

Impact of the Electronic Media



What impact does watching television have on young children's developing brains? **Sally Goddard Blythe** explores this controversial topic in an extract from her latest book.

Before the invention of radio or television, for those who had the luxury of leisure time, they had to occupy the mind in other ways: outdoor pursuits, reading, drawing, music-making, socializing, and discussion. The negative side of leisure technology is not in what it does provide for us, there are many benefits; it is what it does not provide, or what it prevents us from doing.

On average, American children spend four hours a day in front of the television, and British children are not far behind. This accounts for more time in a single activity than anything else we do except work and sleep. Based on these figures, by the age of six, a child has already spent a whole year of his life watching television.

Hours spent in front of the television, computer or play station are sedentary hours. They arouse the brain to various states but they do not exercise the body. There is no physical experience or social interaction. The television is not interested in what a child thinks or what he or she has to say.

The way in which television programmes are produced has also changed over the last 50 years. No longer do TV dramas and stories require sustained attention for the duration of the programme to follow a story line from beginning to end. Scenes are presented in bytes of up to 40 seconds juxtaposing different elements of the narrative, scenery, and characters so that several parts of the story must be held in the memory at one time. Whilst this may be good for multi-tasking, it also encourages rapid shifts of attention and discourages sustained attention on a theme, necessary for sequencing information in an orderly and chronological fashion. While rapid shifts of attention

are useful in primitive environments where danger could come from any source, they are not good for processing individual elements of a narrative or remembering detail, as many of us will know if we have had too many interruptions when trying to complete a task at work. Frequent shifts in attention give an overall impression but do not improve recall.

Interviewers and presenters of children's programmes do not help. While the former frequently interrupt their interviewees or are forced to cut them short to fit into the time constraints of programming, the latter tend to shout, despite the fact that children's hearing is more acute than adults'. Is it surprising that children

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find it difficult to wait their turn and continue to follow a conversation that lasts for more than a few seconds?

Jane Healy, an educational psychologist and author of two books, *Endangered minds: Why children don't think and what we can do about it* and *Your child's growing mind: A guide to learning and brain development from birth to adolescence*, said that over-use of television, particularly at a very young age when a child should be actively engaged in language development and manipulative play, can affect development in a number of ways: “Higher levels of television viewing correlate with lowered academic performance, especially reading scores. This may be because

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television substitutes for reading practice, partially because the compellingly visual nature of the stimulus blocks development of left-hemisphere language circuitry. A young brain manipulated by jazzy visual effects cannot divide attention to listen carefully to language. Moreover, the 'two-minute mind' easily becomes impatient with any material requiring depth of processing.”²

A longitudinal study investigated whether early television exposure (ages 1-3) was associated with attentional problems at age 7.3 Using data from 1,278 children aged one and 1,345 aged three years, 10 per cent had attentional problems at age seven. In a logistic regression model, hours of television viewed per day at both ages one and three was associated with attentional problems at age seven: 'For every hour of television watched daily, toddlers face a 10% increased risk of having attention problems by the age of seven.' Dimitri Christakis, author of the report, argued that “the newborn brain develops very rapidly during the first two to three years of life. It's really being wired. We know from studies of newborn rats that if you expose them to different levels of visual stimuli, the architecture of the brain looks very different.... the truth is, there are lots of reasons not to watch television.”⁴ ■

Endnotes

2 Healy, J.M., *Endangered minds: Why children don't think and what we can do about it*, Touchstone, Simon and Schuster, New York, 1990.

3 Christakis, D.M., Zimmerman, F.J., DiGiuseppe, D.L., and McCarty, C.A., 'Early television and subsequent attentional problems in children', *Pediatrics*, 113/4, 2004: 708-13.

4 Lister, S., cited in: 'Ban TV to save toddlers' minds say scientists', *The Times*, 6 April 2004.