

## ANNOTATED BIBLIOGRAPHY

### Reviews & Overviews

Buckingham, D. (2002). The electronic generation? Children and new media. In L. A. Lievrouw & S. Livingstone (Eds.), *Handbook of new media: Social shaping and consequences of ICTs* (pp. 77-88). London: Sage.

The chapter focuses on children's uses of new media (particularly computers) in the context of leisure time, in the home and in the peer group. The chapter begins by considering recent popular debates on these issues, drawing on material aimed at a general readership. Challenging generalized notions of 'childhood', it then moves on to consider the diverse social uses of new media among different groups of children. This is followed by a discussion of children's experiences of new media, focusing primarily upon computer games and 'online culture'; and a consideration of the 'educational' uses of new media by parents and children in the home. The chapter concludes with a brief discussion of implications for cultural and educational policy. (From the author).

Calvert, S. L., Jordan, A. B., & Cocking, R. R. (Eds.). (2002). *Children in the digital age: Influences of electronic media on development*. Westport, CT: Praeger.

Television will be interactive, computers will provide feature-length motion pictures and TV programs, and information will be delivered like never before. Access to digital technologies is rapidly changing how children experience media, changing how technologies will impact children's development, and making media an increasingly active gateway for experiencing and learning about the world. This volume considers how children use media today, and how new media is emerging and merging with existing technologies. The distinctive features of both older and newer media are examined, along with why these technologies are attractive to children and adolescents. (From the cover)

Cordes, C., & Miller, E. (2000). *Fool's gold: A critical look at computers in childhood*. College Park, MD: Alliance for Childhood. Retrieved April 25, 2002, from [http://www.allianceforchildhood.net/projects/computers/computers\\_reports\\_fools\\_gold\\_contents.htm](http://www.allianceforchildhood.net/projects/computers/computers_reports_fools_gold_contents.htm)

The authors contend that computers pose serious health hazards to children, including repetitive stress injuries, eyestrain, obesity, social isolation, and, for some, long-term physical, emotional, or intellectual development damage. Computer technologies hamper the development of strong personal bonds with caring adults and detract from active, physical play. The emphasis on technology is also diverting us from the urgent social and educational needs of low-income children. Computers do not seem to have an impact on academic achievement, and its purported benefits in connecting children to the world warrant reconsideration. Those who place their faith in technology to solve the problems of education should look more deeply into the needs of children. (Adapted from the Executive Summary) [*Also in Cognitive Development, Social Development, and Health & Safety*]

*The Future of Children: Children and Computer Technology.* (2000). Vol 10 (2). Los Altos, CA: The David and Lucille Packard Foundation.

The articles presented here summarize the knowledge and research available on how the use of computers affects children's development, whether it increases or decreases the disparities between rich and poor, and whether it can be used effectively to enhance learning. Evidence suggests that excessive, unmonitored use of computers can place children at risk for harmful effects on their physical, social, and psychological development, and expose them to inappropriate violent, sexual, and commercial content. To reduce such risks, children's computer time should be limited and their exposure to different types of content should be supervised. The articles also describe many promising examples of computer use that give children new ways to access information, create projects, communicate with others around the world, and enrich their classroom learning. Public and private initiatives are needed to support the efforts of both parents and teachers to ensure that all of our nation's children benefit from the positive uses of technology, and that they are empowered to use computers effectively, responsibly, and creatively throughout their lives.

Shields, M. K., & Behrman, R. (2000). Children and computer technology: Analysis and recommendations. *The Future of Children*, 10, 4-30.

An analysis of the research on how computer use affects children's development, whether it increases or decreases disparities between rich and poor, and whether it can be used effectively to enhance learning, including recommendations to improve children's access to and use of computers both at school and at home. [Also in *Media Use & Access and Health & Safety*]

Singer, D. G., & Singer, J. L. (Eds.). (2001). *Handbook of children and the media*. Thousand Oaks, CA: Sage.

The goal in this handbook is to integrate the usage and effects of electronic media exposure on children and adolescents with the basic behavioral research on child development.

Subrahmanyam, K., Greenfield, P., Kraut, R., & Gross, E. (2001). The impact of computer use on children's and adolescents' development. *Journal of Applied Developmental Psychology*, 22, 7-30.

In recent years, electronic games, home computers, and the Internet have assumed an important place in our lives. This paper presents a review of the research on the impact of home computer use on the development of children and adolescents. Time use data are presented along with a discussion of factors such as age, gender, and ethnicity, which impact the time spent on computers as well as the activities engaged in. Research on the impact of computer use on cognitive skill and academic development, social development and relationships, and perceptions of reality and violent behavior is reviewed. The special role of the Internet in the lives of adolescents is brought out using data from the HomeNet study. The paper concludes with recommendations for future study in order to better understand the growing impact of computers on our youth. (PsycINFO) [Also in *Use & Access, Cognitive Development, and Social Development*]

Subrahmanyam, K., Kraut, R., Greenfield, P., & Gross, E. (2001). New forms of electronic media: The impact of interactive games and the Internet on cognition, socialization, and behavior. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.73-99). Thousand Oaks, CA: Sage.

The authors examine the demographics of use and access to computers and the Internet, the amount of time children spent on computers and the time that computer use takes away from other activities, especially television. The authors review the research on interactive games and cognitive and social development, as well as children and teens' use of the Internet for education and communication, and the possible social and psychological effects of Internet use. [*Also in Use & Access, Cognitive Development and Social Development*]

Tarpley, T. (2001). Children, the Internet, and other new technologies. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.547-556). Thousand Oaks, CA: Sage.

This chapter offers a brief overview of various new media technologies and discusses the available evidence or needed research addressing the role of new media in influencing the cognitive, social, behavioral, emotional, and physical development of the growing child. [*Also in Cognitive Development, Social Development and Health & Safety*]

Villani, S (2001). Impact of media on children and adolescents: A 10-year review of the research. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 392-401.

Objective: To review the research literature published within the past 10 years regarding the impact of media on children and adolescents. Method: Media categories researched with computer technology included television and movies, rock music and music videos, advertising, video games, and computers and the Internet. Results: Research prior to 1990 documented that children learn behaviors and have their value systems shaped by media. Media research since has focused on content and viewing patterns. Conclusions: The primary effects of media exposure are increased violent and aggressive behavior, increased high-risk behaviors, including alcohol and tobacco use, and accelerated onset of sexual activity. The newer forms of media have not been adequately studied, but concern is warranted through the logical extension of earlier research on other media forms and the amount of time the average child spends with increasingly sophisticated media. (SocialSciAbs)

*Zero to Three: Babies, Toddlers, and the Media.* (2001). Vol. 22(2). Danvers, MA: National Center for Infants, Toddlers, and Families.

America's babies and toddlers live in a world full of television sets, VCRs, computers, videogames, and interactive toys. How are parents shaping their children's earliest experiences with electronic media? What impact are babies' and toddlers' media experiences having on their development? The truth is, we don't know. Research concerning children from 0-3 and the media is just beginning. With this co-edited issue of *Zero to Three* and through a collaborative research effort now in the planning stage, the Annenberg Public Policy Center at the University

of Pennsylvania and ZERO TO THREE hope to help direct the attention of researchers, practitioners, parents, and policy makers to this important area of inquiry. (From the Editor).

### Media Use & Access

Becker, H. J. (2000). Who's wired and who's not: Children's access to and use of computer technology. *The Future of Children, 10*, 44-75.

An analysis of the extent and significance of a "digital divide" between those children who are benefiting from access to computer technology in school and at home, and those who are being left behind.

Borzekowski, D. L. G., Rickert, V. I. (2001). Adolescents, the Internet, and health. Issues of access and content. *Journal of Applied Developmental Psychology, 22*, 49-59.

As the Internet grows in popularity and importance, many have raised concerns over access and content, especially with regard to young people and health information. This article begins with a brief discussion on Internet access issues. It follows with a section addressing Internet health content and provides a critique of 3 examples of current Internet health Web sites. Data are then presented from a preliminary survey on the Internet use of 2 distinct samples of New York City adolescents (N = 319). It was found that adolescents of dissimilar socioeconomic and ethnic groups access and use the Internet, with a large percentage seeking health information. The authors conclude with recommendations for future health Web sites targeting adolescents. (PsycINFO) [Also in *Health & Safety*]

Center for Media Education. (2001a). *Teensites.com: A field guide to the new digital landscape*. Washington, DC: Center for Media Education. Retrieved March 3, 2002, from <http://www.cme.org/teenstudy/index.html>

Teens growing up today are at the center of the technological explosion that has transformed the media system. This report was designed to shed light on the new digital culture, and on the technological and economic forces that are shaping it. The focus here is on the World Wide Web, which the authors see as the center of innovation and implementation for the new media system. The study provides an overview of popular teen websites, identifying the key features that characterize online content and activity for teens and analyzing the major industry trends that influence the design and direction of the new teen media culture. (Executive summary) [Advertising & Privacy]

Cone, C. (2001). Technically speaking: Girls and computers. In P. O'Reilly, E. M. Penn & K. deMarrais (Eds.), *Educating young adolescent girls* (pp. 171-187). Mahwah, NJ: Lawrence Erlbaum.

A computer club consisting of girls was studied over the course of three years. Its purpose was to examine young girls interacting with multimedia and computers. The findings are discussed

in terms of overall use, how that use compares to boys', and how the medium can be utilized as a tool for girls' self-expression and communication. [Also in Gender]

Girl Scout Research Institute. (2002). *The net effect: Girls and new media*. New York: Girl Scouts of the USA. Retrieved May 7, 2002, from <http://www.girlscouts.org/about/PDFs/NetEffects.pdf>

The Internet is a pervasive part of girls' lives — used almost daily for communication, research and entertainment. A new study from the Girl Scout Research Institute, conducted in conjunction with Girl Games, Inc., shows, however, that many of these girls are "driving the information superhighway without a license," needing more pertinent advice and proactive guidance from parents and other adults. *The Net Effect: Girls and New Media* study examines trends in the Internet habits of girls aged 13-18, girls' skills in navigating potentially difficult or emotional situations online, and offers advice on how parents and other adults can empower girls to have safe, positive online experiences. [Also in Gender]

Girl Scouts of the USA. (2001). *The girl difference: Short-circuiting the myth of the technophobic girl*. New York: Girl Scouts of the USA. Retrieved March 9, 2002, from [http://www.girlscouts.org/about/ResearchInstitute/reviews/girl\\_difference.html](http://www.girlscouts.org/about/ResearchInstitute/reviews/girl_difference.html)

Synthesizes studies on girls and technology, going beyond the nature and extent of their computer usage, and putting this information into a larger framework of how girls view themselves in the overall technology culture. (Executive summary) [Also in Gender]

Jordan, A. B. & Woodard, E. H. (2001). Electronic childhood: The availability and use of household media by 2- to 3-year olds. *Zero to Three*, 22 (2), 4-9.

This article represents a snapshot of media use in 145 families with 2- to 3-year olds. The data come from a subsample of a national survey of parents with children who were 2 to 17 years old.

La Ferle, C., Edwards, S. M., & Lee, W. N. (2000). Teens' use of traditional media and the Internet. *Journal of Advertising Research*, 40, 55-65.

189 Ss (aged 14-19 yrs) completed a questionnaire designed to examine teens' relationships with media. Time allocation across media (television, reading, radio, internet) and the needs (entertainment, research, homework, health education, shopping, leisure, news/current events) fulfilled by each medium were investigated. The study further explored how the Internet, given its ability for 2-way communication, stacks up against interpersonal communication sources. Influences of gender and home access to the Internet were analyzed, as were the methods teens use to learn about websites. Teens were found to spend the most amount of time listening to the radio, while the Internet was frequently used for school-related tasks. In general, teens' media choices were shown to vary by their needs. Overall, male and female uses of media were similar; however, gender differences were found on the needs fulfilled by the Internet. Results provide implications for effectively targeting the teen market. (PsycINFO)

Lenhart, A., Rainie, L., & Lewis, O. (2001). *Teenage life online: The rise of the instant-message generation and the Internet's impact on friendships and family relationships*. Washington, DC: Pew Internet & American Life Project. Retrieved June 13, 2002, from <http://www.pewinternet.org/reports/toc?aspReport=36>

This report was part of the Pew Internet & American Life Project and explores the teens' (ages 12-17) use of the Internet and its impact of the Internet on social and family relationships. The Internet plays a pivotal role in the lives of teens who use it. Instant-messaging is a key feature of Internet use, although email is the most frequently used feature. Parents express more concern about the dangers of the Internet more than do teens. Gender and age differences in teens' involvement in various online activities were also presented. [*Also in Social Development*]

McCreary, F. A., Ehrich, R. W., & Lisanti, M. (2001). Chat rooms as "virtual hangouts" for rural elementary students. *Information Technology in Childhood Education Annual*, 13, 105-123.

This article is a description of how 24 rural, 5<sup>th</sup>-grade students with home Internet access used an Internet chat application after school and how this usage changed during a one-year period. Study results have implications for curriculum design (e.g., how teachers can use chat to stimulate collaborative learning after school), student-teacher interactions (e.g., how can teachers maintain their authority in this new environment), and research (e.g., how does gender affect student usage of chat).

Montgomery, K. (2000b). Children's media culture in the new millennium: Mapping the digital landscape. *The Future of Children*, 10, 145-167.

A description of the technological, demographic, and market forces shaping the new digital media culture, and the rich array of Web sites being created for children and teens. [*Also in Advertising & Privacy*]

Morrison, M., & Krugman, D.M. (2001). A look at mass and computer mediated technologies: Understanding the roles of television and computers in the home. *Journal of Broadcasting & Electronic Media*, 45, 135-161.

The multi-channel, multi-option television and the personal computer are two media technologies that have dramatically altered the home media environment. New media technologies have the capacity to create new media patterns and blur the lines between entertainment and information. This study examines the social role of new media technologies in the home relative to: (1) social facilitation; (2) rule making; (3) shifting/expanding media use; and, (4) attitudes toward media technologies. (SocialSciAbs).

Roberts, D. F. (2000). Media and youth: Access, exposure, and privatization. *Journal of Adolescent Health*, 27, 8-14.

A cross-sectional national random sample of 2065 adolescents aged 8 through 18 years, including oversamples of African-American and Hispanic youth, completed questionnaires about use of television, video-tapes, movies, computers, video games, radio, compact discs, tape players, books, newspapers, and magazines.

Shields, M. K., & Behrman, R. (2000). Children and computer technology: Analysis and recommendations. *The Future of Children, 10*, 4-30.

An analysis of the research on how computer use affects children's development, whether it increases or decreases disparities between rich and poor, and whether it can be used effectively to enhance learning, including recommendations to improve children's access to and use of computers both at school and at home. [Also in *Reviews and Health & Safety*]

Subrahmanyam, K., Greenfield, P., Kraut, R., & Gross, E. (2001). The impact of computer use on children's and adolescents' development. *Journal of Applied Developmental Psychology, 22*, 7-30.

In recent years, electronic games, home computers, and the Internet have assumed an important place in our lives. This paper presents a review of the research on the impact of home computer use on the development of children and adolescents. Time use data are presented along with a discussion of factors such as age, gender, and ethnicity, which impact the time spent on computers as well as the activities engaged in. Research on the impact of computer use on cognitive skill and academic development, social development and relationships, and perceptions of reality and violent behavior is reviewed. The special role of the Internet in the lives of adolescents is brought out using data from the HomeNet study. The paper concludes with recommendations for future study in order to better understand the growing impact of computers on our youth. (PsycINFO) [Also in *Reviews, Cognitive Development, and Social Development*]

Subrahmanyam, K., Kraut, R., Greenfield, P., & Gross, E. (2001). New forms of electronic media: The impact of interactive games and the Internet on cognition, socialization, and behavior. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.73-99). Thousand Oaks, CA: Sage.

The authors examine the demographics of use and access to computers and the Internet, the amount of time children spent on computers and the time that computer use takes away from other activities, especially television. The authors review the research on interactive games and cognitive and social development, as well as children and teens' use of the Internet for education and communication, and the possible social and psychological effects of Internet use. [Also in *Reviews, Cognitive Development and Social Development*]

Valkenburg, P. M., & Soeters, K. E. (2001). Children's positive and negative experiences with the Internet: An exploratory survey. *Communication Research, 28*, 652-675.

This survey among 194 Dutch children ages 8 to 13 who had home access to the Internet was designed to explore (a) children's motives for using the Internet, (b) their positive experiences with the Internet, and (c) their negative experiences with the Internet. Results showed that the most important motive for using the Internet was affinity with computers, followed by information and entertainment. Online social interaction and off-line social interaction were the least important motives. Children's spontaneous descriptions of their positive experiences with the Internet most frequently included playing or downloading computer games (17%), watching video clips and songs (13%), visiting kids entertainment sites (12%), and seeking information about animals (7%). As a negative experience, children most frequently reported a virus or computer crash (10%), violence (4%), and pornography (4%). The authors found several significant age and/or gender differences in children's motives for using the Internet and in their experiences with the Internet. (PsyncINFO)

Woodard, E. H., & Gridina, N. (2000). *Media in the home 2000: The fifth annual survey of parents and children*. Philadelphia: University of Pennsylvania, The Annenberg Public Policy Center. Retrieved January 19, 2002, from <http://www.appcpenn.org/mediainhome/survey/survey7.pdf>

*Media in the Home 2000* provides a profile of media ownership, use, and attitudes for parents and children in America. In addition, it tracks parental awareness, knowledge, and use of various public policies designed to regulate those media. This year's survey augments earlier APPC surveys by examining the ways in which parents supervise their children's use of proliferating media that are increasingly a part of the American home, including a central media environment of the child: the bedroom. (Executive summary)

### **Cognitive Development & Learning**

Anderson, M. D. (2001). Individual characteristics and Web-based courses. In C. R. Wolfe (Ed.), *Learning and teaching on the World Wide Web* (pp. 47-73). San Diego, CA: Academic Press.

The impact of technology depends on the interactions among the task, the learners, and the medium. In this chapter, the author examines the individual characteristics that may predict success in Web-based learning, and the malleability of these characteristics. They include (a) personality dimensions, such as ambiguity tolerance, anxiety, field-dependence/independence, and locus of control; (b) learning styles, such as depth of cognitive processing and preference for modes of representation; and (c) executive cognitive processes, such as metacognition, self-regulation in learning, and motivation. The author also discusses the salient elements of Web-based courses (control and feedback) and arrives at an interactive model of learner characteristics and Web-based courses.

Biocca, F. (2000). New media technology and youth: Trends in the evolution of new media. *Journal of Adolescent Health, 27*, 22-29.



An information environment is emerging from the simultaneous, rapid, and interconnected evolution of transmission systems, interfaces, and content quantity, quality, and structure. It will be easy to underestimate the collective impact of the sum of these changes on how young people communicate and absorb information. Ultimately, it will be more important to understand how these technologies will facilitate, amplify, or alter the cognitive processes and/or social behavior of the Internet generation. The article analyzes the impact of the following trends on media use and cognition among youthful users: (a) Information expansion and overload: Accessible networked information will continue to grow at a rapid pace for at least the next 10-20 years; (b) Rapid increase in interface diffusion: The number of access points into the Internet is expanding in number, variety, and mobility; (c) Evolution toward more embodied computing: Interfaces are evolving to use more of the sensorimotor system to transfer information to and from the user; (d) The evolution of more intelligent sensors to interpret use behavior and intentions; (e) Evolution toward anthropomorphic agent techniques: Computers are evolving to use more social and interpersonal communication techniques to interact with the user. (PsycINFO) [*Also in Future Research*]

Blumberg, F. C. (2000). The effects of children's goals for learning on video game performance. *Journal of Applied Developmental Psychology, 21*, 641-653.

The effects of children's goals for learning on their video game performance and patterns of attention were examined. Before playing a game, second- and fifth-graders were instructed to adopt an evaluative, process, outcome, or no specific goal focus while playing. Children were then interviewed about their game strategies and the game features they paid attention to while playing. Older children and more frequent players showed better performance. Among frequent players, process goal instructions facilitated performance. Younger children's interview references to process goals also were predictive of better performance. Their references to attention strategies, however, were predictive of poorer performance while older children's references to attention strategies were predictive of better performance. These findings highlight the efficacy of process goals for learning among younger and older children. (PsycINFO)

Cordes, C., & Miller, E. (2000). *Fool's gold: A critical look at computers in childhood*. College Park, MD: Alliance for Childhood. Retrieved April 25, 2002, from [http://www.allianceforchildhood.net/projects/computers/computers\\_reports\\_fools\\_gold\\_contents.htm](http://www.allianceforchildhood.net/projects/computers/computers_reports_fools_gold_contents.htm)

The authors contend that computers pose serious health hazards to children, including repetitive stress injuries, eyestrain, obesity, social isolation, and, for some, long-term physical, emotional, or intellectual development damage. Computer technologies hamper the development of strong personal bonds with caring adults and detract from active, physical play. The emphasis on technology is also diverting us from the urgent social and educational needs of low-income children. Computers do not seem to have an impact on academic achievement, and its purported benefits in connecting children to the world warrant reconsideration. Those who place their faith in technology to solve the problems of education should look more deeply into the needs of children. (Adapted from the Executive Summary) [*Also in Reviews, Social Development, Health & Safety*]

Grodal, T. (2001). Video games and the pleasures of control. In D. Zillman & P. Vorderer (Eds.), *Media entertainment: The psychology of its appeal* (pp. 198-215). Mahwah, NJ: Erlbaum.

The author offers an analysis of a series of gratifications derived from the interactivity of video games in comparison with film (including film, TV, and video fiction), and compares the features of film viewing and video-game playing and their implications for the viewing/playing experience.

Lerner, C., Singer, D. G., & Wartella, E. (2001). Computers, TV, and very young children: What impact on development? *Zero to Three*, 22, 30-33.

A synthesis of a round-table discussion on the possible benefits of learning from new media for very young children, guidelines for parents and caregivers about the use of television and computers with infants and toddlers, and necessary research to inform our understanding of the impact of media use on young children's development.

Luckin, R. (2001). Designing children's software to ensure productive interactivity through collaboration in the Zone of Proximal Development (ZPD). *Information Technology in Childhood Education Annual*, 13, 57-85.

In this article the Zone of Proximal Development (ZPD) is considered as the foundation for a software design framework. The issues of interactivity and collaboration are the focus of our interpretation of Vygotsky's work for application to the software design process. The *Ecolab* is a piece of educational software developed using this Vygotskian design framework. It is aimed at 10 and 11-year-old children learning about Ecology and has been evaluated with a class of such learners. The results of this evaluation are discussed in terms of the interactions and collaborations children experienced and in the light of the learning gains they made while using the software. It was concluded that the ZPD is a useful theoretical construct for educational software design, but that creating the most effective collaborative interactions between software and the computers is complex and individual to each learner. In addition, children who were not effective at setting themselves challenging tasks or in seeking appropriate assistance. To be successful, such software therefore needs to embody flexible and fadable scaffolding and either maintain or expect as input, sufficient information about the individual learner to offer them appropriately challenging activities. (Author Abstract)

Subrahmanyam, K., Greenfield, P., Kraut, R., & Gross, E. (2001). The impact of computer use on children's and adolescents' development. *Journal of Applied Developmental Psychology*, 22,7-30.

In recent years, electronic games, home computers, and the Internet have assumed an important place in our lives. This paper presents a review of the research on the impact of home computer use on the development of children and adolescents. Time use data are presented along with a discussion of factors such as age, gender, and ethnicity, which impact the time spent on computers as well as the activities engaged in. Research on the impact of computer use on cognitive skill and academic development, social development and relationships, and perceptions of reality and violent behavior is reviewed. The special role of the Internet in the lives

of adolescents is brought out using data from the HomeNet study. The paper concludes with recommendations for future study in order to better understand the growing impact of computers on our youth. (PsycINFO) [Also in *Reviews, Use & Access, and Social Development*]

Subrahmanyam, K., Kraut, R. E., Greenfield, P. M., & Gross, E. F. (2000). The impact of home computer use on children's activities and development. *The Future of Children, 10*, 123-144.

A summary of the limited research available on the effects of home computer use on children's physical, cognitive, and social development, focusing primarily on studies related to use of video games and the Internet. [Also in *Social Development*]

Subrahmanyam, K., Kraut, R., Greenfield, P., & Gross, E. (2001). New forms of electronic media: The impact of interactive games and the Internet on cognition, socialization, and behavior. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.73-99). Thousand Oaks, CA: Sage.

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Sutherland, R., Facer, K., Furlong, R., & Furlong, J. (2000). A new environment for education? The computer in the home. *Computers & Education, 34*, 195-212.

This paper derives from an interdisciplinary research project which is studying the engagement of young people with different aspects of techno-popular culture. The focus is on the young person and the significance of digital technologies in their lives as a whole. Drawing on cultural studies research we are investigating the ways in which the contexts for computer use are structured by the different discourses present within the family, and the ways in which these discourses may provide a framing context for children's interactions with digital technology. Drawing on socio-cultural research we take the view that learning is learning to do something with a cultural or cognitive tool. Our analysis of data from case studies of 16 families shows that the context of home computer use amongst young people is far from a simple and uniform phenomenon and is structured by the different discourses present within the family. What young people learn through interaction with computers is thus as much framed by the context of use as by the affordance of the technology.

Tarpley, T. (2001). Children, the Internet, and other new technologies. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.547-556). Thousand Oaks, CA: Sage.

This chapter offers a brief overview of various new media technologies and discusses the available evidence or needed research addressing the role of new media in influencing the

cognitive, social, behavioral, emotional, and physical development of the growing child. [*Also in Reviews, Social Development and Health & Safety*]

Wolf, C. R. (2001). Creating informal learning environments on the World Wide Web. In C. R. Wolf (Ed.), *Learning and teaching on the World Wide Web* (pp. 91-112). San Diego, CA: Academic Press.

Drawing on educational and psychological theory, the author offers guiding principles for designing informal learning environments on the Web. Using an educational Web site that teaches children about the natural sciences (the Dragonfly Web Pages) as an example, the author highlights the importance of creating meaningful contexts, making the learning experience interactive, and working with the characteristics of the Web (e.g., its suitability for engaging children in brief, "bite-sized" interactive experiences and its ability for graphical display).

### **Social Development**

Bers, M. U., & Cassell, J. (2000). Children as designers of interactive storytellers: "Let me tell you a story about myself. . ." In K. Dautenhahn (Ed.), *Human Cognition and Social Agent Technology* (pp. 61-83). Philadelphia, PA: John Benjamins.

Presents the Storytelling Agent Generation Environment (SAGE) authoring environment for children to create their own wise storytellers which they can interact with. The chapter describes SAGE's design and implementation, and results from pilot studies with children. There is also a discussion of how the system assists children exploring story-telling and communication structures which helps them in the exploration of their own identity, the ways they can present themselves to others, as well as the skill of taking the point of view of others. (PsycINFO)

Calvert, S. (2002). Identity construction on the Internet. In S. L. Calvert, A.B. Jordan, & R.R. Cocking (Eds.), *Children in the Digital Age* (pp. 57-70). Westport, CT: Praeger.

The author examines how the role of the Internet, particularly Multi-User Domains (MUDs) can influence individuals to explore their sense of identity without being constrained by their physical body or their real-life names. Different theories of identity development are explored in the context of the new ways that the information age contributes to identity formation.

Cordes, C., & Miller, E. (2000). *Fool's gold: A critical look at computers in childhood*. College Park, MD: Alliance for Childhood. Retrieved April 25, 2002, from [http://www.allianceforchildhood.net/projects/computers/computers\\_reports\\_fools\\_gold\\_contents.htm](http://www.allianceforchildhood.net/projects/computers/computers_reports_fools_gold_contents.htm)

The authors contend that computers pose serious health hazards to children, including repetitive stress injuries, eyestrain, obesity, social isolation, and, for some, long-term physical, emotional, or intellectual development damage. Computer technologies hamper the development of strong personal bonds with caring adults and detract from active, physical play. The emphasis on technology is also diverting us from the urgent social and educational needs of low-income children. Computers do not seem to have an impact on academic achievement, and its purported

benefits in connecting children to the world warrant reconsideration. Those who place their faith in technology to solve the problems of education should look more deeply into the needs of children. (Adapted from the Executive Summary) [*Also in Reviews, Cognitive Development, and Health & Safety*]

Gross, E.F., Juvonen, J., & Gable, S.L. (2002). Internet use and well-being in adolescence. *Journal of Social Issues, 58*, 75-90.

Previous research suggests that the Internet use may be associated with decreases in well-being among adolescents. However, there has been little investigation of the relationship between well-being and social aspects of Internet use. In the present study, 130, 7<sup>th</sup> graders from a middle-class public school in California completed dispositional measures of well-being, and on three subsequent evenings they responded to questions regarding their Internet use (including detailed logs of instant messages) and daily well-being. However, as suggested by intimacy theory, the closeness of instant message communication partners was associated with daily social anxiety and loneliness in school, above and beyond the contribution of dispositional measures. (PsycINFO)

Harwood, J. (1999). Age identification, social identity gratification, and television viewing. *Journal of Broadcasting & Electronic Media, 43*(1), 123-136.

The relationship between social identity and television viewing gratifications is investigated. Focusing on age group identity, initial evidence for the reliability and validity of an age identity gratification scale is provided. Among young adults, the scale predicts age identification and television viewing. Young adults' selection of shows featuring young characters leads to increased age group identification. Findings are discussed in terms of uses and gratifications and social identity theory. Future research directions are outlined. (Author abstract)

Hoffner, C. & Cantor, J. (1991). Perceiving and responding to mass media characters. In J. Bryant & D. Zillman (Eds.), *Responding to the screen: Reception and reaction processes* (pp. 63-102). Hillsdale, NJ: Lawrence Erlbaum Associates.

This chapter deals with the manner in which viewers form impressions of media characters and respond to characters' experiences / the terms impression and perception are used to refer to a viewer's overall conception of what a character is like. The chapter is divided into three parts / the first part deals with the major sources of information about media characters and how each type of information affects impressions / the second part deals with how specific viewer characteristics influence the way viewers utilize the available information about media protagonists / the final section discusses implications of character perceptions for viewers' responses to depicted characters and events. (PsycINFO)

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues, 58*, 49-74.

Kraut et al. (1998) reported negative effects of using the Internet on social involvement and psychological well-being among new Internet users in 1995-96. The authors called the effects a "paradox" because participants used the Internet heavily for communication, which generally has

positive effects. A 3-year follow-up of 208 of these respondents found that negative effects dissipated. The authors also report findings from a longitudinal survey in 1998-99 of 406 new computer and television purchasers. This sample generally experienced positive effects of using the Internet on communication, social involvement, and well-being. However, consistent with a "rich get richer" model, using the Internet predicted better outcomes for extraverts and those with more social support but worse outcomes for introverts and those with less support. (PscINFO)

Kritt, D. W. (2001). Technology's covert socialization of children: High-tech toys. *Journal of Thought*, 36, 53-61.

Child's play may be at risk in today's technologically-oriented society. The limited interactive capacities of high-tech toys constrain the possibilities for cognitive development, interpersonal learning, and the quality of relationships that can be formed. Current high-tech toys change the nature of play, so that the object, rather than the child's imagination, becomes the focus of play. (ERIC)

Lenhart, A., Rainie, L., & Lewis, O. (2001). *Teenage life online: The rise of the instant-message generation and the Internet's impact on friendships and family relationships*. Washington, DC: Pew Internet & American Life Project. Retrieved June 13, 2002, from <http://www.pewinternet.org/reports/toc?aspReport=36>

This report was part of the Pew Internet & American Life Project and explores the teens' (ages 12-17) use of the Internet and its impact of the Internet on social and family relationships. The Internet plays a pivotal role in the lives of teens who use it. Instant-messaging is a key feature of Internet use, although email is the most frequently used feature. Parents express more concern about the dangers of the Internet more than do teens. Gender and age differences in teens' involvement in various online activities were also presented. [*Also in Use & Access*]

Mares, M., & Woodard, E. H. (2001). Prosocial effects on children's social interactions. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.183-205). Thousand Oaks, CA: Sage.

The latter part of this chapter examines the promise of children's computer software and websites for conveying prosocial content. Little research has been conducted on the effectiveness of computer games in cultivating prosocial interactions. Well-designed games can allow children to rehearse these behaviors in realistic situations. The author also points out that the World Wide Web is an underutilized venue for prosocial purposes.

McDonald, D. G., & Kim, H. (2001). When I die, I feel small: Electronic game characters and the social self. *Journal of Broadcasting & Electronic Media*, 45, 241-258.

This article explores children's use of mediated characters as role models for development of their self-concept and personality. Using the perspective of the "social self," we examine data on children's perceptions of electronic game characters as comparisons to their own personality and

other developing characteristics. The evidence suggests that children identify quite closely with electronic characters and that these identifications have implications for children's emotional well being and the development of their personality. (Author Abstract)

McKenna, K.Y., & Bargh, J.A. (2000). Plan 9 from cyberspace. The implications of the Internet for personality and social psychology. *Personality and Social Psychology Review*, 4, 57-75.

Just as with most other communication breakthroughs before it, the initial media and popular reaction to the Internet has been largely negative, if not apocalyptic. For example, it has been described as "awash in pornography," and more recently as making people "sad and lonely." Yet, counter to the initial and widely publicized claim that Internet use causes depression and social isolation, the body of evidence is mainly to the contrary. More than this, however, it is argued that like the telephone and television before it, the Internet by itself is not a main effect cause of anything, and that psychology must move beyond this notion to an informed analysis of how social identity, social interaction, and relationship formation may be different on the Internet than in real life. Four major differences and their implications for self and identity, social interaction, and relationships are identified: one's greater anonymity, the greatly reduced importance of physical appearance and physical distance as "gating features" to relationship development, and one's greater control over the time and pace of interactions. Existing research is reviewed along these lines and some promising directions for future research are described. (PsycINFO)

Subrahmanyam, K., Greenfield, P., Kraut, R., & Gross, E. (2001). The impact of computer use on children's and adolescents' development. *Journal of Applied Developmental Psychology*, 22, 7-30.

In recent years, electronic games, home computers, and the Internet have assumed an important place in our lives. This paper presents a review of the research on the impact of home computer use on the development of children and adolescents. Time use data are presented along with a discussion of factors such as age, gender, and ethnicity, which impact the time spent on computers as well as the activities engaged in. Research on the impact of computer use on cognitive skill and academic development, social development and relationships, and perceptions of reality and violent behavior is reviewed. The special role of the Internet in the lives of adolescents is brought out using data from the HomeNet study. The paper concludes with recommendations for future study in order to better understand the growing impact of computers on our youth. (PsycINFO) [Also in *Reviews, Use & Access, and Cognitive Development*]

Subrahmanyam, K., Kraut, R. E., Greenfield, P. M., & Gross, E. F. (2000). The impact of home computer use on children's activities and development. *The Future of Children*, 10, 123-144.

A summary of the limited research available on the effects of home computer use on children's physical, cognitive, and social development, focusing primarily on studies related to use of video games and the Internet. [Also in *Cognitive Development*]

Subrahmanyam, K., Kraut, R., Greenfield, P., & Gross, E. (2001). New forms of electronic media: The impact of interactive games and the Internet on cognition, socialization, and behavior. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.73-99). Thousand Oaks, CA: Sage.

The authors examine the demographics of use and access to computers and the Internet, the amount of time children spent on computers and the time that computer use takes away from other activities, especially television. The authors review the research on interactive games and cognitive and social development, as well as children and teens' use of the Internet for education and communication, and the possible social and psychological effects of Internet use. [Also in *Reviews, Use & Access, and Cognitive Development*]

Tarpley, T. (2001). Children, the Internet, and other new technologies. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp. 547-556). Thousand Oaks, CA: Sage.

This chapter offers a brief overview of various new media technologies and discusses the available evidence or needed research addressing the role of new media in influencing the cognitive, social, behavioral, emotional, and physical development of the growing child. [Also in *Reviews, Cognitive Development, and Health & Safety*]

### **Violence & Aggression**

Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affects, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science, 12*, 353-359.

Two studies examined violent video game effects on aggression-related variables. Study 1 found that real-life violent video game play was positively related to aggressive behavior and delinquency. The relation was stronger for individuals who are characteristically aggressive and for men. Academic achievement was negatively related to overall amount of time spent playing video games. In Study 2, laboratory exposure to a graphically violent video game increased aggressive thoughts and behavior. In both studies, men had a more hostile view of the world than did women. The results from both studies are consistent with the General Affective Aggression Model, which predicts that exposure to violent video games will increase aggressive behavior in both the short term (e.g., laboratory aggression) and the long term (e.g., delinquency). (PsycINFO)

Bensley, L. & Van Eenwyk, J. (2001). Video games and real-life aggression: Review of the literature. *Journal of Adolescent Health, 29*, 244-257.

Reviews the scientific literature (1984-2000) to determine whether evidence supports a public health concern that violent video games (VGs) contribute to real-life aggression. To summarize the research findings, 4 features were identified for each study: (1) study design, (2) ages of Ss, (3) a VG variable, and (4) the type(s) of measures of aggression used. Nine studies were identified for preschool and elementary school students, 10 studies were identified for middle and high



school students, and 10 studies were identified for college students and young adults. Among young children (4-8 yr olds), playing an aggressive VG caused increased aggression or aggressive play during free-play immediately after the VG in 3 of 4 studies. For adolescents, because of the nonexperimental designs and mixed results of the studies, it was not possible to determine whether VG violence affects aggressive behavior in this age group. Among college students, there is no consistent evidence that VG play affects aggression or hostility. One recent study of college students showed increased aggression in a laboratory task after violent VG play (C. A. Anderson and K. E. Dill, 2000). Gender differences in the ability of violent VGs to cause subsequent aggression were not found in experimental studies. (PsycINFO)

Buchanan, A.M, Gentile, D.A., Nelson, D.A., Walsh, D.A, Hensel, J (2002). What goes in must come out: Children's media violence consumption at home and aggressive behaviors at school. Minneapolis, MN: National Institute on Media and the Family. Retrieved August 2002 from <http://www.mediafamily.org>.

This study expands upon previous research by examining subtypes of aggression in relation to violent media. In particular, research has established relational aggression as a point of contrast with physical forms of aggression (see Crick et al., 1999, for a review). Children who spread rumors, exclude peers, and engage in other relationship-oriented aggression are different than those who simply hit or kick to aggress against another. Relational aggression has been defined as "behaviors that harm others through damage (or the threat of damage) to relationships or feelings of acceptance, friendship, or group inclusion" (Crick, 1996). Two hundred-nineteen third, fourth, and fifth grade students and their teachers were surveyed over six-months. The study reports that relationally aggressive children reported significantly more exposure to overall media violence and a greater preference for violence than their non-aggressive peers. In addition, physically and relationally aggressive children played more video games and tended to favor more violence in their games. The study's results also supported previous studies on violent media's effects on children such as: Kids who are heavy media consumers prefer more violence than light viewers; The older the students were the more they preferred violence in their video games; Children who were physically aggressive were more likely to watch violent media than non-aggressive children. The study also shows the difference among sexes is strong, the study's authors write. Boys were exposed to more violent media and preferred more violent media. (Author abstract and press release).

Buchman, B. J., & Anderson, C. A. (2001). Media violence and the American public. *American Psychologist*, 56, 477-489.

Fifty years of news coverage on the link between media violence and aggression have left the U.S. public confused. Typical news articles pit researchers and child advocates against entertainment industry representatives, frequently giving equal weight to the arguments of both sides. A comparison of news reports and scientific knowledge about media effects reveals a disturbing discontinuity: Over the past 50 years, the average news report has changed from claims of a weak link to a moderate link and then back to a weak link between media violence and aggression. However, since 1975, the scientific confidence and statistical magnitude of this link has been clearly positive and has consistently increased over time. Reasons for this discontinuity between news reports and the actual state of scientific knowledge include the vested interests of the news

reporting, and the failure of the research community to effectively argue the scientific case. (PsycINFO)

Colwell, J., & Payne, J. (2000). Negative correlates of computer game play in adolescents. *British Journal of Psychology, 91*, 295-310.

There is some concern that playing computer games may be associated with social isolation, lowered self-esteem, and aggression among adolescents. Measures of these variables were included in a questionnaire completed by 204, 12-14 yr old students at a North London comprehensive school. Principal components analysis of a scale to assess needs fulfilled by game play provided some support for the notion of "electronic friendship" among boys, but there was no evidence that game play leads to social isolation. Play was not linked to self-esteem in girls, but a negative relationship was obtained between self-esteem and frequency of play in boys. However, self-esteem was not associated with total exposure to game play. Aggression scores were not related to the number of games with aggressive content named among 3 favorite games, but they were positively correlated with total exposure to game play. A multiple regression analysis revealed that sex and total game play exposure each accounted for a significant but small amount of the variance in aggression scores. The positive correlation between playing computer games and aggression provides some justification for further investigation of the causal hypothesis, and possible methodologies are discussed. (PsycINFO)

Committee on Public Education. (2001). Media violence. *Pediatrics, 108*, 1222-1226.

The American Academy of Pediatrics recognizes exposure to violence in media, including television, movies, music, and video games, as a significant risk to the health of children and adolescents. Extensive research evidence indicates that media violence can contribute to aggressive behavior, desensitization to violence, nightmares, and fear of being harmed. Pediatricians should assess their patients' level of media exposure and intervene on media-related health risks. Pediatricians and other child health care providers can advocate for a safer media environment for children by encouraging media literacy, more thoughtful and proactive use of media by children and their parents, more responsible portrayal of violence by media producers, and more useful and effective media ratings.

Fleming, M. J., & Rickwood, D. J. (2001). Effects of violent versus nonviolent video games on children's arousal, aggressive mood, and positive mood. *Journal of Applied Social Psychology, 31*, 2047-2071.

This study investigated the relationship between violent video games and children's mood. A total of 71 children aged 8 to 12 years played a paper-and-pencil game, a nonviolent video game, and a violent video game. Results indicate that arousal, as measured by heart rate and self-reported arousal, increased significantly after playing the violent video game, as compared with the other two game conditions, with girls reporting more arousal than did boys. There was no significant increase in aggressive mood scores for either boys or girls after playing the violent game. Positive mood, as measured by positive affect, showed no significant increases or decreases after playing either video game. However, positive mood, as measured by general mood, showed a significant increase after playing the violent game for both boys and girls, but

only as compared with the paper-and-pencil game. Results are interpreted in terms of social learning and cognitive information processing theories of aggression. (SocialSciAbs).

Funk, J. B., Buchman, D. D., & Germann, J. N. (2000). Preference for violent electronic games, self-concept and gender differences in young children. *American Journal of Orthopsychiatry*, 70, 233-241.

Electronic game-playing has been linked to adjustment problems in player subgroups. This study examined relationships among time commitment, gender, preference for violent games, and self-concept in 364 4th and 5th graders. Main effects were identified for game preference and gender, with stronger preference for violent games being associated with lower self-perceived behavioral conduct. Implications for future research are discussed. (PsycINFO)

Robinson, T. N., Wilde, M. L., Navracruz, L. C., Farish Hydell, K., & Varady, A. (2001). Effects of reducing children's television and video game use on aggressive behavior: A randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine*, 155, 17-23.

To assess the effects of reducing television, videotape, and video game use on aggressive behavior and perceptions of a mean and scary world using a randomized, controlled, school-based trial. Participants were third- and fourth-grade students (mean age, 8.9 years) and their parents or guardians. Children in one elementary school received an 18-lesson, 6-month classroom curriculum to reduce television, videotape, and video game use. Compared with controls, children in the intervention group had statistically significant decreases in peer ratings of aggression and observed verbal aggression. Differences in observed physical aggression, parent reports of aggressive behavior, and perceptions of a mean and scary world were not statistically significant but favored the intervention group. The authors conclude that an intervention to reduce television, videotape, and video game use decreases aggressive behavior in elementary schoolchildren. These findings support the causal influences of these media on aggression and the potential benefits of reducing children's media use.

Sherry, J. L. (2001). The effects of violent video games on aggression: A meta-analysis. *Human Communication Research*, 27, 409-431.

Presents a meta-analysis concerning the relationship between violent video games and aggression. 32 studies published during the period 1975-2000 were examined concerning the effects of violent video game play on aggression in children, adolescents, and young adults (aged 4-22 yrs). Results show the effect of violent video game play on aggression to be less significant than the effect of viewed television violence on aggression. The type of violence contained in games predicted the level of aggression, with fantasy violence and violence portrayed against humans affecting aggression more than sports violence. Longer playing time resulted in lower measures of aggression. (PsycINFO)

### **Policy Initiatives: Rating Systems**

Federal Trade Commission. (2001). Marketing violent entertainment to children: A six-month follow-up

review of industry practices in the motion picture, music recording & electronic game industries: A report to Congress. Retrieved March 12, 2002, from <http://www.ftc.gov/reports/violence/violence010423.pdf>

Bureau of Consumer Protection Associate Director Lee Peeler presented Federal Trade Commission testimony before the House Energy and Commerce Subcommittee on Telecommunications and the Internet. The focus of the testimony was the Commission's two reports on the marketing of violent entertainment products to children by the motion picture, music recording, and electronic game industries issued in September 2000 and in April 2001. According to the testimony, although all three industries have self-regulatory systems that purport to rate or label their products to help parents make choices about their children's entertainment, the Commission found in its September 2000 Report that individual companies in each industry routinely marketed to children the very products that have industries' self-imposed parental warnings or ratings due to violent content. The Commission's follow-up report, issued April 2001, found that the movie and electronic games industries had made some progress on both fronts, but that the music recording industry had made no visible response to the September Report. In conclusion, the testimony emphasized that, because of First Amendment issues, the Commission continues to believe that vigilant self-regulation is the best approach to ensuring that parents are provided with adequate information to guide their children's exposure to entertainment media with violent content. The Commission urged individual industry members both to keep the industry's own commitments and to go beyond those commitments to meet the recommendations the Commission made in its September 2000 Report. (FTC website)

Thompson, K. M., & Haninger, K. (2001). Violence in E-rated video games. *JAMA, The Journal of the American Medical Association*, 286, 591-598.

Many video games require violent actions, such as killing or injuring an opponent, and this is not necessarily mentioned in the content description. Sixty-four percent of 55 games analyzed involved intentional violence, and 44% of the video games that did not mention violence in the content description involved intentional violence.

Walsh, D.A. Testimony Submitted to the Committee on Commerce, Science, and Transportation, United States Senate. Available at: <http://www.senate.gov/~commerce/hearings/0321wal1.pdf>. Accessed August, 2002.

Testimony submitted to the Committee on Commerce, Science, and Transportation on March 21, 2000. The testimony brings together some of the findings from research to determine if these concerns are justified. It also highlights the findings from the National Media and the Family Report Cards. It concludes that "research developments show that the concern about the impact of violent video games is justified and should act as a spur for both more research and for greater vigilance over the video and computer game diet of children and youth." (Author abstract).

Walsh, D. A., & Gentile, D. A. (2001). A validity test of movie, television, and video-game ratings. *Pediatrics*, 107, 1302-1308.

Researchers tested the validity of the current movie-, television-, and video game-rating systems. When an entertainment industry rates a product as inappropriate for children, parent raters agree that it is inappropriate for children. However, parent raters disagree with industry usage of many of the ratings designating material suitable for children of different ages. Products rated as appropriate for adolescents are of the greatest concern. The level of disagreement varies from industry to industry and even from rating to rating. Analysis indicates that the amount of violent content and portrayals of violence are the primary markers for disagreement between parent raters and industry ratings.

### Health & Safety

Borzekowski, D. L. G., Rickert, V. I. (2001). Adolescents, the Internet, and health. Issues of access and content. *Journal of Applied Developmental Psychology, 22*, 49-59.

As the Internet grows in popularity and importance, many have raised concerns over access and content, especially with regard to young people and health information. This article begins with a brief discussion on Internet access issues. It follows with a section addressing Internet health content and provides a critique of 3 examples of current Internet health Web sites. Data are then presented from a preliminary survey on the Internet use of 2 distinct samples of New York City adolescents (N = 319). It was found that adolescents of dissimilar socioeconomic and ethnic groups access and use the Internet, with a large percentage seeking health information. The authors conclude with recommendations for future health Web sites targeting adolescents. (PsycINFO) [*Also in Use & Access*]

Cordes, C., & Miller, E. (2000). *Fool's gold: A critical look at computers in childhood*. College Park, MD: Alliance for Childhood. Retrieved April 25, 2002, from [http://www.allianceforchildhood.net/projects/computers/computers\\_reports\\_fools\\_gold\\_contents.htm](http://www.allianceforchildhood.net/projects/computers/computers_reports_fools_gold_contents.htm)

The authors contend that computers pose serious health hazards to children, including repetitive stress injuries, eyestrain, obesity, social isolation, and, for some, long-term physical, emotional, or intellectual development damage. Computer technologies hamper the development of strong personal bonds with caring adults and detract from active, physical play. The emphasis on technology is also diverting us from the urgent social and educational needs of low-income children. Computers do not seem to have an impact on academic achievement, and its purported benefits in connecting children to the world warrant reconsideration. Those who place their faith in technology to solve the problems of education should look more deeply into the needs of children. (Adapted from the Executive Summary) [*Also in Reviews, Cognitive Development, and Social Development*]

Hogan, M. (2000). Media matters for youth health. *Journal of Adolescent Health, 27*, 73-76.

We live in a media world and the mass media offer educational and entertainment opportunities for adults and children. However, pediatricians and parents are increasingly aware of the potential health risks that media exposure presents to children and adolescents. For many years, the American Academy of Pediatrics (AAP) has made media education a key goal for member

pediatricians: Six policy statements about the impact of mass media have been published (and revised) over the past decade. In 1997, the AAP launched a 5-year, nationwide media education campaign called Media Matters. Although education about media is the cornerstone of Media Matters, pediatricians have other important roles. In offices and clinics, the AAP suggests that pediatricians take a media history from patients and discuss connections between a child's health and behavior and media use habits. Pediatricians can also provide anticipatory guidance to families about media in the home, including limiting media use, making wise media choices, encouraging co-viewing and critical thinking, and making the home a positive media environment. Many gaps in our knowledge about the effects of media images and messages on young people still exist; pediatricians call for ongoing, targeted research about media. In this way, we can all enjoy the benefits offered by media, while minimizing the risks. (Author abstract)

Shields, M. K., & Behrman, R. (2000). Children and computer technology: Analysis and recommendations. *The Future of Children, 10*, 4-30.

An analysis of the research on how computer use affects children's development, whether it increases or decreases disparities between rich and poor, and whether it can be used effectively to enhance learning, including recommendations to improve children's access to and use of computers both at school and at home. [Also in *Reviews and Media Use & Access*]

Tarpley, T. (2001). Children, the Internet, and other new technologies. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp.547-556). Thousand Oaks, CA: Sage.

This chapter offers a brief overview of various new media technologies and discusses the available evidence or needed research addressing the role of new media in influencing the cognitive, social, behavioral, emotional, and physical development of the growing child. [Also in *Reviews, Cognitive Development, & Social Development*]

### **Advertising & Privacy**

Cai, X., & Gantz, W. (2000). Online privacy issues associated with web sites for children. *Journal of Broadcasting & Electronic Media, 44*, 197-214.

This study was designed to examine the practice of collecting personal information from children online. The authors content analyzed 166 children's Web sites in 1998 and revisited 163 of the sites later that year to assess possible changes due to the Federal Trade Commission's release of its online privacy report. It appears that children are not well protected online. A majority of Web sites collect information from children without either disclosure or effort to elicit parental involvement. (PsycINFO)

Center for Media Education. (2001a). *Teensites.com: A field guide to the new digital landscape*. Washington, DC: Center for Media Education. Retrieved March 3, 2002, from <http://www.cme.org/teenstudy/index.html>

Teens growing up today are at the center of the technological explosion that has transformed the media system. This report was designed to shed light on the new digital culture, and on the technological and economic forces that are shaping it. The focus here is on the World Wide Web, which the authors see as the center of innovation and implementation for the new media system. The study provides an overview of popular teen websites, identifying the key features that characterize online content and activity for teens and analyzing the major industry trends that influence the design and direction of the new teen media culture. (Executive summary) [*Also in Use & Access*]

Center for Media Education. (2001b). COPPA—The first year: A survey of sites. Washington, DC: Center for Media Education. Retrieved June 13, 2002, from [http://www.cme.org/children/privacy/coppa\\_rept.pdf](http://www.cme.org/children/privacy/coppa_rept.pdf)

To mark the first anniversary of COPPA's implementation, CME conducted a quantitative systematic examination of 153 commercial Web sites directed at children under age 13 to determine if they were complying properly with the letter and spirit of COPPA. CME found that COPPA has brought about significant positive changes in Web sites' business practices in data collection, but it also found that the industry is clearly not doing all it can to comply with the new privacy provisions, and in some cases, may be violating both the spirit and the letter of the law. CME makes recommendations to both Web site operators and policymakers that would facilitate businesses' compliance with COPPA, as well as suggestions for areas of further research on children's online privacy.

Federal Trade Commission (April, 2002). Protecting children's privacy under COPPA: A survey on compliance. Retrieved July 2002 from <http://www.ftc.gov/os/2002/04/coppasurvey.pdf>

This report—assessing the information collection practices of children's websites—provides the Commission with a snapshot of websites' compliance with the rule one year after it went into effect. While highlighting the general trend of increased compliance, the report also identifies particular aspects of the Rule to which websites were not fully adhering. In addition, the report establishes a benchmark for future analysis of Rule compliance and assists the Commission in evaluating changes in websites' information collection practices since the Commission's last formal survey of children's websites in 1998. (From the Introduction)

Hick, S., & Halpin, E. (2001). Children's rights and the Internet. *The Annals of the American Academy of Political and Social Science*, 575, 56-70.

The writers examine the relationship between children's rights and the Internet. They explore how the Internet can have both positive and negative impacts on children's rights, and discuss how international teamwork and the connection of legal systems are needed to combat abuses of children's rights on the Internet. They also investigate the manner in which children's rights organizations use the Internet to combat abuses of children.

Montgomery, K. (2000b). Children's media culture in the new millennium: Mapping the digital landscape. *The Future of Children, 10*, 145-167.

A description of the technological, demographic, and market forces shaping the new digital media culture, and the rich array of Web sites being created for children and teens. [*Also in Media Use & Access*]

Montgomery, K. (2001). Digital kids: The new on-line children's consumer culture. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp. 635-650). Thousand Oaks, CA: Sage.

The author briefly identifies the roots of commercial culture in children's digital media; outlines the key features of interactive marketing and advertising; discusses the implications of digital marketing on children's media; describes some of the recent efforts by consumer groups to establish safeguards to the digital era; and suggest a set of recommendations for research and policy (p. 636).

Turow, J. (2001). *Privacy policies on children's websites: Do they play by the rules?* Philadelphia: University of Pennsylvania, The Annenberg Public Policy Center. Retrieved March 10, 2002, from <http://www.appcpenn.org/internet/family/privacyreport.pdf>

This report examines 162 children's sites that appeal to children based on frequency of visitors to the site. Each site was examined for their privacy policies and adherence to the Children's Online Privacy Protection Act (COPPA) rules. It was found that 90% of the 162 children's sites correctly followed the regulations. Seventeen sites did not post privacy links from the home page, but did indeed collect personal data.

### **Recommendations for Future Research**

Biocca, F. (2000). New media technology and youth: Trends in the evolution of new media. *Journal of Adolescent Health, 27*, 22-29.

An information environment is emerging from the simultaneous, rapid, and interconnected evolution of transmission systems, interfaces, and content quantity, quality, and structure. It will be easy to underestimate the collective impact of the sum of these changes on how young people communicate and absorb information. Ultimately, it will be more important to understand how these technologies will facilitate, amplify, or alter the cognitive processes and/or social behavior of the Internet generation. The article analyzes the impact of the following trends on media use and cognition among youthful users: (a) Information expansion and overload: Accessible networked information will continue to grow at a rapid pace for at least the next 10-20 years; (b) Rapid increase in interface diffusion: The number of access points into the Internet is expanding in number, variety, and mobility; (c) Evolution toward more embodied computing: Interfaces are evolving to use more of the sensorimotor system to transfer information to and from the user; (d) The evolution of more intelligent sensors to interpret use behavior and intentions; (e) Evolution toward anthropomorphic agent techniques: Computers are evolving to use more social and



interpersonal communication techniques to interact with the user. (PsycINFO) [Also in *Cognitive Development*]

Brown, J. D., & Cantor, J. (2000). An agenda for research on youth and the media. *Journal of Adolescent Health, 27*, 2-7.

Today's youth have greater access to more forms of communication than ever before. Media are a dominant and influential activity of childhood and adolescence and an increasingly important force in the culture. Youth are active media consumers who choose, interpret, and apply media in a variety of ways. Media are increasingly interactive and multisensory. Three basic principles that should guide future research are: (a) Research on youth and the media should be in the public interest, (b) research on youth and the media should be multidisciplinary, and (c) new methods and strategies for research will need to be employed. Top priorities for research on youth health and the media include: (a) Studies of the impact of specific content; (b) studies of the impact of the media per se, independent of content, and (c) studies related to interventions and public policy.

Montgomery, K. (2000a). Youth and digital media: A policy research agenda. *Journal of Adolescent Health, 27*, 61-68.

At a time when researchers are still sorting out the complex relationship between adolescents and the mass media, the entire nature of the media system is undergoing dramatic change. The explosive growth of the Internet is ushering a new digital media culture. Youth are embracing the new technologies much more rapidly than adults. In addition, because of their increased spending power, youth have become a valuable target market for advertisers. These trends have spurred the proliferation of Web sites and other forms of new-media content specifically designed for teens and children. The burgeoning digital marketplace has spawned a new generation of market research companies, and market research on children and youth is outpacing academic research on youth and newer media. The emergence of this new media culture holds both promise and peril for youth. Whether the positive or negative vision of the digital future prevails will be determined, in large part, by decisions being made now and in the next few years in the halls of government and in corporate boardrooms. Research has contributed to the resolutions of several recent legislative and policy decisions in areas including television violence and the V-chip, children's educational television programming, and privacy and marketing to children on the Web. Future research needs to be designed with the public policy agenda in mind. The academic community has much to contribute to the debates over new developments in the digital age.

Walsh, D. A. (2000). The challenge of the evolving media environment. *Journal of Adolescent Health, 27*, 69-72.

As media become more powerful and prominent, questions about their positive and negative effects on children and youth will increase. Although the body of quality research about media and youth is growing, there are some significant gaps. Three important areas for future research

are identified: physiological research, differential effects research, and media educational outcomes research.

### Gender Issues & Other Topic Areas

Children Now. (2000). *Girls and gaming: Gender and video game marketing*. New York: Children Now. Retrieved May 7, 2002, from <http://www.childrennow.org/media/medianow/mnwinter2001.html>

This issue of Media Now focuses on gender and video games and the content available to girls in particular. This issue also identifies ways in which the industry can play a role in creating and advertising games that appeal to girls and can contribute to not only to their desire for entertainment, but also to their healthy development (from Introduction).

Children Now. (2001). *Fair play? Violence, gender, and race in video games*. New York: Children Now. Retrieved May 15, 2002, from <http://www.childrennow.org/media/video-games/2001/>

*Fair Play? Violence, Gender, and Race in Video Games* examines the top-selling video games for each of the seven different game systems. *Fair Play?* Identifies some of the unhealthy social messages that video games may be sending to young players about violence, gender and race and contains ideas for improving games for children (from Introduction). The researchers found a predominance of violence in games (89% of games analyzed contained some kind of violence); no punishment for killing in any of the games, and killing by player-controlled characters was almost always seen as justified; female characters accounted for a minority of characters in video games, and male and female characters often behaved in stereotypical ways; overall, there were very few girl-friendly games, though PC games are significantly more girl-friendly than console games; and there was a lack of racial diversity in video games.

Cone, C. (2001). Technically speaking: Girls and computers. In P. O'Reilly, E. M. Penn & K. deMarrais (Eds.), *Educating young adolescent girls* (pp. 171-187). Mahwah, NJ: Lawrence Erlbaum.

A computer club consisting of girls was studied over the course of three years. Its purpose was to examine young girls interacting with multimedia and computers. The findings are discussed in terms of overall use, how that use compares to boys', and how the medium can be utilized as a tool for girls' self-expression and communication. [*Also in Use & Access*]

Gilutz, S., & Nielson, J. (2002, April). *Usability of websites for children: 70 design guidelines*. Fremont, CA: Nielsen Norman Group.

This report is based on usability research with 55 children, who varied by age (grades 1-5) and by country of origin (mainly United States, but some tests conducted in Israel to ensure international scope of the study). The authors tested the way kids use real sites designed for children as well as their use of the kids' areas of mainstream websites. The report contains 70 design guidelines that will make websites more suited for children and easier for them to use.

Girl Scout Research Institute. (2002). *The net effect: Girls and new media*. New York: Girl Scouts of the USA. Retrieved May 7, 2002, from <http://www.girlscouts.org/about/PDFs/NetEffects.pdf>

The Internet is a pervasive part of girls' lives — used almost daily for communication, research and entertainment. A new study from the Girl Scout Research Institute, conducted in conjunction with Girl Games, Inc., shows, however, that many of these girls are "driving the information superhighway without a license," needing more pertinent advice and proactive guidance from parents and other adults. *The Net Effect: Girls and New Media* study examines trends in the Internet habits of girls aged 13-18, girls' skills in navigating potentially difficult or emotional situations online, and offers advice on how parents and other adults can empower girls to have safe, positive online experiences. [Also in *Use & Access*]

Girl Scouts of the USA. (2001). *The girl difference: Short-circuiting the myth of the technophobic girl*. New York: Girl Scouts of the USA. Retrieved March 9, 2002, from [http://www.girlscouts.org/about/ResearchInstitute/reviews/girl\\_difference.html](http://www.girlscouts.org/about/ResearchInstitute/reviews/girl_difference.html)

Synthesizes studies on girls and technology, going beyond the nature and extent of their computer usage, and putting this information into a larger framework of how girls view themselves in the overall technology culture. (Executive summary) [Also in *Use & Access*]

National Institute on Media and the Family (2001). *6<sup>th</sup> Annual Video and Computer Game Report Card*. Minneapolis, MN: National Institute on Media and the Family. Retrieved March 9, 2002, from <http://www.mediaandthefamily.org/research/vgrc/2001-1.shtml>

This report card provides a snapshot of the interactive gaming industry with a focus on issues related to child welfare. It includes a list of recommended games for kids that were parent approved and kid-tested. It also provides a list of games for parents to avoid. (Author abstract)

Passig, L. & Levin, D. (2000). Gender preferences for multimedia interfaces. *Journal of Computer Assisted Learning*, 16, 64-71.

This study examined the gender differences in the preferences to varying designs of multimedia learning interfaces. In the study, it was assumed that design characteristics add to the interest in learning and a taxonomy of design of efficient user interfaces for both boys and girls was developed. The research included 90 children from kindergarten classes who used interactive multimedia stories. The research Ss responded to questions which elicited their level of satisfaction with the various interfaces. The research findings indicate that there is a significant difference in the level of satisfaction between boys and girls depending on the design of the learning interfaces. (PsycINFO)

Wartella, E. A., & Jennings, N. (2000). Children and computers: New technology—old concerns. *The*

*Future of Children, 10, 31-43.*

An overview of the recurrent themes and patterns in media research throughout the past century, placing current research on children and computers in a historical context with earlier research on film, radio, and television.

Valkenburg, P. M., & Soeters, K. E. (2001). Children's positive and negative experiences with the Internet: An exploratory survey. *Communication Research, 28*, 652-675.

This survey among 194 Dutch children ages 8 to 13 who had home access to the Internet was designed to explore (a) children's motives for using the Internet, (b) their positive experiences with the Internet, and (c) their negative experiences with the Internet. Results showed that the most important motive for using the Internet was affinity with computers, followed by information and entertainment. Online social interaction and off-line social interaction were the least important motives. Children's spontaneous descriptions of their positive experiences with the Internet most frequently included playing or downloading computer games (17%), watching video clips and songs (13%), visiting kids entertainment sites (12%), and seeking information about animals (7%). As a negative experience, children most frequently reported a virus or computer crash (10%), violence (4%), and pornography (4%). The authors found several significant age and/or gender differences in children's motives for using the Internet and in their experiences with the Internet. (PsycINFO)