

# CONNECTED TO THE FUTURE

A Report on Children's Internet Use From  
The Corporation for Public Broadcasting



American children regardless of their age, income, or ethnicity, greatly increased their use of the Internet from home, school, or library over the past two years.

Yet even with these growth trends, children from under-served populations still significantly lag behind more advantaged children both in home and school access.

This report from the Corporation for Public Broadcasting examines both the trends and the implications of children connecting to the Internet — and to their future.

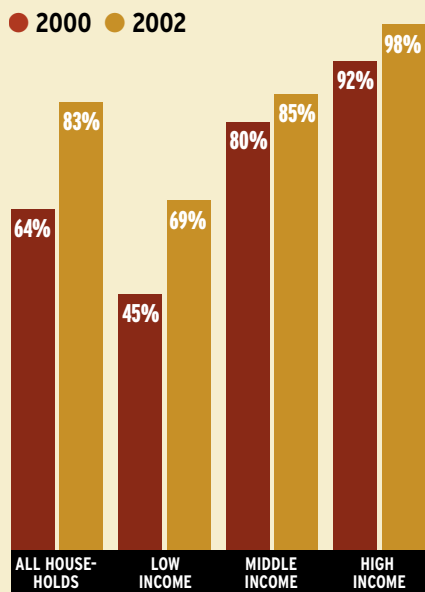
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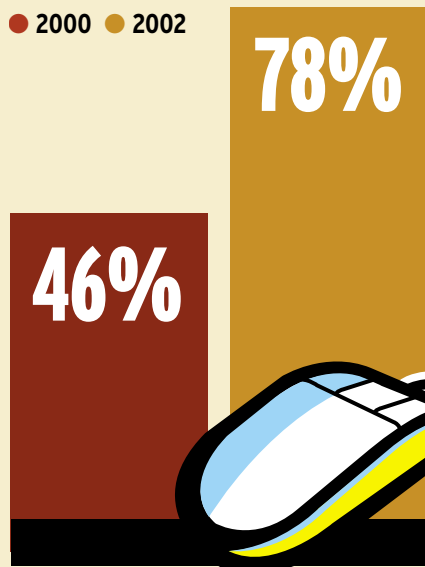
## FAMILY HOUSEHOLDS

In 2002, 83 percent of American family households (with at least one child aged 2-17) owned a computer, and 78 percent of children lived in a home in which either they or a parent used the Internet from home.

### COMPUTER OWNERSHIP



### INTERNET ACCESS



Source: Grunwald Associates

# A GROWTH SURGE OF CHILDREN ONLINE

Children in the United States experienced the equivalent of an adolescent growth spurt in their use of the Internet between 2000 and 2002. Stretching their digital limbs, 65 percent of American children ages 2-17 now use the Internet from home, school, or some other location — a 59 percent growth rate since 2000, when 41 percent of children went online from any location.

The growth can be seen everywhere. In homes, schools, and libraries across the country, more children are logging on, more often, for longer periods of time.

Further promising data trends show that populations previously feared to be shut out of the digital revolution have increased their Internet access at faster rates than other groups.

That traditionally under-served children are using the Internet in greater numbers alongside their more advantaged peers underscores the near-ubiquity of the Internet in today's society. If we are not there already, we are moving at breakneck speed to a time when logging onto the Internet is as fundamental to daily functioning as making a telephone call.

Yet, these hopeful connectivity trends also throw into stark relief the plight of the children who are not digitally connected — even with enormous gains, the historical disparities between the “haves” and the “have-nots” persist, sometimes to exceptional degrees.

This report from the Corporation for Public Broadcasting, based on a nationwide study of American family households, examines the positive growth trends in children's Internet use since the turn of our most recent century. In addition, it explores the less-than-promising trends that suggest that the digital divide has not yet closed, and may potentially widen, for some children.

### ACCESS, ACCESS EVERYWHERE

The continuing growth in home computer ownership is a strong harbinger of the rising digital connectedness of American families. In 2000, 64 percent of



family households (that is, households with at least one child between the ages of 2 and 17) had a computer. By 2002, 83 percent of family households reported computer ownership — a 30 percent growth rate in two years.

Although Caucasian and high-income families lead computer-ownership statistics (87 percent and 98 percent, respectively), significant increases were found in two critical populations: African-American families (71 percent in 2002; 39 percent in 2000) and low-income families (65 percent in 2002; 45 percent in 2000). Although we have no trend data on Hispanic family households, we know that currently 69 percent report owning a personal computer.

Nonetheless, low-income families, even with their gains, are still behind the ownership rates of middle- and high-income family households of two years ago.

### 78% OF FAMILY HOUSEHOLDS WITH INTERNET ACCESS

Remarkably, almost as many family households have Internet access as have a home computer — 78 percent of children live in homes in which either they or a parent use the Internet from home, a 70 percent growth rate from 2000.

As with computer ownership, Caucasian children (64 percent) and children from high-income families (77 percent) have the highest percentage of Internet access from any location, but the biggest gains in Internet use happened, again, among African-American and low-income children, each increasing their access at impressive 205 and 96 percent growth rates, respectively. In addition, 50 percent of Hispanic families report that their children go online from some location.

Preschool children are one of the fastest growing groups to be online. Only 6 percent of children ages 2-5 used the Internet from any location in 2000; two years later, parents reported that 35 percent of the same age group now went online from some location — the largest increase of any age or demographic group.

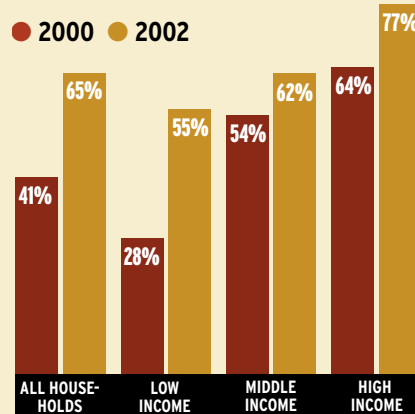
When we look at specific locations where children go online, we see growth across the board. Whether in the home, school, or library, children's access to the Internet rose dramatically between 2000 and 2002.

As we examine how this growth in Internet access plays out in children's homes and schools, some noteworthy trends — both promising and problematic — emerge on the American family digital landscape. ●

## CHILDREN & THE INTERNET

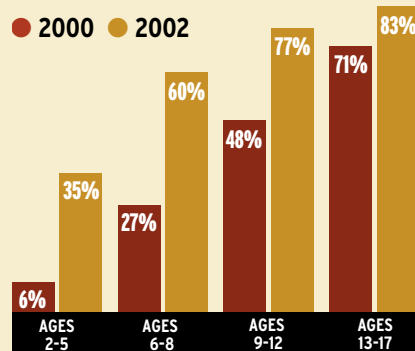
Between 2000 and 2002, children increased their access to the Internet, regardless of income or age, with the greatest growth happening in the home.

### \$ BY INCOME\*



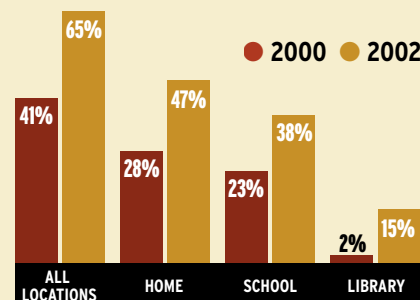
\*From Any Location

### BY AGE\*



\*From Any Location

### BY LOCATION (AGES 2-17)



Source: Grunwald Associates

# DIVERSITY & DISPARITIES AT HOME

## Growth in Access and Volume

American family households logged into the future at a brisk rate over the last two years. Children's (2-17) use of the Internet at home increased 68 percent from 2000 to 2002.

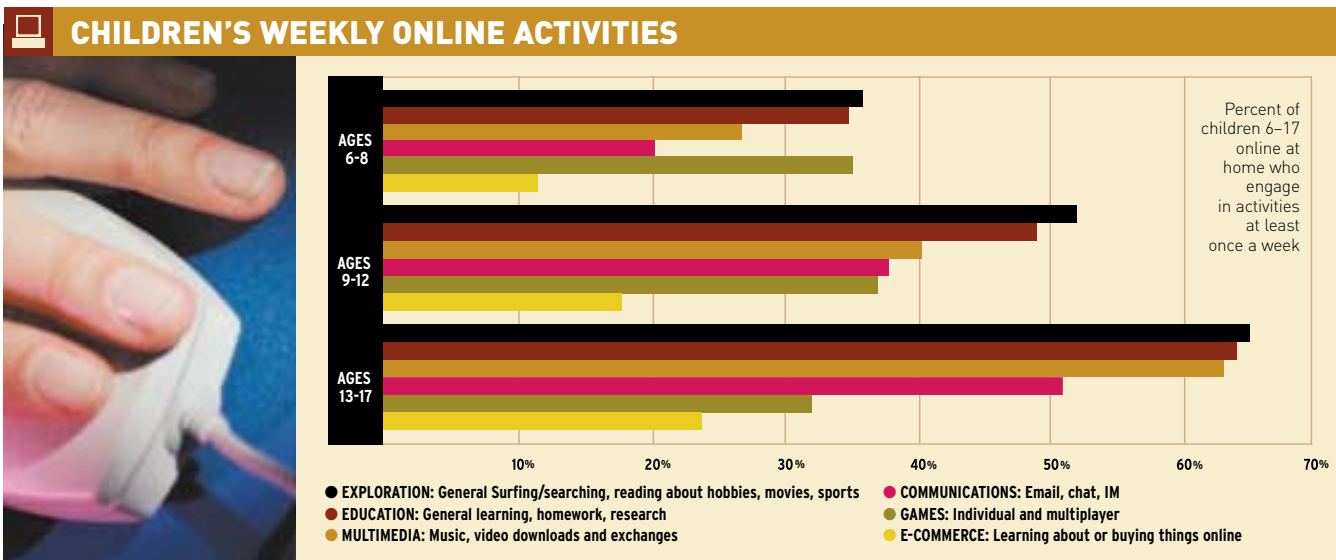
Not only did access increase, but so did volume. Online children ages 6-17 reported using the Internet on average 5.9 hours per week in 2002, up from 3.1 hours per week in 2000. Not surprisingly, the older the child, the more time spent online, with teenagers claiming an average of 8.4 hours per week online at home, children 9-12 reporting 4.4 hours, and children ages 6-8 reporting 2.7 hours per week online.

Children's online activities are diverse, with an emphasis on exploration (surfing and searching), communication (instant messaging, emailing, chat rooms), and entertainment (playing games, downloading

and exchanging music, pictures, and videos). Learning — both informal and formal — is also an important part of the digital mix for children.

Children ages 6-17 who are online at home ranked educational activities (such as homework, research projects, and learning not related to schoolwork) among their top five everyday uses of the Internet. One in five online children at home log onto the Internet each and every day for educational purposes.

If we look at the online activities children perform at least once a week, we find that educational pursuits are a strong activity among all age groups. The older the child, the more likely he or she is to use the Internet at least weekly for learning-related activities, with 64 percent of teenagers reporting education as part of their weekly online experiences.



Source: Grunwald Associates

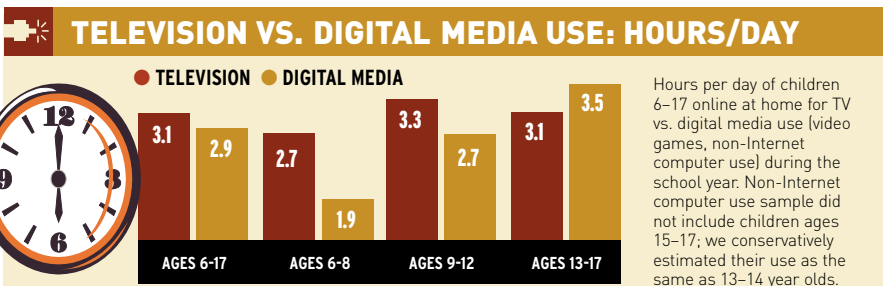
## THE RISE OF DIGITAL MEDIA

If the amount of hours that children currently spend with digital media is any indication of where the future is headed, we can safely predict that children will be living increasingly digital lives.

For the last half-century, television was the revolutionary device in the home that connected us to the world, information, and entertainment. Yet in households with Internet access today, children are spending more and

more time with digital media relative to watching television. In the case of teenagers, the bellwethers of the electronic frontier, their use of digital media has surpassed television-watching — 3.5 versus 3.1 hours per day, which translates to about 24 minutes more daily time online than time with television.

Considering that digital devices are increasingly web-enabled, we are looking at a generation of potentially very well-connected children. As will be seen later in the report, the importance that parents place on learning in this digital world, suggests that who is connected and how they are connected are becoming increasingly important questions.



Source: Grunwald Associates

## GAINS AND GAPS AMONG ETHNIC GROUPS

The growth in home online access can be seen across the board, but is particularly strong among African-American (314 percent growth rate) and low-income families (123 percent growth).

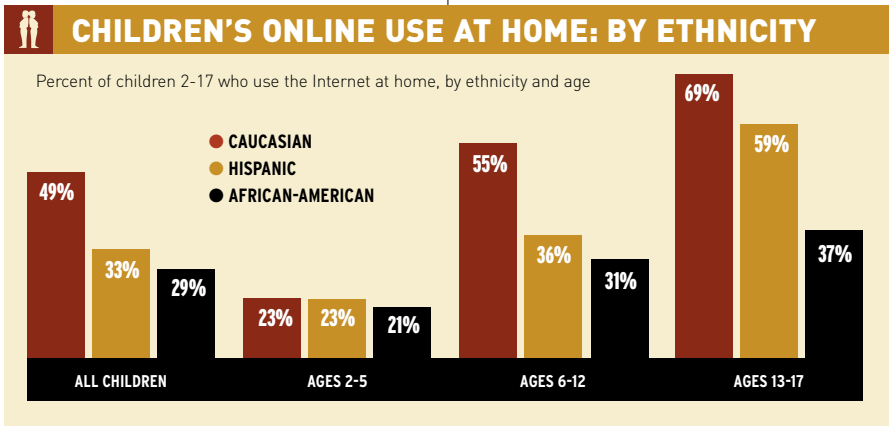
Yet, even with the growing numbers and diversity of children going online from home, striking disparities remain. Significantly more Caucasian children use the Internet at home compared to Hispanic and African-American children.

While our overall sample was not designed to focus on African-American or Hispanic communities, the limited data that was collected yielded intriguing and potentially important results, particularly when we look at access of children ages 2–5. While the home access ethnic divide is wider for older children, there is no statistical difference in home Internet access among ethnicities for families with preschool-aged children — between 21 and 23

percent of Caucasian, African-American, and Hispanic children ages 2–5 go online at home.

We can only infer why these percentages are so close. It may be that parents of these children are younger and more likely to have “grown up” with the Internet (that is, experienced it in high school or college, or at friends

or a job) than older parents. Hence, these younger parents of younger children may be maintaining (or attaining) their own access to the Internet and passing it along to their children. If this is true, five years from now we may observe the fading of the ethnic gap for older children as well.



Source: Grunwald Associates

## THE IMPACT OF INCOME

More than ethnicity, the income of a child's family is a significant determining factor on whether or not he or she has access to the Internet at home. Children from high-income families are more than twice as likely to have home Internet access than children from low-income households.

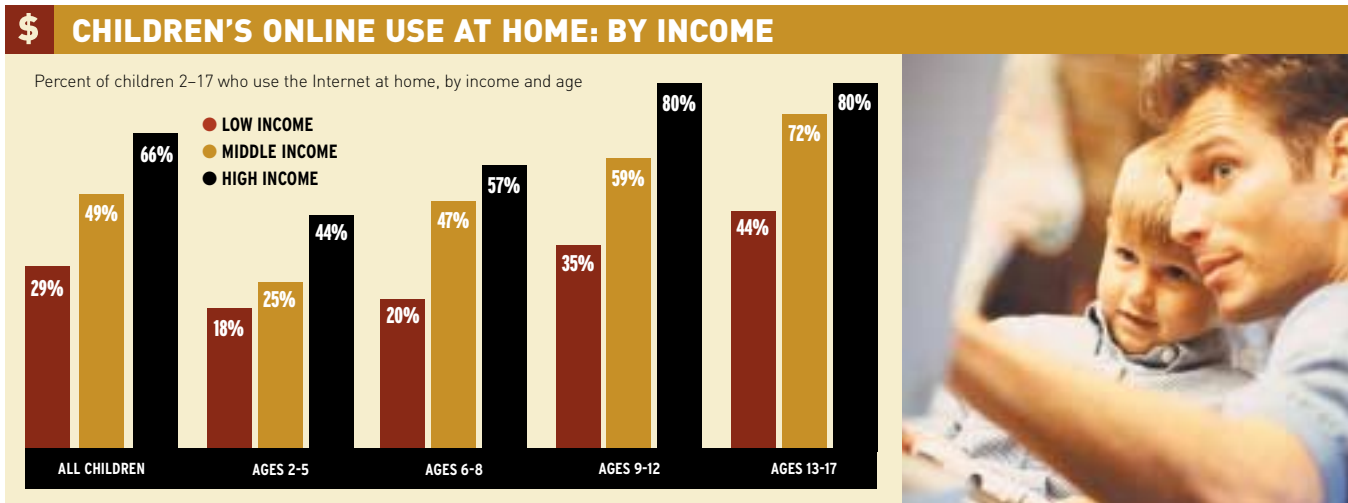
Even as Internet access among low-income children increases with age, the income divide persists. A little less than half (44 percent) of low-income teenagers use the Internet at home, while 80 percent of high-income teenagers have home Internet access.

As life and school tasks become more and more Internet-dependent, low-income students are at a potential disadvantage, particularly because, as will be seen in the next section, their access to the

Internet at school is also significantly lower than high-income children.

For those low-income parents whose children do go online at home, they (along with middle-income parents) are significantly more likely to express satisfaction with their children's online use than high-income parents. Low-income parents cite the Internet's educational benefits and its propensity to allow their children to “explore new things” as their two top reasons for their satisfaction.

In addition, 27 percent of low-income parents without the Internet at home indicated that they would purchase home access within the next year, significantly more than offline middle- or high-income parents (each at 19 percent).



Source: Grunwald Associates



# BRIDGING THE DIVIDE AT SCHOOL

## Under-served Children Get an “A” for Attitude, Not Access

If school represents the bridge over the digital divide, it is a structure that is still being built.

To illustrate the point: Under-served populations made critical gains in school Internet access over the past two years. School Internet use of African-American 2–17 year-olds surged 158 percent, from only 12 percent in 2000, to 31 percent in 2002. Low-income children’s school use grew 60 percent over the two-year period. Today, just under a third of low-income, African-American, and Hispanic children have access to the Internet at school.

Nonetheless, Caucasian (38 percent) and high-income (47 percent) children’s school access still significantly outpaces other populations. In fact, low-income children, despite their gains, still have not achieved the access rates that high-income children had two years ago.

If we look at Internet access points within the school, we see that, by far, the majority of children ages 6–17, who go online at home and at school, report that the computer lab is their main point of Internet access within the school (69 percent). Under a third (29 percent) use the Internet from one classroom. About a

quarter of children (23 percent) report going online in multiple classrooms, and less than half (43 percent) use it in the library/media center.

These point-of-use statistics may provide some insight into how the Internet is currently used in schools. Educational research has suggested that the classroom is where the use of the Internet is most apt to be tied to students’ actual instruction. If the vast majority of children are using the Internet primarily in computer labs, then, it’s not unreasonable to suppose that Internet-based learning may still be on the periphery of the curriculum.

### RESEARCH OVER CURRICULUM

The fact that almost half of students use the Internet in the school library seems to indicate that its role as a research tool is evolving more quickly than as a curriculum tool.

One possible deduction we might make from these school access statistics is that the internal network and hardware systems within schools have not yet reached the point of supporting simultaneous online users in multiple classrooms. With state and local governments facing crisis-level budget shortfalls, schools may find it difficult to dedicate the expenditures

necessary to build out these systems.

Therefore, for the time being at least, many children’s Internet activities in schools may continue to be limited to lab-based use.

This may be particularly true for low-income students. Middle- and high-income students are significantly more likely than low-income students to have access to the Internet in more than one classroom and in the library/media center. The data shows, then, that not only do low-income students use the Internet less than their higher-income peers in schools, but, when they do use it, their activities are more likely to be restricted to computer labs.

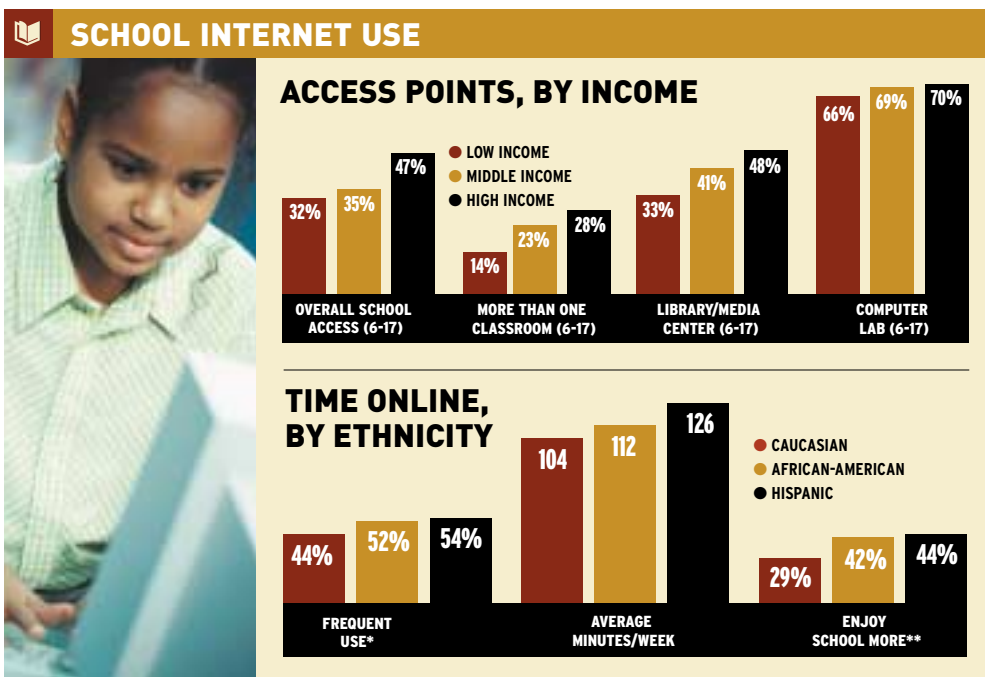
However, there are some bright spots for under-served children using the Internet in school. A larger proportion of African-American and Hispanic children ages 6–17, who are online at home and school, reported frequent use of the Internet at school (several times a week or more) than did Caucasian children. Similarly, African-American and Hispanic children who use the Internet from both home and school claimed more minutes per week online at school than did Caucasian children.

According to the children, this is all to the good. Online Hispanic and African-American

students ages 6–17 state in significantly higher numbers than Caucasian students that using the Internet has made them like school more.

Parents of Hispanic children echo their children’s enthusiasm — they (40 percent) are significantly more likely than Caucasian (16 percent) and African-American parents (19 percent) to say the Internet has a “very positive” effect on their child’s attitude toward school.

These positive attitudes from children and parents in under-served populations underscore the potentially vital role that the Internet can play in children’s education. Considering that low-income and minority families still trail higher-income and Caucasian households for Internet access, schools will likely play an essential role in filling the access gap. ●



Base: Children ages 6–17 who are online at home and school \*Several times a week or more \*\* As a result of using the Internet Source: Grunwald Associates

# DIGITAL SHEPHERDS

## Parents Are Knowledgeable Online Guides and Companions

Two years of growth in children's online use has spurred parents toward greater involvement in their children's digital experiences. Continuing a trend we saw in 2000, parents and children alike increasingly see parents as knowledgeable guides and companions to their children as they use the Internet.

### INVOLVED PARENTS

Consider the following responses from parents with children ages 2–17 who use the Internet at home, and from children themselves, ages 6–17, who are online home users:

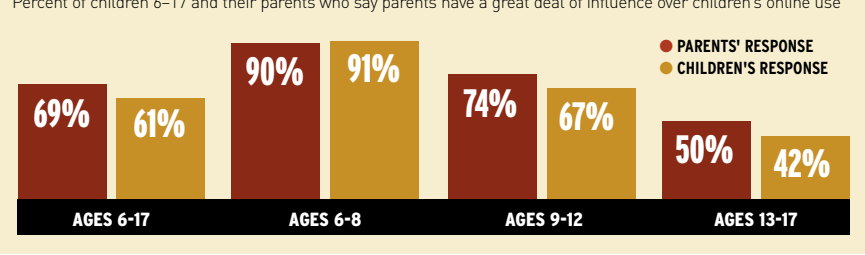
- Parents are happy with their children's online activity.** An overwhelming majority (83 percent) of parents expressed satisfaction with their children's Internet use, including more than half (54 percent) who said they were "very" satisfied. The educational value of the Internet (81 percent) and its propensity to encourage exploration (76 percent) were the main reasons parents cited for the pleasure they take in their children's online activity.
- Parents are present when their children go online.** The majority of children ages 6–12 (76 percent) report that an adult is in the same room or nearby all or most of the time that they go online at home, while 35 percent of teenagers report the same. Over half of children ages 6–17 report that they use the Internet with another person "sometimes" (35 percent) or "almost always" (18 percent). That other person is usually the mother — a trend we saw emerging in 2000 when mothers edged out fathers to first go online with their children.
- Parents know what their children do online.** The majority of children and parents agree, albeit to differing extents (79 versus 95 percent), that parents are knowledgeable about children's online activity. Even most teens (66 percent) characterize their parents as informed, although not as well-informed as parents think they are (93 percent). Both Hispanic parents and children (97 and 94 percent, respectively) are especially likely to

### TOP PARENTAL CONCERNS FOR CHILDREN

Concern	Rank
Physical safety in school & other settings	1
Physical health	2
Academic performance	3
Friends and their influence	4
Mental health	5
Social acceptance	6
Drug and alcohol use	7
Time spent watching TV	8
Getting into/paying for college	9
<b>ONLINE SAFETY</b>	<b>10</b>
Sexual activity and/or dating	11
Time spent watching movies	12
Time spent listening to music	13



### PARENT HAS STRONG INFLUENCE OVER CHILDREN'S INTERNET USE



Source: Grunwald Associates

- consider parents knowledgeable about their children's online pursuits.
  - Parents influence where their children go online.** High percentages of parents and children (69 and 61 percent, respectively) believe that parents have influence over which Web sites children visit. That perception is not limited to younger children — almost half of teens state that parents have "a lot" or "quite a bit" of "say" over what Web sites they visit. Again, Hispanic children are more likely than other children to say that their parents have influence over their Internet use.
  - Parents use their influence to guide, not police.** The vast majority of parents (86 percent) see themselves as a "guide" to good Internet content rather than a "watchdog" over their children's use; that's up from 69 percent in 2000 who saw themselves as guides. Parents' perception of themselves as "digital shepherds" is shared across age, ethnic, and income groups.
- Which is not to say that parents do not set limits. In 2000, 13 percent of 9–17 year-olds

said that parental restrictions were preventing them from using the Internet more at home; in 2002, 33 percent of the same age group cited parental restrictions, which suggests that parents, even as "guides," still set standards.

Parents care about their children's online safety, but their concern is in the context of the totality of children's lives, and ranks tenth among the other worries they have for their children's well-being, behind other pressing issues such as school safety, physical health, and academic success.

If any data point is most indicative of the state of mind of parents regarding their children and the Internet, it is the 81 percent who believe that the Internet is valuable to their children's learning.

The fact that so many parents see the Internet as important to their children's academic success — and that an overwhelming majority of parents with online children are pleased in general with their children's activities — suggests that the Internet is no longer a "nice-to-have" but has become a "must-have" in American family households. ●

# THE WELL-CONNECTED FUTURE

## Broadband's Opportunities and Challenges

The shift to broadband in family households is a high-speed phenomenon in more ways than one. In 2002, 37 percent of families with home Internet access reported a broadband connection. In 2000, that number hovered somewhere around 10 percent.

Broadband access may end up having a profound impact on children's use of the Internet at home. In households with broadband connections, children ages 6–17 reported that high-speed access affected both their online and offline activities, including schoolwork. According to these children, since getting broadband:

- 66 percent spend more time online
- 36 percent watch less television
- 23 percent get better grades

This last statistic is most intriguing, and parents are a bit more cautious than their children in connecting broadband access with improved grades — only 13 percent make such a claim. Nonetheless, more than six times as many parents report grade increases as report decreases since their household got broadband, suggesting that more time online (which broadband seems to enable) does not inevitably lead to children abandoning their schoolwork.

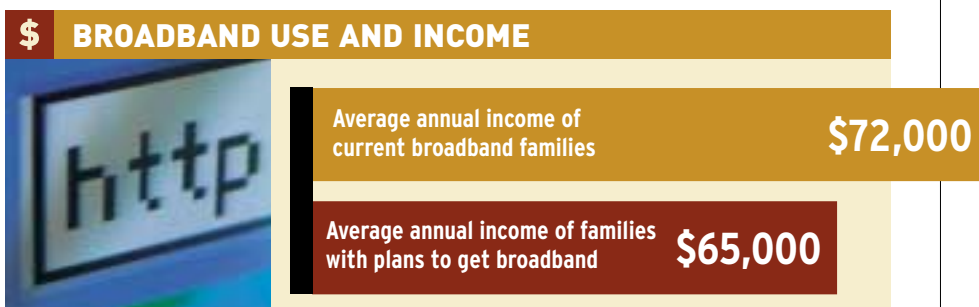
We have seen in this report the importance

that learning plays in families' online experiences — not only do parents greatly value the educational benefits of the Internet, but their children take advantage of them. We have also seen that under-served populations are going online at a faster rate than any other group — and that education is a large factor behind their interest.

But if the learning tools of the future —

higher income groups: the average annual income of current broadband families is \$72,000. The average annual income for families who indicate they will get broadband in the near future is \$65,000.

Will low-income and other under-served families, then, find themselves limited to dial-up Internet service? If so, will this limit the kinds of content they can experience? And will



Source: Grunwald Associates

robust academic databases, interactive learning tools, and complex information searches — grow increasingly dependent on large amounts of bandwidth, are we at risk of creating a new digital divide? Not over access, but over quality content.

High-speed access can cost over 5 times more than dial-up (some dial-up services are, in fact, free). Our study shows that families who are choosing broadband come from

there be any economic or academic consequences of this kind of market segmentation?

These are questions worth asking now, because they will determine how the future unfolds, not just for the children who are already digitally advantaged, but for those who are potentially digitally marginalized. In a time when we want no child to be left behind, we must be sure that all children's connection to the future is secure. ●



**For an electronic version of this report, visit [cpb.org/ed/resources/connected](http://cpb.org/ed/resources/connected)**

**Methodology:** This report is based on data obtained from four interrelated surveys developed and managed by Grunwald Associates. Fieldwork, tabulation, and initial analysis were conducted by C&R Research.

A telephone survey among a national Random Digit Dial (RDD) stratified sample of over 1,000 U.S. parents or guardians of children ages 2-17 was conducted in July 2002. The results of this survey were used to generate general population estimates of computer ownership and Internet usage among family households.

In addition, a series of three online surveys — two among children and one among their parents — was conducted to capture in-depth information about use of technology and media and related attitudes, among Internet-enabled U.S. family households. The two online surveys of

thousands of children ages 6–17 were conducted in May-June and August 2002. Over 1,000 parents and guardians of children ages 2–17 were interviewed online in August 2002. All three of the online surveys were conducted with family household samples obtained from C&R Research's national panel, KidzEyes. The three online surveys were balanced and weighted on several demographic variables to match Census data regarding the online U.S. population of family households. A more detailed methodology description is available at [www.cpb.org/ed/resources/connected](http://www.cpb.org/ed/resources/connected).

**A more detailed market research report based on this survey, including cross-tabulations and analysis of interest to industry, is commercially available from Grunwald Associates (<http://grunwald.com>).**



**Acknowledgements:** This public report from the Corporation for Public Broadcasting is based on a series of four nationwide surveys developed and managed by Grunwald Associates, a leading market research firm specializing in technology, in collaboration with C&R Research. This effort was made possible with generous support from the BellSouth Corporation, Kodak, and the Educational Testing Service.