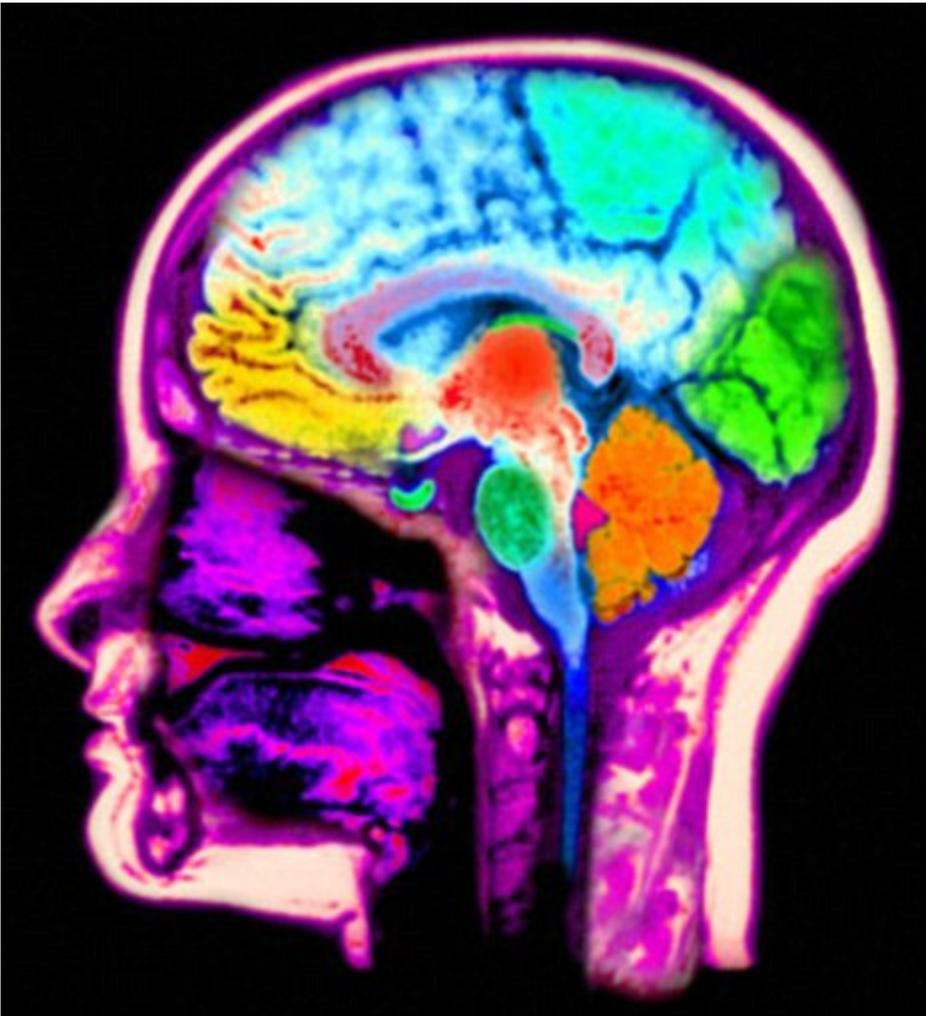
**After one week, the ‘gamers’ showed less activity in certain regions of the brain when they were scanned.**

**Dr Yang Wang, assistant research professor in the Department of Radiology and Imaging Sciences at Indiana University School of Medicine in Indianapolis said to Medical News Today: ‘For the first time, we have found that a sample of randomly assigned young adults showed less activation in certain frontal brain regions following a week of playing violent video games at home.’**

**‘These brain regions are important for controlling emotion and aggressive behavior.’**

**The researchers, though, were cautious about their findings. Learning any new activity causes changes in brain activity that are visible under MRI scans, so the study does not prove that it is specifically playing violent games that alters behaviour.**

**The good news for parents is that the changes diminished greatly after one week.**



Magnetic resonance scan MRI of the head computer enhanced and colourised: The areas associated with cognitive function and emotional control seemed to function differently after just a week of playing a popular shoot 'em up

**Dr Wang told Medical News Today: 'These effects indicate that violent video game play has a long-term effect on brain functioning.'**

**It's the first evidence of videogames having a detectable 'effect' on the brain – but whether this effect is simply the gamer group using parts of their brain differently to learn new skills remains to be discovered.**

**The fact that the areas affected appeared to be related to cognitive function and emotional control are concerning.**

**Further research into the subject will be conducted by Dr Yang Wang and his team.**

**'Violent Games DO Alter Your Brain' originally appeared in the Daily Mail.**