Video Games and the Internet and their Effects upon the Brain of Children and Adolescents

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ABSTRACT

The purpose of this paper is to assess the influence of mass-media means (TV and video) upon adolescents. Especially of television and violent video games upon the human brain and to emphasize aspects of psycho-social psycho-dagnosis.

How does television affect the human brain? How does this affect child learning performance?

Television has several effects upon mental activity; some effects are positive and related to the learning performance.

Good quality TV programs brought much new information; These TV programs might develop linguistic and cognitive abilities.

Addiction or dependence upon video games and the Internet

Addiction is an uncontrollable compulsion to repeat a behavior regardless of its negative consequences. A person who is addicted is sometimes called an addict. Addiction is a situation of dependence when life is highly subjective while the individual is focused on the repetition of a behavior to the detriment of affective or social investments. Addiction refers to the irreducibility of the experiences.

Psychological dependency occurs when a drug has been used habitually and the mind has become emotionally reliant on its effects, either to elicit pleasure or relieve pain, and does not feel capable of functioning without it. Its absence produces intense cravings, which are often brought about or magnified by stress.

The criteria of substance dependence are: watching TV for a long time and more often than intended over 4 hours per day, leave the TV on longer than intended, while repeatedly and unsuccessfully trying to reduce watching TV. The individual gives up or withdraws from an important event or from an activity in order to watch TV.

The term TV addiction may be applied to all forms of excessive behavior, as for instance drug, alcohol, narcotics caffeine, food, movement and gambling.

Researchers on television viewing emphasizes similar reasons of watching TV viewing television affects the brain and thus the child learning performance is affected as television has sever positive effects upon mental activity.
Good quality TV programs brought much new information, when the child is too young to select and be able to use it. TV programs might develop the child’s linguistic and cognitive abilities.

Primary school children spend 25 hours a week watching TV on the average, while high school students spend 28 hours a week watching TV. In many households watching TV replace conversation.

Excessive stimulation of children leads to withdrawal, a passive attitude, caused by attention and listening issues. Studies state that the daily effects on learning are the following: television manipulates the brain so that it should pay attention by means of hearing and visual which affect the natural defense mechanic of the body. Television includes neutral passivity and the devotion to one task only. Television may have a hypnotic and addictive effect on the brain changing the frequency of electric cerebral impulses thus blocking the mentally active process and changing the frequency of the mentally active process. Vivid colors flashes and high audio volume separate the natural response of both the body and brain, thus modifying brain attention.

The brain is attacked not only the television images, but also by the effects television has on the human mind and body. The induction of alpha waves has a hypnotizing effect and motionless mind is hypnotized. Viewers often regard what they see on television as real even though the programs are filled with quick camera switches, rapid image movement, computer generated objects, and computer generated morphing and other technical events.

The effects of television viewing have on children lead to attention deficit disorder, which means that the impulses have no outlet. This may lead to excessive stimulation, which leads to hyperactivity, frustration, and short term attention. Irritability emotional isolation especially in the case of small children attracted by novelty and familiarity. This is the reason children like to listen to the same story. Children need predictability to learn how to understand the world which already seems confusing.

Children who during the first years of their life view too much television programs are passive learners, give up easily, they are not able to focus their attention on the task. Images from the glowing, TV screen are simulating, but the body cannot to respond appropriately. The body wants to react to the barrage of images, but it cannot do it. This sensory disorientation as the TV viewer is visually while remaining physically passive - confuses the mind.

TV programs which attract the child’s attention upon the screen make him unable to focus upon the homework, or upon other activities.

When young children watch television, they cannot understand the meaning, the conflict, and what happens in the program me, even if they are interested in what they watch. They may understand the meaning, the conflict, and what happens in the program me when they are old enough. When small children cannot understand the program me, it becomes “boring” and their attention is attracted only by “special effects”. They can’t focus their attention and become withdrawn.

Then they cannot pay attention to the classroom activities, they are bored and they start thinking of something else. Receptive skills, reading and listening are affected by inducing passivity. Expressive skills as thinking organization are in danger. More complex concepts lead to a quicker cerebral activity, while simpler concepts induce slow alpha activity, usually associated with the lack of cerebral activity. When later the child watches confusing information, the brain responds entering in the alpha activity area.

When the brain gets used to the video games, mental abilities weaken as the lack of active implication leads to an undeveloped brain.

**Effects on the development of senses**

Despite its advantages, too much television can be detrimental: too much screen time can interfere with their activities. Viewing television, in moderation, can be a good thing: preschoolers can get help learning the alphabet on public television, grade scholars can learn about wildlife on nature shows, and parents can keep up with current events on the evening news.

Children who actively play are healthier than the one who passively watch television for more than 2-3 hours a day. Normal sensorial experience plays an important part in keeping a balance between mind and body.
Humans are not designed to look at a flat screen for long periods and this is especially the case of children or infants whose vision is developing and it is believed visual skills are being damaged while watching TV eyes are motionless and devocalized to see the entire screen. The eyes have to move in order to stay healthy. Sight matures after 12 years of age. People who consistently spend more than 4 hours per day watching TV are more likely to be overweight. Children who view violent acts are more likely to show aggressive behavior but also fear that the world is scary and that something bad thin as will happen to them. Parents should control the use of TV and teach children that viewing TV is for occasional entertainment, not for constant escapism.

Radiations lead to a substantial decrease of the amount of X rays, obesity and cholesterol increase are also related to viewing TV. A number of vital tasks carried out during sleep help maintain good health and enable people to function at their best. Sleep needs vary from individual to individual and change throughout your life. Not getting enough sleep can hurt memory performance, health, and mood.

Dream and dreaming is a psychological psychological necessity, after watching violent images on the TV screen dreams might become nightmares.

Cyberspace video games and the Internet

The term cyberspace was invented by the futuristic writer William Gibson. In the novel, Necromancer shaped the concept of the Internet. Even if the „space behind the screen” may be made to access information stored to be able to send messages, to meet people all over the world, to take part in cultural events. This is clearly a figurative space depending on the way it was created. Thus one is able to understand William Gibson’s statement that Cyberspace is the "space" behind your computer screen.

Cyberspace in the Gibson novels was also populated by disembodied Artificial Intelligence systems, which had agendas of their own. "Cyber" (a trade name for computers which has become generalizable to all things related to computers and "space": outer-space, inner-space, Euclidean-space, non-Euclidean-space, and so on. Mass-media communication means conveying information to qualified persons worldwide. Mass media includes the Internet media because individuals now have a means to exposure that is comparable in scale to that previously restricted to a select group of mass media producers.

Video games and the computer

The Internet addiction disorder has not yet been added as an official diagnosisHYPERLINK "http://www.minddisorders.com/Del-Fi/Diagnosis.html" to the DSM. The following is a set of criteria for Internet addiction has been proposed by addiction researchers. The signs of Internet Addiction are: loneliness, preoccupation with being online. Often the person will think a lot about his last session online wanting to repeat it, the addict feels bored, bad tempered, upset, grumpy, restless, moody, depressed or anxiety-ridden when he is unable to be on line. When online, or after being an online a person may feel a sense of manic depression, guilt, anxiety, or hopelessness. The addict puts a job, relationship, or other responsibility at risk in order to continue spending time online. For example, a person may cancel a date, miss a family dinner, or forget a work meeting because of their computer time. The Internet which he needs to use more frequently to get satisfaction from the activity, may be the only activity that calms down an addict .

An addict becomes angry when someone needs the computer or refuses to share time and he cannot stop getting online, no matter how hard he tries, he daydreams, is quiet and shy and does not enjoy being with other people, he is introverted and neurotic, compulsive, and lying to friends and family about the time spent online. Both the television and monitor screen have a hypnotic action on the brain. While viewing a television programs, the right hemisphere is twice as active as the left one, which is a neurological anomaly.

This deleterious frontal lobe effect appears to be the results of the camera-switching work in most videos and other programming. The technical problem with the filming technique is referred to as rapidly changing scene of reference."
The hypnotic action of television pushes the brain into an electric alpha state and undermines the cerebral beta brainwaves rhythm, with low amplitude beta with multiple and varying frequencies which is often associated with active, busy or anxious thinking and active concentration.

While viewing television, the right hemisphere is twice as active as the left; a neurological anomaly, as brain activity switches from the left to the right hemisphere. Viewing television generates alpha brain waves are a sign of relaxed activity in the human brain. Alpha brainwaves are the dominant brain wave activity when the body and mind are able to relax. When practicing meditation, yoga, or even felt relaxing the individual experiences alpha brain waves while the brain needs beta brain waves. Often associated with active, busy or anxious thinking and active concentration.

Both the computer and television stresses the brain inhibiting the activity of the left hemisphere of the prefrontal cortex and weakens communication. The hemispheres are linked by the corpus callosum, a very large bundle of nerve fibers, and also by other smaller commissures, including the anterior commissure, posterior commissure, and commissure. These commissures transfer information between the two hemispheres to coordinate localized functions.

These two parts of the cerebrum, divided into two hemispheres, the left and right hemispheres, separated by a deep groove down the center from the back of the to the forehead. These two halves are connected by long neuron branches called the corpus callosum. The screen opens the subconscious inscribing the image into the subconscious.

The reading of a text on the screen is not the same as playing an electronic or computerized game played by manipulating images on a video display or television screen. During video game the images, icons, pictures change quickly, the gamer’s the instincts and emotions change and are strong.

Valdemar W. Setzer of The Computer Sciences of the Sao Paolo University got to the conclusion that the use of computer in the primary school level when thinking, the representation of reality develop, the use of computer deforms the child’s thinking making him think like a machine by means of a commands and instructions. The user’s thinking is restricted to the computer interpretation, which is operating at the same mental level and strictly formal. The purpose of children’s education is the slow development of logical and objective, creative and free thinking skills so the individual should be creative at adulthood.

Thinking should not be become overloaded with too early with rigid forms like the ones required by the computer which in turn require enormous control. Video games appeal to strong feelings which trigger aggressiveness, violence and challenges. Video games require a small number of less ample, movements and it can be said that Video games convert. Gamers’ activities are highly specialized. The skills they acquire cannot be used in real life. The points the gamer has won depend on reaction speed.

In the process of understanding, making a judgment, reasoning, and other forms of dynamic thinking to reflect the objective reality of some rational knowledge. Only by means of logical thinking, can one achieve the specific targets, and grasp the nature of the provisions to acquire further understanding of the objective world.

Logical thinking is a slow process. The gamer must react without thinking; his reaction is automatic and a reflex action, something that he does without thinking, as a reaction to a situation.

Children play video games more success and easier as their thinking and own conscience are not yet formed. Adults do not eliminate thinking so easily when they have to reflect upon action.

Researchers made use of the DSM-IV (American Psychiatric Association, 1994), which included concepts like: control loss, time spent as loss, time spent playing games, intents not to play and culpability. A close connection between viewing television and playing aggressive video game and the addictive behavior has been shown. The 5 criteria of TV addiction are: TV viewing a long time, TV viewing lasts longer and lasts longer than intended, making repeatate but unsuccessful efforts to reduce viewing, giving up, retiring from important events or occupational activities to be able to view the TV program.

As is the case with substance abuse the addicts feel: mental instability, confusion, boredom, senseless day dreaming, introversion, neurosis and neurasthenia. Television addiction may
make the average person spend about three hours a day sitting in front of the television set; television addiction might lead to conflicts tense family relationship. Pathological video game characteristics are: frequency, duration of game, spending an unusually large amount of time using viewing television; finding oneself using television more often than intended; thinking about reducing the use, and are making repeated unsuccessful attempts to reduce it; giving up social activities to use television, and reporting withdrawal symptoms when one does achieve stopping the use, borrowing or selling goods to be able to play, while the individual is aware of an issue.

Drug dependence is a physical or psychological state in which a person displays withdrawal symptoms if drug use is halted suddenly; this can lead to addiction. Drug dependence is the repeated use to get to a certain state, sometimes drug overdose may appear, when of a drug or medicine in an amount that is higher than is normally used.

Excessive Internet use has all the characteristics of addiction. Internet addicts suffer from such as depression and anxiety-related disorders and often use the fantasy world of the Internet to psychologically Internet addicts are preoccupied with spending too much time online and watching television.
The American psychologists and sociologists researched the causes of drug use during the 60s when a shopping frenzy of television set shopping. In the 60s most homes have only one television sets and everybody wanted to own a TV set. The generation of the 60s is the first generation which grew up watching TV and thus differing from the generations before them.
The transformations which have taken place in the brain and the conscious horizon while watching TV are similar to the transformations induced by drugs. The years spent in front of the screen a brain washing activity or “mind control” offers a whole generation the prerequisites for. Other experiences which generate other similar mental experiences.

Conclusions

Substance abuse and television viewing for a long time have similar effects on the human brain and body.
Viewing television requires little concentration offering electronically images and thus encourages passivity, while reading requires attention, thinking and visualization.
How much impact television has on children and adolescents depends on many factors: how much they watch, their age and personality, whether they watch alone or with adults, and whether their parents talk with them about what they see on television.
Students who get good marks watch less television or not at all. Students who watch television for more than two hours a day have understanding issues. Hearing, sight, radiation effects, artificial light, obesity, sleep deprivation affect reading skills, affecting creativity, imagination, and the image of reality, social development also affecting the perception of reality.

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