

## ***Video Game Use Affects Kids' Brain Development***

« Ryuta Kawashima is a professor at Tohoku University in Japan who specializes in brain imaging. A story about the research by Tracy McVeigh appeared in The Observer reporting with the headline "Computer games stunt teen brains." According to McVeigh, Kawashima was in need of funding for his brain imaging research, so he decided to investigate the levels of brain activity in children playing video games hoping that his research would benefit game manufacturers. Kawashima presented the findings at the annual conference of the private learning program Kumon Educational UK. His findings are unlikely to win him any friends in the video game industry.

Kawashima made use of new techniques in computer imaging that can tell us which areas of the brain are being used in real time. Kawashima compared brain activity in children playing Nintendo games with brain activity in children doing an exercise called the Kraepelin test, which involves adding single-digit numbers continuously for 30 minutes. The Nintendo group was found to only be using parts of the brain associated with vision and movement, while the arithmetic group had activity throughout the left and right hemispheres of the frontal lobe - areas of the brain associated with learning, memory, emotion, and impulse control. Is a task such as the Kraepelin test a fair comparison? I believe that it is more than fair. Adding single digit numbers is a very mundane task that does not sound like it would require much of the brain. If video games use even less of the brain than the simple task of adding single digit numbers, then imagine how much less of the brain that they use than more complex activities such as socially interacting with peers. Frontal lobe development is necessary for learning to control behavior, as well as for developing memory, emotion and learning.

Professor Kawashima is quoted by The Observer as saying "There is a problem we will have with a new generation of children - who play computer games - that we have never seen before. The implications are very serious for an increasingly violent society and these students will be doing more and more bad things if they are playing games and not doing other things like reading aloud or learning arithmetic." He appears convinced that children who play computer and video games excessively will not develop their frontal lobes and may be more prone to act more violently as they grow up. His research findings bolster earlier findings that violent video games contribute to violent behavior. »

Quoted from The Observer, June 2001

### **Comment by EDUPAX**

Not surprisingly, the software industry disagrees with Dr. Kawashima's interpretation of his findings. The European Leisure Software Publishers Association criticized the study and replies that moderate video game use may be a positive experience. They argue that Kawashima and his colleagues didn't study children watching television. It may well be that even less of the brain is used during such a passive activity. The industry, as usual, argues that it is parents' responsibility to set limits on children's viewing habits so that they can go on doing business without any responsibility. It is true that violent video games must be submitted to strict parental guidance and be kept out of the hands of children. It is also true that the industry is guilty of child abuse when using violence as a hook for marketing entertainment to kids. There is no justification to blame only parents when damages happen.

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