

Studies Show Violent Videos Damage Brain

by Don Phau

Recently released medical studies indicate that violent video games damage the brain, possibly permanently. Video games may be more dangerous to your health than cigarettes or alcohol. This national scandal has been covered up for the benefit of the \$10 billion-a-year video-game industry, of which violent games rated "M," for Mature, are the fastest-growing segment. Approximately 20 million Americans, many under 18, play these "M" games. The studies, many years in the making, show that repeated playing of violent video games "desensitizes" the activities of the brain involved in reasoning and planning, while activating those functions that respond to violence. The studies include scientific data indicating that these games may actually cause destructive behavior.

These research studies also underline the assessments of Lyndon and Helga LaRouche in this news service, and of specialist Lt. Col. David Grossman, that point-and-shoot video games can and do function as training devices teaching young players how to accurately shoot and kill human targets. For more than three years, *EIR* has featured the warnings by Lyndon LaRouche, Helga Zepp-LaRouche, and Colonel Grossman, that violent "entertainment," such as video games, was a key factor in shootings and killings at schools around the world, such as those at Columbine High School in Colorado, where 27 students and teachers were massacred by two crazed youths addicted to violent video games and movies.

Decreased Brain Activity

The lead study was directed by Dr. Vincent Mathews of the University of Indiana, and presented at the 88th Scientific Sessions and Annual Meeting of the Radiological Society of North America in Chicago in December of this year. Dr. Mathews' team conducted brain scans, called functional MRI (Magnetic Resonance Imaging), of 38 teenagers, ages 13-17. The teens were divided into two groups. One group of 19 had been diagnosed as having behavior problems (Disruptive Mental Disorders), and the other 19 were "normal." Both groups were given two video games to play. One game was a non-violent car-racing game, and the other was a violent James Bond-type shoot-'em-up. Both groups played the games while having their brains scanned by MRI. According to Dr. Mathews, the MRI scans measured brain activity by increased blood flow in the scanned areas.

The results showed that both groups had decreased brain activity when regularly playing the violent video game. Brain changes were most apparent in those teens who were "heavy

users"—"those who played several hours a day," said Dr. Mathews. Though he did not issue any blanket condemnation of violent video games, Mathews did say, "I think this information gives credence to what has become a growing concern about what is perceived as increased violence among adolescents."

Carol Rumack, a doctor of radiology and pediatrics at the University of Colorado, said that the Indiana study suggests that repeated exposure to violent video games is "desensitizing the brain. . . . The result is that the child can no longer understand the real effects of violence." These conclusions were also confirmed in a discussion with John P. Murray, professor of developmental psychology at Kansas State University. Professor Murray has conducted his own studies of violence using MRI (see interview).

There have been other less elaborate studies which back up Dr. Mathews' work. A story in the October 2002 issue of *Computer Game* magazine reported that in Japan, Akio Mori, a professor of neurology at Nihon University, said that children are at risk of developing "Video-Game Brain," a permanent suppression of certain brain functions. He examined 240 people between the ages of 6 and 29. Mori studied brain wave activity over a six-month period. The subjects showed a decline in beta wave activity "associated with emotional functions, planning and self-control. . . . Those who spent 2-7 hours a day playing showed little activity at all."

Training Killers

Another experimental test, done at the urging of Colonel Grossman, confirmed that video games serve as training devices which teach children how to kill. In the Summer of 2000 in Indiana, a study was conducted by a parents' group called the Center for Successful Parenting (CSP), together with a national police group called "Dogs Against Drugs." The results appeared in a report entitled "Video-Game Violent Skills Study," by Tom Stoughton. This experiment involved: "forty boys ages 12 to 18, none of whom had ever fired a firearm of any kind. The participants were split into two groups of 20. The control group consisted of the youths who had limited experience with 'first person shooter' video games. The experimental group was made up of boys who claimed, in contrast, to being avid players of these games. The boys in the latter category were required to demonstrate their proficiency by actually playing a 'first person shooter' video game while being observed by local law enforcement police officers from Madison County, Indiana, who are firearm instructors."

The report continues: "After two hours of rigorous safety instruction, each group fired two, ten-shot courses of fire with a .9mm automatic pistol at a human silhouette target located at a distance of 15 yards. The first ten shots were not scored, and were intended merely to familiarize the boys with the feel of the weapon. The second ten shots were recorded and compared. The results were astounding. The control group; i.e., those boys with limited exposure to 'first person shooter' video games, hit the paper target on an average of 85% of

their shots, and hit 'vital' areas of the silhouette 75% of the time. Their shot 'groups' were large and dispersed across the entire face of the target. The experimental group, however, struck the target with 99% accuracy and placed 97% of their shots in the vital areas. Their shot 'groups' were as tight as those of highly qualified marksmen."

Grossman, author of two books on the effects of violent entertainment and video games on children, said that the CSP study demonstrates that strong shooting skills do indeed transfer from video games to actual firearms. He also noted, of the Indiana University study: "Basically, this research demonstrates, with brain scan research of large numbers of kids, that violent media causes violent behavior. This is vital information for law enforcement . . . and a major nail in the coffin for the media violence industry."

Interview: John P. Murray

'These Studies Are On Track'

Professor Murray teaches developmental psychology and directs the School of Family Studies and Human Services at Kansas State University. Findings of his research on the effects of violent media on children, are in the October 2001 Psychiatric Times (www.psychiatrictimes.com). Professor Murray was interviewed on Dec. 11 by Don Phau for EIR. The interview has been excerpted.

EIR: What did the research of Dr. Mathews show?

Murray: I haven't seen the full version of the study, but we've been doing research as well on the effects of TV violence and activation of young children between 8 and 12 years old. . . . He was using clips of video-game violence; we were using clips from Sylvester Stallone's "Rocky IV." Where they come together, is we see areas of [brain] activation that are peculiar, that are significantly active when viewing violence and not active when viewing other things. . . .

So, while I can't speak for Dr. Mathews precisely, in our studies we found that an area of the brain called the *amygdala* is involved. It's an area of the brain about the size of a thumbnail at the base of the brain. That's the organ that senses threat in the environment. It fires up, in the most common way, if someone was to drop a snake in front of you. . . . That gasp is the amygdala. It senses the threat and instantaneously responds. It changes all kinds of things in the body, it changes respiration, heart rate, and a whole bunch of biochemical changes get triggered. We expected that when kids were watching violence, as opposed to non-violence, we would see more activation of the amygdala. That's exactly what we got.

EIR: This is your study. You did MRI studies also?

Murray: Yes, this is my study. What our findings also told us, was that the kids were aroused by the violence; they may be trying to imitate it and they stored it away in an area of the brain that is reserved for significant memories, for easy recall. That in itself tells you a story about why the effects of media violence had been demonstrated in overt behavior in kids over the past 30 or 40 years of research.

Now what Mathews did which is interesting, is that he took it a step further; he came at it from a different angle and asked a question . . . how would kids differ if we looked at kids who were either the victims of violence—that is, kids who were abused—or the perpetrators of violence? That is, kids who were aggressive and acting out. What Mathews has shown, is what we were predicting you might see: that you have less frontal lobe involvement, less pre-frontal cortex involvement in these disturbed youngsters. . . .

EIR: Does the study show that the violent video games are more effective in invoking this response?

Murray: That is my reading of what he found. He found these effects. He studied violent and non-violent video games and found these effects in only the violent video games.

EIR: Are video games invoking psychological trauma?

Murray: Well, they're invoking the arousal, not necessarily the trauma. They are certainly invoking the arousal and anxiety and the other concomitants of behaving violently, which will be increased heart rate; they're on the attack. The reason people have zeroed in on these video games, particularly the newer versions, the first-person shooter video games, is that they put the player in the context of being the aggressor, of performing the violence, as opposed to someone just watching violence. The concern has been that all the effects that have been demonstrated about TV violence or movie violence over the past 30-40 years are even compounded and exacerbated, made more dangerous, or more worrisome, by the video games where the viewer is a participant in the construction of the violence. . . .

Up until now, a lot has been speculation, and it still is kind of open to discussion. What isn't open for discussion is that we have easily 40 years of research on the issue of TV violence. It's been studied from every angle, but not neurologically; and there's clear evidence that kids who watch a lot of violence are more likely to be violent, and more likely to hold values favorable to using aggression to solve conflicts. That's been floating around at least since 1972 when the Surgeon-General released a report on this, and each year adds more information on this. But this whole new track of looking at brain functioning is very, very new. There will be ups and downs in our understanding and legitimate criticisms of the studies. But knowing what we know about how behavior changes when they watch violence, and getting a glimpse at how the brain operates, we have a pretty good estimate that these studies are on track.