

Marketing and Media

Marketing and media are two words that go hand in hand. In today's increasingly commercialized world, it is virtually impossible to escape the marketing that pervades all types of electronic media. Even adults, who are capable of recognizing marketers' attempts to manipulate them, often have a difficult time resisting the temptations presented so appealingly in advertisements. In the case of children, who often don't recognize the blatant attempts of marketers to influence their purchasing behavior, there is great cause for concern about the prevalence of the marketing embedded within media content targeted specifically to this young audience.

In *The Future of Children* volume "Children and Electronic Media," experts highlight important issues related to the prevalence of media in children's lives, including the potential dangers associated with marketing to children. As noted in this issue, the affluence of today's children and adolescents has made them a prime target for marketers. Children have influence over the spending of billions of dollars each year. In 2002, American children ages four to twelve spent \$30 billion. In 2003, American twelve-to seventeen-year-olds spent \$112.5 billion, with 33 million U.S. teens aged twelve to nineteen each spending about \$103 a week. These figures are not lost on marketers. In 2004, total U.S. marketing expenditures were estimated at some \$15 billion to target products to children.

Television remains the most prominent platform for advertising to children, with children viewing approximately 40,000 advertisements per year on television. The traditional techniques used on TV include: repetition, branded characters, catchy and interesting production features (action and movement, rapid pacing, sound effects, loud music), celebrity endorsements, and free merchandise to be awarded with the purchase of a product. Not surprisingly, researchers found that the majority of all advertisements on network and cable television were for sugar-coated cereals, sugared drinks, and snacks and fast foods. Although the implementation of the Children's Television Act (CTA) by the Federal Communications Commission (FCC) now limits advertisements on children's commercial television stations to 10.5 minutes an hour on weekends and 12 minutes an hour on weekdays, these limits are frequently violated. For instance, one in four of the 900 U.S. commercial television stations showed more commercial material than allowed from 1992 through 1994, and in 2004, the SCC levied fines against Viacom and Disney for showing more advertising material than legally allowed.

Traditional television commercials, however, are perhaps not the greatest cause for concern in terms of marketing to children. With the creation of new media platforms has also come the creation of new strategies for marketing to children. One technique, called stealth advertising, is based on the theory that advertising is most effective when consumers don't recognize it as advertising. Taking advantage of the fact that online marketing to children is far less regulated than television, advertisers use websites and interactive online games as platforms for marketing

products to children. These ads are embedded in the Internet games and programs, thereby exposing unwitting children to a large variety of products. Similarly, marketers have targeted teens by using e-mail and online chat strategies to attract youthful consumers to certain products, often using discounts and freebies as enticements to purchase the products promoted. Finally, marketers have also developed tracking software and spyware in order to create extensive files about children's individual preferences for certain products. A program called RealJukebox, for instance, allowed users to transfer music from the Web and CDs to their PCs and surreptitiously sent information back to RealNetworks about the kind of music the person liked.

How do these marketing attempts affect children's behavior? Research related to television marketing suggests that marketing is successful in getting kids to want to buy products – not necessarily a beneficial outcome. One study involving three-to eleven-year-old children, found that children who were exposed to more overall advertisements at home and who were most attentive to advertisements in the laboratory setting made the most requests for the advertised products. At the same time, a comprehensive review of the literature on food advertising by a panel charged by Congress to investigate the role of marketing and advertising in childhood obesity concluded that television food advertisements affect children's food preferences, food requests, and short-term eating patterns.

Less research is available for the newer forms of Internet marketing. Moreover, given the fact that the Internet enjoys more First Amendment protection than broadcast television, less regulation exists to protect children from potential manipulation. Researcher Sandra Calvert recommends the development of regulations for online platforms that are consistent with traditional television and film guidelines, including separation of commercial content from program content. Parents and child advocacy organizations can also fill in the gap by putting pressure on companies to self-regulate. For example, when FaceBook informed users about friends' recent purchases, an outcry by parents and advocates led the website to stop the practice, at least for the time being. When Webkinz, a popular site geared toward younger elementary school children, started advertising movies and promoting movie tie-in products, similar protests caused the site to remove the advertisements. Likewise, pressure on food companies led eleven major food and drink companies to agree to stop advertising unhealthy products to children under age twelve, and the children's television network Nickelodeon followed suit and agreed to keep their characters from appearing on most junk food packaging.

As new technologies and marketing strategies continue to emerge, it seems necessary for adults to be aware of marketers wishing to exploit children's purchasing power and to remain vigilant in protecting children's best interests.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Jeanne Brooks-Gunn and Elisabeth Donahue, "Introducing the Issue," pp. 3-10.

Sandra Calvert, "Children as Consumers: Advertising and Marketing," pp. 205-234.

For more information on this topic, please contact the issue editors of this volume:
Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue
edonahue@princeton.edu.



Media Violence, Aggression, and Fear

The common sense notion that exposure to violence in the media can impact children's aggressive behavior is supported by research in the fields of child development, medicine, and education. In *The Future of Children* volume "Children and Electronic Media," experts discuss the effect that exposure to violence in the media can have on aggressive behavior, and also on children's fearfulness. Although there is no evidence supporting the idea that violent media actually increases violent crime, still research has indicated that when children view media violence, some act out aggressively, experience fear, develop unrealistic perceptions concerning the violence that exists in the real world, or develop less advanced moral reasoning strategies.

As noted in *The Future of Children*, scholars have conducted hundreds of studies concerning the impact of media violence on children's aggressive behavior. Although there is no evidence supporting the idea that media violence increases violent crime, exposure to violent media appears to have both short- and long-term effects on children's aggressive behavior. For example:

- In one study investigating the short-term effects of media violence, elementary school children exposed to one episode of *MightyMorphin Power Rangers* demonstrated significantly more (seven times) intentional acts of aggression, such as hitting, kicking, and shoving than did a group that did not watch the program.
- In another experimental study, five- to six-year-old children who had just watched a violent movie and were then observed playing together in a room were rated much higher on physical assault and other types of aggression than were children who had watched a nonviolent movie.
- A longitudinal study examining the long-term effects of exposure to violence found that heavy exposure to television violence predicted increased physical aggression in adulthood, even after researchers controlled for the child's initial level of aggressiveness, the child's IQ, the parents' education, the parents' TV habits, the parents' aggression, and the socioeconomic status of the family.

These findings are even more startling in light of the fact children are exposed to a lot of violent media.

- A three-year assessment of more than 3,000 programs a year found that a steady 60 percent of programs across twenty-six channels contain some physical aggression; on average, a typical hour of programming features six different violent incidents.
- Public television is much more tame; only 18 percent of shows contain violent content.

Television violence, however, is not the only cause for concern. The most popular video games played by youth contain violence, and these violent games have been linked to a host of aggression-related cognitive, emotional, and behavioral outcomes. These outcomes include more positive attitudes toward violence, increased use of aggressive words or solutions to hypothetical problems, quicker recognition of facial anger, increased self-perception as being aggressive, increased feelings of anger and revenge motives, decreased sensitivity to scenes and images of real violence, and changes in brain function associated with lower executive control and heightened emotion.

In addition, children's aggressive behavior is not the only outcome affected by violent media content. Children's fears and anxieties can be influenced by media exposure as well. According to developmental research, the nature of media-related fear varies by age. Preschoolers and younger elementary school children tend to be frightened by characters and events that look or sound scary, whereas older elementary school children can be frightened by scenes involving injury, violence, and personal harm. These older children are also more responsive than younger children to events in the media that seem realistic or could happen in real life. Several studies, for example, have found that older children are more frightened by television news than are younger children.

Children's perceptions of reality can also be affected by media violence. Although most of the evidence is correlational, a few experiments using control groups have shown that repeated exposure to television violence increases people's fear of victimization. In one study, elementary school children who frequently watched the news believed that there were more murders in a nearby city than did infrequent viewers, even when researchers controlled for grade level, gender, exposure to fictional media violence, and overall TV viewing.

Similarly, children's exposure to television violence may also impact their moral development. In one survey study, researchers found that children aged six to twelve, who were heavy viewers of fantasy violence programs such as *Power Rangers*, were more likely than children who seldom watched such programming to judge hypothetical examples of aggression as morally correct if these examples were for reasons of protection. In this same study, children who watched more violent programming (realistic and fantasy) displayed less advanced moral reasoning strategies, focusing more on rules and the presence or absence of punishment in their reasoning about moral dilemmas than on more advanced strategies, such as perspective taking. Similarly, in an experimental study involving children aged five to fourteen, researchers found that children who had watched a violent program were more likely than those in the control group to judge violence as morally acceptable. The children who had watched the violent program also exhibited less advanced moral reasoning in their responses, often relying on authority or punishment as rationales (for example, "You shouldn't hit because you'll get in trouble"). Based on these findings, the researchers concluded that children's exposure to a single program containing fantasy violence can alter children's short-

term evaluations of aggression and can even adversely affect the strategies they use to make sense of those evaluations.

In considering children's exposure to media, therefore, it is important to consider the complex ways in which violent content may impact children's overall development, aggressive behavior, increased fear, unrealistic perceptions of the world, and tendencies to develop less advanced moral reasoning strategies.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Barbara J. Wilson, "Media and Children's Aggression, Fear, and Altruism," pp. 87-118.

Soledad Liliana Escobar-Chaves and Craig A. Anderson, "Media and Risky Behaviors," pp. 147-180.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.

Multimedia and Multitasking

Since the dawn of radio and television, researchers have explored how children are affected by electronic media, while parents and policymakers have considered the practical implications of media's presence in children's lives. In today's world, however, the question of media's impact on children has become much more complex. The term media itself, once used to refer to radio, television, and print, is now considered to include computers, video games, the Internet, portable music players, cell phones, and handheld devices that provide capabilities and access equivalent to all of the above. One of the results of the explosion of media platforms is the emergence of "multitasking" – children using several forms of media simultaneously.

Research presented in *The Future of Children* volume "Children and Electronic Media" suggests that multitasking is *the* most significant change in media use in the past several decades; rather than engaging in one form of media use (watching television), the vast majority of kids today use more than one media format at a time (watching television, text-messaging friends, listening to music, and writing a paper on the computer). While the total number of hours children spend engaged in media has not changed much in the past several decades, since children use more than one media source each hour, the total amount of media exposure has increased.

What does this mean in terms of the effect of media on children's lives? Our ability to answer this question requires developing a clearer understanding of the phenomenon of multitasking itself.

- Among children ages eight to eighteen years, multitaskers are more likely to be girls, those who are heavy users of media, children who live in homes with computers, and children in homes where computer placement allows TV viewing.
- The computer is the media platform most likely to be involved in the multitasking process – *Future of Children* authors call it the "media multitasking station."
- Television is also a factor in multitasking. Because television is the most widely used media platform, it is very likely that the TV is on while other media is being used.

Given the prevalence of multitasking, we may need to reconsider how we measure and research media use. For example, in 2004, eight to eighteen year olds reported media exposure levels (time spent with individual media content) more than 25 percent higher than media use levels (overall time spent with media). Put another way, by multitasking children were able to achieve 7:50 hours of media exposure in only 5:48 hours of media use. This may seem to be an efficient use of time, but we don't really know what the effects of such multitasking may be on children's long-term development.

Similarly, experts' estimates of the amount of time children devote to radio, television, newspapers, or "the computer" no longer seem to capture young people's media behavior; what were separate activities no longer seem to function independently, suggesting the need to reconceptualize the idea of media usage itself. New conceptualizations might take any of several forms. They could focus on the functions served by media exposure (diversion and pleasure, information seeking, social networking). They could look at the type of engagement different kinds of exposure elicits (active responding as with a video game; information-seeking as working on a homework assignment; content creation as when constructing a MySpace page; less active processing, as when watching a situation comedy or music video). Or they could classify exposure in terms of any of several content classifications (for example, fiction versus nonfiction, reality versus fantasy, social versus nonsocial.) Whatever form new conceptualizations of media exposure take, it seems clear that we can no longer limit analyses of media exposure just to classification by medium.

At the same time, even as researchers and policymakers attempt to create new categories for analysis in terms of children's media usage and then to understand the implications of the multitasking phenomenon for children's lives, the landscape of children's media use continues to change. Media platforms are becoming much more portable, allowing children and particularly adolescents to engage in a variety of media wherever they want, whenever they want – outside the presence of any adults. According to researchers, just as the availability of television and the computer have supported the possibility of children's media multitasking, the portability of media can be expected to transform children's media use and our understanding of media's influence on their lives in the future.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Donald F. Roberts and Ulla G. Foehr, "Trends in Media Use," pp. 11-38.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.

Mythbusters

A recent *Future of Children* volume explored the issue of children and electronic media. While many of the findings were predictable, there were some surprises that challenge commonly held assumptions.

MYTH: *Television is being displaced by newer forms of media.*

Despite all the new technologies, children still spend a lot of time in front of the television; watching TV programs, videos, and movies on the television accounts for more than half of all young people's electronic media exposure. Rather than newer technologies replacing television, children simply add these other media on to the time they spend watching TV. Television is a central part of the multitasking phenomenon, in which children use several media formats simultaneously.

MYTH: *Children from wealthy, highly educated families engage in the least media use, while children in poorer, less educated families engage in the most.*

A recent survey of eight to eighteen year olds found no relationship between household *income* and media exposure. Rather, differences emerged based on the *education* level of the parents – and in an unusual pattern. Youth whose parents had completed college reported the *most* media exposure, while those whose parents had completed no more than high school reported less but were not far behind. The group with the *least* media exposure was children whose parents had some college education. Because the share of youngsters within each parental education category who used each of the media on any given day did not differ, it appears that although all young people watch screen media, those from low- and high-education subgroups watch for longer periods on any given day.

MYTH: *Marketing to children can never have positive outcomes.*

While advertising is often used to steer children and youth toward unhealthy behaviors, marketing can also be used effectively to promote positive healthy choices such as not smoking or using illicit drugs, reducing obesity, and delaying sexual activity. Researchers, for example, showed that from 1999 to 2002, youth smoking prevalence declined from 25.3 percent to 18 percent and that the American Legacy Foundation's *truth* campaign accounted for approximately 22 percent of that decline. Similarly, the California Adolescent Nutrition and Fitness (CANFit) program found that after its 1% or Less campaign in East Los Angeles, whole milk purchases had dropped from 66 percent to 24 percent of overall sales and that the share of low-fat milk sold had more than doubled. Finally, 2004 survey respondents who reported exposure to one or more components of the KNOW HIV/AIDS campaign said that the campaign had influenced their plans for the future, including visiting a doctor or getting tested for HIV and that these respondents were more likely than respondents who were not aware of the campaign components to indicate that they planned to engage in these healthier behaviors.

MYTH: *Video games have no educational value.*

While research has suggested that violent video games can promote aggressive behavior, many other types of video games promote positive outcomes. Studies have found, for instance, that playing select video games can enhance visual awareness, including greater capacity to pay attention, quicker attention deployment, and faster processing. As with other media, it is the content of the game rather than the platform that matters in assessing the potential impact on children.

MYTH: *Adolescents use online communication primarily to communicate with strangers.*

Recent surveys show that teens mostly use the Internet to communicate with friends and maintain already existing relationships. Although the possibility of teens contacting and being contacted by strangers via the Internet is a cause for concern, it is not the predominant way that the Internet is used by youth. This has not always been the case; in the early years of the Internet, chat rooms were the rage and teens were more likely to be in contact with strangers. Today, with the popularity of instant messaging and social networking sites, youth predominately use the Internet to connect with offline friends. In a 2007 survey, researchers found that an overwhelming majority of teens who use social networking sites do so to keep in touch with either friends they see frequently (91 percent) or friends they see rarely (82 percent). Adults should not be complacent, however; a national survey conducted in 2006, for instance, found that 40 percent of fourteen-to twenty-two-year olds who use social networking sites such as MySpace had been contacted online by a stranger whom they did not know before. Moreover, as new fads – like blogs – are introduced, stranger contact may increase. Finally, even teens who only seek to communicate with friends may do so in inappropriate ways that leave them vulnerable to harassment – posting provocative pictures of themselves, for example, that may be meant for a close group of friends but are available to a very wide audience.

MYTH: *Television is appropriate for all ages, so long as it is educational.*

Although watching educational programming can be beneficial and has been associated with positive outcomes for children of preschool age and older, no research to date has been able to demonstrate benefits for infants and toddlers associated with watching educational television. In fact, research actually suggests that, for very young children watching any television is unlikely to be beneficial and could be harmful. Experts seem to agree that while the content of programming is incredibly important for preschool and older-aged children, with educational viewing being associated with more positive outcomes than entertainment viewing, when it comes to infants and toddlers, there is no research evidence to suggest that watching any kind of television is appropriate or beneficial.

MYTH: *Ratings systems are reliable ways to know the content and appropriateness of a movie, television, or video game program.*

In one study, researchers recruited parents to rate the content of computer and video games, movies, and television programs. Raters felt that industry labels were “too lenient” when compared with what parent coders would find suitable for children. In addition, ratings are rarely well understood by the general public. Perhaps because of ratings’ inconsistencies or perhaps because parents are not fully aware of the information offered by media, many parents do not consistently use the ratings to guide their children. Though 78 percent of parents say they have used movie ratings to direct children’s movie viewing, only about half say they use music advisories, video game ratings, and television ratings (54 percent, 52 percent, and 50 percent respectively). Even among parents who report using industry-provided ratings and advisories, most do not find them to be “very useful” according to a Kaiser Family Foundation survey.

MYTH: *Electronic media are keeping kids from reading. If we want kids to read more, we need to limit television, video games, and other such distractions.*

It does not seem that time with media greatly displaces reading or doing homework, largely because American youth spend so little time doing either. When TV first became available, TV viewing replaced “functionally similar” activities, such as listening to the radio, reading comic books, and going to a movie.

Studies have not consistently found that time spent watching television, in general, reduces adolescents’ time spent in school-related activities. Most cross-sectional correlational studies, for instance, have not found a significant link between television viewing and less reading.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.

Parenting in a Media-Saturated World

Should toddlers watch TV? Is educational programming beneficial for preschoolers? What happens when school-age children play violent video games? How are teenagers using the Internet? In today's world, these are the questions that challenge parents on a daily (and sometimes hourly!) basis. In the United States, 99 percent of all households with children have televisions, while among households with eight to eighteen year olds, 85 percent have personal computers and 83 percent have video game consoles. Children ages two to seven watch on average 2.56 hours of television per day and children eight to eighteen watch on average 5.40 hours per day. Clearly, the lives of American children are saturated with media, but how does this overwhelming presence of media impact children's well being? More importantly, what can parents do to exert some control over this media presence in their children's lives?

In a recent issue of *The Future of Children* series, media experts discuss the most current information available concerning children's media use and its potential impact on children's development. Their analyses highlight several important issues parents may want to consider concerning the current state of media saturation, how this may affect children, and what parents can do about it.

In the first place, the current emphasis on creating "educational" television for infants and toddlers is questionable. Research suggests that, at this young age, children learn much more effectively from real-life examples than they do from video demonstrations. While evidence indicates that educational programming can have a positive impact associated with both short- and long-term benefits for children ages three and older, this does not necessarily hold true for very young children.

Once children reach school age and start using various forms of media for longer periods of time and making some independent decisions concerning content, parental awareness and involvement remains imperative. Children's exposure to violent content on television or in computer and video games, for instance, has been associated with both fearful and aggressive behavior. In addition, children of early school age appear to be especially susceptible to the marketing and advertising that occurs on many of the popular television shows and websites; this is especially true as commercials become more subtle, embedded in the content of the show or game.

Similarly, the ease with which children are able to communicate via the Internet and handheld devices appears to be a mixed blessing. Though research indicates that the majority of adolescents use the Internet to interact with people they know as opposed to strangers, even peer interaction can involve risk. The same negative behaviors that some youth engage in off line - bullying and social exclusion, for example - can now take place on a much larger stage with many more observers. Moreover, these interactions often take place where no adults are monitoring the situation - on social networking sites and by viral e-mail.

What, then, are the take away-messages for parents? It might be as simple as the advice given for every other aspect of positive parenting: Be aware and be involved. Awareness requires understanding the various forms of media and types of content available to children at different ages, and whether or not children's exposure to such media and content is beneficial or harmful to particular children at particular points in their development. Involvement requires monitoring the type of media being used by children, the amount of time being devoted to media use by children, and the specific ways in which children are using these various forms of media in the course of their daily lives. Especially as children become more adept at using the newer forms of technology available, parents will need to remain vigilant in order to supervise children's immersion in this media-saturated world.

Parents can also work with governmental and especially nongovernmental organizations to put pressure on the media industry to develop better content, create meaningful ratings systems, cut back on inappropriate advertising, and invent better products to help screen content. Because government will probably not intervene in the realm of media content, the most effective pressure on industry to produce positive media content will come from the court of public opinion made up of child advocates and, especially, families.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Jeanne Brooks-Gunn and Elisabeth Donahue, "Introducing the Issue," pp. 3-10.

Donald F. Roberts and Ulla G. Foehr, "Trends in Media Use," pp. 11-38.

Heather L. Kirkorian, Ellen A. Wartella, and Daniel R. Anderson, "Media and Young Children's Learning," pp. 39-62.

Barbara J. Wilson, "Media and Children's Aggression, Fear, and Altruism", pp. 87-118.

Sandra Calvert, "Children as Consumers: Advertising and Marketing," pp. 205-234.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.

Teens and the Internet

As adults struggle to catch up with the latest advances in technology, adolescents are often two steps ahead in terms of their ability to utilize the latest options available on the Internet. From e-mail and instant messaging to YouTube, interactive video games, and virtual reality environments, teenagers are taking full advantage of the communication opportunities provided by the rapidly changing electronic tools available in today's world. At the same time, adults are finding it challenging to stay aware of what occurs within the context of adolescents' online activities and to monitor teenagers' participation in such activities.

In the latest edition of *The Future of Children* series, experts on children and media highlight some of the most pressing concerns related to children and media in today's world, including the use of the Internet by teenagers. Among youth today, for instance, some of the most popular communication forms include e-mail, instant messaging, text messaging, chat rooms, bulletin boards, blogs, social networking utilities such as MySpace and Facebook, video sharing such as YouTube, photo sharing such as Flickr, massively multiplayer online computer games such as *World of Warcraft*, and virtual worlds such as Second Life and Teen Second Life.

Although there is limited research on the effects of these various new forms of interaction on the healthy development of teens, still preliminary investigations can be informative. A survey study of preadolescents and adolescents in the Netherlands, for instance, suggests that teens use the Internet primarily to support ongoing peer relationships, but this may be related to the online contexts being visited. Eighty percent of those surveyed reported using the Internet to maintain existing friendships, and participants who communicated more often on the Internet felt closer to existing friends than those who did not, but only if they were using the Internet to communicate with friends rather than strangers. At the same time, although participants who used instant messaging communicated primarily with existing offline friends, those who visited chat rooms communicated with existing friends less often.

Research also suggests that the nature of online social environments may be changing the qualities of teen relationships themselves. A recent focus group study of MySpace on a college campus found that most participants had between 150 and 300 "friends" on their MySpace site. Within MySpace, friends' photos and names are displayed on users' profiles and each profile includes a list of "top" friends ranging from a "top four" to a "top twenty-four." Since this public display of best friends may affect teen relationships, the effects of these public pronouncements could be an important area of investigation for future research in this area.

Finally, the existence of cyberbullying and online harassment has also become a cause for concern in terms of its effect on teen development. A connection may exist between real-world bullying and online bullying, as a 2005 U.S. survey with more than 1,400 respondents aged twelve to seventeen found that participants who had experienced repeated school-based bullying were seven times more likely to be

subjected to repeated online bullying. In fact, according to research, about two-thirds of cyberbully victims knew the perpetrator; one third did not. In terms of the mechanism used for cyberbullying, the U.S. study found that instant messaging was the most common tool used for bullying, while a U.K. study found that text messaging (which was more popular in the United Kingdom) was most commonly used. This may change over time as texting becomes more popular in the United States.

As an example of this hand-held trend emerging in the United States, Virgin Mobile USA reports that more than nine out of ten teens with cell phones have text-messaging capability: two-thirds use text messaging daily, more than half of customers aged fifteen to twenty received at least eleven text messages a day, and nearly a fifth texted twenty-one times a day or more. At the same time, from October through December 2006, Verizon Wireless hosted 17.7 billion text messages, more than double the total from the same period in 2005. In addition to texting, many of the other forms of online interaction teens find appealing are now becoming available on portable devices, such as cellphones and personal digital assistants (PDAs). As these advances in technology allow the potential for teens' virtually unlimited access to online interactive possibilities, adults will need to remain aware of the activities available, monitor adolescents' participation, and assess the impact of teens' online experiences on their overall development.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Kaveri Subrahmanyam and Patricia Greenfield, "Online Communication and Adolescent Relationships," pp. 119-146.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.

The Digital Divide

Much public attention has been focused on the increasing importance of the computer, the Internet, and other forms of technology in daily life. Computers and Web-based activities are integral parts of most workplaces and are becoming increasingly incorporated into the educational experiences provided by schools. What is sometimes overlooked, however, is that variations in children's opportunities for certain kinds of interactions with these newer forms of technology may be perpetuating a "digital divide" in which some children have extensive access to the newest forms of technology for educational purposes, while others may be using them primarily for entertainment.

In *The Future of Children* volume "Children and Electronic Media," experts discuss differential access and the potential implications this has for children's development. The term "digital divide" came into popular usage during the mid-1990s and originally referred to variations in access to personal computers and other allied technologies (such as Internet connections) according to differences in socioeconomic status, race and ethnicity, gender, and geography. More recently, as the gap in access to computers has narrowed somewhat, the term has also been applied both to broadband connectivity and to differences in technical support and in how members of different socioeconomic status or ethnic groups use technology.

Although general access to computers has been improving, research suggests that home computer availability continues to vary by both parental education and race and ethnicity. A recent survey conducted by the Kaiser Family Foundation found that 91 percent of eight- to eighteen-year-olds whose parents completed college have access to an in-home personal computer, as compared to 84 percent of those whose parents attended but did not finish college, and 82 percent of those whose parents completed no more than high school. Differences in the availability of personal computers varies by race and ethnicity as well, with a higher share of white (90 percent) than either African American (78 percent) or Hispanic (80 percent) eight-eighteen-year-olds living with personal computers. The pattern is similar for Internet connections (approximately 78 percent for white children, 60 percent for African American children and 67 percent for Hispanic children) and instant messaging programs (approximately 79 percent for white children, 47 percent for African American children, and 52 percent for Hispanic children).

Similarly, even though computers and the Internet are available in almost all public schools, schools with the highest poverty concentrations have higher ratios of students to instructional computers (5 to 1 vs. 4.1:1) and less access to computers outside regular school hours than do schools with the lowest poverty concentrations. In a related finding, children from higher-income households are more than twice as likely as those from the lowest-income households to use a home computer to complete school assignments (77 percent versus 29 percent) and are more than three times as likely to use a personal computer for word processing or desktop publishing.

Interestingly, in terms of race and ethnicity, although a significantly higher share of white youths (57 percent) than either African American (44 percent) or Hispanic youths (47 percent) report using a computer on any given day, still the three groups do not differ reliably in the total amount of time they use computers. Apparently fewer minority youths use computers, but those who do use them for longer periods than do their white counterparts. At the same time, minority youths seem to be spending more time with screen media (television, videos, movies) than whites. Daily viewing averages 5:53 hours for African American eight-eighteen-year-olds, 4:37 hours for Hispanic eight- to eighteen-year-olds and 3:47 hours for white eight- to eighteen-year-olds. These relationships between media use and race and ethnicity largely withstand controls for socioeconomic status.

The evidence described above suggests that, though access to technology has been improving, the digital divide remains a cause for concern. Children from higher-income households are more likely to have greater access to computer technology, both at home and at school. Similarly, there are also racial and ethnic differences in children's access to and use of various forms of media. As these young children move through an educational system and into a workforce that increasingly relies upon the use of technology, it seems likely that limited opportunities to utilize computers and technology for educational purposes could represent a serious disadvantage for some children in terms of achieving educational and professional success.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Donald F. Roberts and Ulla G. Foehr, "Trends in Media Use", pp. 11-38.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.

The Medium Is Not the Message

Parents, educators, and policymakers continually express concern over children's exposure to media and the potential negative effects such exposure can have on children's development. In the minds of many adults, media use is often associated with children's increased aggression, inability to focus attention, and potentially risky behavior. Although research suggests that these popular assumptions are in some cases supported, this is not always the case.

In *The Future of Children* volume "Children and Electronic Media," researchers repeatedly emphasize the importance of considering content when assessing how media affects children. Certain media content is educational and can be associated with positive outcomes for children, while other media content is harmful and can be associated with negative outcomes for children. Although the amount of time children spend engaged with media is important, assessing the effects of children's media consumption must go beyond simply calculating the number of hours they consume. At the end of the day, what matters most is the content.

Examples of negative outcomes include:

- In a 2007 study, Frederick Zimmerman and Dimitri Christakis report finding links between high doses of entertainment television before the age of three and attention problems five years later.
- A few experiments using control groups show that repeated exposure to television violence increases people's fear of victimization.
- Some research suggests that extensive viewing of television violence can alter children's views about the acceptability of violence and perhaps even hinder the development of their moral reasoning.
- Longitudinal research has linked heavy exposure to television violence in childhood to increased social aggression in adult females, even after controlling for childhood aggression, childhood IQ, parental education, parental TV habits, and the socioeconomic status of the family.
- Brad Bushman and Craig Anderson compared the effect of television violence on aggression with other well-established connections in the medical field. The television violence-aggression link turns out to be larger than the link between lead exposure and children's IQ. The effect of television violence on aggression is only slightly smaller than the documented effect of smoking on lung cancer.
- To date, only one published study has focused on the long-term effects of playing violent video games on youth. The study revealed that students who played violent video games early in the school year engaged in significantly increased physical aggression and hostile attributions several months later.

- One longitudinal study published in 2003 reported a strong link between exposure to movie smoking and smoking initiation among 2,603 adolescents aged ten to fourteen.

While these negative findings are troubling, media can also have positive effects:

- Empirical evidence strongly supports the notion that high-quality educational programming has benefits for children's academic skills, academic engagement, and attitudes toward learning.
- Research suggests that TV's effects on reading are largely dependent on the content viewed. For instance, Daniel Anderson and his colleagues found that educational TV viewing at age five positively predicted book reading in adolescence in a prospective longitudinal cohort.
- Anderson and several colleagues have demonstrated long term positive effects of viewing *Sesame Street*; children who watched the program at age five received higher grades in the math, English, and science courses they later took in college.
- Several studies also suggest that video game play may enhance spatial reasoning skills in youth. Richard DeLisi and Jennifer Wolford found positive effects on spatial skills of playing the video game Tetris, which requires mental rotation. Similarly, Matthew Dye and Daphne Bevelier found benefits of gaming for visual attention, including greater attentional capacity, quicker attention deployment, and faster processing.
- An analysis of a tobacco countermarketing media campaign in Massachusetts found that adolescents who were aged twelve to thirteen at the study's outset and who reported exposure to television antismoking advertisements were significantly less likely to progress to established smoking than their peers who did not report exposure.

Currently available evidence concerning children and the media, therefore, indicates that content is what matters most. In the future, identifying and encouraging the creation and consumption of educational media, while carefully monitoring and limiting children's exposure to entertainment and violent media, seems imperative in trying to promote optimal outcomes for children.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

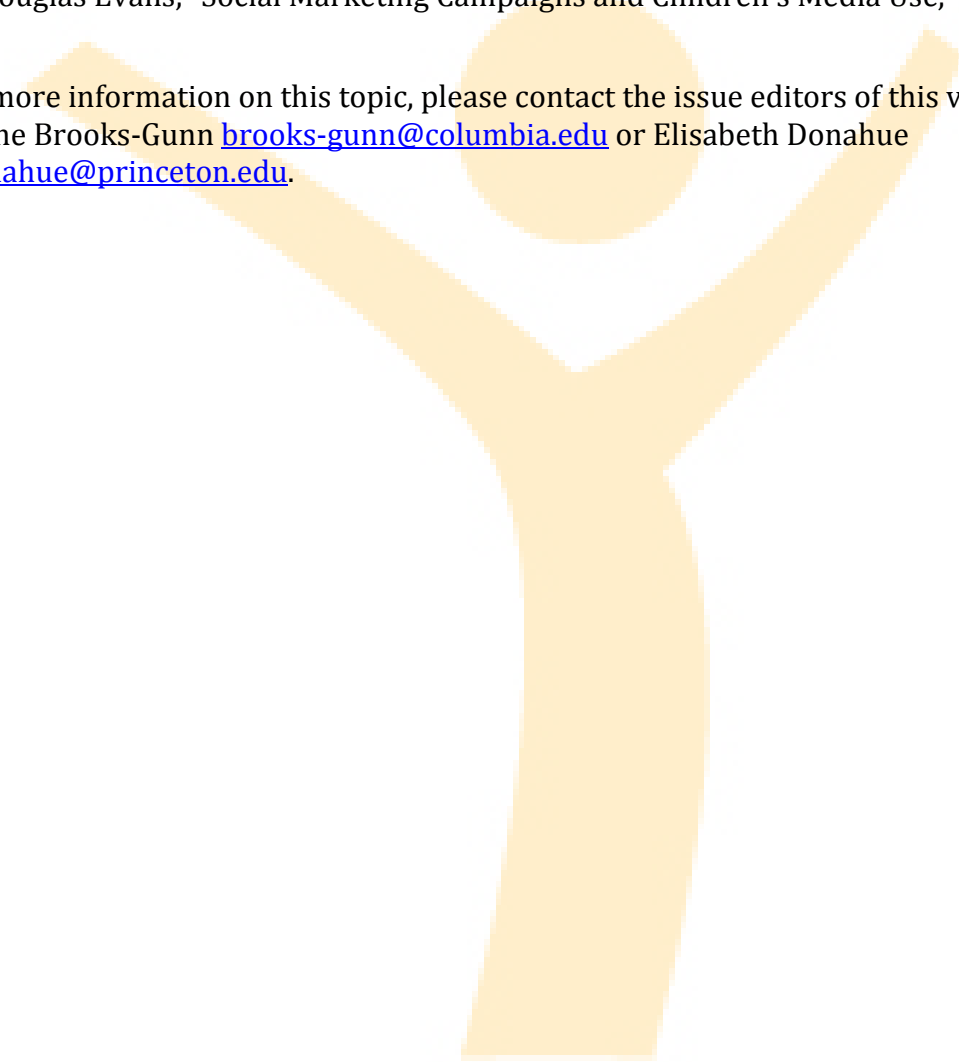
Marie Evans Schmidt and Elizabeth A. Vandewater, "Media and Attention, Cognition, and School Achievement," pp. 63-85.

Barbara J. Wilson, "Media and Children's Aggression, Fear, and Altruism," pp. 87-118.

Soledad Liliana Escobar-Chaves and Craig A. Anderson, "Media and Risky Behaviors," pp. 147-180.

W. Douglas Evans, "Social Marketing Campaigns and Children's Media Use," pp. 181-204.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.



The Power of Positive Marketing

As advertising executives are fully aware, marketing in electronic media is powerful and can shape behaviors of children and youth. The challenge for those interested in promoting children's healthy development, therefore, is to present positive marketing messages. The negative and positive effects of marketing through electronic media were recently reviewed in *The Future of Children*, "Children and Electronic Media."

On the negative side, research has documented associations between exposure to television and negative outcomes in terms of a number of children's risky behaviors. Adolescents who watched more than five hours of TV a day, for instance, were almost six times more likely to start smoking than those who watched two hours or less a day. Researchers have also found that for each extra hour of TV viewing a day, the risk of adolescents starting to drink over the next eighteen months increased an average of 9 percent; for each extra hour a day of viewing music videos, the risk increased an average of 31 percent. Similarly, a variety of research studies have begun to find some modest associations between obesity and TV viewing, while a National Academies panel concluded that television food advertisements affect children's food preferences, food requests, and short-term eating habits. Meanwhile, marketing may also contribute to children's consumerism and to family conflict, as one review of research revealed a causal relationship between children's viewing of television commercials and their pestering their parents in the grocery store. Based on this evidence, it seems obvious that television exposure can be related to certain negative consequences in terms of children's behavior.

On the positive side, however, research examining social marketing campaigns suggests that media can also be a powerful tool in promoting healthy behavior and preventing risky behavior among children and adolescents. Recent reviews indicate that social marketing through television, radio, outdoor and print advertising, and the Internet is effective in changing health behaviors on a population level. In general, these studies show that social marketing has successfully changed health behavior such as smoking, physical activity, and condom use, as well as behavioral mediators such as knowledge, attitudes, and beliefs related to these behaviors.

The success of the *truth* campaign in preventing smoking among young people, for example, has been well documented. This effort, supported by the American Legacy Foundation, tapped into adolescents' need for independence, rebellion, and personal control by presenting appealing social images of a nonsmoking lifestyle-cool kids living without tobacco. According to research, the decline in youth smoking attributable to this campaign equates to some 300,000 fewer youth smokers and thus millions of added life years as well as tremendous reductions in health care and social costs. An analysis of a smaller state-funded anti-smoking campaign in Massachusetts found that adolescents who were aged twelve to thirteen years at the study's outset and who reported exposure to television antismoking advertisements were significantly less likely to progress to established smoking than their peers who did not report exposure.

Other health-related campaigns that have documented success include the 1% or Less campaign and the KNOW HIV/AIDS public education program. The California Adolescent Nutrition and Fitness (CANFit) program found that after its 1% or Less campaign in East Los Angeles, whole milk purchases dropped from 66 percent to 24 percent of overall sales and that the share of all low-fat milk sold had more than doubled. The KNOW HIV/AIDS campaign, a public education effort in 2003, which built on the existing partnership between the Kaiser Family Foundation and Black Entertainment Television has also reported successful results. In a 2004 survey of African Americans reported by Victoria Rideout, 82 percent of all respondents and 94 percent of young adults aged eighteen to twenty-four recalled at least one KNOW HIV/AIDS campaign advertisement or program component, and 70 percent recalled seeing two specific advertisements. Respondents who reported exposure to one or more campaign component said that the campaign had influenced their plans for the future, including visiting a doctor or getting tested for HIV, and were more likely than respondents who were not aware of campaign components to indicate they planned to engage in these behaviors.

Other examples of social marketing campaigns that have been launched more recently include:

- The TV Boss Campaign, sponsored by the Ad Council, utilizes traditional public service announcements and is designed to give parents the tools and information they need to guide their child's exposure to television.
www.thetvboss.org/
- The 5-4-3-2-1-Go Campaign, developed by the Consortium to Lower Obesity in Chicago, is a multi-channel, mixed community, and media-based effort aimed at improving family food choices and increasing physical activity.
www.clocc.net/partners/54321GO/
- The Parents Speak Up Campaign is a national multimedia effort on the part of the U.S. Department of Health and Human Services designed to promote delayed sexual activity on the part of teenagers by encouraging communication within families.
www.4parents.gov/

By evaluating the relative success of the various elements of these campaigns and others like them, researchers will be able to analyze the degree to which social marketing campaigns may be able to further contribute to children's positive behaviors and inform the creation of future campaigns.

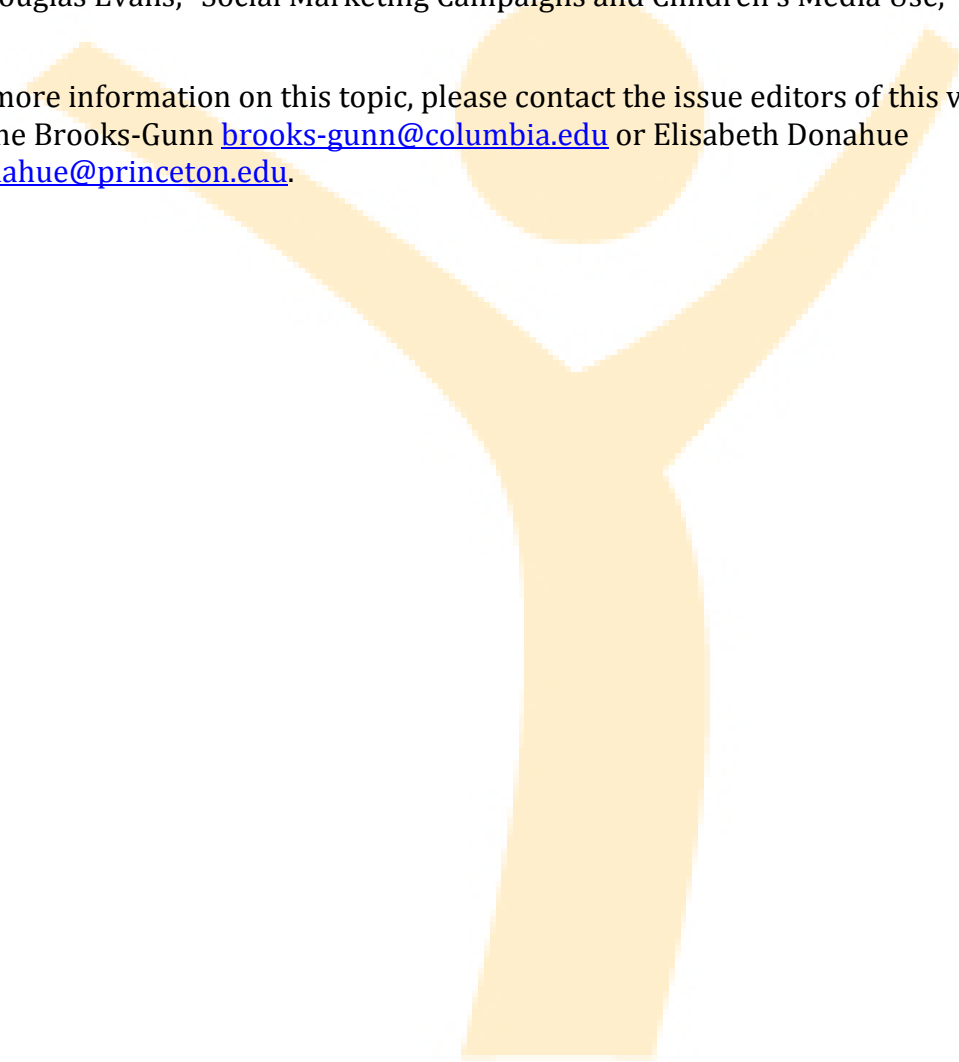
Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Soledad Liliana Escobar-Chaves and Craig A. Anderson, "Media and Risky Behaviors," pp. 147-180.

W. Douglas Evans, "Social Marketing Campaigns and Children's Media Use," pp. 181-204.

For more information on this topic, please contact the issue editors of this volume: Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue edonahue@princeton.edu.



Toddlers and Television

Is TV good for babies? Until recently, the general assumption has been that infants and toddlers were too young to understand or comprehend much television content. As a result, children's television and video programming was designed for children ages three and older. In the last decade, however, all of this has changed. Perhaps because of the success of educational programming for preschool children, many of those involved in children's media production have begun to create programming for an even younger audience. The result is that today's infants and toddlers can watch television shows and videos that have been created specifically for them, much of it claiming to be educational. Since the positive effects associated with preschoolers' viewing of educational content have been well documented, creators of this programming argue that we can expect the same positive outcomes for infants and toddlers.

Children's researchers find otherwise. In *The Future of Children* journal "Children and Electronic Media," experts conclude that infants and toddlers learn better from real-life experiences than from viewing even educational video and television content. This has been coined the "video deficit hypothesis" - a theory that children two years of age and younger do not seem as capable of learning from television as do preschoolers. Instead, these younger children learn vocabulary, imitate actions, and find hidden objects more effectively when presented with real-life models and information than when the same content is presented via television or video.

Despite the fact that research shows that infants and toddlers do not benefit from television or radio, they still consume a lot of both. A recent Kaiser Family Foundation survey estimated that 43 percent of infants and toddlers watch TV every day. Nineteen percent of children under the age of one year and 29 percent of children aged two to three years have a television in their bedrooms. Such frequent and readily available exposure to television is likely to influence children's development. In at least one study, for instance, children's television viewing before age three was negatively related to children's later academic achievement. Given that at best children do not learn from television and at worst is actually harms later school abilities, researchers conclude that television viewing is not appropriate for very young children.

Prepared by Ann Cami based on information contained in *The Future of Children: Children and Electronic Media*, Jeanne Brooks-Gunn and Elisabeth Donahue, eds., Volume 18, Number 1, Spring 2008 www.futureofchildren.org.

Specific Chapters Referenced Include:

Heather L. Kirkorian, Ellen A. Wartella, and Daniel R. Anderson, "Media and Young Children's Learning," pp. 39-62.

For more information on this topic, please contact the issue editors of this volume:
Jeanne Brooks-Gunn brooks-gunn@columbia.edu or Elisabeth Donahue
edonahue@princeton.edu.

