

Effects of Television and Media on Child Neurological Development



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Foreword

It is an undisputable fact that for the longest time there has never been question about whether violence and aggression in the media has a negative affect on young children. This has become a field of study from the perspectives of neurologists, cognitive behavioral psychologists, teachers and more. I have a keen interest in the topic of brain science and chose to write this paper as an exploration into both the negative and positive effects that result from the constant stream of media content that children come in contact with every day. Through this paper I was hoping to shed more light on the positive effects and the potential role that New Media can have in the lives of children

This paper will present factual information and statistics about the extent to which children in North America ages 0 to 10 have contact with TV and Media. Then I will discuss the physical brain changes that occur as a result of media conditioning. Following this, I will explore both the maladaptive and the adaptive effects of TV and Media on children. Lastly, I will conclude with a personal opinion on the topic and how I can foresee encouraging potential for the future.

Programming Neurological Applications

If we stopped to question how much time children spend with electronic media we would realize that it has become so tightly integrated with daily life through television, movies, video games, computer programs and the Internet. There are even growing markets that tailor computer software, TV programs and video games for toddlers. Children are faced with a constant stream of electronic media every day, so its only natural to assume then that children will internalize these interactions as they learn to make sense of the world around them. Compare this reality to children who grew up 30 years ago when not every household had a computer, let alone the Internet. This key difference plays a fundamental role in a child's cognitive development.

Just how much is too much?

A *Zero to Six* study found that 74% of children under the age of two have watched TV and 59% watch at least two hours of TV on an average day. Thirty percent of children 0-3 years old and 43% of children 4-6 yrs old have TVs in their bedrooms. Children of families who are considered "heavy television" users report that their children spend minimal time reading. Despite these facts, most parents believe that television mostly benefits rather than hurts their children.

It's not a surprise that much of what children watch on TV as well as the type video games and Internet sites they come across are inappropriate for child viewers. But why then does there seem to be such distinct differences in the ways children react to this media. EEGs and MRIs have rendered interesting results from research with children known to have social behavioral disorders. When these children were shown clips from a fight scene in "Rocky" they showed much more brain activity in the front temporal regions as compared to children without behavioral disorders.

‘Plastic world forms plastic thoughts’

The human brain is a complex organ that experiences and interprets its environment, and uses two systems to analyze and respond to environmental challenges. The first is an “analytic” system that assesses the factual elements of a situation, compares them with established memories, and then responds appropriately. This is considered rational deduction. The second is a fast “reflexive” system that identifies fearful elements in a situation and quickly activates automatic survival response patterns, which often leads us to become emotionally charged and act irrationally. Children will learn these irrational reaction behaviors from people around them and through experiencing it vicariously through the characters in their video game or on TV. This results in a distorted view of others and the world around them and stunts their ability to progress developmentally.

In order for children to learn appropriate behaviors and grow into grounded people, it is critical for them to develop the necessary social skills that only come through experience.. Children need enriched stimulating environments in order to practice and learn appropriate behaviors. The type of conditioning we receive as children plays a huge role in ironing out the type of people we evolve into. Stimulation sets course for optimal brain development regardless of inherited intelligence potential. A constantly changing, or plastic, environment fosters adaptive cognition in the minds of young people.

Working Against Us

Media corporations and marketing companies are fully conscious of the effects that TV and media have on children, and all other age groups. They tailor their advertisements and their movie themes to attract specific markets. In doing so, electronic media becomes a huge part of our daily lives. Commercial media uses our biological reactions to their advantage by producing media content that is designed to stir emotion, which then drives attention and as a result increases audience attention

Sadly, many television programs and video games present a world filled with violence and hate, where 'bad guys' threaten the safety of 'good guys'. Even cartoons depict themes of separation, helplessness and victimization, and don't show how to resolve conflicts non-violently. In addition, many of the popular children's shows present a narrow view of traditional male and female roles. This constant message of instability and threat fosters an overly individualistic society where people become self-absorbed and untrusting. Stereotyping and prejudice result from this cultural conditioning.

Even though much research and time has gone into this area of study, it could take years for a substantial change to occur in our population such that most families would take on the responsibility to be proactive about this issue and take more consideration about what type of content their children watch. This almost seems unlikely when you think about where technology is taking us and how the Internet continues to gain an insurmountable degree of importance and control over our lives.

Bits and Bytes Reveal a Silver Lining

Even with the harsh reality of media delusion seeping through the subliminal cracks in our lives, all is not lost, and it's important to realize the positive effects of electronic media. Daniel R. Anderson, PhD, a professor of psychology at the University of Massachusetts, has served as a consultant to the producers of such children's programs as "Sesame Street" and "Dora the Explorer", and says that producers

should focus less attention on how a show looks and more on making its content understandable. If children are encouraged to interact with the program with adults by answering questions that adults pose about what is happening on screen, mimicking actions, dancing to songs, and playing video games etc. this can make it a social experience rather than an isolating one, and a valuable learning opportunity.

Children exposed to programs and games with pro-social content have more positive social interactions, show more self-control, and have less stereotyped views of others. Collaborative game playing develops social skills, that help children define and agree upon goals, and active play has shown to reduce impulsivity, thereby helping children with attention deficit and hyperactivity disorder.

The Internet creates possibilities for children to learn about events without ever having to experience it. It is a vast superhighway that leads to many places. One point that I personally find interesting is the fact that the generation of children who grow up today do so with a very different mind set than compared to even someone of my age. The reason for this is the fact that if a child wanted to find answers to almost any question, assuming they have access to the internet, they at least have to have the opportunity to “Google it.” Important to note that what goes along with this is the responsibility adults have to educate children to become critical thinker and to not believe everything they read or see on line. But nevertheless, the simple fact that they have access to vast information just by a click of their fingertips is a profound difference from earlier generations. This

isn't even a novelty to children because it is all they know. As a result, I believe that individuals who have grown up with the Internet may be less deterred by lack of knowledge, because the Internet has always provided a measure of opportunity. This can create a conscious open-minded culture.

Optimism and Closing Remarks

Young children are immersed in popular culture, media and new technologies from the moment they are born. As they grow up in a digital world they develop a wide range of skills, knowledge and understanding of the world around them. In many homes the television and computer are on so much they become part of the home environment and infants and toddlers are exposed to programs being watched by someone else. This can have a positive impact on children's social, emotional, linguistic and cognitive development, especially when comparing the high quality of children's television programs and educational games of today, to those of a few years ago. It is not the technology itself, but the content of the product or service that really matters. The context of use is almost as important as the content. If the content and the context in which it is used are properly designed, positive effects on the users can be achieved.

Our brain is designed to adapt to the environment in which it lives. A socially interactive environment that stimulates curiosity and exploration enhances the development of an effective brain. Excessive childhood involvement with electronic media that limits social interaction could hinder the development of a brain's social systems. Conversely, denying a child exploration of electronic technology would only serve to weaken the helps to create an electronically proficient society hampered adult in an increasingly electronic culture.

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