

Playing with Kids' Minds?

You probably think that the video game you have played every afternoon isn't affecting your behavior. Think again. Researchers at the Indiana University School of Medicine recently conducted a study that demonstrated otherwise.

The Study Over a 2 year period, researchers at Indiana University School of Medicine studied two groups of between the ages of 13 and 17.

Step One

The teenagers and their parents were surveyed about the teenagers' exposure to violence in video games, movies and television.

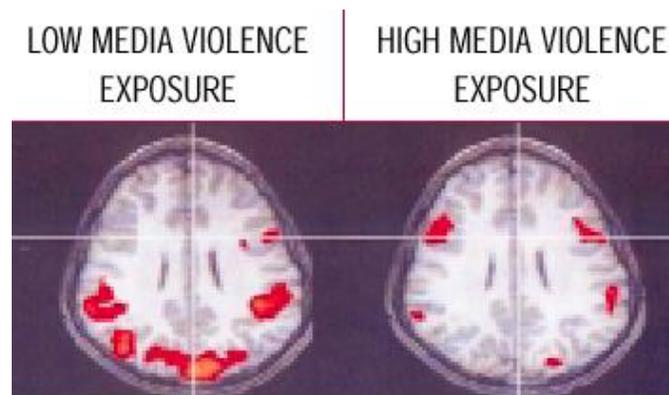
Some of the teenagers had viewed a lot of media violence throughout their lives and some had viewed very little.

Step Two The teens were tested in a very sophisticated MRI, called the fMRI. **The fMRI produced pictures of the activity in the logical part of the brain, the pre-frontal cortex.** The pre-frontal cortex is responsible for controlling behavior, controlling impulsive urges, thinking about future consequences and decision-making. If children do not fully develop their pre-frontal cortex, they can become problem adults.

The Brain Scans

The following two sets of the fMRI pictures of brain scans show the differences in brain activity between teenagers who had been exposed to a lot of media violence and those who had been exposed to very little.

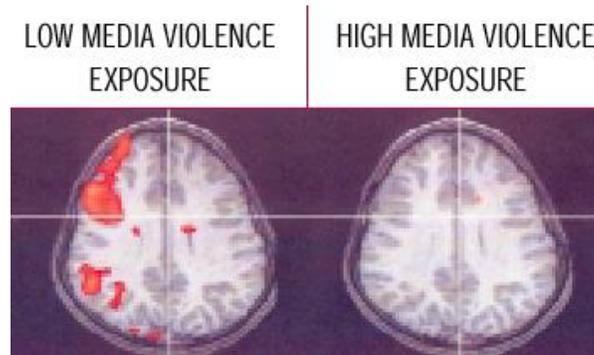
The scans on the left are teens with low exposure to media violence and the scans on the right are teens with high exposure. The larger the red area and the deeper the red color, the more brain activity is occurring in the logical, adult part of the brain. Conversely, the smaller the red area and the **lighter the color**, the **less brain activity** is taking place.



The Video Game

This set of scans shows brain activity when the teenagers were viewing a video game inside the fMRI. **The low media exposure teens are using more of the logical part of their brains than the high exposure teens.**

Decision Making



This set of scans shows brain activity during a decision making exercise, called Go-No-Go. When it comes to looking to the future, weighing consequences and making decisions, **the low media violence exposure group is using a lot of the logical part of their brain; the high media violence exposure group is using very little.**

The Conclusion

After studying and comparing all of the brain scans of all the teenagers, what did the researchers conclude?

The most surprising result was that teenagers with a high amount of exposure to media violence had reduced activity in the logical part of the brain.

The more violence they had seen, the more pronounced the deficit. The teens that had seen very little media violence had the most activity in the logical part of the brain-the part that you need to develop to reach your full potential.

All of these results indicate that there is a relationship between the amount of media violence children see and their ability to think logically.

This is a summary of the article on the Indiana University School of Medicine website: www.medicine.indiana.edu and published in 2005, Media Violence Exposure and Frontal Lobe Activation Measured by Functional Magnetic Resonance Imaging in Aggressive and Nonaggressive Adolescents, Vincent Mathews, MD,* William Kronenberger, PhD, Yang Wang, MD, Joseph Lurito, MD, PhD,* Mark Lowe, PhD, and David Dunn, MD, ***Journal of Computer Assisted Tomography.***