

## Editorial

### TV or Not TV, Is That The Question?

Sidney Groffman, OD, FCOVD

*The most important thing we've learned,  
So far as children are concerned  
Is never, never, NEVER let,  
Them near your television set— . . .  
IT ROTTS THE SENSES IN THEIR HEAD!  
IT KILLS IMAGINATION DEAD!  
IT CLOGS AND CLUTTERS UP THE MIND!  
IT MAKES A CHILD SO DULL AND BLIND  
HE CAN NO LONGER UNDERSTAND  
A FANTASY, A FAIRYLAND!  
HIS BRAIN BECOMES AS SOFT AS CHEESE!  
HIS POWERS OF THINKING RUST AND FREEZE!  
HE CANNOT THINK—HE ONLY SEES!  
"All right!" you'll cry. "All right!" you'll say,  
"But if we take the set away,  
What shall we do to entertain  
Our darling children? Please explain!"  
We'll answer this by asking you,  
"What **used** the darling ones to do?"  
"How **used** they keep themselves contented  
Before this monster was invented?"  
Have you forgotten? Don't you know?  
We'll say it very loud and slow:  
"THEY . . . USED . . . TO . . . READ." They'd READ AND read,  
And READ and READ, and then process  
To read some more . . .*

*Roald Dahl, Charlie and the Chocolate Factory*

### WINDOW TO THE WORLD

Television is a medium that has made an incredible impact on United States society and indeed the entire world. The metaphor "window to the world" describes its role and place as a communicator. It is an audiovisual tapestry of highly creative and not-so-creative ideas, thoughts, languages, lifestyles, and sociocultural portrayals that provide entertain-

ment, information, education, and social messages. It is the very nature of the ubiquity and power of this medium, especially in the lives of children, that has caused so much critical attention to be paid to it.

### THE PROBLEM

Like the sorcerer of old, the television set casts its magic spell, freezing speech and ac-

tion, turning the living into silent statues so long as the enchantment lasts. The primary danger of the television screen lies not so much in the behavior it produces—although there is danger there—as in the behavior it prevents: the talks, the games, the daily festivities and arguments through which much of the child's learning takes place and through which his or her character is formed. Turning on the television set can turn off the process that transforms children into people.<sup>1</sup>

Consider these facts:

- 99% of the homes in the United States have at least one television set and many have three or more.
- More homes have television than have toilets or telephones.
- 36% have a TV in their bedroom, and 26% of children under 2 have a TV in their bedroom.
- Nearly three of four (73%) have a computer at home, and 49% have a video game player, with that number rising rapidly.
- Compare Internet access (63%) with a newspaper subscription (34%).
- By the time the average child finishes 12 years of school, he or she has watched 22,000 hours of television, as contrasted to having been in school 11,000 hours.

Roald Dahl in *Charlie and the Chocolate Factory* has captured the sense of dismay and awe that television often inspires in those concerned with the preservation of childhood reading, and Mr. Wonka's Oompa-Loompas chant a baleful warning about the poisonous effects of mixing children and television. However, it has been noted that a large majority of children who are familiar with *Charlie and the Chocolate Factory* saw it on television, followed by those seeing the film, whereas those who have read the book constitute a small minority.<sup>2</sup>

The problem is obvious. TV and its electronic descendants have replaced reading as a favored activity for children in many homes. What effect does that have on child development, reading, learning, concentration, attention, creativity, visual perception, and visual skills? We do know that there are ergonomic risks associated with computer use, including

visual problems. Do we know the effects of excessive TV use?

## TELEVISION AND LEARNING

Since the popularity and huge growth of television watching in children developed, the effect of TV on the relationship between television and reading has been studied extensively. Many of these studies, particularly the early ones, suffered from inadequate controls for IQ and socioeconomic status. Later investigations have been much better and the results more consistent. One well-controlled study<sup>3</sup> followed a group of sixth through ninth graders for 3 years. Predictably, in the first year heavy viewers read less than light viewers. But by the end of the study, the heavy viewers were reading more than the light viewers. Before television is lauded for its positive influence on time spent reading, the choice of reading material should be noted. Heavy viewers much preferred love stories, family stories, stories about teenagers, television, and movie stars—much the same contents as what appears on television. Light viewers on the other hand, preferred science fiction, mysteries, and nonfiction. More importantly this same study showed strong negative correlations between television viewing and reading achievement. Palumbo and Dietz<sup>4</sup> cite an interesting experiment<sup>5</sup> in which a comparison was made of three Canadian towns of differing television exposure: one town without television, another with only one channel; and a third with several channels. As one might predict, the children (second and third graders) in the town without television scored higher reading scores than those in the town with only one channel, and the children in the one-channel town scored higher than those in the multi-channel town. More importantly, this difference disappeared 2 years after the town without TV received a channel. The most obvious explanation for this phenomenon would simply seem to be that television viewing displaces time potentially spent in other activities. Many other studies confirm this finding.<sup>6</sup> A physiological reason for this was suggested by Zuckerman, Singer, and Singer,<sup>7</sup> who measured brain activity during reading and television viewing and reported more dif-

fuse and extensive activity during reading. In most people, spatial, visual, and nonverbal data are processed by the right side of the brain in a "global" fashion. Reading, verbal, and logical functions are processed by the left side of the brain. One hypothesis is that heavy television viewers will be less patient at making the mental effort required to process more complicated types of stimuli, including much schoolwork, and will settle for the easier "global" information afforded by the television set. Similarly, television watching is a passive activity that often requires a suspension of active cognition, whereas reading requires active imaginative participation and time for contemplation and digestion of information.

### **TELEVISION HAS STOLEN THE NIGHT—CREATIVITY AND TELEVISION**

In the remote Amazonian rain forest village of Gorotire, Brazil, a satellite dish brings the cartoons He-Man and the Flintstones to the Kaiapo Indian children. No longer do the families gather at night to meet and to talk, to pass on information, or to tell stories. The villagers call television the "big ghost." Beptopup, the oldest medicine man, says, "The night is the time the old people teach the young people. 'Television has stolen the night.'<sup>8</sup>"

Singer<sup>9</sup> began a discussion of television and creativity with this fascinating anecdote. She asks, "Can heavy doses of television affect the imagination and creative output of our children?" She then cites many good research studies in which the evidence for negative effects of television on the creativity of children appears to be significantly stronger than for positive effects. Imagination decreases as TV watching increases. TV teaches children to be amused by its images instead of encouraging kids to create their own. It dulls the mind by the power of its fast moving pictures, supplanting the mental activity necessary to follow in the mind's eye a book or storyteller's tale.

### **HOW YOUNG ARE CHILDREN WATCHING TV?**

According to a recent report published by the Kaiser Family Foundation,<sup>10</sup> there seems to be no age too young for children to be exposed to TV. There has been an explosion in

electronic media marketed directly at the youngest children in our society. There is a booming market in videotapes and DVDs aimed at infants 1 to 18 months. A TV show has been launched specifically targeting children as young as 12 months, and a multi-million dollar industry has developed selling computer games and even special keyboard toppers for babies as young as 9 months of age. Children are growing up immersed in media. Two thirds of zero to 6-year-olds live in a home where the TV is on at least half the time or more even if no one is watching. In "heavy" TV households (36%) the television is left on "always" or "most of the time." Half of all parents will use TV as a baby-sitter while they have an important task to do in the house. Toddlers and preschoolers are not just passively consuming media—they are actively asking for and helping themselves to what they want. They turn on the TV by themselves, use the remote to change channels, and ask for their favorite videotapes or DVDs. Four out of ten children under 2 watch TV every day. Young children watching TV are routinely described as transfixed, passive, and nonverbal.

Relations between viewing and performance were analyzed for two cohorts of children (ages 2–5 and 4–7 years, respectively) over 3 years.<sup>11</sup> For both cohorts, frequent viewers of general-audience programs performed more poorly on tests of reading, math, receptive vocabulary, and school readiness. However, in homes where the children viewed child-audience informative programs between the ages of 2 to 3 they showed high subsequent performance on all four measures of academic skills. It is important to remember that in addition to the time spent watching TV, the content of the programs viewed is a significant variable on the later effect on children.

### **WHAT IS OUR RESPONSIBILITY?**

As developmental optometrists, it is our obligation to inform parents about the myriad of social and developmental problems, including poor school achievement, visual skills problems, and learning-related vision disability that can result from too much and nonselective television viewing.

We should include in our young patient's history an estimate of the number of hours and content of TV permitted. Patients should

be advised that children under the age of 2 should not watch TV or videos and that older children watch only 1 to 2 hours per day of nonviolent educational programs. It is vital to establish clear rules on TV use and to maintain these rules. Never make TV a reward or punishment; this only heightens its power.

This is an important public service area that is an opportunity for us to provide vital information that can aid child development, educational achievement, and visual health.

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The Case Report, Traumatic Brain Injury, Forkiotis CJ. *JOVD* 2003;34(3):159-163 was published in error and is hereby retracted.