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Children in the digital age

As we enter the new millennium it becomes ever clear that the world of children's media has dramatically changed. The issue of "old" and "new" media will rapidly become obsolete in this emerging digital environment where television is interactive and the Internet opens new doors into the world outside the home. Broadband interfaces, made possible through services such as cable delivery, will expand the range of media content and media choices that children will experience in their everyday lives. It is timely, therefore, to examine who will have access to these technologies, how access and usage patterns will shape child and family functioning, and who should participate in establishing guidelines and policies that influence the flow of information into the homes and lives of American children. In this special issue, an interdisciplinary group of psychology, communications, and education scholars examine these issues.

Though children still spend more time with television than any other medium, it is clear that new technologies such as the personal computer and the Internet are making in-roads into how children are entertained and educated. This special issue opens with an examination of children's use of computers and computer-related media (such as video games) by Subrahmanyam et al. Using data from a 2-year study of 93 families who were provided with computers and Internet access, the authors present data on children's interest in, and comfort with, computers and the Internet. In addition, they summarize the existing literature on the consequences of children's computer use. The authors consider whether and how computer use affects children's cognitive development (Do they perform better on spatial tasks? Do they get better grades?), as well as their social relationships (Are heavy computer users socially isolated?). As Subrahmanyam et al. discuss, the gender divide in access to new media is narrowing somewhat (though boys are still more likely to be the game players and programmers), but socioeconomic differences in access to new technology persist.

Wright et al. describe television and video game access and usage patterns among a nationally representative sample of families, including low-income families. Both television programs and video games will be delivered online in the future, making it easy for children to move back and forth between home interactions and networked ones. The current interest patterns documented by Wright et al. tells us about how children are likely to use these technologies in the future.

A preliminary study by Borzekowski and Rickert sheds light on how the "digital divide" impacts adolescents' access to health information. Although low-income children are less likely to have Internet access in their homes, these children are just as likely as their more affluent peers to seek out health information from the Net. Public access to the Internet at

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school and at libraries fills the current void that some low-income children face at home. The specific kinds of information sought vary by social class, reflecting the relevance of different kinds of health information children choose to access.

Marketing and advertising strategies are areas of rapid change that are fueling Internet development, but few researchers are currently examining television-influenced consumer behaviors. This lack of scientific information stands in stark contrast to the wealth of proprietary information that advertisers gather about children and know about consumer behavior. To fill this void, Valkenburg and Cantor offer a consumer socialization model to help researchers begin to untangle a crucial developmental problem — the ages at which children understand certain marketing strategies and the kinds of information they are seeking. It is notable that 18–24-month-old infants make requests for products from their parents, an astounding finding in light of the fact that first words usually appear only at 12 months. Although children often have a considerable amount of money to buy products, many do not understand that the intent of advertising is to sell products by persuasive means. How can we protect children from unfair advertising practices when they do not have the cognitive skills to protect themselves? At what point in development do those cognitive skills emerge? How do we go about establishing consumer skills? What is the appropriate balance between consumer education and protective policies?

Using a family boundaries approach, Turow examines how the Internet is changing marketing strategies and how children may be manipulated into divulging private family information to advertisers. When children are offered financial incentives for revealing family preferences about purchasing decisions, how will family dynamics be affected? What measures, if any, should be developed to protect children and families from intrusion into their private lives? To what extent should advertisers be restricted — or unrestricted — to solicit information that they can use in their marketing efforts, and to what extent is marketing to children different from marketing to adults? The Children's Online Privacy Protection Act now prevents advertisers from asking children 13 and younger personally identifying information, but adolescents are treated as adults. Moreover, children, adolescents, and adults are being tracked electronically, making privacy a concern for all Internet users as the boundaries between the external world and the private domain of the home are permeated.

Articulation of policy concerns also has the power to impact the quality of media content. Government intervention, implemented with the Children's Television Act of 1990, improved children's television by requiring commercial broadcasters to air 3 h of educational and informational programming each week as a condition for license renewal. In a study presented in this set of papers, Jordan, Schmitt, and Woodard conducted a systematic content analysis of children's television programs that were produced under this Three-Hour Rule mandate. Not only did the researchers find that there is greater availability of educational programs on the nation's free airways under the act, but that these programs are often low in violence and provide gender and ethnic diversity.

Finally, Calvert et al. address what children are learning from the educational and informational television programs that are mandated by the Children's Television Act. Using the Internet as a research tool for data collection, grade school children's viewing patterns and their learning from their favorite television programs was examined. This study provides additional information that supports the importance of the Children's Television Act. It also

explores a new Internet-based methodology for gathering information from a national sample of children.

In the past quarter-century, policies as far-ranging as those affecting advertising rules to The Three-Hour Rule (above) have played an important role in shaping the current media environment. The Internet thus far has been relatively unregulated because, as is also true of television content, the First Amendment protects freedom of speech. Also, unlike television, the Internet does not use limited public airwaves so it is subject to less regulation. The policy decisions that will impact children with digital media are just beginning to take shape. As this special issue of the *Journal of Applied Developmental Psychology* illustrates, the policy decisions that will be made in the future may become important in shaping how the new media will address the needs of children in the digital age.

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