# Generation M:
# Media in the Lives of 8–18 Year-olds

INTERNET MOVIES MAGAZINES MUSIC TV VIDEO GAMES

THE HENRY J. KAISER FAMILY FOUNDATION

A Kaiser Family Foundation Study

MARCH 2005

# Generation **M**:
# **Media** in the Lives of 8–18 Year-olds

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# 1. INTRODUCTION

Few would deny that media play a central role in the lives of today's children and adolescents. Their homes, indeed their bedrooms, are saturated with media. Many young people carry miniaturized, portable media with them wherever they go. They comprise the primary audience for popular music; they form important niche audiences for TV, movies, video games, and print media (each of these industries produces extensive content targeted primarily at kids); they typically are among the early adopters of personal computers (indeed, of most new media) and are a primary target of much of the content of the World Wide Web.

Clearly, attention to the role of media in the lives of children and adolescents is not new. Plato spoke of the role of messengers from outside in *The Republic*, the Brothers Grimm edited their fairy tales with children in mind (cf. Roberts, 2003; Starker, 1989), and by mid-20th century, social scientists were studying children and media empirically (cf. Himmelweit, Oppenheim & Vince, 1958; Peterson & Thurston, 1933; Schramm, Lyle & Parker, 1961). Nevertheless, substantial and ongoing changes in the media environment witnessed in recent years have led to increased public perceptions that media are important in young people's lives, and that their role is both growing and evolving. That the media environment has changed is inescapable. For example, consider the following:

• At roughly the mid-point of the 20th century, the U.S. media landscape included TV, radio and records, movies, and print media. Fewer than five years into the 21st century, the media landscape encompasses broadcast, cable, and satellite TV, the TV remote control, the VCR, the DVR, print media (books, magazines, newspapers), various audio media (broadcast, satellite, and cable radio, tapes, CDs, digital recordings – all of which are now highly portable), personal computers and the various on-line activities they allow (e.g., World Wide Web, e-mail, instant messaging, gaming, music and video streaming), video games (both TV-based and handheld), and portable telephones that connect to the Internet and do most of what any digital screen will do.

• When Wilbur Schramm and his colleagues conducted their early study of TV in the lives of U.S. children (Schramm, et al., 1961), color motion pictures ("Technicolor") were about 20 years old, TV was black and white, audio was "hi-fi," and "dropping a line" to a friend required postage and several days. Today, computer animation enables movies to transport us to other worlds, TV signals arrive in high-definition color, digitized audio surrounds us with sound, and instant messaging makes "dropping a line" instantaneous.

• At the end of the 1950s, seven of eight U.S. homes (87%) had a TV set and personal computers and video game consoles had not been invented. As the century came to a close, 99% of children 2- to 18-years-old lived in homes with a TV set (60% lived with three or more TVs, and over half had a TV in their bedroom), 70% had video game consoles, and 69% lived in homes with a personal computer (Roberts, Foehr, Rideout & Brodie, 1999; also see Roberts & Foehr, 2004).

And the media environment continues to change. In the past five years, the proportion of 8- to 18-year-olds with computers in their home has increased 13 percentage points (from 73% to 86%), and the proportion with Internet connections has grown from 47% to 74% (see Chapter 3). Instant messaging, a computer activity that barely existed in 1999, has now become one of the most popular things to do online (see Chapter 4). Video game devices have become more sophisticated, video game content has become more realistic, and the video game industry has become more profitable. The ability of computers to stream both audio and video information, file sharing programs, and the development of highly portable digital music and video recorders and players, all appear to be reshaping the structure and behavior of both the music and movie industries. And finally, each of the various media are devoting more resources (time, money, research, attention) to producing content explicitly

targeting children and adolescents than ever before (Pecora, 1998; Roberts, Christenson, & Strange, 2004); indeed, entire TV networks are now dedicated to young audiences.

What do all these changes mean for kids? Has the amount of time they spend with media increased? Are they changing the way they distribute their time across the many different media? Are changes in media accessibility – for example, greater penetration of personal computers and/or high speed Internet connections, or the miniaturization of and price decreases in almost all media – affecting the nature of young people's media exposure? In short, to what extent does an environment saturated with new and evolving media influence their lives?

**What do all these changes** mean for kids? Has the amount of time they spend with media increased? Are they changing the way they distribute their time across the many different media?

### The previous study

This is the second time we have posed questions such as these. In 1999, the Kaiser Family Foundation conducted the first *comprehensive* examination of U.S. young people's media exposure. *Kids & Media @ the New Millennium* was comprehensive in that it examined most of the various media used by children at the end of the 20th century; in that it included questions about amount of exposure, kinds of content used, and conditions of use; and in that it employed a large, representative sample of U.S. 2- to 18-year-olds, (Roberts, et al., 1999; Roberts & Foehr, 2004). A primary motive for that study was a growing body of research attesting to the importance of media in the socialization of today's youth, coupled with the absence of a comprehensive examination of their overall media behavior as the 20th century drew to a close. Until the 1999 Kaiser study, generalizations about media use were based on data drawn from numerous, often limited studies, no single one of which had ever provided a complete picture.

Of course, research conducted prior to 1999 examined children's media use. However, many of those studies predated the dramatic changes in the media landscape of the past 20 years, only a few attempted to examine *all* media, and most were based on nonrepresentative samples – for example, school kids from Northern California and the Rocky Mountain states (Schramm, Lyle & Parker, 1961) or Los Angeles (Lyle & Hoffman, 1972a), 6th and 10th graders from Michigan (Greenberg, Ku & Li, 1989), high school students from the San Francisco Bay Area (Roberts & Henriksen, 1990), and so on. A few surveys of kids' media use had used national samples, but none that we have located gathered data on *all* media available at the time of the study. Rather, they tended to focus on one, two, or three – usually TV and sometimes computers, print, radio, or VCRs (e.g., Bower, 1985; Horatio Alger Foundation, 1996; Kaiser Family Foundation & YM Magazine, 1998; Stanger, 1998; Stanger & Gridina, 1999). Most typical were studies that looked at only a few media *and* that used nonrepresentative samples (e.g., Brown, Childers, Bauman, & Koch, 1990; Chaffee, McLeod & Atkin, 1971; Christenson, 1994; Greenberg & Dervin, 1970; Greenberg, Ku & Li, 1985; Kuby & Larson, 1990; Maccoby, 1954; McLeod, Atkin & Chaffee, 1972; Medrich, Roizen, Rubin & Buckley, 1982; Morgan, Alexander, Shanahan & Harris, 1990; Murray, 1972; Wartella, Heintz, Aidman, & Mazzarella, 1990). In short, prior to the 1999 Kaiser study, our general picture of young people's media behavior was constructed from an array of studies that typically focused on a few media, and that more often than not depended on relatively small, nonrepresentative samples (see also Comstock 1991; Comstock, Chaffee, Katzman, McCombs & Roberts, 1978).

The 1999 survey responded to a perceived need to establish valid, comprehensive baseline data characterizing young people's media behavior as we entered the 21st century. After years of debate, there appeared to be growing consensus that media do, indeed, play an important role in the socialization of our youth (although the nature of that role often remains at issue). The explosion of new communication media, the kinds and amounts of information they made available, the different forms that digital information can take, and emerging evidence that young people are often among the early adopters of new communication technologies seemed to have caught people's attention in ways that even the TV revolution, some 50 years earlier, had not. Given the rate and nature of change in both media and media systems that society was experiencing,[1] an accurate description of how much of which media young people use, and under what conditions use occurs, seemed imperative to inform future research and policy.

The findings reported in *Kids & Media @ the New Millennium* (Roberts, et al., 1999), as well as in subsequent analyses of the data (Roberts & Foehr, 2004), then, represented a substantial step forward on several fronts:

- They were based on a large, representative sample of U.S. young people (2- to 18-year-olds);
- African American and Hispanic youths were over-sampled, enabling comparisons among racial and ethnic groups usually

precluded in prior, mostly smaller studies (see Brown, et al. 1990, for an exception);

• Questions pertained to almost all of the media typically used by U.S. youths at the end of the 20th century – TV, VCRs, video game consoles, radio, audio CD/tape players, movies, print media (newspapers, magazines, books), and computers (including use of games, Internet Web sites, e-mail, and chat rooms);

• Questions explored amount of exposure, kinds of content or activities engaged, and conditions of exposure, as well as various demographic and personal characteristics.

The body of information produced by a large, nationally representative sample provided an opportunity not only to describe young people's media use at the beginning of a new century, but also to test various earlier generalizations about media behavior using a current, nationally representative sample. And perhaps most important, it offered the means to describe young people's *overall* media behavior (as opposed to TV behavior, computer behavior, etc.). In other words, in addition to providing information about use of various individual media, the study enabled characterization of overall media behavior and total media budgets, for the first time enabling examination of the relative roles played by each of the various media available to U.S. youth.

Many of the findings that emerged from the 1999 study were simultaneously expected and unanticipated. We expected a substantial proportion of U.S. kids to have their own, personal media; we did not anticipate that more than half would have a TV in their bedroom (two-thirds of 8- to 18-year-olds). We expected to find a great deal of media use; we did not anticipate average daily media use among 8- to 18-year-olds to exceed six hours (nor did we anticipate that the use of two or more media simultaneously would push exposure to media content to nearly eight hours).[2] We expected that some children would be particularly heavy users of one or another medium; we did not anticipate that more than 20% of 8- to 18-year-olds would report in excess of five hours of daily TV viewing, nor that extremely heavy users of one medium would also be heavy users of most other media. We expected that TV would still be the dominant medium among young people; we did not anticipate that TV would account for over 40% of all media exposure (over 50% when videos and movies were folded in) even when including time spent with music, print media, video games, and computers, and we certainly did not anticipate that computer use would account for less than 5% of the average 8- to 18-year-old's media time.

We did not know what to expect about such issues as media multitasking or the phenomenon of young people spending a great deal of time using media content tailored especially for them and often in the absence of any adult presence, but were fascinated to discover that children used two or more media simultaneously at least 16% of their media time, and that media use in the presence of parents was more the exception than the rule. We were also interested to see that some of the negative relationships between the amount of TV viewing and various measures of children's happiness or contentment reported in early studies (e.g., Himmelweit, Oppenheim & Vince, 1958; Johnstone, 1974; Maccoby, 1954; Schramm, Lyle & Parker, 1961) continued to hold at the end of the century. That is, kids who spent more time watching TV still tended to report being less contented. In short, while many findings from the 1999 study supported earlier research, many raised new questions, new issues, and new concerns.

New questions and concerns, then, form one reason for updating the 1999 study. Another is that it makes sense – indeed it is viewed as "good science" – to replicate earlier research. As long as we must depend on drawing inferences from samples (even large, nationally representative samples) rather than directly characterizing full populations, and as long as our measures of any kind of human behavior are error-prone (How many minutes of radio were you exposed to yesterday? Are you certain?), there can't be a definitive study of young people's media behavior. We must live with error, estimates, and inferences. Confidence in social science findings, then, depends not only on how well any single study is executed, but also on the degree to which its findings are replicated. When different studies, using different samples and sometimes different questions, produce similar patterns of results, confidence in our knowledge increases. Thus, we envision the current research as confirming the results of earlier work at the same time that it extends our knowledge about changes in young people's media behavior.

## The current study

Many of the same issues that led to the 1999 study, in combination with questions and concerns raised by the findings reviewed above, motivated this new research. As far as we can see, there has been no slowing of the "changing media environment," and change raises new questions. Decreases in the prices of personal computers, growing use of high-speed Internet connections, developments in size and definition of TV screens, rapid diffusion of DVD players, the introduction of affordable digital TV recorders (DVRs), the emergence of digital music recorders and music file-sharing – all such developments continue to reshape the media environment…and thus, we believe, to reshape children's

media behavior. For example, at about the time the 1999 study was completed, American kids were just beginning to use instant messaging, a computer activity not even considered in our original questionnaire. But as we will see, in just five years instant messaging has emerged to become one of the most popular of all computer activities among kids, changing the way they distribute time when engaged in computer activities.

Clearly, such ongoing changes in the media environment raise new and important questions. For example, are today's kids devoting more time to media or are newer media simply displacing older ones? Do the new media affect how children prefer to get information (e.g., passively or interactively)? Are there different kinds of media users (e.g., vid-kids, gamers, computer geeks), and if so, what are their different characteristics? Are young people really becoming "media multitaskers," and if so, how does this affect the overall patterns of media behavior?

In short, the pace of change in almost all communication media continues to call "old" information into question (even, it seems, redefining our conception of "old") and to raise new issues. For a generation now documented as devoting more than a quarter of each day to media (Roberts, et al., 1999), it is vitally important to update our information and address the new questions.

The following pages present a brief introduction to the survey methodology (Chapter 2). The following chapters turn to presentation of the results. Chapter 3 describes the media environment inhabited by today's young people in the U.S. Chapter 4 describes young people's exposure to different individual media. Here we look at noninteractive screen media (i.e., TV, videotapes, movies), print media (newspapers, magazines, books), audio media (radio, CDs/tapes, MP3s), and interactive media (computers, video games), in that order. Chapter 5 merges the data from individual media to look at young people's overall media budgets. Chapter 6 looks at the same data from several different perspectives, including various psychological and social characteristics of young viewers (e.g., school grades, levels of contentedness, heavy or light media use) and characteristics of the homes within which they live (e.g., degree of TV orientation, presence of media rules). Finally, Chapter 7 presents a brief summary of our findings.

Each of the chapters focuses primarily on the results for 2004. However, where interesting and appropriate, we also present comparisons with results from the 1999 study. More often than not, such "over-time" comparisons are presented in sidebars to the primary discussion.

Tables within the text present highlights of the data, and more complete results are included in appendices that correspond with each chapter, which can be found at the back of this report. These appendices often include the over-time comparisons as well, along with detailed results by age, gender, race, and socioeconomic group.

# 2. METHODS

## Overview

This report is based on a nationally representative survey of 3rd- to 12th-grade students, designed to explore their access to and recreational (nonschool) use of a full range of media, including newspapers, magazines, books, TV, DVDs/videotapes, video games, movies, radio, MP3s, CDs and tapes, computers and the Internet. In addition to interviews with 2,032 students age 8–18, 694 seven-day media-use diaries – collected from respondents who chose to participate – were used to help guide the survey analyses (primarily to develop a proportion of time spent multitasking with various forms of media). The findings in this report are based on the nationally representative sample, except where noted. The margin of sampling error for this sample is +/-3.8%, and smaller for subgroups.

The Kaiser Family Foundation worked with Dana Markow and Jordan Fein at Harris Interactive, Inc., and with Donald F. Roberts and Ulla G. Foehr of Stanford University, to design and analyze the survey. All parties were involved in all stages of the research, however, Harris Interactive was primarily responsible for sampling and data collection while data analyses and reporting of results were the primary responsibility of the Kaiser Family Foundation staff and the Stanford contingent. At the Foundation, the project was directed by Victoria Rideout, and received substantial input from Mollyann Brodie. The current study updates the Kaiser Family Foundation's 1999 study, Kids & Media @ the New Millennium, which was conducted by the same team.[3]

The following provides a brief overview of the study's methodology. Appendix 2 gives full details on sampling, questionnaire administration, interviewer training, statistical levels of confidence, and questionnaire design.

## Sampling

The data for this study come from a nationally representative sample of 2,032 students in grades three through 12 (8- to 18-year-olds). The sample was obtained using a stratified, two-stage national probability sample. At stage one, schools were randomly selected from a list of approximately 80,000 public, private, and parochial schools in the U.S. At stage two, grades and classes within grades were randomly selected to participate. The sampling design permits oversampling by various criteria (e.g., grade level, race/ethnicity). This study includes an oversample of Black and Hispanic students, enabling a number of between-group comparisons among different racial/ethnic groups.

Data from the primary survey are weighted to ensure a nationally representative sample of students. Weights are based on data from the National Center for Education Statistics and from the U.S. Bureau of the Census. The weighting procedure controls distribution of students by grade, region of the country, size of residence locale (urban, suburban, rural), gender, and race/ethnicity.

Students who completed the basic questionnaire were also invited to keep a seven-day, media-use diary. This procedure produced a self-selected (thus nonrepresentative) diary sample of 694 students. Appendices 1 and 2 present the full survey questionnaire and sample pages from the diary questionnaire.

## Questionnaire items

Questionnaires were developed to enable as complete a description of U.S. young people's media environment and behavior as possible given classroom time constraints. Time constraints also dictated questionnaires of differing lengths for younger (3rd- to 6th-grade) and older (7th- to 12th-grade) respondents. Older kids answered a number of questions that did not appear in the questionnaire administered to their younger counterparts.

A substantial majority of items in the survey questionnaire repeated questions asked in the 1999 survey. However, there were a number of additions and changes. The current study includes new questions about such things as newer media (e.g., digital music devices such as MP3 players), miniaturized personal media (e.g., handheld video games, portable CD players), newly popular computer activities (e.g., instant messaging), family rules

controlling media use, personality characteristics, and various non-media activities. In addition, several items employed in the earlier study were modified to save time and space in the current questionnaire. Questions will be introduced briefly in this chapter; the full text of all questions can be found in Appendix 1.

**The media environment.** Questionnaire items assessing the media environment pertained to both the physical and social environment. The physical environment defines what kinds of media young people may access in their homes. The social environment includes family norms, policies, and general household orientation toward various media (especially TV).

Questions assessing the physical media environment asked how many of each of the following media (or media capabilities) were to be found in the child's home and in the child's bedroom: TV, VCR or DVD player, digital video recorder (DVR, e.g., TiVo, Replay TV), CD or tape player, radio, computer, video game console, telephone, cable or satellite TV, premium TV channels, Internet access (dial-up and high-speed) and instant messaging program. Respondents were also asked whether or not they had any of the following more portable media: cell phone, personal CD player, MP3 player, pager, laptop computer, handheld video game (e.g., Gameboy), personal digital assistant (such as a Palm Pilot), and any other handheld device that connects to the Internet (e.g., Blackberry, cell phone with Internet capabilities).

**Questionnaires were developed to enable** as complete a description of U.S. young people's media environment and behavior as possible.

The social media environment was assessed by items asking about TV orientation within young people's homes, and items concerned with the frequency and nature of family rules governing TV viewing, computer use, music listening, and/or video game playing. TV orientation questions asked how often a TV operated in their home even when no one was watching, how often a TV was on during meals, and whether or not there were any rules about TV. Questions about rules controlling media activities varied, but generally asked about controls on amount of use, on content used, and on contingencies controlling use (e.g., no viewing until homework is completed). In addition, several items assessed "parent involvement" with youth media behavior independent of explicit rules (e.g., parents' attention to ratings).

**Amount of media exposure.** Media exposure was assessed by asking respondents to estimate the amount of time, in minutes and hours, they spent exposed to or using each of the following media *on the previous day*: magazines, newspapers, books (for personal enjoyment), TV, movies, video games (on a device connected to a TV screen), handheld video games, radio, audio recordings (CDs, tapes, MP3s), and computers[4] (excluding school-related computer activities). In addition, 7th- to 12th-graders were asked how much time they spent talking on the telephone, and all respondents who indicated that they had used a computer, were asked to estimate the time they spent on a dozen different computer activities (see Appendix 1).

Respondents were assisted with estimates of TV time through provision of "TV grids" (akin to the TV schedule found in most daily newspapers) for each of three times of day (7:00 a.m. until noon; noon until 6:00 p.m.; 6:00 p.m. until midnight). Respondents were asked to circle each program they had watched, then to report time spent viewing.

Because questionnaire administration was spread across the days of the week, "time spent yesterday" includes responses for each of the seven days, with the caveat that a slightly lower proportion of questionnaires pertain to Friday, Saturday, and Sunday (8%, 10%, and 13%, respectively), than to Monday through Thursday (14%, 19%, 17%, and 18%, respectively). Further details on time estimates are presented when results for each medium are discussed.

**Non-media time.** In order to help us better understand the time young people spend with media, respondents were also asked to estimate the amount of time they had devoted to seven non-media activities the previous day. The non-media activities consisted of: "hanging out" with friends, "hanging out" with parents, doing homework, being physically active or exercising, participating in other activities (e.g., clubs, hobbies), doing chores, and working at a job (see Appendix 1).

**Media content consumed.** Information about what kinds of media content kids consume was gathered primarily for TV; students in 7th–12th grade also provided information about the music genres to which they had listened. As noted above, when estimating TV time, respondents indicated specific programs listed on the TV grid. The circled programs were then classified into one of the TV genres listed in Appendix 2.3. Older youths (7th- to 12th-graders) were asked to indicate the type of music (if any) they had listened to the previous day from a list of 16 possible genres (Appendix 2.3).

**Social context of media use.** Respondents who indicated using either a TV or the computer the previous day were also asked with whom they used it.

**Demographic characteristics.** The demographic characteristics to which we pay most attention include respondents' age, school grade, gender, race/ethnicity, level of parent education, and median income in the district in which the school is located (which served as our surrogate for household income; see below). In addition, we also collected data on such family characteristics as whether the child lived with one or both parents and number of siblings, and we have information about region of the country and level of urbanicity (i.e., rural, suburban, urban).

Parent education and income, our two primary indicators of socioeconomic status, represent the two most problematic measures of all the demographic characteristics we have employed because both measures contain substantial error.

Information on parent education is obtained by proxy; that is, the child or adolescent serves as proxy for the parent. Obviously there is good reason to be wary of kid-based reports of parent education. Many kids, particularly younger children, simply may not know the level of education achieved by their parents; others may be misinformed for any of several reasons. Thus, we must assume that there is a good deal of error in this variable.

Income poses a different problem. Young people are even less likely to know the level of household income than the level of parent education. Because it is almost impossible to obtain accurate estimates of household income from school-aged youth, we have used federal estimates of median community income for the zip code area of each participating school. Thus, respondents are classified as low income (under $35,000 median income), middle income ($35,000 – $50,000), or high income (over $50,000) depending on the median income of the zip code area in which the child's school is located. The problem, of course, is that some students from higher income households attend schools located in lower income zip code areas, and that some students from lower income households attend schools located in relatively higher income zip code areas. Thus, by characterizing individuals on the basis of aggregate data, we introduce error of a different sort into our second measure of socioeconomic status.

Our solution has been to examine the relationship between media behaviors and socioeconomic status by using the two measures (parent education and household income) as relatively independent indexes of socioeconomic level. Assuming that there are two different sources of error at work, to the extent that we find consistent patterns of results, we feel a bit more confident about statements regarding the role of socioeconomic factors in media behavior. Nevertheless, all analyses and generalizations about the role of socioeconomic factors should be interpreted cautiously.[5]

A further caution about interpretation of results related to household income is warranted. In both the 1999 study and the current research, we have defined low median income households as those falling in the bottom 25% of the income distribution. Operationally, this meant defining the actual income break at the point nearest to 25% allowed by the data. In 1999, this procedure set the break point at $25,000 annual median income; 24% of the sample came from schools in zip codes in which the annual median income was less than $25,000. In 2004, this procedure sets the break-point at $35,000 annual median income; 23% of the sample comes from schools in zip codes in which the annual median income was less than $35,000. Thus, any income comparisons between the two studies represent comparisons between the bottom 25% in household income. The amount of income defining the two low income groups, however, differs substantially, a point which should be kept in mind when interpreting over-time comparisons.

**Social/psychological characteristics.** A set of questions designed for the 1999 study to assess kids' level of contentedness were also included in this study. These items asked respondents to indicate whether each of six statements describes them "a lot," "somewhat," "not much," or "not at all." The statements were:

- I have a lot of friends.
- I get along well with my parents.
- I am often bored.
- I often feel sad and unhappy.
- I have been happy at school this year.
- I get into trouble a lot.

In addition, 7th- to 12th-graders were asked three questions aimed at assessing the degree to which they engage in sensation seeking. These included:

- I like friends who are exciting, even if they are wild.
- I sometimes choose friends my parents disapprove of.
- I like new and exciting experiences, even if I have to break the rules.

Two additional questions assess the degree to which kids are peer-oriented versus parent-oriented:

- I would rather spend my free time with my parents than with my friends.
- When I have a problem, I talk it out with my parents.

Finally, all respondents were asked to report their school grades. Response options included "mostly As," "mostly As and Bs," "mostly Bs," "mostly Bs and Cs," "mostly Cs," "mostly Cs and Ds," "mostly Ds," and "mostly Ds and Fs." Although such self-reports likely produce inflated grade estimates, earlier work has found a substantial positive relationship (r = .77) between self-

reported grades and actual grade-point average (e.g., Dornbusch, Ritter, Liederman, Roberts & Fraleigh, 1987).

**Media use diaries.** A self-selected sub-sample of young people who completed the classroom survey also kept a relatively demanding, seven-day media use diary. The diary asked kids to respond to four primary questions for each half hour of the day beginning at 6:00 a.m. and finishing at 12:00 a.m. The four primary questions were:

- What kind of media [if any] were you using?
- What else where you doing [while using a medium]?
- Where were you?
- Who was with you?

For each of the seven diary days, respondents were also asked to estimate the amount of time they spent in school, working at a job, doing chores, doing homework, participating in clubs, sports, or hobbies, etc., and being in any form of child care or after-school program.

Finally, the diary contained items asking about the degree to which respondents "channel-surfed" when watching TV, how much they used instant messaging, how well they were able to withstand boredom, and why they might use two media at the same time. Appendix 2.2 presents a sample of the week-long diary.

## Survey administration

Respondents completed self-administered questionnaires in their classrooms. Questionnaires required approximately 40 minutes to complete. Different reading abilities in younger and older students resulted in the use of slightly different questionnaires for 3rd- to 6th-graders and 7th- to 12th-graders, with the older kids responding to more questions than the younger kids. The questionnaire in Appendix 2.3 indicates which items were limited to older respondents. Trained interviewers were present in each classroom to answer any questions and provide assistance to students if needed.

The survey instrument was completely anonymous; respondents returned questionnaires in sealed envelopes.

## Analyses

Findings discussed in this report were analyzed using standard statistical tests of significance; most commonly used were tests for differences in population proportions and analyses of variance (t-tests) for differences among means. All tests have been adjusted to take sample design and weights into account. Standard levels of significance are applied at the $p<.05$ level (i.e., differences as great as those noted would occur by chance no more than five times in 100).

Tables in this report employ a system of superscripted letters to indicate statistically significant differences between proportions or means. Proportions or means with *no superscript or that **share** any superscripted letter **do not** differ significantly. Hence, proportions or means with no superscripted letters in common differ reliably.* Several examples may help to clarify this convention.

In the first row of proportions depicted below (Example 1), none of the numbers have superscripted letters in common. Thus, the first proportion (20%) differs significantly from both 35% and 48%, and 35% also differs significantly from 48%.

In Example 2, the first two proportions (12% and 30%) do not share a common superscript, but the third proportion (20%) has a superscript in common with both. Thus, the first (12%) differs significantly from the second (30%), but does not differ from the third (20%). Similarly, the second (30%) also does not differ significantly from the third (20%).

In Example 3, the first proportion (10%) differs significantly from the second proportion (33%), but not from the third (14%). The second proportion (33%) also differs significantly from the third (14%).

Finally, in Example 4, there are no superscripts associated with any of the proportions. Thus, all three numbers share the same "nil" superscript, therefore do not differ significantly.

| | | | |
|---|---|---|---|
| Example 1: | 20%$^{a}$ | 35%$^{b}$ | 48%$^{c}$ |
| Example 2: | 12%$^{a}$ | 30%$^{b}$ | 20%$^{ab}$ |
| Example 3: | 10%$^{a}$ | 33%$^{b}$ | 14%$^{a}$ |
| Example 4: | 26% | 21% | 24% |

The focus of this report is on results from the 2004 sample. However, in those instances when there have been important or interesting changes since 1999 in any aspect of media behavior, we also present those findings. For the most part, presentation of results comparing findings from 1999 and 2004 are presented in side-bars. When statistical tests indicate that the results for the two years differ significantly (i.e., that the likelihood of a reported difference would occur fewer than five times in 100), we use a double dagger ($^{‡}$) to mark that fact. Thus, the two proportions in Example 5 do not differ significantly, while the two proportions in Example 6 do.

| | **2004** | **1999** |
|---|---|---|
| Example 5: | 61% | 54% |
| Example 6: | 24%$^{‡}$ | 13% |

# 3. THE HOUSEHOLD MEDIA ENVIRONMENT

The household media environment plays a significant role in young people's media behavior. Which media are available in the home, the extent to which youngsters have their own (personal) media, and the general household orientation toward media and their messages all influence the amount and nature of young people's media use. And since there is ample evidence that the amount and nature of media exposure plays an important role in what children and adolescents know, believe, and value, thus on how they behave, the household media environment arguably contributes in important ways to the socialization of U.S. youth (for reviews, see Christenson & Roberts, 1998; Comstock, 1991; Paik & Comstock, 1994; Roberts, 1993; Roberts, Henriksen & Foehr, 2004; Strasburger & Wilson, 2002).

The kinds of media to which kids have access make a difference. For example, lack of easy access to a particular medium by any particular social group may have important consequences. Such a point seems obvious in the context of something like the possible effects of a "digital divide." In light of studies indicating that homes from the lower socioeconomic strata are least likely to contain personal computers (Roberts, et al., 1999), disquiet over inequities in personal computer access and the associated disadvantages often assumed to follow seem quite reasonable. Kids who do not have computers are presumed to suffer. They have limited opportunity to develop computer literacy, to go online, to search the World Wide Web – in short, to become fully functioning members of the "information age." Another important, albeit less discussed, media divide may exist between households that do and do not subscribe to a daily newspaper – a divide, we might add, that is not so clearly defined by socioeconomic variables (Roberts & Maccoby, 1985; Robinson, 1980; Roper Organization 1977).

Access is not the only thing that makes a difference. Often overlooked but possibly as important as availability or nonavailability of a particular medium, is whether or not a particular medium has reached saturation levels within a household – that is, whether a home has *multiple* TV sets, video game consoles, radios, or a large library of books, etc. For example, viewing patterns in households with two, three, or more televisions are likely to differ greatly from patterns in a home with one, centrally located TV. In multiple media households (e.g., those with TV sets, computers, VCRs) the second or third instance of a given medium often migrates to kids' bedrooms when the family upgrades them (e.g., when a family upgrades to a computer with more memory or a TV with a larger screen). This practice may serve individual tastes and preferences, but it also likely reduces the amount of shared media experiences, hence the amount of parent-child interaction around media messages.

Finally, households may differ dramatically in terms of "media norms" – that is, their orientation toward media in general and/or toward specific individual media – and this, too, makes a difference to media behavior. Some families have strongly enforced rules about TV viewing, or about surfing the Web, or about the kinds of music to which children and adolescents are allowed to listen. Other families pay little or no attention to the amount or nature of kids' use of any media. In some homes parents are avid TV, or video game, or newspaper fans; in others, any or all of these media are almost completely ignored. Thus, a household's normative orientation toward media – whether manifested in explicit media policies (e.g., no TV until homework is completed; no TV14-rated shows for younger kids; no unsupervised surfing the Web), unspoken behavioral norms (e.g., parents who never miss a favorite soap opera; parents who dine with head buried in a newspaper), or simply the practice of allowing children to have their own media – also affects how young people use media.

We begin our examination of U.S. youths' media behavior by characterizing the household media environment of today's youth on three dimensions. First, we present information about the number and kinds of media available in 8- to 18-year-olds' households. Second, we look at young people's personal media, defined

in terms of both specific media available within kids' bedrooms and other personal, and often portable, media (such as miniaturized tape players, radios, handheld video games, and laptop computers). Third, we examine "household media orientation," based on several variables that we believe characterize the degree to which media play a central role in each youngster's home.

## Household media

Five years ago, our examination of young people's media environments led us to characterize children's households as "media rich" (Roberts, Foehr, Rideout & Brodie, 1999). The findings from 2004 point to a need for an even stronger term, that is, "media saturated." With few exceptions, the remarkably high number of each of the various media present in kids' households found in our earlier study have increased, sometimes modestly, sometimes moderately, but apparently inexorably. For the most part, noteworthy comparisons between the findings from 2004 and those from 1999 are presented in sidebars accompanying our central discussion of today's media environment.

**Almost three-quarters of U.S. kids live in** homes that contain three or more TV sets.

Table 3-A presents the proportion of youngsters from households with at least one and with three or more of each of the various media in both 1999 and 2004.[6] Clearly, in 2004, TVs, VCRs, radios, and audio CD/tape players have reached ceilings, with penetration of each medium approaching 100% of young people's households. The number of young people's homes with video game consoles, computers, and cable or satellite TV subscriptions has passed 80%, and with the exception of the new types of digital video recorders (DVRs), no medium or "media add-on" (i.e., subscription to cable, satellite, or premium channels, instant messaging capabilities, etc.) occurs in fewer than 50% of U.S. kids' households.

The term "media rich" does not fully capture this environment. Most children's homes have more than one of each of the media in our list. Almost three-quarters of U.S. kids live in homes that contain three or more TV sets (14% contain five or more), and roughly two-thirds report more than three radios and three CD/tape players. U.S. 8- to 18-year-olds also report an average of more than two video game consoles and 1.5 personal computers in their homes. The only medium (or media add-on) in our list with an average of less than one per youth's household is the DVR, a technology currently in its infancy in terms of market penetration. In short, a typical U.S. child between 8- and 18-years-old is likely to live in a home equipped with three televisions, three VCRs, three radios, three CD/tape players, two video game consoles, and a personal computer. The computer probably has an Internet connection and an instant messaging program; the TV probably receives a cable or satellite signal, and there is a 50/50 chance that the TV also receives a premium channel. Media saturation indeed.

Household media availability varies depending on such things as youth's age, race and ethnicity, parent education, and income. Of course, no variation can exist when a medium has reached full penetration; rather, differences in access located by such demographic variables are best examined in relation either to those

**TABLE 3-A**

### In-Home Media Availability in 2004 and 1999

**Percentage of children living in homes with 1 or more and 3 or more of each medium**

| | 1+ | | 3+ | | Mean | |
|---|---|---|---|---|---|---|
| | **2004** | **1999** | **2004** | **1999** | **2004** | **1999** |
| TV | 99% | 99% | 73% | 70% | 3.5‡ | 3.1 |
| VCR | 97 | 98 | 53‡ | 26 | 2.9‡ | 2.0 |
| DVR | 34 | | 6 | | 0.6 | |
| Radio | 97 | 98 | 63‡ | 73 | 3.3 | 3.4 |
| CD/tape[1] | 98 | 95 | 66 | | 3.6 | |
| Video game | 83 | 81 | 31‡ | 24 | 2.1‡ | 1.7 |
| Computer | 86‡ | 73 | 15‡ | 8.0 | 1.5‡ | 1.1 |
| Cable/satellite TV | 82‡ | 74 | | | | |
| Premium channel | 55‡ | 45 | | | | |
| Internet | 74‡ | 47 | | | | |
| Instant messaging program | 60 | | | | | |

[1] Differences in question format preclude comparisons of means and proportion with 3+ CD/tape players.

‡ For this and all following tables, a double dagger (‡) indicates that the difference in proportions for 1999 and 2004 is statistically reliable at p.< .05. For example, a significantly higher proportion of youths reported a household computer in 2004 than in 1999, and a significantly lower proportion reported 3+ radios.

### Box 3.1 Five-Year Changes in Household Media

Table 3-A reveals changes in household media during the five years since our first study (Roberts, et al., 1999). The changes are most apparent for digital media. Not surprisingly, given the increasingly important role computers have come to play in our lives (hand in hand with substantial decreases in computer prices), from 1999 to 2004 the proportion of kids reporting a personal computer in their home increased by 13 percentage points (from 73% to 86%). Even more dramatically, households with an Internet connection increased from fewer than half (47%) to almost three-quarters (74%). Finally, instant messaging capabilities, which were not even surveyed five years ago, are now found in 60% of 8- to 18-year-olds' homes.

The same five-year period also saw the proportion of children and adolescents living in homes with cable or satellite and premium channels increase substantially (8 and 10 percentage point increases, respectively), while the proportion with three or more VCRs doubled (from 26% to 53%), a result, we suspect, of VCR upgrades and increasing penetration of DVRs. Homes with three or more video game consoles also increased by 7 percentage points. Only radio breaks the pattern of steady increases in household media availability. Although the percentage of households with at least one radio remains about constant, there is a 10 percentage point *decrease* in the proportion with three or more radios. We suspect this decline may be at least partly a consequence of young people's greater reliance on CD players, computers, and MP3 players as sources of music.

media that have not reached full penetration or to patterns of multiple media ownership.

**Age and gender.** Table 3-B presents household media availability in relation to age. Differences among households with at least one of each medium emerge only for media that have achieved less than 80% penetration. Thus, more 11- to 14-year-olds than either 8- to 10- year-olds or 15- to 18-year-olds live with a digital TV recorder, and fewer 8- to 10-year-olds than older kids live in homes that receive cable or satellite TV, have an Internet connection, or have instant messaging capabilities on the household computer.

Age differences in media availability also emerge when homes with three or more of each medium are examined. Eight- to ten-year-olds are less likely than either of the older two age-groups to live in homes with three or more VCRs and radios, and less likely than 15- to 18-year-olds to live with three or more computers.

As was the case in 1999, the video game console is the only medium for which there is a gender difference in household availability (see Appendix 3.1). Now, as then, boys remain more likely than girls to live in a home with a video game console. Although not quite as large as it was five years ago (cf. Roberts, et al., 1999; from 1999 to 2004, the proportion of kids with video game consoles increased at a slightly higher rate for girls than for boys), the gender difference remains significant.

**Race and ethnicity.** Race and ethnicity are not associated with differences in the likelihood of living in a household with at least one TV set, VCR, radio, CD/tape player, or video game console, or of subscribing to a premium TV channel. Race does, however, locate differences in young people's access to DVRs, and particularly in the likelihood of availability of a personal computer and its associated capabilities. Table 3-C indicates that African American and Hispanic youths are somewhat more likely than White kids to live in a home with a DVR (the difference between Whites and Hispanics is statistically significant, and it approaches significance for White and African American kids). Conversely, White youths are more likely than either African American or Hispanic youths to live in a home with a personal computer and to be connected to the Internet. They are also more likely than African American kids to report instant messaging capabilities (with the likelihood for Hispanic kids falling between the two).

**TABLE 3-B**

## In-Home Media Availability by Age

**Percentage of children living in homes with 1 or more and 3 or more of each medium, by age**

| | 1+ | | | 3+ | | |
|---|---|---|---|---|---|---|
| | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
| TV | 98% | 100% | 99% | 67% | 76% | 74% |
| VCR | 94 | 99 | 98 | 42[a] | 57b | 58[b] |
| DVR | 29[a] | 40[b] | 29[a] | 6 | 6 | 5 |
| Radio | 94 | 98 | 99 | 46a | 68[b] | 71[b] |
| CD/tape[1] | 95 | 99 | 100 | 54 | 69 | 73 |
| Video game | 84 | 84 | 81 | 30 | 35 | 28 |
| Computer | 83 | 89 | 86 | 10[a] | 14[ab] | 20[b] |
| Cable/satellite TV | 76[a] | 86[b] | 82[ab] | | | |
| Premium channel | 51 | 59 | 53 | | | |
| Internet | 63[a] | 78[b] | 80[b] | | | |
| Instant messaging program | 42[a] | 63[b] | 70[b] | | | |

[1] Differences in questions in 1999 and 2004 preclude comparisons for 3+ CD/tape players.

*Note: Within each row, only those proportions that do not share a common superscript differ from one another with statistical reliability. Those proportions without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

### Box 3.2 Five-Year Changes in Media Availability by Race

In 2004, patterns of media availability as a function of race/ethnicity replicate most of those found in 1999. There are, however, a few noteworthy changes. First, where the earlier study found that African American kids were more likely than Whites to live in homes subscribing to premium channels, with three or more TV sets, and with three or more video game consoles, those differences have disappeared by 2004 (i.e., White households gained each of those media at a slightly higher rate than African American households). Second, although overall in-home access to personal computers and associated capabilities increased significantly during the five-year period, the differences among White, Black and Hispanic households remained much the same. That is, now as in 1999, kids from White households have more access to in-home computer-related media.

In general, then, while household media saturation is a fact for White, African American, and Hispanic kids, there remains a consistent pattern of White youngsters having greater access to personal computers and Internet connections. Finally, the tendency noted in 1999 for African American households to be somewhat more immersed in TV and related media (i.e., a higher proportion of Black households subscribed to premium channels, owned three or more TV sets and three or more video game consoles) seems to have been greatly reduced. Black households are still more likely to subscribe to premium channels and to have three or more TV sets, but the differences are no longer statistically significant.

**Parent education and household income.** As noted earlier, error inherent in our measures of parent education and household income urge caution when interpreting results in relation to socioeconomic status (SES). Fortunately, the two different measures have different sources of error. By comparing results from each, we can begin to derive a reasonable picture of the relationship between media availability and SES. Both of these SES indicators reveal similar patterns of in-home media access – that is, complete penetration of older, non-computer-related media regardless of education or income, but variations in access to personal computers (and computer "add-ons") and in the likelihood of having three or more of a given medium in the home.

As shown in Table 3-D, with one exception, parent education indicates few differences in access to at least one of any media other than those associated with personal computers (i.e., the personal computer itself, an Internet connection, and instant messaging capabilities). A higher proportion of young people whose parents completed college than of those whose parents completed no more than high school report in-home personal computer access. Kids from households where parents completed some college fall in between, but are more similar to kids from households where parents completed no more than high school than to kids from households where parents completed college. Children and adolescents with college-educated parents are also more likely than those with high school-educated parents to live in a home with an Internet connection, with instant messaging capabilities, and with three or more computers. Again, those whose parents completed some college fall in between, but look more like the group with high school-educated parents. The single, non-computer-related medium with a connection to parent education is the DVR. Children whose parents have some college education are less likely than those whose parents completed college to live in a home with a DVR (the proportion of children whose parents completed no more than high school falls between). In short, children from households with the highest level of parent education are more likely to have computers; those whose parents complete college are more likely to own DVRs.

Much the same story emerges in relation to income. Income-related differences in in-home access appear for computers, Internet connections, instant messaging programs, and DVRs (see Appendix 3.1). In all cases but one, a higher proportion of young people classified as from high-income households (i.e., attending a school located in a zip code with a median income over $50,000) than of those from low- (under $35,000) or middle- ($35,000 – $50,000) income households report having each of the computer-

**TABLE 3-C**

## In-Home Media Availability by Race and Ethnicity

**Percentage of children living in homes with 1 or more and 3 or more of each medium, by race**

| | 1+ | | | 3+ | | |
|---|---|---|---|---|---|---|
| | White | Black | Hispanic | White | Black | Hispanic |
| TV | 99% | 98% | 99% | 73% | 81% | 72% |
| VCR | 99 | 95 | 95 | 57[a] | 50[ab] | 44[b] |
| DVR | 30[a] | 39[ab] | 40[b] | 4 | 10 | 7 |
| Radio | 99 | 96 | 97 | 70[a] | 51[b] | 58[b] |
| CD/tape | 100 | 96 | 97 | 71[a] | 60[b] | 61[b] |
| Video game | 82 | 87 | 82 | 31 | 34 | 32 |
| Computer | 90[a] | 78[b] | 80[b] | 15 | 9 | 11 |
| Cable/satellite TV | 83 | 83 | 78 | | | |
| Premium channel | 56 | 65 | 55 | | | |
| Internet | 80[a] | 61[b] | 67[b] | | | |
| Instant messaging program | 63[a] | 47[b] | 55[ab] | | | |

*Note: Within each row, only those proportions that do not share a common superscript differ from one another with statistical reliability. Those proportions without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

related media. The one exception to this pattern is that the difference in the proportion of kids from low-income and high-income households reporting DVRs is not statistically significant. Kids from the highest income group are also more likely than kids classified as from lower income homes to report access to three or more radios, CD/tape players, and computers. The most straightforward explanation for these results is that as income increases, so too does the ability to purchase these media. In short, although there are minor variations, both parent education and income locate the same general pattern of media accessibility, most notably greater in-home access to digital media as socioeconomic status increases.

**Summing up in-home media availability.** In general, media saturation seems an apt phrase to describe the typical U.S. 8- to

**TABLE 3-D**

## In-Home Media Availability by Parent Education

**Percentage of children living in homes with 1 or more and 3 or more of each medium, by parent education**

| | 1+ | | | 3+ | | |
|---|---|---|---|---|---|---|
| | High school | Some college | College or more | High school | Some college | College or more |
| TV | 99% | 99% | 99% | 74% | 68% | 75% |
| VCR | 97 | 98 | 98 | 50 | 55 | 56 |
| DVR | 33[ab] | 26[a] | 38[b] | 5 | 4 | 6 |
| Radio | 98 | 98 | 97 | 59 | 67 | 66 |
| CD/tape | 99 | 99 | 98 | 63 | 65 | 72 |
| Video game | 85 | 79 | 83 | 31 | 29 | 32 |
| Computer | 82[a] | 84[ab] | 91[b] | 8[a] | 9[a] | 22[b] |
| Cable/satellite TV | 80 | 84 | 83 | | | |
| Premium channel | 55 | 58 | 57 | | | |
| Internet | 68[a] | 74[ab] | 82[b] | | | |
| Instant messaging program | 56[a] | 59[ab] | 67[b] | | | |

**TABLE 3-E**

## Personal Media Ownership: Total Sample and by Age

| | 8- to 18-year-olds | | | | |
|---|---|---|---|---|---|
| Medium | 2004 | 1999 | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
| **A. Percentage of children whose bedrooms contain** | | | | | |
| TV | 68% | 65% | 69% | 68% | 68% |
| VCR/DVD | 54‡ | 36 | 47 | 56 | 56 |
| DVR | 10 | | 8 | 13 | 9 |
| Radio | 84 | 86 | 74[a] | 85[b] | 91[b] |
| CDs/tapes | 86 | 88 | 75[a] | 89[b] | 92[b] |
| Video game | 49 | 45 | 52[a] | 52[a] | 41[b] |
| Computer | 31‡ | 21 | 23[a] | 31[ab] | 37[b] |
| Cable/satellite TV | 37‡ | 29 | 32 | 38 | 40 |
| Premium channel | 20‡ | 15 | 16 | 21 | 20 |
| Internet | 20‡ | 10 | 10[a] | 21[b] | 27[c] |
| Instant messaging program | 18 | | 9[a] | 17[b] | 27[c] |
| Telephone | 40 | | 31[a] | 39[a] | 50[b] |
| **B. Percentage of children with their own** | | | | | |
| Cell phone | 39% | | 21%[a] | 36%[b] | 56%[c] |
| Portable CD/tape player | 61 | | 35[a] | 65[b] | 77[c] |
| MP3 player | 18 | | 12[a] | 20[b] | 20[b] |
| Laptop | 12 | | 13 | 11 | 15 |
| Handheld video game | 55 | | 66[a] | 60[a] | 41[b] |
| Personal digital assistant | 11 | | 9[a] | 14[b] | 8[a] |
| Handheld internet device | 13 | | 7[a] | 15[b] | 17[b] |

‡ Indicates that the difference in proportions between years is significant.

*Note: Within each row, only those proportions that do not share a common superscript differ from one another with statistical reliability. Those proportions without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

18-year-old's household. Almost every young person lives in a home with at least one TV set, VCR, radio, and CD or tape player; over 80% have video game consoles and personal computers, and subscribe to cable or satellite TV; and with the exception of recently introduced digital TV recorders, more than half of all children live in homes with the other media about which we asked (premium TV channels, Internet connections, and instant messaging capabilities). Moreover, high proportions of these children live in households with three or more of most media. In general, media availability is positively associated with youngsters' age and indicators of socioeconomic status, and White youth are more likely than Black or Hispanic youth to have access to computers and the Internet.

## Personal media

In light of the proportion of children and adolescents living in homes with multiple instances of most media, it is not surprising that substantial numbers of young people possess their own, personal media. These range from a TV, video game console, or personal desktop computer located in young peoples' bedrooms to ownership of various portable devices that seem common among today's youth such as audio tape/CD/MP3 players, laptop computers, and handheld video games.

Table 3-E summarizes the proportion of 8- to 18-year-olds who report having each of the various personal media either in their bedroom or in the form of a portable device belonging to them. (It also includes the proportion of 8- to 18-year-olds in 1999 reporting personal media where comparisons are possible). "Music media"[7] comprise the most common personal media; 84% of kids' bedrooms contain radios and 86% contain a CD or tape player (92% of 8- to 18-year-olds have one, the other, or both). In addition, 61% of young people own *portable* CD or tape players, and 18% have newer, digital music players. When both bedroom and portable audio devices are combined, 95% of kids age 8–18 claim a personal source of music.

TV also occupies a major place in many young people's bedrooms. More than two-thirds of 8- to 18-year-olds have a TV in their room, more than half have their own VCR, and 49% report having a video game console that connects to a TV. Over a third receive a cable or satellite signal on their bedroom TV, 20% receive a premium channel, and 10% say that they have a DVR. Increasing numbers of young people also report personal computers. Thirty-one percent (31%) have a desktop computer in the bedroom and 12% have their own laptop computer (35% have one, the other, or both); 20% report an Internet connection and 18% have instant messaging. Over 10% report owning personal digital assistants and 13% have some type of handheld device that connects to the Internet (e.g., a cell phone, Blackberry, etc.). Finally, 40% of 8- to 18-year-olds have a landline telephone in their bedroom, and 39% have their own cell phone (55% have either a landline phone, a cell phone, or both).

**Age.** Table 3-E also shows that the likelihood of a young person having a bedroom TV or VCR/DVD is not related to age. However, substantially higher proportions of both 11- to 14-year-olds and 15- to 18-year-olds than of 8- to 10-year-olds possess each of the various music media (radios, desktop and portable tape/CD players, and MP3 players), as well as personal computers, Internet connections, and instant messaging programs. Video game consoles are the only medium for which this age pattern changes; 15- to 18-year-olds are less likely than the two younger age-groups to have a video game console in the bedroom or to own a handheld video game device.

**Gender.** In a change from 1999, boys are substantially more likely than girls to own several different personal media. Table 3-F shows that the largest gender difference was obtained for video games; boys are almost twice as likely as girls to report a video game console in their room (63% vs. 33%). A similar difference also holds for handheld video games; 63% of boys and 48% of girls claim to own one. Perhaps more interesting, however, are several other gender differences that emerge. In a departure from the 1999 study in which video game consoles accounted for the single gender difference in personal media, the current data indicate that a reliably higher proportion of boys than girls also have their own TV, VCR/DVD player, computer, and Internet connection.

### Box 3.3 Five-Year Changes in Personal Media

Table 3-E indicates that the percentage of young people reporting having their own TV, radio, tape/CD player, or video game console did not change from 1999 to 2004. However, there were significant increases in the proportion of kids with a VCR/DVD player in their bedroom (from 36% to 54%), and in the proportion receiving premium channel TV signals in their bedroom (from 15% to 20%). We suspect the increase in bedroom VCRs/DVDs partly reflects household upgrades. That is, as families purchased new DVD players or DVRs, the VCR was moved to the child or adolescent's bedroom, likely accounting for much of the 18 percentage point increase in bedroom video players.[1]

Perhaps most important, the percentage of kids having personal computers and associated services also increased significantly (from 21% to 31% for computers and from 10% to 20% for Internet connections). We speculate that this increase is evidence of growing recognition that computers and the Internet are playing increasingly important roles in the lives of American youth, in combination with steady decreases in the cost of computer equipment.

[1] Data from the Consumer Electronics Association indicate that about 5.5 million DVD players had been sold in the U.S. by the end of 1999. Between 2000 and July, 2004, the number climbed to just over 75.5 million (*www.thedigitalbits.com/articles/cemadvdsales.html*; accessed on 8/17/04).

### Box 3.4 Five-Year Changes in Personal Media, by Gender

It appears that between 1999 and 2004, boys acquired VCR/DVDs, cable/satellite and premium TV channel connections, computers, and Internet connections at a higher rate than girls. As the following table shows, for most personal media that reveal a gender difference in 2004, there was a statistically significant increase in the proportions owning them from 1999 to 2004. However, for VCRs/DVDs and computers, the increase was greater for boys, and for Internet connections, only boys showed a significant increase. TV is the exception to this pattern. From 1999 to 2004, a small increase (2 percentage points) in the percentage of boys with a TV in the bedroom combined with a slightly larger *decrease* (6 percentage points) in the percentage of girls, resulting in boys now being significantly more likely than girls to have a TV in the bedroom.

**Gender and Changes in Ownership of Selected Personal Media: 1999 to 2004**

| Medium | Year | Boys | Girls |
|---|---|---|---|
| TV | 2004 | 72%[a] | 64%[b] |
| | 1999 | 70 | 70 |
| VCR/DVD | 2004‡ | 59[a] | 49[b] |
| | 1999 | 26 | 26 |
| Video game console | 2004‡ | 63[a] | 33[b] |
| | 1999 | 30[a] | 17b |
| Computer | 2004‡ | 35[a] | 26[b] |
| | 1999 | 22 | 27 |
| Internet connection | 2004‡ | 24[a] | 17[b] |
| | 1999 | 14 | 16 |

‡ Although we do not present overall percentages, a double dagger (‡) indicates the difference between 1999 and 2004 is statistically significant at p<.05; a & b indicate statistically significant gender differences within years at p<.05.

**TABLE 3-F**

## Personal Media Ownership by Gender

| Medium | Boys | Girls |
|---|---|---|
| **A. Percentage of children whose bedrooms contain** | | |
| TV | 72%[a] | 64%[b] |
| VCR/DVD | 59[a] | 49[b] |
| DVR | 11 | 9 |
| Radio | 82 | 86 |
| CDs/tapes | 84 | 88 |
| Video game | 63[a] | 33[b] |
| Computer | 35[a] | 26[b] |
| Cable/satellite TV | 40 | 34 |
| Premium channel | 20 | 19 |
| Internet | 24[a] | 17[b] |
| Instant messaging program | 20 | 15 |
| Telephone | 39 | 42 |
| **B. Percentage of children with their own** | | |
| Cell phone | 35% | 42% |
| Portable CD/tape | 61 | 61 |
| MP3 player | 21a | 14[b] |
| Laptop | 14 | 11 |
| Handheld video game | 63[a] | 48[b] |
| Personal digital assistant | 11 | 11 |
| Handheld internet device | 13 | 14 |

*Note: Within each row, only those proportions that do not share a common superscript differ from one another with statistical reliability. Those proportions without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

**Race/ethnicity.** African American kids are more likely than White kids to report bedroom televisions, DVRs, cable/satellite TV connections, subscriptions to premium TV channels, and video game consoles (see Appendix 3.2). In general, this pattern is consistent with results from earlier studies that indicate African Americans are particularly attracted to TV (cf. Roberts, et al., 1999; Roberts & Foehr, 2004; Tangney & Feshbach, 1988; also see Albarran & Umphrey, 1993; Blosser, 1988; Huston, Donnerstein, Fairchild, Feshback, Katz, Murray, et al., 1992). For the most part, Hispanic kids fall in between Black kids and White kids, differing significantly from neither of the other two groups in the proportion owning these media. There are no other differences in personal media as a function of race or ethnicity.

**Socioeconomic status.** The likelihood of a youngster having a VCR/DVD player or a video game console in the bedroom is negatively related to the level of parent education (see Appendix 3.2). That is, children whose parents have no more than a high school education are significantly more likely than those whose parents completed college to have a VCR or DVD in their bedroom and they are more likely than both those whose parents had some college and those whose parents completed college to have a video game console in their bedroom. The percentage of children with either of these kinds of media increased significantly from 1999 to 2004, but at a greater rate for those from the lowest parent education category.

The only difference in bedroom media related to income emerges for TV. Young people from the lowest income group are significantly more likely than those from the middle or highest income groups to have their own TV, replicating findings from 1999 (Roberts, et al., 1999). It is also worth noting from that 1999 to 2004, young people from the higher income groups added VCRs and video game consoles to their bedrooms at a faster rate than did kids from the lowest income group, thus eliminating the earlier significant differences for those media among kids from the three income groups.

Finally, both parent education and income are related to differences in the likelihood of kids reporting that they own various portable media. The general pattern is for a higher percentage of kids from the highest parent education classification and from the highest income classification to report that they have such things as a portable CD, tape, or MP3 player, handheld video game, laptop computer, or personal data assistant. We suspect this pattern is largely a result of the availability of disposable income (which also tends to be related to parent education).

**Summing up personal media.** Almost all kids age 8–18 own some type of music medium, more than two-thirds have their own TV set, half have their own VCR, and half their own video game console. African American kids are somewhat more likely than Whites to have their own TV-related media; kids from higher SES are more likely than their counterparts from lower SES to have computer-related media. Boys are more likely than girls to have both TV-related and computer-related media. In general, then, most U.S. kids inhabit rooms that seem to be as much media arcade as bedroom.

## Household media orientation

**Media rules and parental involvement.** Parental attempts to regulate children's media behavior comprise an important dimension of what we call "household media orientation." Logically, rules about which media children and adolescents can use, how much they can use them, and what kinds of content they can access should affect media behavior (see, for example, Dorr & Rabin, 1995; Vandewater, Park, Huang & Wartella, in press). Moreover, even if explicit rules are not articulated, children may be aware of parents' comments about or behavior in relation to various aspects of media, hence may be influenced by "implicit" parental preferences. Because questions regarding explicit rules varied depending on the medium (TV, music, video games, and computers), because many questions were asked only of 7th- to 12th-graders, and because it makes sense to limit examination of results for video games and computers to only those youngsters with a video game console or a computer in their home, we summarize results for rules related to each of the media separately.

**TV rules.** When asked whether there are "any" family rules about TV viewing, 46% of 8- to 18-year-olds responded in the affirmative. As the age comparisons in Table 3-G show, the two younger age-groups are substantially more likely to report TV rules than are 15- to 18-year-olds. The negative relationship between rules and age is also clear in the responses of 7th- to 12th-graders to questions about specific types of rules. Not only do significantly fewer 15- to 18-year-olds than 11- to 14-year-olds report each kind of rule governing TV behavior, but the total

**TABLE 3-G**

### TV Rules

**Percentage of children with TV-related rules**

| | Rules of any kind | Rules about homework/ chores[1] | Rules about amount of time[1] | Rules about type of content[1] |
|---|---|---|---|---|
| **Total sample** | 46% | 36% | 14% | 13% |
| **Age** | | | | |
| 8- to 10-year-olds | 55[a] | NA | NA | NA |
| 11- to 14-year-olds | 51[a] | 46[a] | 18[a] | 18[a] |
| 15- to 18-year-olds | 31[b] | 28[b] | 10[b] | 8[b] |
| **Gender** | | | | |
| Boys | 45 | 39 | 15 | 14 |
| Girls | 46 | 34 | 12 | 12 |
| **Race/ethnicity** | | | | |
| White | 44 | 35 | 13 | 13 |
| African American | 43 | 34 | 8 | 7 |
| Hispanic | 52 | 42 | 19 | 15 |
| **Parent education** | | | | |
| High school | 40 | 33 | 9 | 10 |
| Some college | 45 | 39 | 15 | 12 |
| College or more | 48 | 37 | 16 | 14 |
| **Household income** | | | | |
| Under $35,000 | 47 | 38 | 11 | 14 |
| $35,000 – $50,000 | 47 | 40 | 17 | 13 |
| Over $50,000 | 42 | 31 | 12 | 12 |

[1] Among 7th- to 12th-graders only.

*Note: Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

percentage of older kids reporting specific rules is remarkably low. Fewer than 15% of 7th- to 12th-graders report controls on either amount of viewing or on what programs can be watched, while just over a third say that they are not allowed to watch TV until they have finished their homework and/or chores. We suspect this kind of "TV rule" is less about TV viewing than about fulfilling other, "more important" responsibilities.

There is, of course, the possibility that absence of TV rules among older kids does not necessarily mean there is no parental oversight. For example, 40% of students in 7th–12th grade indicate that their parents usually know what TV show they are watching (this is more likely to be reported by 11- to 14-year-olds (45%) than 15- to 18-year-olds (36%), but the difference is not reliable). The media use diaries kept by nearly 700 of the survey respondents indicate that about a third (32%) of young people's television viewing is done with their parents; while this is clearly only a minority of their viewing time, it represents a significant increase from 1999, when diary results indicated that parents watched with their 8-18 year-olds just five percent of the time. So perhaps, even in the absence of explicit rules, children's presumption of parental awareness may influence their viewing behavior. On the other hand, one other measure of parental involvement in children's TV behavior indicates that oversight is more the exception than the rule: according to the older kids, only 6% of parents of 7th- to 12th-graders use technology-based parental control devices to control their children's TV viewing.

**Fewer 8- to 18-year-olds live in homes where an** attempt is made to regulate media behavior than live in homes where no such attempt is made.

One of the more interesting results concerning explicit rules about TV viewing is the total lack of relationship between rules and any of the other demographic variables we have been considering. There were no significant differences in the proportion of kids saying they have explicit TV rules as a function of gender, race/ethnicity, parent education, or income. Of course, this may be an artifact of the age of our sample. Other studies that have found relationships either include or focus on much younger children (e.g., Roberts, et al., 1999; Vandewater, et al., in press). And finally, studies that report higher overall proportions of homes in which there are rules about TV viewing tend to be based on surveys of parents, not children (e.g., Stanger, 1997; Vandewater, et al., in press). We suspect that the actual percentage of homes in which rules are articulated may lie somewhere between estimates provided by parents and those provided by their offspring.[8]

**Music rules.** Very few parents exercise controls on the kinds of music to which their children may listen – at least once the child has reached junior high school age. Only 16% of the 7th- to 12th-graders to whom this question was posed indicate their parents impose such rules. Age emerged as a major predictor, with 22% of 11- to 14-year-olds and 11% of 15- to 18-year-olds admitting to such controls; no other demographic characteristic was related to explicit rules about music. Twenty percent (20%) of 7th- to 12th-graders say they have listened to music they know their parents would disapprove of – four percentage points more than say their family has music-related rules. Finally, 14% indicate that their parents look at the parental warning labels on music. Parental use of music warning labels is negatively related to age and positively related to parent education (see Appendix 3.4).

**Video game rules.** Eighty-three percent (83%) of the kids in our sample report that their family owns a video game console. Of these, 24% report rules in their home governing how long they can spend playing video games, and 21% say that there are rules governing which video games they can play. As with rules about TV and music, the likelihood of video game rules is negatively related to age. Rules regulating time are reported by 34% of 8- to 10-year-olds, 27% of 11- to 14-year-olds, and 11% of 15- to 18-year-olds (the latter differs significantly from the other two). Rules regulating which games can be played are reported by 32% of the youngest children, 25% of the middle group, and 5% of the oldest kids (again, the oldest group differs significantly from the two younger groups). Twelve percent (12%) of kids say they have played a game of which their parents would disapprove, and 17% (primarily 8- to 14-year-olds) say their parents check the ratings on their video games. The question concerning warning labels is the only item related to a characteristic other than age; as level of parental education increases, so too does the likelihood of checking video game ratings/warning labels (see Appendix 3.4).

**Computer rules.** Eighty-six percent (86%) of respondents in our sample have a computer in their home. Of these, 28% report rules about how much time they can spend on the computer, 32% say there are explicit rules about what they can do on the computer, and 30% say that their parents usually know what Web sites they access. Responses to each of these questions are negatively related to age. Significantly fewer 15- to 18-year-olds than either 8- to 10-year-olds or 11- to 14-year-olds report either rules or parental awareness (the two younger groups do not differ).

Parent education predicts two rules about computers. Parents who have completed college are more likely than parents who have completed no more than high school to control how long kids can use the computer and they are more likely to know what Web sites their kids are visiting; parents with some college fall between (see Appendix 3.4).

**Summing up media rules.** Fewer 8- to 18-year-olds live in homes where an attempt is made to regulate media behavior than live in homes where no such attempt is made. Less than half of the total sample reports TV rules of any kind. Among 7th- to 12th-graders, only 22% report rules about TV content or time (see Appendix 3.6). Of the kids with a video game console in their home, 24% report rules about video game content or time. Of those kids with a computer in their home, 35% report rules about computer content or time. Finally, just 16% of 7th- to 12th-graders report rules governing music content.[9] Of course, these percentages would likely be higher had we gathered information from younger children, because the incidence of parents attempting to regulate their children's media behavior decreases as children grow older. Nevertheless, even those questions that were posed to 8- to 10-year-olds produced little acknowledgement of media rules. Regardless of age, parental attempts to regulate media use once their children reach the middle grade school years are decidedly not the norm — at least according to the kids. On the other hand, substantial percentages of young people report that their parents usually know what kind of media content they are consuming (e.g., 40% for TV, 30% for Web sites), indicating that there may well be some kind of "implicit regulation" at work.

**Substantial percentages of young** people report that their parents usually know what kind of media content they are consuming (e.g., 40% for TV, 30% for Web sites), indicating that there may well be some kind of "implicit regulation" at work.

In spite of public concern about young people's exposure to "objectionable" media content (e.g., portrayals of sex and violence on TV, in video games, and on computer Web sites; see Kaiser Family Foundation, 2004), the percentage of parents with rules about content differs little from the percentage with rules about the amount of time their children spend with media. For example, 14% of 7th- to 12th-graders report rules governing how much TV they can watch, and 13% report rules governing what shows they can watch. Similarly, 23% of 7th- to 12th-graders with computers report controls on how much time they can spend on the computer and 23% report controls on what they can do on the computer.[10] And as we have noted, more than twice as many kids report rules governing homework or chores as report rules governing TV content. It is also interesting that a higher proportion of parents attempt to regulate computer content (32%) than either TV content (13%) or video game content (21%).[11]

Finally, the likelihood of having rules about media content is related to parent education — the only demographic characteristic other than age that predicts media rules. As level of parent education increases, so does the proportion of kids reporting family rules about which TV shows can be watched and about what kinds of things kids can do on the computer. Similarly, parent education is positively related to the likelihood that parents pay attention to ratings or warning labels associated with each of the media. In short, although attempts to regulate media behavior are not commonplace, it appears that parents with higher levels of education are somewhat more likely than those with less education to institute such policies.

**Household TV orientation.** Household TV orientation refers to the degree to which TV plays a central role in the home. Three items assess TV orientation. The first, taken from Medrich's work on "constant TV households" (Medrich, Roizen, Rubin, & Buckley, 1982), asks how often the TV is "on," even when no one is watching (response options include most of the time, some of the time, a little bit of the time, never). The second asks whether or not the TV is usually on during meals (Yes/No). The third item was the question covered in the preceding section asking whether there are "any" family rules about watching TV (Yes/No). Responses to these three items are presented separately, then combined to identify respondents who can be classed as coming from "high TV-orientation" homes.

Table 3-H summarizes findings for the three individual items and for the group identified as from high TV-orientation homes. TV is "usually on" in about half of kids' homes, and is on during meals in just over 60%. As noted earlier, slightly over half of 8- to 18-year-olds come from homes with no rules governing TV. None of our demographic variables is related to constant TV. However, the likelihood of a TV playing during meals is related to race/ethnicity, to parent education, and to household income. A higher percentage of African American than White kids report mealtime TV (Hispanic kids fall in between), a lower proportion of kids whose parents finished college than kids from either of the other two parent education groups report mealtime TV, and mealtime TV is less common among kids attending school in high income areas than among those in lower income areas.

**TABLE 3-H**

## Household TV Orientation

**Proportion of children with household TV habits at each level**

| | Constant TV | TV during meals | No TV rules | High TV orientation |
|---|---|---|---|---|
| **Total sample** | 51% | 63% | 53% | 25% |
| **Age** | | | | |
| 8- to 10-year-olds | 52 | 62 | 42[a] | 18[a] |
| 11- to 14-year-olds | 51 | 62 | 48[a] | 23[a] |
| 15- to 18-year-olds | 49 | 66 | 69[b] | 33[b] |
| **Gender** | | | | |
| Boys | 48 | 63 | 53 | 24 |
| Girls | 53 | 64 | 53 | 25 |
| **Race/ethnicity** | | | | |
| White | 50 | 59[a] | 55 | 24 |
| African American | 59 | 74[b] | 55 | 29 |
| Hispanic | 47 | 65[ab] | 47 | 22 |
| **Parent education** | | | | |
| High school | 56 | 70[a] | 59 | 31[a] |
| Some college | 46 | 67[a] | 55 | 26[ab] |
| College or more | 49 | 56[b] | 51 | 20[b] |
| **Household income** | | | | |
| Under $35,000 | 55 | 71[a] | 52 | 28 |
| $35,000 – $50,000 | 49 | 65[a] | 51 | 23 |
| Over $50,000 | 50 | 56[b] | 57 | 25 |

*Note: See page 18 for a definition of the categories used in this table. Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

We combined responses to the three TV-orientation questions to identify a group of kids from high TV-orientation homes, defined as those who answered "yes" to the constant TV question, "yes" to the mealtime TV question, and "no" to the question about TV rules. As the final column in Table 3-H shows, 25% of the sample falls into this classification. Two of our demographic variables predict the likelihood of a youth being classified as coming from a high TV-orientation home. First, 15- to 18-year-olds are significantly more likely than kids from either of the two younger groups to live in high TV-orientation homes. We attribute this result largely to the substantial drop in the percentage of older kids who report rules regarding their TV viewing. In other words, because older kids are less likely to report TV rules, they are more likely to be classified as from a high TV-orientation home. Second, kids whose parents completed no more than high school are significantly more likely than those whose parents completed college to live in a high TV-oriented household (those whose parents completed some college fall in between). In other words, the higher the level of parent education, the less likely the child is from a high TV-orientation home (see Appendix 3.3).

**Media orientation and personal media.** Later chapters examine the relationship between household media orientation and various media behaviors, such as the amount of time children spend watching or listening. Here we look at the relationship between household media orientation and young people's ownership of personal media. Table 3-I summarizes the proportion of young people with various personal media in relation to whether or not their family establishes either content-related or time-related rules about TV viewing, video game playing, or computer activities. We also examine kids' personal media ownership in relation to whether or not they live in high TV-orientation homes. Because both question wording and the number of response options for rules associated with each medium varied, direct comparisons among media are precluded. (For example, the proportion of kids with TV rules is not based on the same questions as the proportion of kids with computer or video game rules; therefore, the two should not be directly compared). Nevertheless, the highly similar patterns of personal media ownership that emerge when kids are divided into groups with and without rules are informative.

With one exception, a substantially higher proportion of young people claiming no rules than those with rules report that they have each of the personal media. The exception is handheld video game players. It is not surprising that a significantly lower proportion of kids from homes with TV rules have a TV in their bedroom, or that a significantly lower proportion of kids with computer rules have their own computer. (Similarly, fewer kids with video game rules than without have a video game console in their bedroom, but this difference is not statistically reliable). We would expect parental imposition of such rules to go hand-in-hand with regulation of unsupervised access (i.e., access in the privacy of child's room) to these media. More interesting, however, is that the presence or absence of rules concerning *any medium* tends to be related to the likelihood of personal possession of *other media*. Thus, kids from families with no rules about TV are not only more likely to have a TV in their bedroom, but they are also more likely to have VCR/DVD players, video game consoles, and telephones, and to have their own cell phones. The differences are not always statistically significant, but they are consistent. It appears that the tendency for parents to impose media rules of any kind locates a general tendency to be concerned about and involved in their children's overall media behavior, hence to be more resistant to letting their children possess their own personal media of any kind.

**TABLE 3-I**

## Media Rules and TV Orientation by Bedroom/Personal Media

| | TV | Video games | Computer[1] | VCR/DVD | Handheld video games | Telephone | Cell phone |
|---|---|---|---|---|---|---|---|
| **A. Percentage of 7th- to 12th-graders reporting bedroom and personal media, by media rules** | | | | | | | |
| **TV** | | | | | | | |
| No rules[2] | 73%[a] | 49% | 38% | 61%[a] | 48% | 49% | 54%[a] |
| Rules | 42[b] | 34 | 33 | 38[b] | 45 | 37 | 34[b] |
| **Video games**[3] | | | | | | | |
| No rules | 79[a] | 58 | 40 | 70[a] | 51 | 53 | 59[a] |
| Rules | 56[b] | 49 | 35 | 45[b] | 61 | 42 | 38[b] |
| **Computer**[4] | | | | | | | |
| No rules | 74[a] | 50 | 47[a] | 63[a] | 49 | 57[a] | 61[a] |
| Rules | 57[b] | 42 | 35[b] | 51[b] | 52 | 37[b] | 37[b] |
| **B. Percentage reporting bedroom and personal media, by household TV orientation** | | | | | | | |
| High TV orientation | 85%[a] | 59%[a] | 36% | 69%[a] | 57% | 50%[a] | 46%[a] |
| All others | 63[b] | 45[b] | 34 | 49[b] | 55 | 37[b] | 36[b] |

[1] Includes personal desktop computers and laptop computers.

[2] E.g., 73% of those with no TV rules have a TV in their bedroom; 42% of those with rules about TV have a TV in their room.

[3] Among those with a video game console in the home.

[4] Among those with a computer in the home.

*Note: Because questions about rules associated with each of the different media contained different wording and/or different numbers of response options, the proportions of kids with and without rules for different media are not comparable. Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

The relationship between media rules and possession of the two types of telephone is interesting. Although the overall pattern is for kids with no rules to be more likely to have a telephone of either kind, the differences are large and significant for the cell phone, but not for the landline telephone. Only families with computer rules control both types of phone; families with TV rules and video game rules control cell phones, but not landline phones. We can only speculate about the reason for this. One possibility is that the existence of rules about any medium is an indicator of a more general type of parental caution or unease concerning the independence that media (or perhaps technology in general) are providing kids. The high-tech newness of cell phones, the fact that they seem to promise young people even more independence from parental oversight than TV or computers, and recent claims that cell phones will soon do most of what a computer now does, may have all combined to make them seem more threatening and more in need of regulation than the more familiar landline telephone with which most parents grew up.

Finally, when the proportion of kids with various personal media is related to TV orientation, a pattern emerges that dovetails with the findings for media rules. As seen in the next-to-last row of Table 3-I, 85% of kids age 8–18 from high TV-orientation homes have a TV in their bedroom, compared to 63% of kids from all other homes. Similarly, in 69% of high TV-orientation households versus 49% of all other homes, children have a VCR/DVD in their bedroom. Although not included in Table 3-I, 84% of kids from high TV-orientation households and 70% of all others report three or more TVs in the household.[12] In addition, a higher proportion of youngsters from high TV-orientation homes than from other homes have a video game player in their bedroom (59% vs. 45%), and kids from high TV-orientation homes are significantly more likely to own both landline telephones (50% vs. 37%) and cell phones (46% vs. 36%). In short, high TV-orientation relates to kids' access to personal media in much the same way that lack of media rules does.

**Summing up the household media environment.** Young people in the U.S inhabit an environment that is not just media rich — it is media saturated. Most homes contain most media, and the typical home contains multiple instances of most media. A substantial majority of kids have personal media, both in their bedrooms and in highly portable forms that travel with them. Consistent with this abundance of personal media, a higher percentage of families do not attempt to regulate children's media behavior than try to implement any kinds of controls. And finally,

in at least half of U.S. homes, TV plays a central role in that it is usually on even when no one is watching, and in that it typically operates during mealtimes. Indeed, in 25% of U.S. kids' homes, the TV is usually on, is typically on during meals, and there are no parental attempts to control children's TV viewing. In light of such findings, it is difficult to conceive of when (or how) today's young people might avoid media and media messages, even if they wanted to limit their media exposure.

**Young people in the U.S. inhabit an** environment that is not just media rich — it is media saturated.

Media access and the household media environment vary depending on several demographic characteristics. Personal availability of most media generally increases as children get older; the exception is for video games, where availability decreases with age. More boys than girls report having their own video game console, computer, Internet connection, and TV. African American youths are somewhat more likely than White youths to have their own TVs and associated media (VCR/DVDs/DVRs, subscriptions to cable, satellite or premium channels), with Hispanic youths falling between. Degree of TV orientation tends to decline with level of parent education, while availability of computers and associated media tends to increase. Finally, the likelihood of having rules governing any kind of media behavior also increases with parent education and household income. The existence of rules pertaining to any particular medium may indicate a more general pattern of parental concern about unsupervised media use (or perhaps unsupervised child behavior of any kind).

Although household and personal media availability, media rules, and household TV orientation all vary substantially with socio-demographic characteristics, it is important to note that those characteristics locate relative differences. Even those socio-demographic groups that emerge in a particular analysis as having the *lowest* percentage of televisions, or radios, or video game consoles, or the highest proportion of rules about computer use typically provide children a lot of access and very little supervision. Simply their sheer availability makes media a ubiquitous part of all of our young people's lives.

# 4. USE OF INDIVIDUAL MEDIA

This chapter examines young people's exposure to each of the different individual media for leisure or recreational purposes (i.e., unless specifically indicated, time spent with media for school or for work is not included). For convenience, we have grouped similar media together. Subsections deal with screen media, print media, audio media, and interactive (digital) media. We begin with screen media, which includes TV, video recordings (both self-recorded and commercially produced videotapes or DVDs), and movies. This is followed by sections examining exposure to print media (books, magazines, and newspapers), audio media (radio, tapes, CDs, and MP3s), and interactive digital media (computers and video games). Within each of the groupings, we look at use of and exposure to each of the individual media, as well as overall use of that general type of medium. Thus, for example, in the following section we present results for TV, for video recordings, and for movies, as well as total exposure to all noninteractive screen media combined.

## Screen media

In spite of the growing presence and popularity of new, interactive communication technologies, older forms of screen media still dominate young people's media exposure. By "screen media" we mean TV, videos/DVDs (both self-recorded and commercially produced), and movies – that is, all audio-visual systems that deliver content that *does not* depend on *directive* responses from the viewer.[13]

Table 4-A illustrates that screen media are important to U.S. children. Average TV exposure among 8- to 18-year-olds exceeds three hours daily, and when all screen media are combined, average daily exposure climbs to 4¼ hours. TV dominates both in terms of the time it consumes (in excess of three hours) and in terms of the proportion of kids who watch in any given day (more than 80% of young people). Movies account for the lowest amount of daily screen exposure (0:25) because so few young people (13%) go to movies on any given day. Average daily exposure to videos and DVDs is just over 3/4 of an hour, with 42% of 8- to 18-year-olds watching some type of recording in a typical day.

Because of speculation that the emergence of DVRs and more easily operated VCRs might be changing the way kids watch TV by enabling much more convenient ways to time-shift shows, we also compared kids' exposure to self-recorded TV shows with exposure to commercially originated videos and DVDs.[14] We found that on any given day, 21% of U.S. kids watch a self-recorded program while 39% watch a commercially produced video or DVD. In line with these proportions, the same kids report 14 minutes daily spent watching self-recorded ("time-shifted") programs versus 32 minutes spent watching rented or purchased recordings.

Early adopters of the DVR engage in more time-shifting of TV programs. The 34% of our sample reporting a DVR in the home spend 22 minutes daily watching time-shifted TV programs, while those without a DVR watch prerecorded TV 11 minutes daily (the difference is significant). Perhaps more interesting, those with a DVR in the home watch real-time TV 3:33 daily compared to 2:46 per day for those without a DVR (the difference is significant). We suspect several factors play a role here. First, the increased ease of time-shifting that the DVR makes possible probably increases the amount of time-shifting that occurs. But perhaps equally important, it appears that early adopters of DVRs include a great many people who are particularly interested in TV; they tend to watch more TV, regardless of whether time-shifted or in real time.

Table 4-A also indicates that screen media exposure is related to age. In general, older kids report less exposure than younger kids. For example, adolescents age 15–18 watch almost 3/4 of an hour less TV daily than either of the two younger groups, a difference approaching statistical significance ($p.<.08$ in both cases). Older kids are significantly less likely to watch any TV on a given day, and less likely to spend more than one hour viewing TV. They are also less likely than 8- to 10-year-olds to spend time

**TABLE 4-A**

## Screen Media Exposure by Age

| Medium | 8- to 18-year-olds | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
|---|---|---|---|---|
| **A. Average daily use of each screen medium** | | | | |
| TV | 3:04 | 3:17 | 3:16 | 2:36 |
| Videos/DVDs | 0:47 | 0:53 | 0:46 | 0:44 |
| Movies | 0:25 | 0:31 | 0:23 | 0:21 |
| *All screen media* | 4:15 | 4:41[a] | 4:25[a] | 3:40[b] |
| **B. Proportion who used each screen medium the previous day** | | | | |
| TV | 81% | 86%[a] | 83%[a] | 73%[b] |
| Videos/DVDs | 42 | 53a | 42[b] | 34[b] |
| Movies | 13 | 15 | 13 | 12 |
| **C. Proportion who watched TV 1+ and 5+ hours the previous day** | | | | |
| More than 1 hour TV | 66% | 68%[a] | 71%[a] | 56%[b] |
| More than 5 hours TV | 20 | 23 | 22 | 17 |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

**TABLE 4-B**

## Screen Media Exposure by Race

| Medium | White | Black | Hispanic |
|---|---|---|---|
| **A. Average daily use of each screen medium** | | | |
| TV | 2:45[a] | 4:05[b] | 3:23[b] |
| Videos/DVDs | 0:45[a] | 1:00[b] | 0:44[b] |
| Movies | 0:17[a] | 0:48[b] | 0:29[c] |
| *All screen media* | 3:47[a] | 5:53[b] | 4:37[c] |
| **B. Proportion who used each screen medium the previous day** | | | |
| TV | 79% | 84% | 83% |
| Videos/DVDs | 40[a] | 51[b] | 44[ab] |
| Movies | 10[a] | 22[b] | 16[ab] |
| **C. Proportion who watched TV 1+ and 5+ hours the previous day** | | | |
| More than 1 hour TV | 64% | 74% | 69% |
| More than 5 hours TV | 17 | 31 | 23 |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

watching any kind of video recording. When all screen media are combined, the oldest adolescents report an hour less daily exposure than 8- to 10-year-olds, and ¾ of an hour less than 11- to 14-year-olds (both statistically significant differences).

In addition to variations related to age, substantial differences in exposure to screen media also emerge for race. Table 4-B reveals that African American youths are substantially more likely to use screen media on any given day, and that they spend more time with screen media (5:53) than either their Hispanic (4:37) or White (3:47) counterparts.

African American kids watch all screen media combined over an hour more per day than Hispanic kids, and over two hours more than White kids. The difference between White and Black kids is large and consistent across all screen media. African American kids average 1:20 more than White kids of daily TV exposure, 15 minutes per day more video/DVD exposure, and 31 minutes per day more with movies – all statistically significant differences. Average exposure for Hispanic kids typically falls between the other two groups (differing significantly from both only in average movie exposure). The overall result is that Hispanic kids differ significantly from both White and African American kids in total screen exposure, viewing more than White kids and less than Black kids. On any given day, significantly higher proportions of African American kids than White kids watch videos/DVDs and attend movies, with the proportion of Hispanic kids falling between these two groups. Interestingly, the proportion of kids from each racial category using TV on a given day does *not* differ significantly. Thus, although the three groups are equally likely to watch TV, average viewing times indicate that African American kids stay with it longer.

**Other things being equal,** race is related to substantial differences in the amount of exposure to screen media – especially TV.

Because differences in socioeconomic status also tend to be related to race and ethnicity, we further examined the race-based results (i.e., both the proportion of kids viewing TV the previous day and the average amount of daily TV exposure) within each level of parent education and income. In general, neither variable changed the overall patterns. That is, at each level of parent education and at each level of income, the proportion of kids from each race group reporting TV use the preceding day stayed relatively constant,[15] and the pattern of African American kids reporting the highest amount of TV exposure, Hispanic kids the second highest, and White kids the least, continued to hold. In short, socioeconomic differences play a relatively minor role in differences located by race/ethnicity. Other things being equal, race is related to substantial differences in the likelihood of using and in the amount of exposure to screen media, and as has been reported in several earlier studies, African American kids seem particularly attached to them – especially TV (cf. Roberts, et al., 1999; Roberts & Foehr, 2004; Tangney & Feshbach, 1988; also see Albarran & Umphrey, 1993; Blosser, 1988; Huston, Donnerstein, Fairchild, Feshback, Katz, Murray, et al., 1992).

### Box 4.1 Screen Media: 2004 vs. 1999

Screen media exposure has stayed remarkably constant over the past five years. In 1999, 8- to 18-year-olds reported 3:05 daily TV exposure and 4:04 daily exposure to all screen media combined. In 2004, the comparable numbers were 3:04 for TV exposure and 4:15 for daily screen exposure. The 11 minute, overall increase in exposure came entirely from small (nonsignificant) increases in amount of exposure to videos and DVDs (both prerecorded and commercially produced) and to movies. It is worth noting that occasional claims that computers and video games are drawing young people's attention away from screen media – especially TV – receive little support from our findings. As we shall see in Chapter 5, screen media in general and TV in particular account for about half of young people's total media exposure, a pattern that has changed little over the past five years.

**Young People's Exposure to Screen Media in 2004 and 1999**

| Screen medium | 2004 | 1999 |
|---|---|---|
| **A. Average daily use of each medium** | | |
| TV | 3:04 | 3:05 |
| Videos/DVDs | 0:47 | 0:42 |
| Movies | 0:25 | 0:18 |
| *All screen media* | 4:15 | 4:04 |
| **B. Proportion who used each medium the previous day** | | |
| TV | 81% | 85% |
| Videos/DVDs | 42 | 46 |
| Movies | 13 | 10 |

Unlike earlier studies that have reported negative relationships between TV and/or screen exposure and indicators of socioeconomic status (see, for example, Brown, et al., 1990; Roberts & Foehr, 2004; Schramm et al., 1961; Tangney & Feshbach, 1988), our data reveal no relationship between income and screen exposure, and somewhat surprisingly, a curvilinear relationship between parent education and screen exposure, with the lowest levels of screen exposure emerging for kids whose parents have some college education. Table 4-C shows that average amount of screen exposure among kids whose parents have the most education is highly similar to that among kids whose parents completed no more than high school, and kids whose parents have some college report significantly less exposure than kids whose parents completed college. Although the curvilinear pattern is not significant for individual media, kids whose parents completed college watch significantly more videos/DVDs and movies than do kids whose parents have less education. It should also be noted that the proportion of kids from each parent education subgroup who use each of the screen media on a given day do not differ significantly. Thus, while kids from all three parent education subgroups are equally likely to use screen media, those from the low- and high-education subgroups appear to watch for longer periods.

**TABLE 4-C**

## Screen Media Exposure by Parent Education

| Medium | High school | Some college | College or more |
|---|---|---|---|
| **A. Average daily use of each screen medium** | | | |
| TV | 3:12 | 2:48 | 3:03 |
| Videos/DVDs | 0:44$^{ab}$ | 0:42$^{a}$ | 0:51$^{b}$ |
| Movies | 0:26$^{ab}$ | 0:17a | 0:26$^{b}$ |
| *All screen media* | 4:23$^{a}$ | 3:46$^{b}$ | 4:20$^{a}$ |
| **B. Proportion who used each screen medium the previous day** | | | |
| TV | 82% | 75% | 81% |
| Videos/DVDs | 42 | 39 | 44 |
| Movies | 13 | 11 | 14 |
| **C. Proportion who watched TV 1+ and 5+ hours the previous day** | | | |
| More than 1 hour TV | 69% | 62% | 64% |
| More than 5 hours TV | 23 | 16 | 19 |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Gender locates no differences in the likelihood of using any of the three types of screen media on any given day, nor is it related to differences in amount of exposure.

**What they watch.** As noted in Chapter 2, our measure of TV viewing asked respondents to circle any shows they watched the previous day on "TV grids" (i.e., typical programming guides listing all shows available in a given area for each 30-minute timeslot the previous morning, afternoon, and evening). We classified the selected shows into one of 18 genres (see Appendix 2.3). Children's programs were further divided into two sub-categories – those conceived as children's "entertainment" programming (e.g., *Pokemon*, *Jackie Chan*) and those conceived as "educational" programming (e.g., *Sesame Street*, *The Magic School Bus*). Several of the predefined genres attract little or no youth viewing. We report results only for those program types that, on any given day, are viewed by at least 10% of one of the demographic subgroups we have been examining. Table 4-D presents the resulting list of 11 TV genres and the proportion of young viewers who watch each.

Situation comedy is the preferred type of TV program among young people, regardless of demographic characteristics. Thirty-seven percent (37%) of 8- to 18-year-olds watched at least one situation comedy the preceding day, and there is little variation in relation to age. Indeed, comedy is the only program genre that consistently attracts a third or more of young viewers regardless of age, gender, race or socioeconomic status.

Children's programming accounts for the next largest proportion of viewers, with 25% watching children's educational programming and 24% children's entertainment programming.

**TABLE 4-D**

## TV Genre Preferences by Age

**Of children who watched TV the previous day, the proportion viewing each type of programming**

| TV genres | 8- to 18-year-olds | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
|---|---|---|---|---|
| Comedy | 37% | 39% | 36% | 34% |
| Educational children's | 25 | 47[a] | 21[b] | 8[c] |
| Children's | 24 | 45[a] | 22[b] | 8[c] |
| Movie | 22 | 15[a] | 26[b] | 21[ab] |
| Reality | 17 | 12[a] | 17[ab] | 21[b] |
| Entertainment/variety | 16 | 7[a] | 22[b] | 17[b] |
| Drama | 15 | 12[a] | 13[a] | 22[b] |
| Sports | 12 | 9 | 14 | 13 |
| Documentary | 11 | 9 | 11 | 12 |
| Music video | 8 | 3[a] | 11[b] | 10[b] |
| News | 6 | 4[a] | 4[a] | 10[b] |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Attention to these program types, however, is highly related to age. In a typical day, just under half of 8- to 10-year-olds report viewing one or the other type of children's program, just over 20% of 11- to 14-year-olds view them, and fewer than 10% of 15- to 18-year-olds watch either kind. Of the remaining program types, one is selected by more than 20% of the total sample (movies are selected 22% of the time) and five more types are viewed by between 10% and 20% on any given day: reality (17%), entertainment/variety (16%), drama (15%), sports (12%), and documentary (11%). In general, young children (8- to 10-years-old) are less likely to view each of these genres than are their older counterparts, with some variation in whether they differ statistically from the middle or older age group (see Table 4-D). The two remaining program types, music videos and news, attract 8% and 6%, respectively, of 8- to 18-year-olds, with 10% or more of the 11- to 18-year-olds watching music videos and 10% of 15- to 18-year-olds watching news on a typical day.

Only three program types are related to any of the other demographic characteristics we have been examining (see Appendix 4.2). Gender accounts for two of the relationships. A substantially higher proportion of girls than boys watch situation comedies, and a substantially higher proportion of boys than girls watch sports. Finally, a significantly higher proportion of low-income children than either middle- or high-income children watch movies on TV.

### Print media

We assessed leisure (i.e., outside of school or work) print exposure by asking respondents how much leisure time they spent the previous day reading books, magazines, and newspapers. Table 4-E shows that books account for the most time, followed by magazines, with newspapers running a distant third. On any given day, 73% of kids spend at least a few minutes reading one of the three print media and 47% spend at least 30 minutes engaged in some kind of leisure reading. However, on any given day, no single print medium garners attention from as many as 50% of kids, and fewer than 20% read for pleasure more than an hour daily. The average daily time devoted to all leisure reading by 8- to 18-year-olds is 43 minutes, of which more than half is devoted to books (23 minutes) and a quarter to magazines (14 minutes). The remaining six minutes are spent with newspapers.

**TABLE 4-E**

## Print Media Exposure by Age

| Print medium | 8- to 18-year-olds | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
|---|---|---|---|---|
| **A. Average daily time with each print medium** | | | | |
| Books | 0:23 | 0:27 | 0:21 | 0:24 |
| Magazines | 0:14 | 0:12 | 0:15 | 0:13 |
| Newspapers | 0:06 | 0:04[a] | 0:05[a] | 0:07[b] |
| *All print* | 0:43 | 0:44 | 0:41 | 0:45 |
| **B. Proportion who read at least 5 minutes the previous day** | | | | |
| Books | 46% | 63%[a] | 44%[b] | 34%[c] |
| Magazines | 47 | 35[a] | 54[b] | 47[b] |
| Newspapers | 34 | 21[a] | 35[b] | 43[b] |
| *All print* | 73 | 73 | 75 | 71 |
| **C. Proportion who read 30 minutes or more the previous day** | | | | |
| Books | 30% | 40%[a] | 27%[b] | 26%[b] |
| Magazines | 22 | 16[a] | 25[b] | 21[ab] |
| Newspapers | 7 | 7 | 7 | 8 |
| *All print* | 47 | 51 | 48 | 43 |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Table 4-E also indicates that the likelihood of engaging in leisure reading is related to age in different ways for each of the individual print media but that, with one exception, amount of reading is not. Younger kids (8- to 10-year-olds) are less likely than the two older groups to have read either magazines or newspapers the previous day, but they are substantially more likely to have read books. Indeed, with each successive increase in age, both the proportion of kids who engage in leisure book reading and the proportion who read books for at least 30 minutes decreases significantly. We suspect this has to do with older children being required to read more for school, thus reducing the attractiveness or likelihood of additional reading for pleasure. Newspapers, to which kids devote relatively little time, produce the only statistically significant age differences in amount of lei-

**TABLE 4-F**

## Print Media Exposure by Parent Education

| Print medium | High school or less | Some college | College or more |
|---|---|---|---|
| **A. Average daily time with each print medium** | | | |
| Books | 0:17[a] | 0:23[ab] | 0:28[b] |
| Magazines | 0:11[a] | 0:14[ab] | 0:15[b] |
| Newspapers | 0:05[a] | 0:06[ab] | 0:07[b] |
| *All print* | 0:32[a] | 0:43[b] | 0:50[b] |
| **B. Proportion who read at least 5 minutes the previous day** | | | |
| Books | 42% | 40% | 49% |
| Magazines | 45 | 51 | 47 |
| Newspapers | 31 | 39 | 36 |
| *All print* | 71 | 74 | 75 |
| **C. Proportion who read 30 minutes or more the previous day** | | | |
| Books | 23%[a] | 27%[ab] | 35%[b] |
| Magazines | 17[a] | 27[b] | 22[ab] |
| Newspapers | 5 | 7 | 8 |
| *All print* | 39[a] | 50[ab] | 51[b] |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

sure reading. As they get older, kids spend more time reading the newspaper. When the different proportions and amounts of time associated with each print medium are combined, overall leisure reading time does not vary with age.

Level of parent education is strongly related to the amount of time devoted to leisure reading. Table 4-F reveals that both for overall leisure reading and for each of the individual print media, kids with college-educated parents spend substantially more time reading than those whose parents completed no more than high school; kids whose parents completed some college fall between. Interestingly, parent education is not related to the likelihood of engaging in at least a few minutes of leisure reading on any given day, but it strongly predicts the likelihood of reading for more than a few minutes. In particular, kids whose parents have no more than a high school education are significantly less likely than those whose parents have completed college to spend 30 minutes or more reading (the proportion of those whose parents completed some college falls in between). In other words, when young people whose parents have at least some college engage in leisure reading, they tend to read for extended periods of time; this is not the case for kids whose parents have less education.

Girls and boys are equally likely to engage in overall leisure reading and in reading of each of the three types of print media. However, girls devote significantly more time than boys to books (28 minutes vs. 19 minutes). Neither race nor income level predict differences in reading.

**TABLE 4-G**

## Audio Media Exposure by Age

| Audio medium | 8- to 18-year-olds | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
|---|---|---|---|---|
| **A. Average daily time with each audio medium** | | | | |
| Radio | 0:55 | 0:29[a] | 0:57[b] | 1:15[c] |
| CDs/tapes/MP3s | 0:49 | 0:30[a] | 0:45[b] | 1:09[c] |
| *Total audio* | 1:44 | 0:59[a] | 1:42[b] | 2:24[c] |
| **B. Proportion who listened at least 5 minutes the previous day** | | | | |
| Radio | 74% | 63%[a] | 78%[b] | 79%[b] |
| CDs/tapes/MP3s | 68 | 59a | 68[ab] | 75[b] |
| *Total audio* | 85 | 74a | 87[b] | 90[b] |
| **C. Proportion who listened more than one hour the previous day** | | | | |
| Radio | 21% | 8%[a] | 21%[b] | 30%[c] |
| CDs/tapes/MP3s | 18 | 10[a] | 16[a] | 29[b] |
| *Total audio* | 44 | 26[a] | 44[b] | 60[c] |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

In general, then, there is good news and bad news about leisure reading. Our data provide little support for claims that young people no longer engage in recreational reading. Three quarters of 8- to 18-year-olds report spending at least five minutes with one or another of the print media on any given day. On the other hand, fewer than a third spend more than 30 minutes with any one of the print media, fewer than half spend 30 minutes or more with all print media, and on any given day, only one-fifth devote more than an hour to leisure reading.

### Audio media

For the most part, audio media are synonymous with music media. Although our earlier study showed that kids devote a few minutes daily listening to news or to talk radio, and that younger children sometimes listen to recorded stories, for the most part listening to radio, tapes, CDs, and MP3s means listening to music (Roberts, et al., 1999), particularly among adolescents (also see Christenson & Roberts, 1998). Thus, we view time spent with radio, tapes, CDs, and MP3 players as almost synonymous with music exposure.

Average daily exposure to music and proportions of young people using each of the various audio media on any given day are summarized in Table 4-G. Clearly, music plays an important role in children's and particularly adolescents' lives. On any given day, 85% of U.S. 8- to 18-year-olds spend at least a few minutes listening to one of the audio media, and 44% spend in excess of an hour. U.S. kids average 1¾ hours per day with music media, with the time almost equally divided between radio and various recorded media (tapes, CDs, MP3s).

**TABLE 4-H**

## Audio Media Exposure by Gender

| Audio medium | Boys | Girls |
|---|---|---|
| **A. Average daily time with each audio medium** | | |
| Radio | 0:45[a] | 1:06[b] |
| CDs/tapes/MP3s | 0:44[a] | 0:54[b] |
| *Total audio* | 1:29[a] | 2:00[b] |
| **B. Proportion who listened at least 5 minutes the previous day** | | |
| Radio | 69%[a] | 80%[b] |
| CDs/tapes/MP3s | 63 | 72 |
| *Total audio* | 81 | 89 |
| **C. Proportion who listened more than 1 hour the previous day** | | |
| Radio | 15%[a] | 27%[b] |
| CDs/tapes/MP3s | 16 | 21 |
| *Total audio* | 38[a] | 51 |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Not surprisingly, music media grow in importance as children become older. For example, on any given day, 74% of 8- to 10-year-olds, 87% of 11- to 14-year-olds, and 90% of 15- to 18-year-olds spend at least a few minutes with audio media. Moreover, 60% of the oldest kids report spending more than an hour daily with audio media (and 24% listen in excess of three hours daily). The amount of time kids spend with radio, with recordings, and with all audio media follows suit. That is, music listening increases substantially with each increment in age, from an average of 0:59 for 8- to 10-year-olds, to 1:42 among 11- to 14-year-olds, to 2:24 by late adolescence.

Gender also locates substantial differences both in the likelihood of exposure to one of the music media and in the amount of time devoted to them. Table 4-H shows that slightly higher proportions of girls than boys report spending at least a few minutes each day with one of the audio media, and significantly higher proportions of girls than boys spend more than an hour with radio (12 percentage points more) and with all audio media combined (13 percentage points more). Consistent with differences in the proportion of girls and boys using audio media, girls also spend substantially more time with them. Girls listen 31 minutes more daily than boys (21 minutes more with radio and 10 minutes more with recordings), a pattern that largely replicates the findings from our earlier study (Roberts, et al., 1999).

Parent education is the only other variable related to audio exposure. The relationship is curvilinear and holds only for radio listening (see Appendix 4.4). That is, parent education locates no significant differences in the likelihood of a child listening to any of the audio media on a given day, nor is it related to the likelihood of listening for more than an hour. Moreover, amount of exposure to recordings is identical at all three levels of parent education (50 minutes daily). Only time spent with radio (hence with total audio) varies in relation to parent education; kids whose parents completed some college report the highest average exposure (1:10), kids whose parents completed college report the lowest (0:50 – a significant difference); and kids whose parents completed no more than high school fall between (0:58). Whatever the reason, youngsters in the middle education group tend to spend more time with radio.

Neither race nor income is related to the amount of audio media exposure. These patterns of audio exposure are similar to those found five years ago (cf. Roberts, et al., 1999).

**What they listen to.** Students in grades 7–12 who indicated that they had listened to tapes, CDs, and/or MP3s the previous day were also asked to indicate all of the types of music they had listened to. The list of possible music genres included Alternative Rock, Classic Rock, Classical, Country/Western, Gospel/Christian, Hard Rock/Heavy Metal, Jazz/Blues, Latin/Salsa, Rap/Hip Hop, Rave/Techno, Reggae, Rhythm and Blues/Soul, Ska/Punk, Soft Rock, Top 40, and Other.

Table 4-I presents the proportion of 7th- to 12th-graders who listened to each type of music for those genres that attracted at least 10% of one of the demographic categories we have been examining. Rap/Hip Hop account for most of adolescent music listening: on any given day, 65% of junior and senior high school kids reporting listening — over twice the portion that listens to any other single type of music. The next closest genre is Alternative Rock, listened to by 32% of young people on a typical day, followed by Hard Rock/Heavy Metal selected by 27%, and Ska/Punk named by 23% of adolescents. No other type of music attracts as much as 20% of the young audience in any given day. Classical, Jazz or Blues, and Latin or Salsa are named by fewer than 10% of young listeners, with the caveat that fully a third of Hispanic kids listen to Latin/Salsa on a typical day (see Table 4-I), and 13% of African American youth listen to Jazz or Blues.

Because it is such a strong predictor of music tastes, Table 4-I also includes the proportion of listeners for each music genre in relation to race. Rap/Hip Hop is the preferred music type among African American, Hispanic, and White youths by a wide margin, easily outdistancing any other genre within each of the three groups. Well over half of the young people in each of the three groups listen to Rap/Hip Hop (no other genre exceeds 40% listenership within any group), its selection more than doubles the next most popular type among African Americans and among

**TABLE 4-I**

## Music Genre Preferences

**Among 7th- to 12th-graders who listened to audio recordings the previous day, the proportion who listened to each genre**

| Music genres | Total | White | Black | Hispanic |
|---|---|---|---|---|
| Alternative Rock | 32% | 38%[a] | 9%[b] | 16%[b] |
| Classic Rock | 16 | 21[a] | 6[b] | 8[b] |
| Country/Western | 18 | 26[a] | 3[b] | 6[b] |
| Gospel/Christian | 11 | 10[a] | 19[ab] | 4[b] |
| Hard Rock/Metal | 27 | 33[a] | 7[b] | 20 |
| Jazz/Blues | 8 | 7 | 13 | 5 |
| Latin/Salsa | 8 | 2[a] | 2[a] | 33[b] |
| Rap/Hip Hop | 65 | 60[a] | 81[b] | 70[ab] |
| Rave/Techno | 13 | 12 | 6 | 8 |
| Reggae | 14 | 9[a] | 24[b] | 17[ab] |
| Rhythm & Blues/Soul | 12 | 5[a] | 33[b] | 11[b] |
| Ska/Punk | 23 | 29[a] | 6[b] | 14[b] |
| Soft Rock | 12 | 12 | 6 | 9 |
| Top 40 | 17 | 18 | 11 | 13 |

*Note: Respondents checked all types of music to which they listened; therefore, columns total to more than 100%. Does not include radio listening. Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Hispanic kids, and it is chosen by a full 22 percentage points more White kids than its next closest competitor.

Although Rap/Hip Hop is the most popular genre among all three ethnic groups, African Americans are still significantly more likely than Whites or Hispanic kids to listen to it. Over three-quarters of African American kids report listening to Rap/Hip Hop (81%), vs. 60% of Whites and 70% of Hispanics. In addition to Rap/Hip Hop, African American teens listen significantly more than White or Hispanic kids to genres dominated by Black performers and expressive of Black culture. In addition to Hip Hop, on any given day a third of African American kids report listening to Rhythm and Blues or Soul, and a quarter listen to Reggae. Moreover, the next two most selected music types, Gospel/Christian (19%) and Jazz or Blues (13%) are also heavily influenced by African American performers and culture. In short, Black youth's music listening focuses heavily on those genres generally though of as "Black music."

White teens, on the other hand, tend to spread their listening across a broader range of music types. At least 10% of White teens listen to one of ten different genres on a typical day. In addition to Rap/Hip Hop, White kids tend to focus on various subcategories of Rock:[16] Alternative Rock (38%), Hard Rock/Heavy Metal (33%), Ska/Punk (29%), Classic Rock (21%), Rave/Techno (12%), and Soft Rock (12%). Over a quarter (26%) listen to Country/Western, 18% choose Top 40, and 10% select Gospel/Christian.[17]

Finally, Hispanic kids' listening, while not as varied as that of White kids, seems more diverse than that of African American kids, and in some ways more eclectic than the choices of either of the other two groups. Eight different music types were listened to by at least 10% of Hispanic teens. After Rap/Hip Hop, Latin/Salsa is the most popular type of music, chosen by a third of Hispanic kids on a typical day. These two genres are joined by two other music types reflecting Black culture (Reggae: 17%; Rhythm and Blues: 11%), and by four "White" music genres (Hard Rock/Heavy Metal: 20%; Alternative Rock: 16%; Ska/Punk: 14%; Top 40: 13%). In other words, with the exception of Rap/Hip Hop, the dominant favorite of kids from all three race groups, African American kids tend to listen to Black music, White kids tend to listen to White music, and Hispanic kids tend to listen to all kinds of music – Latin, Black, and White, much the same pattern noted in our earlier report (Roberts, et al., 1999).

Somewhat surprisingly, gender locates very few differences in music tastes. Contrary to Warner's (1984) suggestion that the music industry might well junk its current taxonomy in favor of a system that distinguishes simply between music with "male appeal" (characterized by music with a hard, raw-edged sound) and "female appeal" (softer types of popular music), and to a number of studies from the 1980s and 1990s that seemed to support this proposition, we found only two music types to which significantly different proportions of boys and girls listen: Country/Western, named by 13% of boys and 22% of girls, and Top 40, named by 12% of boys and 22% of girls. Although higher proportions of boys than girls listen to Alternative Rock and Heavy/Metal (two genres with a "hard sound"), more girls than boys name Ska/Punk (another hard-edged sound), and none of the differences is statistically significant.

### Interactive media

The term interactive media includes both computers and video games – the two interactive platforms about which we asked questions. This section examines young people's use of computers and video games separately. However, given strong similarities between games played on either of the two platforms, we also look at overall use of interactive games (i.e., combining computer-based games and other video games).

**Computers.** Our examination of young people's time spent using a computer is limited to *recreational* computer use; time spent using a computer for school or for work-related activity *is not* included. Respondents were asked to estimate how much time they spent the previous day using a computer for each of six (recreational) activities: playing games (including

### Box 4.2 Computer Use: 2004 vs. 1999

A combination of increased access to computers and the emergence of new, highly popular computer activities has resulted in more than a doubling of the amount of time U.S. kids spend with computers compared with the previous five years. As noted in Chapter 3, in 1999, 73% of 8- to 18-year-olds reported a personal computer in their home; today, 86% report in-home access to a PC. Similarly, the 21% of 8- to 18-year-olds who reported having a computer in their bedroom in 1999 has now grown to 35% reporting either a bedroom computer or their own laptop. At the same time computer penetration has increased, so too have the computer activities that attract young people. Five years ago we did not ask about time spent playing games online, about various graphics programs or about time spent instant messaging. Since then, each of these activities has begun to claim substantial computer time from kids. The result is that the average amount of time young people devote to various computer activities has climbed from 0:27 daily to 1:02 daily (the proportion of kids using a computer at all has grown from 47% to 54%, and the proportion using a computer for more than an hour has climbed from 15% to 28%).

The following table reveals that only two computer activities, visiting chat rooms and sending e-mail, have remained fairly constant in terms of the time devoted to them. Time spent visiting Web sites has doubled (from seven to 14 minutes daily). Time spent with computer games has increased from 0:12 in 1999 to 0:19 in 2004, a change that we believe is at least partly a result of increased availability of online, multiplayer games. And perhaps most striking, a computer activity that did not warrant a question five years ago now claims as much time as visiting chat rooms (working with graphics programs = 0:04), and an activity that barely existed among kids five years ago now ranks as the second most time-consuming computer activity (instant messaging = 0:17).

**Young people's use of computers in 2004 and 1999**

| Computer activity | 2004 | 1999 |
|---|---|---|
| Playing games | 0:19‡ | 0:12 |
| Visiting Web sites | 0:14‡ | 0:07 |
| Visiting chat rooms | 0:04 | 0:05 |
| E-mail | 0:05 | 0:04 |
| Instant messaging | 0:17 | NA |
| Graphics | 0:04 | NA |
| *Total computer time* | 1:02‡ | 0:27 |

‡ Differs statistically from the average time spent in 2004. Data are for recreational computer use only.

online games),[18] visiting Web sites, visiting chat rooms, sending/receiving e-mail, instant messaging, and using some form of computer graphics (e.g., Powerpoint, photo editing, design). Total computer time is the sum of each youngster's estimate for each individual activity.[19]

Table 4-J summarizes the average amount of time devoted to each computer activity and the proportion of kids engaged in each activity, both for the total sample and for each of three age groups. Slightly over half of U.S. 8- to 18-year-olds (54%) report using the computer for recreational purposes on any given day, and 28% report spending more than one hour daily engaged in recreational computer use. The result is that U.S. kids average just over an hour per day using the computer for recreational purposes (1:02) of all kinds, more than doubling the 27 minutes per day reported in 1999 (Roberts, et al., 1999; Roberts & Foehr, 2004). Box 4.2 further examines changes in computer time from 1999 to 2004.

**TABLE 4-J**

## Computer Use by Age

| Medium | 8- to 18-year-olds | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
|---|---|---|---|---|
| **A. Average daily time with each computer activity** | | | | |
| Games | 0:19 | 0:20 | 0:17 | 0:19 |
| Web sites | 0:14 | 0:08[a] | 0:13[b] | 0:19[c] |
| Chat rooms | 0:04 | 0:03 | 0:04 | 0:03 |
| E-mail | 0:05 | 0:02[a] | 0:05[b] | 0:06[b] |
| Instant messaging program | 0:17 | 0:03[a] | 0:18[b] | 0:27[b] |
| Graphics | 0:04 | 0:02[a] | 0:04[b] | 0:05[b] |
| *Total computer* | 1:02 | 0:37[a] | 1:02[b] | 1:22[c] |
| **B. Proportion engaging in each activity the previous day** | | | | |
| Games | 35% | 37% | 37% | 29% |
| Web sites | 34 | 21[a] | 34[b] | 45[c] |
| Chat rooms | 10 | 8 | 11 | 9 |
| E-mail | 25 | 11[a] | 26[b] | 36[c] |
| Instant messaging program | 26 | 10[a] | 26[b] | 39[c] |
| Graphics | 12 | 9 | 13 | 14 |
| *Any computer use* | 54 | 42[a] | 55[b] | 61[b] |
| **C. Proportion who used a computer more than 1 hour the previous day** | | | | |
| *Any computer use* | 28% | 18%[a] | 26%[b] | 37%[b] |

*Note: Data are for recreational computer use only. Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Games account for 19 minutes of computer time daily, followed by instant messaging (17 minutes), and visiting Web sites (14 minutes). Sending e-mail, visiting chat rooms, and using some form of computer graphics, each account for no more than five minutes daily, on average. Just over one-third of U.S. kids report spending at least a few minutes playing games or visiting Web sites on any given day. Perhaps more interesting, a quarter of young people use instant messaging programs daily.

Both overall amount of recreational computer use and various individual computer activities also vary with age (see Table 4-J). Total time spent with the computer increases substantially with each successive age increment, from 0:37 among 8- to 10-year-olds, to 1:02 among 11- to 14-year-olds, to 1:22 among 15- to 18-year-olds. Not surprisingly given such increases in average time spent, the proportion of kids devoting any time to recreational computer activities and the proportion devoting more than an hour is also positively related to age.

The significant increment in overall computer time as age increases is mirrored in the averages for Web sites and instant messaging. A similar pattern emerges for e-mail and computer graphics, with the caveat that the two older age groups do not

**TABLE 4-K**

## Computer Use by Gender

| Activity | Boys | Girls |
|---|---|---|
| **A. Average daily time with each computer activity** | | |
| Games | 0:22[a] | 0:15[b] |
| Web sites | 0:12[a] | 0:16[b] |
| Chat rooms | 0:03 | 0:04 |
| E-mail | 0:04[a] | 0:06[b] |
| Instant messaging program | 0:14[a] | 0:20[b] |
| Graphics | 0:04 | 0:03 |
| *Total computer* | 1:00 | 1:04 |
| **B. Proportion engaging in each activity the previous day** | | |
| Games | 38% | 31% |
| Web sites | 34 | 33 |
| Chat rooms | 9 | 10 |
| E-mail | 20[a] | 31[b] |
| Instant messaging program | 23 | 29 |
| Graphics | 12 | 13 |
| *Any computer use* | 53 | 54 |
| **C. Proportion who used a computer more than 1 hour the previous day** | | |
| *Any computer use* | 27% | 28% |

*Note: Data are for recreational computer use only. Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

differ from each other. Neither time spent in chat rooms nor time spent playing computer games is related to age; chat rooms receive a few minutes from each age group and computer games are consistently popular with all age groups.

Boys and girls are equally likely to use a computer on any given day, and they devote similar amounts of time to computer activities. With the exception of e-mail, which attracts a higher proportion of girls on any given day, the two genders are also equally likely to devote at least a few minutes per day to each of the various computer activities. However, as Table 4-K shows, the two genders distribute most of their computer time quite differently. Boys spend significantly more time than girls with games; girls spend significantly more time than boys visiting Web sites, using e-mail, and instant messaging. We suspect that much of the difference is attributable to the greater social orientation generally manifested by girls, leading them to make more use than boys of the social capabilities of the computer.

**Video games are clearly gender-typed.**
Boys are much more likely than girls to play video games on any given day.

White youths are significantly more likely to use a computer (57%) than either African American (44%) or Hispanic (47%) youths on any given day (see Appendix 4.6). However, there is no reliable difference in the amount of time kids from the different race groups spend with the computer (Whites = 1:02; African Americans = 0:52; Hispanics = 0:54) Differences in specific computer activities related to race emerge only for Internet games and instant messaging. Significantly fewer African American kids (14%) than White or Hispanic kids (25% and 27%, respectively) play Internet games. Similarly, significantly fewer African American kids (15%) than White kids (29%) use instant messaging on any given day (23% of Hispanic kids use instant messaging). Not surprisingly, then, African American kids spend substantially less time each day than Whites engaged in instant messaging (4 minutes vs. 19 minutes), with Hispanic kids again falling between (14 minutes).

The likelihood of using a computer on any given day is related to both of our measures of socioeconomic status (see Appendix 4.6). Forty-seven percent (47%) of kids whose parents completed no more than a high school education, compared to 51% of those whose parents completed some college, and 62% of those whose parents completed college report using a computer the previous day (the lowest and highest parent education groups differ significantly). Similarly, 47% of kids classified as low income, 50% of those classified as middle income, and 63% of those classified as high income, used a computer the preceding day. Amount of time spent with the computer, however, is related only to level of parent education. Kids whose parents finished college spend 17 minutes more daily than kids whose parents completed no more than high school using a computer (1:12 vs. 0:55, respectively). As the tables in Appendix 4.6 show, kids classified as high income spend a bit more time visiting Web sites, sending e-mail, and instant messaging.

**Video games.** We asked separate questions about console video games (i.e., games played on a device connected to a TV such as an X-box, GameCube, or PlayStation), and handheld video games. Interestingly, video game use is related to all but one of our demographic indicators; only income fails to predict video gaming. Table 4-L summarizes the results for console and handheld games and for total time spent with video games both for the entire sample and for each of the separate age groups we have been examining. Just over half (52%) of 8- to 18-year-olds play some kind of video game on an average day, with 41% reporting that they use a video game console and 35% a handheld video game. The result is that U.S. kids spend 49 minutes daily playing video games of one kind or another, with console games garnering roughly twice the amount of time as handheld games.

**TABLE 4-L**

## Video Game Exposure by Age

| | 8- to 18-year-olds | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds |
|---|---|---|---|---|
| **A. Average daily time with video games** | | | | |
| Console | 0:32 | 0:42[a] | 0:32[a] | 0:23[b] |
| Handheld | 0:17 | 0:23[a] | 0:20[a] | 0:10[b] |
| *Total video games* | 0:49 | 1:05[a] | 0:52[a] | 0:33[b] |
| **B. Proportion using each type of video game the previous day** | | | | |
| Console | 41% | 51%[a] | 44%[a] | 29%[b] |
| Handheld | 35 | 42[a] | 40a | 23[b] |
| *Total video games* | 52 | 59[a] | 57a | 39[b] |
| **C. Proportion who play video games more than 1 hour per day** | | | | |
| Console | 13% | 15% | 13% | 10% |
| Handheld | 6 | 8 | 7 | 4 |
| *Total video games* | 22 | 27[a] | 23[a] | 15[b] |

*Note: Only those items in each row that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Video gaming is negatively related to age. Table 4-L indicates that substantially fewer 15- to 18-year-olds (39%) than either 8- to 10-year-olds (59%) or 11- to 14-year-olds (57%) use video games on any given day, and that they spend significantly less time using games (there is no significant difference in the proportion of the two younger age-groups that use video games nor in the amount of time devoted to them).

Video games are clearly gender-typed. Boys are much more likely than girls to play video games on any given day (63% vs. 40%, respectively), and to spend more than an hour daily with video games (31% vs. 11%). Boys spend almost three times as much time as girls playing video games (1:12 vs. 0:25). Although boys dominate both kinds of games, the gender difference is larger for console games than handheld games. That is, twice the proportion of boys than girls play console video games (55% vs. 27%), while the difference for handheld games is only 10 percentage points (40% vs. 30% for boys and girls, respectively). Similarly, boys spend triple the time that girls spend playing console games (48 minutes vs. 14 minutes), but just double the time for handheld games (24 minutes vs. 11 minutes) (see Appendix 4.8).

African American kids are more likely than White kids to play handheld video games, and to spend substantially more time playing either kind of game. Hispanic kids consistently fall between, not differing significantly from either of the other two race groups (see Appendix 4.8).

Finally, of our two socioeconomic indicators, only parent education is related to video gaming. That relationship is curvilinear, with kids whose parents completed some college reporting significantly less time with video games than either kids whose parents completed no more than high school or those whose parents completed college (see Appendix 4.8).

**TABLE 4-M**

## Total Interactive Game Playing

| | Average time | Proportion playing any video or computer game | Proportion playing 1+ hours |
|---|---|---|---|
| **Total sample** | 1:08 | 59% | 30% |
| **Age** | | | |
| 8- to 10-year-olds | 1:25[a] | 65[a] | 34[a] |
| 11- to 14-year-olds | 1:09[a] | 63[a] | 31[ab] |
| 15- to 18-year-olds | 0:52[b] | 49[b] | 24[b] |
| **Gender** | | | |
| Boys | 1:34[a] | 68[a] | 41[a] |
| Girls | 0:40[b] | 51[b] | 18[b] |
| **Race** | | | |
| White | 1:03[a] | 61 | 28 |
| Black | 1:26[b] | 60 | 37 |
| Hispanic | 1:10[c] | 55 | 29 |
| **Parent education** | | | |
| High school or less | 1:09[a] | 59[ab] | 30 |
| Some college | 0:50[b] | 52[a] | 24 |
| College graduate | 1:16[a] | 63[b] | 31 |
| **Income** | | | |
| Under $35,000 | 0:59 | 58[ab] | 31 |
| $35,000 – $50,000 | 1:09 | 56[b] | 28 |
| Over $50,000 | 1:13 | 65[b] | 30 |

*Note: Includes both computer games and video games. Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

**Overall interactive game playing.** Although the delivery systems vary, a good case can be made that in the eyes of most young people, there is little or no difference between computer games and video games. Indeed, many of the same games are played on each platform and the game experience is highly similar regardless of whether a game is played on a computer or a video game console. For this reason we also examine overall interactive game playing, combining kids who play either computer games and/or video games.

The summary of interactive game playing presented in Table 4-M indicates that 59% of the sample play some kind of interactive game on any given day (27% play only video games, 7% play only computer games, and 25% play both kinds of games), and that 30% play for more than an hour. The end result of combining time spent with computer games and video games into a

measure of total interactive gaming is to reveal that interactive games consume more than an hour daily of U.S. 8- to 18-year-olds' time. As with computer games and video games considered separately, time spent with interactive games decreases as youngsters grow older, boys spend more time than girls with interactive games, and African American kids spend more time than White kids with interactive games. The same curvilinear relationship found between video game playing and parent education (i.e., children whose parents completed some college play video games less than those whose parents had no more than a high school education and than those whose parents completed college) also emerges for interactive games overall. It appears, then, that many young people do not limit themselves to just one kind of interactive game platform, and that when all interactive gaming is taken together, gaming occupies a substantial portion of U.S. children's media time (see Chapter 5).

Given these findings for each of the individual media, the next chapter turns to patterns in overall media use.

# 5. OVERALL MEDIA TIME

This chapter examines young people's overall media time in three ways. First, we combine the amount of exposure to the various individual media considered in Chapter 4 to produce an estimate of overall media *exposure*. Second, we present an estimate of overall media *use* — that is, an estimate of the amount of "person-hours" devoted to media that takes into account the time young people spend using two or more media simultaneously. Third, we look at how young people distribute their media time among the various individual media, presenting media *budgets* in terms of the proportion of all media exposure devoted to each individual medium.

## Media exposure vs. media use

The overall amount of time young people devote to media can be examined in two ways. The first, which we refer to as "media exposure," sums the amount of time kids spend with each individual medium to obtain an estimate of total exposure to media content (i.e., total content hours). Thus, one hour of TV viewing and one hour of reading equals two hours of exposure to media content. Our tally of overall media exposure sums leisure time spent with screen media (TV, videos, movies), audio media (radios, tapes, CDs, MP3s), print media (books, newspapers, magazines), computers (including using the computer for games, e-mail, instant messaging, chat rooms, Web-surfing, and graphics), and video games (both console-based and handheld). This approach is similar to procedures employed by several previous studies that have attempted to estimate children's overall media time (e.g., Greenberg, Ku & Li, 1989; Maccoby, 1951; Schramm, Lyle & Parker, 1961; also see Roberts, et al., 1999). It provides a reasonable estimate in units of time of the amount of media content to which children and adolescents are exposed.

Simply summing the amount of exposure reported for each individual medium is not, however, an accurate assessment of how much of young people's time is devoted to using media, because it fails to account for time that young people use two or more media simultaneously. Although not a new behavior, simultaneous use of multiple media is a practice that appears to be increasing substantially. Today's young people frequently use two, three, or more media at the same time; they read while listening to music or watching TV; they engage in instant messaging while listening to the news, playing a computer game, and chatting on the phone. Thus, what shows up as two or more hours of media exposure, may represent only a single hour that an individual *uses* media (e.g., one hour of reading while simultaneously listening to music). To give another example, imagine a teenager who spends two hours watching just TV, one hour reading and listening to music simultaneously, and another hour playing a video game while streaming music on her computer. Her total media *exposure* would be six hours (TV = 2; music = 2; reading = 1; video gaming = 1). However, her media *use* (i.e., the number of actual hours of the day that she devotes to media) would be four hours (TV = 2; music + print = 1; video games + music = 1). Typically, then, estimates of young people's total media use are lower than estimates of their media exposure because the latter double-counts (in some instances triple- or quadruple-counts) overlapping use. A more valid estimate of media use, then, is achieved by adjusting total exposure by some estimate of the proportion of time kids spend using more than one medium simultaneously.[20]

Fortunately, the supplemental diary completed by 694 respondents from the larger sample provides us with a means to make such an adjustment. A diary question asking young people to indicate whenever they used two or more media simultaneously (see Chapter 2) gives a means to calculate the proportion of time each individual in the sample spends using two or more media. These proportions can be averaged for the entire sample (and/or for any subgroup of interest), then used to adjust media exposure estimates by the proportion of time devoted to multiple media, giving an estimate of the actual amount of time kids use media — that is, "media use."

**Overall media exposure.** The first column in Table 5-A reveals that a typical 8- to 18-year-old is exposed to 8½ hours of recreational media content daily. Of course, as with time devoted to each individual medium, overall exposure varies in relation to some demographic characteristics. Youngsters whose parents completed some college report significantly lower levels of exposure than those whose parents completed college (kids whose parents completed high school fall between), and African American kids' overall media exposure is substantially higher than that of White kids (Hispanic kids fall between). That said, perhaps the most noteworthy statement to be made about exposure amounts is that they are high and are relatively consistent across subgroups. If young people were using only one medium at a time, then regardless of age, gender, race, or socioeconomic classification, each day most U.S. kids would be exposed to media messages totaling more than a full, adult work-day's worth (with no time out for lunch or breaks).

**Media use.** As noted earlier, however, large numbers of U.S. kids *do not* limit themselves to one medium at a time. For example, when asked how often when watching TV, they *also* listen to music, read, or use a computer, 53% of 7th- to 12th-graders responded either "most of the time" (24%) or "some of the time" (29%). Similarly, 58% of kids report media multitasking most of the time or some of the time when reading, 63% when listening to music, and 65% when using a computer. Moreover, the proportion of kids who say they "never" use other media in response to these questions ranges from a low of 12% when listening to music to a high of 19% when watching TV (see Appendix 7.3).

Not surprisingly then, the picture of kids' media time changes substantially when we turn from media *exposure* to media *use*. Calculation of the proportion of time youngsters in each of the various demographic groups spend using two or more media at any time produces the figures in the second column of Table 5-A.[21] Using those proportions to reduce total exposure estimates, we obtain the estimates of media use time (i.e., person-hours) displayed in the third column of Table 5-A.

Several points about media exposure vs. media use comparisons deserve comment. First, as the proportions in Table 5-A illustrate, 8- to 18-year-olds spend a full quarter of their media time using two or more media at the same time. Second, depending on the demographic subgroups under consideration, the proportion of time during which kids use two or more media simultaneously varies a good deal, from a low of 20% (for youths whose parents completed some college) to a high of 42% (for youths attending school in zip codes where the median yearly income is under $35,000).[22] Third, our estimate of the amount of time young people use media (6:21) each day is much lower than the amount of daily *exposure* to media content they report (8:33) — a difference of more than two hours. It is also noteworthy that several of the relationships between various demographic variables and media exposure differ substantially from those between the same demographic variables and media use. For example, the more than 2¼ hour difference between White and Black kids in media exposure is reduced to just 15 minutes when we look at media use. Conversely, while the largest difference in exposure in relation to income is 12 minutes (i.e., low-income exposure = 8:40; middle-income exposure = 8:28), the media use estimate produces a difference in relation to income of 1:42 (i.e., low-income media use = 5:02; high-income media use = 6:44), and indicates that although low-income kids are highest in media exposure, they are lowest in media use. The difference for expo-

**TABLE 5-A**

## Total Media Exposure and Total Media Use

| | Total exposure | Multitasking proportion | Media use[1] |
|---|---|---|---|
| **Total sample**[2] | 8:33 | 26% | 6:21 |
| **Age** | | | |
| 8- to 10-year-olds | 8:05 | 27% | 5:52 |
| 11- to 14-year-olds | 8:41 | 25% | 6:33 |
| 15- to 18-year-olds | 8:44 | 25% | 6:31 |
| **Gender** | | | |
| Boys | 8:38 | 26% | 6:21 |
| Girls | 8:27 | 25% | 6:19 |
| **Race** | | | |
| White | 7:58[a] | 21% | 6:15 |
| Black | 10:10[b] | 36% | 6:30 |
| Hispanic | 8:52[a] | 27% | 6:30 |
| **Parent education** | | | |
| High school or less | 8:30[ab] | 31% | 5:54 |
| Some college | 8:02[a] | 20% | 6:26 |
| College graduate | 8:55[b] | 25% | 6:42 |
| **Income** | | | |
| Under $35,000 | 8:40 | 42%[a] | 5:02 |
| $35,000 – $50,000 | 8:28 | 24%[ab] | 6:25 |
| Over $50,000 | 8:34 | 22%[b] | 6:44 |

[1] Media use estimates are obtained by adjusting the exposure time for each demographic group by the proportion of time that the group reported multitasking in the TV diary. Differences in media use cannot be tested for statistical significance because adjustments are based on average proportions for groups of youngsters obtained from the diary data.

[2] For columns one and three, "total sample" refers to all 2,032 7th through 12th graders surveyed. For column two, "total sample" refers to the entire group of 694 students who completed the media use diary.

*Note: Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

sure is not statistically significant, and the difference for media use cannot be tested for statistical significance because adjustments are based on average proportions for groups of youngsters obtained from the diary data. Statistical tests aside, however, the point is that the ordinal ranking of these kids is totally reversed when we move from media exposure to media use.

Perhaps the most noteworthy finding to emerge from the media exposure/media use comparison, however, is that while media exposure seems to be increasing over time, media use is holding fairly constant. This may be an indication that we are approaching (or have reached) a ceiling on media use. Table 5-B, which brings together data from 2004 and 1999 (cf. Roberts, et al., 1999; Roberts & Foehr, 2004), illustrates this point. It summarizes estimates of overall media exposure and overall media use from both 1999 and 2004, as well as estimates of exposure to each of the individual media examined in Chapter 4. Table 5-B shows an increase from 1999 to 2004 in overall media exposure of more than one hour, with most of that increase attributable to time spent with newer communication media, especially computers. That is, amount of exposure to TV, print, and audio remains almost identical across the five-year span. Exposure to "other" screen media (videos, DVDs, movies) increases by 12 minutes, seven of which are accounted for by greater time spent with movies. Exposure to computers, on the other hand, increases by 35 minutes and time devoted to video games increases from 26 minutes to 49 minutes.[23] As noted in Chapter 4, exposure times for computers, video games and "other" screen media are not strictly comparable because the 2004 questionnaire included items about media and media activities not covered in 1999 (e.g., handheld video games, instant messaging, DVRs). However, just as these items were not included in the calculation of media exposure in the earlier study, neither were they included in the calculation of the time spent media multitasking. Thus, we think it is striking that an increase of more than one hour in media exposure translates to an increase of just two minutes in media use.

**TABLE 5-B**

## Comparisons Over Time of 8- to 18-year-olds' Media Exposure and Media Use

| Medium | 2004 | 1999 |
|---|---|---|
| TV | 3:04 | 3:05 |
| Videos/DVDs/movies | 1:11 | 0:59 |
| Print media | 0:43 | 0:43 |
| Audio media | 1:44 | 1:48 |
| Computers | 1:02‡ | 0:27 |
| Video games | 0:49‡ | 0:26 |
| *Total exposure* | 8:33‡ | 7:29 |
| *Total use*[1] | 6:21 | 6:19 |

[1] Adjusted for time youth spend using two or more media simultaneously.

‡ Indicates that the difference in mean times between years is statistically significant.

These results suggest to us that 6-6½ hours may represent a ceiling in the amount of time young people can or will devote to using media. To the extent that they find new media or new kinds of content and activities appealing, they spend time with them, but apparently not at the expense of other media. Rather, they appear to combine old and new media, using both at the same time. There are, after all, only so many hours in a day, and young people spend a large part of their time engaged in a variety of non-media activities — some of which are voluntary but many of which are necessary for getting through the day. (Box 5.1 presents estimates of the amount of time young people devote to several important, non-media activities). It may be, then, that in a media-saturated environment such as ours, kids are approaching (or have reached) the limits of time reasonably available to devote to media. Thus, when a new medium — or new kinds of media content and/or activities — becomes available, they don't give up old media and they do not (or cannot) increase the number of person-hours they devote to media. Rather, they become media multitaskers, increasing their media exposure in terms of the amount of content engaged, but holding their media use (i.e., the person-hours devoted to media) relatively constant.

**These results suggest that 6-6½ hours may** represent a ceiling in the amount of time young people can or will devote to using media.

**Media budgets.** The media exposure times displayed in Table 5-B can also function as precursors to the calculation and comparison of overall media exposure budgets. They enable us to examine what portion of all media exposure is devoted to each individual medium. In other words, in addition to looking at the amount of kids' media exposure, we can also examine how they distribute exposure to each separate medium in terms of an overall media budget. Examination of media budgets can be important because it is possible for two youngsters to report the same amount of media exposure overall, but to have quite different patterns of exposure to individual media. For example, one might spend almost all of one's time with computers and video games, while another devotes time to reading and watching TV in addition to using a computer or video gaming. Similarly, one young-

### Box 5.1 Media Time vs. Time with Other Activities

Is the three or more hours daily that young people report spending with TV a lot or a little? How about the 43 minutes daily of leisure time reading?

More often than not, one's answer to such questions depends on a subjective evaluation of the worth of any activity for which a time estimate is obtained ("video games are a waste of time, so anything over ten minutes is too much"), occasionally in combination with some equally subjective comparison standard ("I watch TV about an hour a day, so three or more seems like a lot" or "I can't get my son off the computer, so one hour seems low"). Comparison standards, of course, need not remain completely subjective. It is possible to obtain estimates of time devoted to other, non-media activities, then to use these as reference points when judging time devoted to media.

In order to put media exposure times into some more general time-use perspective, then, our survey instrument asked kids how much time they spent on the preceding day engaged in seven non-media activities. All respondents were asked how much time they spent the previous day hanging out with parents, engaged in physical activity (i.e., exercising, playing a sport), and participating in organized activities (i.e., hobbies, clubs, music, etc.). In addition, 7th- to 12th-graders were asked to estimate how much time they spent hanging out with friends (outside of school), talking on the phone, doing homework, doing chores, and working at a job. The following table presents the results for these questions along with average times for watching TV, listening to music, watching movies or videos, using the computer, playing video games, and reading. When examining this table, it is also important to keep in mind that the various activities are not independent. That is, just as young people often engage in several media activities simultaneously, so too do they often engage in multiple activities, media-related and otherwise, when pursuing any of the activities about which we inquired (e.g., youngsters often hang out with parents and watch TV at the same time, they exercise while listening to music and hanging out with friends, and they quite typically do homework with music in the background, and often while simultaneously talking on the phone).

**Time Spent with Media and Selected Non-media Activities in a Typical Day**

| Activity | Time |
|---|---|
| Watching TV | 3:04 |
| Hanging out with parents | 2:17 |
| Hanging out with friends[1] | 2:16 |
| Listening to music | 1:44 |
| Exercising, sports, etc. | 1:25 |
| Watching movies/videos | 1:11 |
| Using a computer | 1:02 |
| Pursuing hobbies, clubs, etc. | 1:00 |
| Talking on the telephone[1] | 0:53 |
| Doing homework[1] | 0:50 |
| Playing video games | 0:49 |
| Reading | 0:43 |
| Working at a job[1] | 0:35 |
| Doing chores[1] | 0:32 |

[1] Asked only of 7th- to 12th-graders.

Depending on one's evaluation of the activities listed above, the amount of time young people spend with a medium may be scandalous (three or more hours with TV and only 50 minutes on homework) or worrisome (only 43 minutes reading but more than $2^1/_4$ hours hanging out with friends). Evaluative judgments aside, it is interesting to note that of the five activities to which kids devote the most time, three are non-media activities: hanging out with parents, hanging out with friends, and engaging in exercise, sports, or other physical activities. Moreover, to the extent that most physical activities engaged in by young people involve other people, one could argue that young people devote more time to social interactions than to anything else (especially in light of the evidence that music listening is typically a secondary activity, and is frequently engaged as background to young people's social interactions; cf. Christenson & Roberts, 1998). Indeed, media exposure times would be even more troubling than many people judge them were it not for the fact that they often overlap with many of the non-media activities included here.

Regardless of whether or not one has relatively objective reference points against which to compare, judgments of whether kids spend too much or too little time with various media depends on subjective, evaluative judgments about the medium and about the comparison standard. Thus, one's judgment about whether 49 minutes daily playing video games is a good, bad, or neutral thing will differ depending on whether video gaming is compared with the 53 minutes daily of telephone use kids report or the 50 minutes they devote to homework on a typical day. Similarly, a 16-year-old and a parent likely judge TV time differently depending on whether they compare viewing time with time devoted to homework or with time hanging out with friends. In short, evaluations of whether the time spent with any of the activities in the tables is too much or too little, good or bad, depends on who is making the judgment and how they feel about each of the activities.

ster might report two hours of media exposure divided equally across each of our several categories of media, while another might report six hours devoted to only one or two media. These are likely to be very different kids and clearly they will be exposed to very different arrays of media content. The question, then, is whether and how young people's media budgets vary.

Media budgets were calculated for each survey respondent by expressing his or her exposure to each individual medium as a percentage of that individual's total media exposure. Thus, the percentages presented in Table 5-C represent the average proportions of time kids in each subgroup spend listening to music, watching TV, using a computer, and so forth. As the top row of percentages in Table 5-C shows, TV takes the largest part of kids' media budgets (35%), and when TV exposure is combined with videotapes, DVDs, and movies, screen media account for almost half (48%) of the media pie. Box 5.2 indicates that this proportion differs little from the 51% of all exposure accounted for by screen media in 1999. Audio media account for 22% of kids' overall media exposure, followed by reading and computers (11% each) and video games (9%).

As might be expected from our earlier examination of time spent with individual media, media budgets are related to age. TV and video games comprise a significantly lower percentage of 15- to 18-year-olds' than 8- to 10-year-olds' media time (11 percentage points less for TV and 6 percentage points less for video games), while audio and computer exposure comprise significantly higher proportions, more than doubling in both cases (from 7% to 15% for computers and from 14% to 30% for audio media). The only other demographic characteristic related

**TABLE 5-C**

## Overall Media Budgets

| | TV | Videos/ movies | Print | Audio | Computers | Video games |
|---|---|---|---|---|---|---|
| **Total sample** | 35% | 13% | 11% | 22% | 11% | 9% |
| **Age** | | | | | | |
| 8- to 10-year-olds | 39[a] | 16 | 12 | 14[a] | 7[a] | 12[a] |
| 11- to 14-year-olds | 38[a] | 12 | 10 | 20[a] | 11[ab] | 9[ab] |
| 15- to 18-year-olds | 28[b] | 11 | 10 | 30[b] | 15[b] | 6[b] |
| **Gender** | | | | | | |
| Boys | 35 | 13 | 10 | 19 | 11 | 13[a] |
| Girls | 35 | 13 | 11 | 25 | 12 | 5[b] |
| **Race** | | | | | | |
| White | 33 | 12 | 11 | 23 | 12 | 9 |
| Black | 40 | 15 | 8 | 18 | 8 | 10 |
| Hispanic | 39 | 13 | 11 | 19 | 9 | 8 |
| **Parent education** | | | | | | |
| High school or less | 38 | 13 | 8 | 23 | 10 | 9 |
| Some college | 33 | 12 | 12 | 26 | 11 | 7 |
| College graduate | 33 | 13 | 12 | 21 | 13 | 9 |
| **Income** | | | | | | |
| Under $35,000 | 35 | 14 | 9 | 23 | 10 | 8 |
| $35,000 – $50,000 | 34 | 13 | 12 | 22 | 10 | 9 |
| Over $50,000 | 37 | 11 | 10 | 20 | 14 | 9 |

*Note: Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

### Box 5.2 Changes in Media Budgets – 1999 to 2004

There is little difference between 1999 and 2004 in how kids divide the total amount of time they spend with media (i.e., how they apportion their media budgets). Only computers claim a significantly different proportion of kids' media budgets in 2004 than they did in 1999. The 5 percentage point increase in time spent with computers (see table below) is greater than would be expected by chance. The percentage of the media budget accounted for by the other media types remains remarkably stable. The proportion of media time devoted to screen media (TV, videos and movies) declined by 3 percentage points, audio media by 4 percentage points, and reading by 1 percentage point; the proportion of time spent with video games increased by 3 percentage points, all changes within the limits of chance.

Given the five-year increase in overall media exposure, in concert with the remarkable stability in overall media use noted in this chapter, this picture of fairly high stability in media budgets adds to our suspicion that there may be constraints operating on young people's media use. Not only does there seem to be a limit to the total number of person-hours kids can or will devote to media, there also appears to be some consistency to — or constraints on — the proportion of the media budget accounted for by each type of medium.

**Comparison of Media Budgets in 2004 and 1999**

| Medium | 2004 | 1999 |
|---|---|---|
| TV | 35% | 40% |
| Other screen media | 13 | 11 |
| Audio (radio/recordings) | 22 | 26 |
| Print | 11 | 12 |
| Computers | 11‡ | 6 |
| Video games | 9 | 6 |

‡ Indicates that the difference between years is statistically significant.

to media budgets is gender; a significantly lower proportion of girls' than of boys' media exposure is accounted for by video games (5% versus 13%).

In many ways, the lack of any other relationships between demographic characteristics and the proportion of overall media budgets devoted to individual media is more interesting than the age- and gender-related differences just noted. Even though race and parent education are strongly related to total media exposure (see Box 5.2), and even though there are significant differences in the amount of time kids from different subgroups devote to various individual media (see Chapter 4), these relationships do not emerge when media budgets are examined. Thus, while race is related to large differences in the amount of time kids are exposed to TV and to other screen media (e.g., Table 4-B), the differences in the proportion of the total media budget spent with TV and with other screen media is not significantly different. Similarly, level of parent education fails to locate differences in the proportion of media time kids spend with screen media and with print media, even though parent education is significantly related to mean exposure time for each of these. In other words, even though kids whose parents completed some college report significantly less time with screen media than those whose parents completed college (3:46 vs. 4:20), screen media account for almost identical proportions of each subgroup's media budget (45% vs. 46%). Such findings lead us to speculate that just as there appears to be a ceiling to media use (that is, the 6-6½ hours kids appear to spend with media of any kind that we noted previously), perhaps there are some kinds of constraints on the proportion of exposure time that kids can or will devote to each of the available media.

**Summing up overall media time.** U.S. 8- to 18-year-olds spend substantial amounts of time with media. They report in excess of 8½ hours of daily exposure to (recreational) media content. However, most kids often use two or more media simultaneously, and it appears that they engage in media multitasking during at least a quarter of their media exposure time. For that reason, media use (person-hours devoted to any media) averages just under 6½ hours per day. There is some indication that 6-6½ hours may represent a ceiling for media use. Although from 1999 to 2004 overall media exposure time increased by more than an hour, media use increased by only two minutes. In other words, as media exposure increased, so too did the proportion of time

devoted to media multitasking — to the extent that the actual amount of time devoted to media use remained constant.

Screen media continue to account for most of kids' overall media budgets (48%); 35% of kids' media time is devoted to TV and another 13% goes to videos, DVDs, and movies. Although there are variations in how kids apportion media budgets in relation to age, there are surprisingly few differences in media budgets as a function of other demographic characteristics.

# 6. RELATIONSHIP OF MEDIA ENVIRONMENT TO MEDIA USE

The environment within which young people encounter media affects their media behavior. As we noted in Chapter 3, kids who have their own personal media — whether a TV in their bedroom, a portable radio, or their own laptop computer — have much easier access to and, thus, are likely to spend more time with those media. Similarly, young people who experience few or no parental attempts to regulate media use are likely to use media differently than kids who face such rules. Finally, the general orientation toward media within the home can influence young people's media behavior. For example, kids from homes where a TV constantly plays, even during meals, likely use TV differently than those from homes where TV is not a constant companion.

Of course, many indicators of the household media environment are interrelated. For example, as we saw in Chapter 3, children and adolescents from homes in which parents regulate media behavior are less likely than children whose parents impose few or no media controls to have a TV or a video game console in their bedroom. Similarly, young people from high TV orientation homes (i.e., homes in which the TV is on constantly, is on during most meals, and in which there are no TV rules; see Chapter 3), are substantially more likely than other kids to have one or more of their own personal media (e.g., a TV in their bedroom or a personal computer). In other words, our several individual measures may well be tapping some more general, single dimension of the household media environment.

**Relatively large differences in time spent with** TV, video games and computers emerge when comparing kids who have them in their bedroom with those who don't.

### Personal media and media exposure

How does having access to personal media (e.g., a TV in the bedroom) affect media exposure? To answer this question we compared kids who report having their own TV, video game console, or computer to those who do not, on the basis of both overall media exposure and use of each of the various individual media. We recognize, of course, that having a video game console in the bedroom is coterminous with having a TV; the former is useless without the latter. Nevertheless, because the addition of a video game console arguably adds media possibilities, it may well change the way the TV is used, and thus should be examined independently from TV. (For example, adding a video game console to a TV set could conceivably operate to displace TV viewing *per se*.)

As shown in Table 6-A, personal media ownership substantially increases the amount of time young people are exposed to each of the particular media found in their rooms, to media overall, and to various other individual media. Overall media time shows the greatest effect. Having one's own TV, video game console, or computer increases overall media exposure by at least two hours daily (the differences range from 2:02 for TV to 2:19 for video game consoles).

Relatively large differences in time spent with each of these three media emerge when comparing kids who have them in their bedroom with those who don't. For example, kids with a TV in the bedroom watch almost 1½ hours more TV each day than kids without a bedroom TV. Similarly, those with a video game console in their bedroom triple the game-playing time of kids without (47 minutes vs. 15 minutes daily)[24] and computer owners double the computer time of non-owners (1:30 vs. 47 minutes). Clearly, easy access to a given medium makes a substantial difference in exposure to that medium. More interesting, however, are the related increases in exposure to media other than the one being examined. That is, youngsters with a TV in their bedroom not only spend more time watching TV, but they also

**TABLE 6-A**

## Personal Media and Media Exposure

| Personal medium [2] | Total media exposure | TV | Videos/ movies | Video games [1] | Reading | Music | Computer |
|---|---|---|---|---|---|---|---|
| **TV** | | | | | | | |
| Yes | 9:09[a] | 3:31[a] | 1:16[a] | 0:38[a] | 0:38[a] | 1:46 | 1:02 |
| No | 7:07[b] | 2:04[b] | 0:58[b] | 0:17[b] | 0:54[b] | 1:40 | 1:01 |
| **Video game console** [3] | | | | | | | |
| Yes | 9:42[a] | 3:37[a] | 1:23[a] | 0:47[a] | 0:39 | 1:46 | 1:05 |
| No | 7:23[b] | 2:30[b] | 0:58[b] | 0:15[b] | 0:47 | 1:43 | 1:00 |
| **Computer** [3] | | | | | | | |
| Yes | 9:58[a] | 3:21[a] | 1:23[a] | 0:37[a] | 0:48[a] | 2:00[a] | 1:30[a] |
| No | 7:48[b] | 2:55[b] | 1:05[b] | 0:29[b] | 0:40[b] | 1:35[b] | 0:47[b] |

[1] Includes only time playing console-based video games; the same patterns hold when both console-based and handheld video games are combined (see Appendix 6.1).

[2] Refers to a TV or video game console in the bedroom and to a desktop or laptop computer in the bedroom.

[3] Since 17% of the sample indicated there was no video game console in their home, and 14% indicated there was no computer in their home, we repeated this analysis using only respondents from homes in which a video game console or a computer was available. Results were remarkably similar to those reported here. Differences in overall media exposure and in exposure to individual media changed by only a few minutes; those that were statistically significant for the entire sample remained so for the more limited sample.

*Note: Within each cluster, only those mean times in each column that do not share a common superscript differ from one another with statistical reliability. Those mean times without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

report more exposure than their non-TV-having counterparts to videos and movies (18 minutes more) and more time playing video games (21 minutes more). Conversely, having a TV in one's bedroom significantly reduces leisure print exposure. Kids with no bedroom TV average 16 more minutes of daily reading than kids with a TV.

Similar results emerge for video game consoles in the bedroom. That is, young people who have a video game console in their bedroom not only spend more time playing video games than those who do not have them, but they also watch more TV (1:07 more) and more videos and movies (25 minutes more). They also spend less time reading (eight minutes less), although this difference is not statistically reliable. Of course, the findings for these two media are probably partly dependent on the fact that having a video game console in the bedroom means that one also has a TV. To some extent, we may be looking at the effect of essentially the same media environment in two slightly different ways. For example, kids with a video game console report more TV viewing than those with only a TV, a possible indication that adding a video game console to the bedroom TV somehow operates to intensify the TV environment.

Having one's own computer, however, arguably creates a different kind of environment. The functionality of a computer does not depend on the presence of a TV. Rather, it brings something new and different in both the range and type of information available, and in the demands it places on those who use it. For example, computers arguably require skills that are not inherent in TV viewing or video game playing. Thus it is particularly interesting to find that having one's own computer not only locates the *highest* level of overall daily media exposure (9:58), but that the presence of a computer is also strongly related to exposure to every one of the other media we have been examining. For some media the relationships are similar to those found for personal TVs and video game consoles, but for others a very different pattern emerges. For example, compared to kids who do not have their own laptop or personal computer, kids who do watch more TV and more videos/movies, and they spend more time playing video games — all patterns that replicate those found for personal TV sets and video game consoles.[25] Unlike the findings for bedroom TVs or video game consoles, however, having one's own computer is also related to music listening. Youngsters with their own computer listen to music 25 minutes more daily than those who do not have their own personal computer. And finally, directly counter to negative relationships found for personal TVs and video game consoles, kids with their own computer report significantly *more* time reading (eight minutes more daily) than their counterparts without computers.

In Chapter 3 we noted that several demographic variables are related to the likelihood of having one's own TV, video game console, or computer. For example, age is negatively related to the likelihood of having a video game console and positively related to having a computer; a higher proportion of boys than girls have

### Box 6.1 Enforcing Rules Makes a Difference

The entire sample was asked two general questions about rules governing TV viewing. The first, answered by "Yes" or "No," simply asked whether or not there were rules governing TV in their family. The second asked about the degree to which such rules were enforced ("How often do your parents make sure you follow the rules about watching TV?"), with response options including "most of the time," "some of the time," "a little of the time," and "never." These two items enabled us to examine 8- to 18-year-olds' media exposure in relation to both the presence or absence of TV rules *and* the degree to which such rules are enforced. The following table groups youngsters with TV rules enforced most of the time, youngsters with rules enforced some, little, or never, and youngsters with no TV rules.

Kids who report TV rules generally report lower levels of exposure to most media and enforcement of those rules also plays a role. Although most of the differences are not statistically reliable (primarily because our decision to include youngsters who reported enforcement "some of the time" in the same group with those who responded little or never makes our comparison relatively conservative), there is a tendency for frequent enforcement of TV rules to go hand in hand with less media exposure. Kids who report that their parents enforce the rules most of the time report 30 minutes less overall media exposure and 12 minutes less TV viewing than kids whose parents are less strict about enforcement. High-enforcement kids also spend significantly less time with video games and on the computer, and significantly more time reading than their moderate- to little-enforcement counterparts. The only break in this pattern is for exposure to videos/DVDs/movies, for which both high-enforcement kids and kids reporting no rules report more exposure than kids whose parents impose rules but enforce them less frequently. One possible explanation for this finding is that videos and/or DVDs may provide a means of control for parents who impose TV rules. That is, they may exert control over what their children view by participating in the selection of videos/DVDs, and in so doing may increase the amount of time their kids spend with those particular media.

There has been relatively little attention in the research literature to enforcement of media rules. In our view, this is a potentially rich vein to be mined in subsequent studies.

**Average Media Exposure in Relation to TV Rules and Rule Enforcement**[1]

| | Total exposure | TV | Videos/ movies | Video games | Reading | Music | Computer |
|---|---|---|---|---|---|---|---|
| **High enforcement of TV rules** | 7:16[a] | 2:41[a] | 1:16[a] | 0:34[a] | 0:55[a] | 1:20[a] | 0:31[a] |
| **Low enforcement of TV rules** | 7:48[a] | 2:53[a] | 0:58[b] | 0:50[b] | 0:40[b] | 1:33[a] | 0:55[b] |
| **No TV rules** | 9:17[b] | 3:19[b] | 1:13[a] | 0:53[b] | 0:39[b] | 1:56[b] | 1:16[c] |

[1] These numbers differ from those in Table 6-B because they are based on all 8- to 18-year-olds.

*Note: Within each cluster, only those mean times in each column that do not share a common superscript differ from one another with statistical reliability. Those mean times without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

a TV, a video game console, and/or a computer in their bedroom; African American kids are more likely than others to report their own TV and video game console, and so on. Thus, it is possible that the differences in media exposure related to personal media ownership are to some extent due to related demographic differences in distribution of personal media. For this reason, we also examined the relationships between personal media and amount of media exposure while controlling for relevant demographic factors. With very few exceptions, none of these controls changed the basic relationships. For example, the basic finding that kids with any of these three media in their bedroom report substantially more overall media exposure was not affected; boy or girl, younger or older, African American or White, low or high income — it makes little difference. Within every sub-category we examined, kids with their own TV, video game console, or computer reported substantially higher levels of overall media exposure. With few exceptions, the pattern of results displayed in Table 6-A for each of the individual media also holds. That is, controls for the various demographic characteristics do not change the overriding conclusion that personal ownership of any of the three media is related to more TV, video, and movie viewing, to more video game exposure, and to less reading. Nor do such controls alter the finding that having one's own computer is related to the amount of time spent with each other medium.[26] Clearly, those young people who have access to their own personal media have substantially higher levels of media exposure. Finally, not only does having their own personal media increase young people's exposure to those media, it also affects the social context of their media use. For example, among all 8- to 18-year-olds who watched TV the preceding day, 19% of those with their own TV watched alone the entire time compared to 12% of those without their own TV (a statistically reliable difference). In other words, kids with their own TV tend to watch more, and a higher proportion of them report that they view alone.

## Media rules

It seems obvious that whether or not parents attempt to impose some kind of control on their children's media behavior should directly affect young people's media exposure. Simply the act of attempting to regulate media behavior indicates an environment

**TABLE 6-B**

## Media Rules[1] and Media Exposure Among 7th- to 12th-Graders

| | Total media exposure | TV | Videos/ movies | Video games[2] | Reading | Music | Computer |
|---|---|---|---|---|---|---|---|
| **TV rules** | | | | | | | |
| Yes | 7:07[a] | 2:18[a] | 1:07 | 0:18[a] | 0:50[a] | 1:30[a] | 0:50[a] |
| No | 8:57[b] | 2:58[b] | 1:01 | 0:28[b] | 0:38[b] | 2:19[b] | 1:21[b] |
| **Video game rules**[3] | | | | | | | |
| Yes | 8:36 | 2:52 | 1:20 | 0:25 | 0:43 | 1:51 | 1:05 |
| No | 8:59 | 3:04 | 0:58 | 0:31 | 0:34 | 2:18 | 1:21 |
| **Computer rules**[4] | | | | | | | |
| Yes | 8:22 | 2:36 | 1:06 | 0:25 | 0:43 | 1:59 | 1:15 |
| No | 8:59 | 2:59 | 0:58 | 0:28 | 0:36 | 2:20 | 1:27 |

[1] Respondents indicated their parents either have rules about content (e.g., which shows, which games) or about time (i.e., how long they can spend using media).

[2] Includes only time playing console video games.

[3] Includes only 7th- to 12th-graders with a video game console in their home.

[4] Includes only 7th- to 12th-graders with a computer in their home.

*Note: Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

in which the media likely play a less central role in day-to-day household activities. Moreover, although some parents are more concerned with the kinds of content their children encounter than with amount of exposure, a great many media rules aim directly at reducing the amount of time kids spend with TV, the computer, or video games.

We examine the relationship between media rules and media exposure in much the same way that we look at the influence of personal media, except that for in this analysis we focus only on 7th- to 12th-graders.[27] Table 6-B summarizes mean daily exposure to each of the individual media and to overall media exposure in relation to whether junior and senior high school students report the existence of household rules regulating TV viewing, video game playing, or computer activities. The first and most striking result to emerge from Table 6-B is that the presence or absence of family rules governing TV viewing (that is, rules about what can and cannot be seen and/or about amount of viewing) is significantly related to amount of overall media exposure and to time spent with all but one of the individual media we have been examining. Kids from homes in which there are TV rules report almost two hours less (1:50) daily media exposure than kids from homes with no rules. Somewhat surprisingly, TV exposure accounts for only 40 minutes of the overall difference between the two groups. That is, kids with rules watch TV 2:18 daily and kids without rules watch 2:58.[28] The remaining 1¼ hours is accounted for by differences in exposure to the other media. Thus, kids who live in homes where there is no attempt to regulate TV viewing spend significantly more time listening to music (49 minutes more), using a computer (31 minutes more), and playing video games (ten minutes more). On the other hand, kids from homes where TV is regulated spend 12 minutes more reading each day, and six minutes more watching videos or movies.[29] It appears, then, that the presence or absence of TV rules may indicate a more general orientation toward media — perhaps even toward popular culture. In any case, in homes where the TV is regulated, so too, it seems, are most other media.

**Parental regulation of TV behavior** does make a difference, even among older youth.

The second result apparent in Table 6-B is that, counter to our initial expectations, the presence or absence of rules governing both video gaming and computer use *is not* related to the amount of overall media exposure or to the amount of exposure to any of the individual media — *including the medium ostensibly governed*. That is, although kids who live in homes where parents attempt to control video gaming spend less time with video games than do kids with no video game rules, the six-minute difference is not significant. Similarly, kids from homes where there are rules about computer use engage in computer activities 12 minutes less than kids where there are no rules, but again the difference is not significant.

**TABLE 6-C**

## Household TV Orientation and Media Exposure

| | Total media exposure | TV | Videos/ movies | Video games[1] | Reading | Music | Computer |
|---|---|---|---|---|---|---|---|
| **TV usually on** | | | | | | | |
| Yes | 9:42[a] | 3:37[a] | 1:20[a] | 0:40[a] | 0:37[a] | 1:56[a] | 1:09[a] |
| No | 7:22b | 2:30[b] | 1:03[b] | 0:22[b] | 0:49[b] | 1:32[b] | 0:54 |
| **TV on during meals** | | | | | | | |
| Yes | 9:06[a] | 3:26[a] | 1:15 | 0:34[a] | 0:41 | 1:50[a] | 1:01 |
| No | 7:35[b] | 2:25[b] | 1:04 | 0:27[b] | 0:47 | 1:34[b] | 1:04 |
| **High TV orientation[2]** | | | | | | | |
| Yes | 10:22[a] | 3:58[a] | 1:20 | 0:45[a] | 0:36[a] | 2:06[a] | 1:14[a] |
| No | 7:57[b] | 2:46[b] | 1:09 | 0:28[b] | 0:45[b] | 1:37[b] | 0:58[b] |

[1] Includes only time spent playing console video games.

[2] High TV orientation households are those in which the TV is on most of the time *and* the TV is usually on during meals *and* there are no parental rules regulating TV viewing.

*Note: Within each cluster, only those items in each column that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

These results are somewhat perplexing. On the one hand, there is no particular reason to expect that rules about video games or computers should be related to media exposure overall, or to exposure to other individual media in the way that TV is. On the other hand, even if video game rules and computer rules are not related to TV exposure or reading or music listening, we expected to find a relationship between video game rules and video game exposure and between computer rules and computer exposure. The failure of the obtained differences to reach statistical significance, then, is both surprising and a bit puzzling.

The overall conclusion to be drawn from Table 6-B is that parental regulation of TV behavior does make a difference, even among older youth (7th- to 12th-graders).[30] It is as if TV rules operate as a proxy for regulation of media in general. The imposition of TV rules is related to reductions in TV viewing, video gaming, music listening, and computer activities, and to an increase in reading. Rules associated with video game playing and computer use relate to the different kinds of media exposure in much the same way as do TV rules, but the differences consistently fail to reach statistical significance. To some extent this may be this due to the relatively small numbers of 7th- to 12th-graders reporting rules about either of these two media. Finally, it is also worth noting that establishing rules may be only a first step. As Box 6.1 indicates, there is tentative evidence that the degree to which parents enforce such rules may also play an important role.

### Household TV orientation

In Chapter 3 we defined household TV orientation as the degree to which TV plays a central role in the home. We assess household TV orientation with several items that Medrich (1979) used to identify what he called "constant TV households" (also see Medrich, et al., 1982). Table 6-C displays mean daily exposure to media overall and to each individual medium as a function of each of the two items assessing constant TV, and in relation to whether or not 8- to 18-year-olds come from homes classified as high TV orientation households.[31]

**Living in a home where the TV plays** constantly is positively related to exposure to each of the electronic media and negatively related to print exposure.

In addition to the relationship between TV rules and media exposure noted in the preceding section, Table 6-C clearly shows that living in a home where the TV plays constantly is positively related to exposure to each of the electronic media and negatively related to print exposure. Much the same pattern holds for homes in which the TV is on during meals, except that the relationships for video/movie exposure, reading, and computers are not statistically significant (indeed, the relationship for computers is reversed, although the difference in time is only three minutes). In short, both of the individual items taken from Elliot Medrich's work (1979) on "constant TV households" are related to media exposure.

When those items are combined with whether or not there are family rules about TV viewing to form our high TV orientation index, the relationship remains strong. That is, the 25% of the sample of young people classified as from high TV orientation

homes (i.e., kids who indicated that the TV is usually on in their home, *and* that it is usually on during meals, *and* that there are no rules regulating TV use) report substantially more overall media exposure and more exposure to most individual media than those from non-high TV orientation homes. Again, reading is the exception. High TV orientation kids also report more exposure than their counterparts who answered "Yes" to either of the constant TV questions or "No" to the TV rules questions. Compared to others, 8- to 18-year-olds from high TV orientation homes average 1:12 more TV exposure, spend 25 minutes more with video games, 29 minutes more with music, 16 minutes more with computers, and 11 minutes more with videos/movies (this last difference is not significant). They read an average of nine minutes less per day. The result is that kids from high TV orientation households report 2:25 more overall media exposure each day. Clearly, in homes where the TV plays a central role in defining the environment, all media exposure increases. We suspect, then, that the TV orientation index is probably tapping a more general orientation toward, if not popular culture, certainly toward acceptance of entertainment media.

**Clearly, in homes where the TV plays a** central role in defining the environment, all media exposure increases.

### Summing up

Each of the three characteristics of the media environment that we examine is related to media exposure. The simplest summary is that the more available media are — whether because a kid has his or her own TV or computer in her bedroom, because the parents don't attempt to control their children's media behavior, or because the home is characterized by a constantly playing TV set — the higher young people's exposure levels to all but print media. In addition, it appears that TV may be the most important medium in the environment, at least in terms of predicting overall media exposure. That is, the presence or absence of constraints on TV typically locates differential levels of exposure to all other media (and, of course, to overall media exposure). For the other media, the relationship sometimes emerges, and sometimes does not. For example, on the one hand, kids with their own computer (whether a personal computer in the bedroom or their own laptop) report significantly more exposure to every one of the other media than do kids without their own computer. On the other hand, there are no statistically reliable differences in media exposure between kids who do and do not report family rules controlling computer use (although there are differences that do not reach statistical significance). And perhaps most striking, when we look at exposure in relation to high TV orientation, a classification that most clearly separates kids living in an environment where media access is free and easy from those who live with more constraints, overall media exposure reaches its highest levels. High TV orientation kids report almost 10½ hours daily media exposure, almost 2½ hours more each day than their lower TV orientation counterparts. In other words, it is clear that environments that, for whatever reason, make it relatively easy for kids to access TV, also seem to make it easy to access most other media, and the result is that young people from such an environment are among the most exposed to media content.

# 7. RELATIONSHIP OF MEDIA USE TO INDIVIDUAL TRAITS

In addition to the relationship between various demographic characteristics and media behavior, we also examined how several individual characteristics of young people relate to media behavior. In particular, we looked at the relationships between academic performance and media exposure, and between self-reports of personal contentedness or social adjustment and media behavior. Finally, we examined how youngsters classified as light, moderate, or heavy users of each of four media (print, TV, computers, video games) distribute their time across all other media.

## Academic performance and media exposure

Respondents were asked to indicate what grades they typically earn in school. Response options included "mostly As," "mostly As and Bs," "mostly Bs," "mostly Bs and Cs," "mostly Cs," "mostly Cs and Ds," "mostly Ds," and "mostly Ds and Fs." As noted in Chapter 2, such self-reports of students' grades likely produce somewhat inflated absolute grade estimates. For example, there is a tendency for B students to report "mostly As and Bs," for C students to report "mostly Bs and Cs," and so on. Nevertheless, empirical work has demonstrated a substantial positive relationship between self-reported grades and actual grade point average (e.g., r = .77; Dornbusch, et al., 1987). In other words, although we cannot be sure that students who claim to earn As and Bs do, in fact, score that high, we can be relatively confident that they probably earn higher grades than students who claim to earn Bs and Cs, or Cs and below, regardless of what the absolute value of the actual grades might be.

Given the tendency for self-reports of school grades to be somewhat inflated, it is not surprising that substantially more 8- to 18-year-olds (51%) claim to earn mostly As and Bs, than claimed to earn mostly Bs and Cs (35%), or Cs and below (10%). (Four percent either did not answer the question or indicated that they attend schools that do not give grades.) Keeping in mind that self-reported grades tend to skew toward the honor roll, then, Table 7-A presents average media exposure for the resulting three levels of academic achievement (see also Appendix 7.1).

Although kids reporting the lowest grades also tend to report the highest levels of media exposure, Table 7-A reveals that this relationship is not statistically significant. Those who report mostly As and Bs and those who report mostly Bs and Cs are exposed to just under 8½ hours of media exposure daily. Kids who report Cs and Ds and below spend 3/4 of an hour more with media each day (9:15), but the difference is not statistically reliable. Statistically significant differences in exposure in relation to school grades emerge for only two of the individual media. Grades are positively related to print use. That is, kids who claim to earn mostly As and Bs report 17 minutes more daily leisure reading than kids who earn Cs and Ds or lower (with kids reporting mostly Bs and Cs falling between these two groups). Conversely, grades are negatively related to video game exposure. Kids who earn mostly Cs and Ds or below spend about 20 minutes more daily playing video games than A and B or B and C students (the difference between those earning As and Bs and those earning Cs and Ds or below falls just short of statistical

**TABLE 7-A**

### Media Exposure and School Grades

| | Mostly As & Bs | Mostly Bs & Cs | Cs & Ds & below |
|---|---|---|---|
| **Percentage of sample** | 51% | 35% | 10% |
| **Medium** | | | |
| TV | 3:06 | 3:03 | 3:07 |
| Videos/DVDs/movies | 1:05 | 1:14 | 1:19 |
| Print media | 0:46[a] | 0:39[ab] | 0:29[b] |
| Audio media | 1:39 | 1:48 | 2:08 |
| Computers | 1:05 | 0:58 | 1:03 |
| Video games | 0:48[a] | 0:46[a] | 1:09[b] |
| *Total exposure* | 8:28 | 8:27 | 9:15 |

*Note: Within each row, only those mean times that do not share a common superscript differ from one another with statistical reliability. Those mean times without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

significance). Exposure to TV, music, and videos/movies does not significantly differ across the three academic groups.

These findings — that is, the lack of strong negative relationships between most media use and grades — are somewhat surprising. Several earlier studies that reported a positive relationship between grades and reading, also found significant negative relationships between grades and exposure to other electronic media as well as to overall media exposure (e.g., Roberts, et al., 1999; Schramm, Lyle & Parker, 1961). It may be that as media become more and more integrated into the lives of young people, the differences once located by academic performance are attenuating. To the extent that this is the case, it appears to be because kids who earn higher grades are engaging in more media use. That is, there is no change from 1999 (cf. Roberts, et al., 1999) to 2004 in the amount of media exposure among kids reporting fair or poor grades. Among those reporting good grades, however, media exposure has increased by 43 minutes, reducing the differences between the two groups in overall media exposure to the point that it is no longer statistically reliable. The upshot is that while there still seems to be a tendency for kids who earn high grades to spend slightly less time with media, the difference is not nearly as great as has been found in previous research.

**Except for time spent reading, the least** contented kids report more media exposure than those classified as belonging to either the moderately or highly contented groups.

### Personal contentedness and media exposure

Several early studies of young people's TV exposure reported that kids who have difficulties with friends or parents or who are otherwise unhappy or dissatisfied with some aspects of their lives devote more time to TV than do those who are happier or better adjusted (e.g. Johnston, 1974; Maccoby, 1954; Schramm, Lyle & Parker, 1961; Tangnay, 1988). Comstock (1991) writes that, "greater-than-ordinary use of pictorial media such as TV arguably has become recognized as a possible symptom of personal maladjustment" (p. 33). More recently, Roberts and his colleagues (Roberts, et al., 1999; Roberts & Foehr, 2004) found a strong, negative relationship between media exposure and scores on an index of "contentedness." The current study employs the same contentedness index used in 1999 (cf. Roberts, et al., 1999) to determine whether the relationship still holds.

The "Contentedness Index" consists of six, self-descriptive statements:

- I have a lot of friends.
- I get along well with my parents.
- I am often bored.
- I often feel sad and unhappy.
- I have been happy at school this year.
- I get into trouble a lot.

Respondents indicate the degree to which they believe each statement describes them by circling one of four responses: "A lot like me," "Somewhat like me," "Not much like me," or "Not at all like me." Items are scored such that higher values indicate more contentedness and are summed to create an index that can range from six (low contentedness) to 24 (high contentedness).

It is important to note that, for the most part, the kids participating in this study are generally fairly satisfied with their lives. That is, they report relatively high levels of contentment and social adjustment. Although the obtained scores cover the entire range possible (from a low of six to a high of 24), 75% of the youngsters score above the scale mid-point of 15; the median overall contentedness score is 18 and the mean is 18.2. In other words, most of the kids who are classified as low in contentedness for purposes of analysis are not particularly unhappy or alienated (although a few are).

The high- and low-contentedness groups are defined as comprising youngsters scoring roughly one standard deviation above and below the overall contentedness mean. Adjusting for natural break points on the index, the 18% of youngsters who scored 15 or lower are classified as belonging to the low-contented group, the 13% scoring 22 or higher are classified as belonging to the high-contented group, and the 64% scoring 16 through 21 were placed in the moderate-contented group (5% of respondents did not respond to the items).

As the mean exposure times in Table 7-B illustrate, contentedness is negatively related to overall media exposure. Except for time spent reading, the least contented kids report more media exposure than those classified as belonging to either the moderate- or high-contentedness groups. Low-contented kids report significantly more exposure to music and to video games (the moderate and high groups differ significantly only for video game exposure). Exposure to TV, other screen media and computers follow this pattern, although the differences are not statistically significant. Print exposure produces the single exception to this general pattern. Youngsters in the moderate-contentedness group report less reading than those in either the low- or high-contentment groups, which are identical in print exposure.[32]

**TABLE 7-B**

## Media Exposure by Contentedness

| | Contentedness index score | | |
|---|---|---|---|
| **Medium** | **Low** | **Moderate** | **High** |
| TV | 3:25 | 3:02 | 2:57 |
| Videos/DVDs/movies | 1:15 | 1:09 | 1:13 |
| Print media | 0:49 | 0:39[a] | 0:49[b] |
| Audio media | 2:02[a] | 1:42[b] | 1:36[b] |
| Computers | 1:16 | 1:01 | 0:55 |
| Video games | 0:56[a] | 0:49[a] | 0:37[b] |
| *Total exposure* | 9:44[a] | 8:22[a] | 8:07[b] |

*Note: Within each row, only those mean times that do not share a common superscript differ from one another with statistical reliability. Those mean times without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

**TABLE 7-C**

## Media Exposure by Sensation Seeking

| | Sensation-seeking score | | |
|---|---|---|---|
| **Medium** | **Low** | **Moderate** | **High** |
| TV | 2:11[a] | 2:50[b] | 3:17[b] |
| Videos/DVDs/movies | 1:00 | 0:59 | 1:11 |
| Print media | 0:36 | 0:41 | 0:41 |
| Audio media | 2:02[a] | 1:50[a] | 2:55[b] |
| Computers | 0:57 | 1:10 | 1:34 |
| Video games | 0:31 | 0:37 | 0:42 |
| *Total exposure* | 7:18[a] | 8:08[a] | 10:20[b] |

*Note: Within each row, only those mean times that do not share a common superscript differ from one another with statistical reliability. Those mean times without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

The overall result is that as we move from the high- through the moderate- to the low-contentedness groups, at each step there is a statistically reliable increase in the amount of overall media exposure. Kids classified as low on the contentedness index report 1:22 more overall media exposure than those in the moderate group, and 1:37 more exposure than those in the high-contentedness group. A large portion of the difference in overall media exposure derives from low-contented kids' greater exposure to music and video games, but the pattern of more exposure with less contentedness holds for every medium except print.

It is not possible to infer any causal sequence from these data. It may be that heavy use of media increases one's dissatisfaction with life, or that declines in contentedness or satisfaction push one to use media more, or that some other variable(s) drives both dissatisfaction and media use. And of course, the relationship may derive from some combination of these variables. Longitudinal and/or experimental studies that enable determination of antecedent and consequent variables are required to make such causal inferences. Nevertheless, these data dovetail nicely with the results of various other studies in once again demonstrating a negative relationship between young people's contentedness or life satisfaction and their media use (even when the range in contentedness tends to skew to the positive end of the index).

### Sensation seeking and media exposure

Sensation seeking refers to a need for individuals to seek stimulation. Typically, research on sensation seeking is concerned with identifying and explaining risk-takers, kids who might engage in any of a variety of behaviors that could endanger their well-being (e.g., cigarette smoking, drug use, reckless driving; Arnett, 1992, 1994; Zuckerman, Eysenck & Eysenck, 1978). Given that one motivation for using media is to obtain stimulation (cf. Zillmann, 1991), and because we suspected that high sensation-seekers might be particularly attracted to video games, we decided to at least begin exploration of any relationship between sensation seeking and media exposure. To that end, we included several questions to identify sensation-seekers. Our index of sensation seeking consists of five descriptive statements:

- I like friends who are exciting, even if they are wild.
- I sometimes choose friends my parents disapprove of.
- I am often bored.
- I like new and exciting experiences, even if I have to break the rules.
- I get into trouble a lot.

Students in grades 7–12 were asked to indicate the degree to which each statement described them on four-point scales labeled "a lot like me," somewhat like me," "not much like me," and "not at all like me." Responses were reverse-scored (i.e., "a lot like me" received a value of four) then summed to obtain an index score that could range from a low of five to a high of 20. The median score on this index was 13 and the mean was 13.2.[33]

We then classified the 17% of kids who scored ten or lower as low sensation-seekers, and the 22% who scored 16 or higher as high sensation-seekers. Finally, as shown in Table 7-C, we examined the amount of media exposure in relation to groupings on the sensation-seeking index.

Sensation seeking is reliably related to TV exposure, music exposure, and overall media exposure. Both high and moderate sensation-seekers report more TV exposure than low sensation-seekers; although high sensation-seekers watch TV 27 minutes more daily than do moderate sensation-seekers, the difference is not statistically reliable. High sensation-seekers also report substantially more music listening and more overall media exposure than kids in either the low or moderate sensation seeking groups.

## Box 7.1 Heavy Media Use and Other Activities

Not only do heavy users of any one medium tend to be heavy users of other media, but contrary to expectations, heavy overall media users also tend to spend more time engaged in several non-media activities than do light and moderate media users. As the following table shows, the 20% of all 8- to 18-year-olds classed as high in overall media exposure spend more time than their low- and/or moderate-exposure counterparts hanging out with parents, exercising, and participating in other activities such as clubs, music, art, or hobbies. In each instance, high-exposure kids spend significantly more time than low-exposure kids with the three non-media activities; moderate-exposure kids do not differ from high-exposure kids in time spent with parents, but do devote less time to exercise and to "other" activities.

**Media Exposure Levels and Time Spent on Non-Media Activities Among 8- to 18-year-olds**

| | Percentage of sample | Hanging out with parents | Exercising/ physical activity | Engaging in other activities |
|---|---|---|---|---|
| **Total media exposure**[1] | | | | |
| Low (3 hours or less) | 18% | 1:57[a] | 1:21[a] | 0:50[a] |
| Moderate (3+ through 13 hours) | 62 | 2:16[b] | 1:21[a] | 0:56[a] |
| High (more than 13 hours) | 20 | 2:35[b] | 1:42[b] | 1:18[b] |

[1] Since this classification is based on overall exposure, it does not take into account media multitasking.

*Note: Superscripts indicating statistically significant differences should be read within columns.*

A similar picture emerges when we look at 7th- to 12th-graders' more detailed reports of the time they spend in various activities in a given day (as illustrated in the following table). Adolescents high in media exposure spend more time with their friends, more time doing chores, and more time working at a job than do those classed as low or moderate in media exposure, again indicating that high media exposure does not necessarily go hand in hand with less time devoted to other activities.

**Media Exposure Levels and Time Spent on Non-Media Activities Among 7th- to 12th-graders**[1]

| | Percentage of sample | Hanging out with friends | Doing homework | Doing chores | Working at a job |
|---|---|---|---|---|---|
| **Total media exposure**[2] | | | | | |
| Low (3 hours or less) | 16% | 2:11[ab] | 0:49 | 0:29[a] | 0:32[ab] |
| Moderate (3+ through 13 hours) | 64 | 2:10[a] | 0:52 | 0:31[a] | 0:30[a] |
| High (more than 13 hours) | 19 | 2:41[b] | 0:45 | 0:39[b] | 0:55[b] |

[1] Questions pertaining to these activities were asked only of 7th- to 12th-grade participants.

[2] Since this classification is based on overall exposure, it does not take into account media multitasking.

*Note: Superscripts indicating statistically significant differences should be read within columns.*

Not surprisingly, when time spent engaged in the various non-media activities is examined in relation to whether a young person is classed as a heavy, moderate, or light user of the four individual media we have been considering (TV, print, computers, and video games), there are some changes in the various relationships (see Appendix 7.5). For example, the finding that heavy overall media users spend the most time exercising also holds for reading and for video game use, but not for watching TV or using a computer. Similar variations also emerge for the questions asked only of 7th- to 12th-graders. Thus, on the one hand, kids high in overall media exposure report spending substantially more time "hanging out with friends" than kids with either moderate or low overall media exposure. However, when we look at heavy, moderate, and light users of each of the individual media, the relationship is significant only for video game users (heavy video game users spend significantly more time with friends than do light video game users; moderate users fall between, and do not differ from either group). Time spent with homework produces yet another pattern. Although there is no relationship between overall media exposure and time spent with homework, significant relationships do emerge for time spent watching TV and for time spent reading when compared with time spent with homework. Kids classed as heavy TV users spend significantly *less* time than those classed as light TV users doing homework (moderate viewers fall between and do not differ from either group). Conversely, there is a strong positive relationship between print use and time spent with homework; heavy readers spend significantly more time with homework than either moderate or light readers; and moderate readers spend significantly more time with homework than light readers (see Appendix 7.5).

In spite of these and similar variations in the pattern of findings, the overall results presented in this box, in combination with the information presented in Appendix 7.5, raises red flags against too easily concluding that time spent with media is synonymous with time taken from other activities. In some instances this may be a valid inference, but in other cases it appears that quite the reverse is true. And although we cannot tease out the various possibilities from our current data, it seems clear that the relationship between level of media use and various other activities depends on the medium (or media) under consideration, the "other" activity under consideration, and the individual youth.

**TABLE 7-D**

## Percentage of 8- to 18-year-olds in the Light, Moderate, and Heavy User Groups for Print, TV, Video Games, and Computers

| Medium/cut points | Group | Percentage |
|---|---|---|
| **Print** | | |
| None (0) | Light | 26% |
| 5 minutes to 1 hour | Moderate | 55 |
| More than 1 hour | Heavy | 19 |
| **TV** | | |
| 1 hour or less | Light | 34 |
| 1+ hours to 5 hours | Moderate | 45 |
| More than 5 hours | Heavy | 20 |
| **Video games[1]** | | |
| None (0) | Light | 58 |
| 5 minutes to 1 hour | Moderate | 28 |
| More than 1 hour | Heavy | 13 |
| **Computer** | | |
| None (0) | Light | 45 |
| 5 minutes to 1 hour | Moderate | 38 |
| More than 2 hours | Heavy | 16 |

[1] Based on console video games only.

Although the differences are not statistically reliable, there are also positive relationships for each of the other media (print, videos/movies, video games, and computers); that is, as we move from the low, to moderate, to high sensation-seeking groups, the general tendency is for media exposure to increase.

It appears then, that media in general, and at least two specific media in particular (TV and audio media), hold a particular attraction for kids who score high in sensation seeking. Even though our initial expectation that high sensation-seekers would report high exposure to video games was not supported, the relatively large differences in total media exposure displayed in Table 7-C point to sensation seeking as an interesting variable to be explored in future research.

**The results raise a red flag against** too easily concluding that time spent with media is synonymous with time taken from other activities.

### Heavy vs. light media users

A question posed in many studies of young people's media use concerns the degree to which different kinds of media exposure may be interrelated. That is, do young people who spend a lot of time with one medium spend more or less time with other media? For example, since music often seems to provide a background to teenagers' reading, might we not expect that kids who read a lot will also spend a lot of time listening to music? Or conversely, as many have speculated, does the use of some kinds of media interfere with the use of other kinds of media? For example, given the kind of attention that, at first glance, TV seems to require, should we expect TV viewing to displace time spent reading, leading to a negative relationship between print exposure and TV exposure? A more current but similar question concerns whether the increasing time that young people seem to be devoting to computers "displaces" time spent with TV or print, or any of the other media.

The "displacement" question dates at least to the introduction of TV. Maccoby (1951; 1954) asked how TV viewing affected time that children spent on schoolwork, and Schramm, Lyle, and Parker (1961) raised the issue of how much the introduction of TV influenced young people's reading, radio listening, and motion picture attendance. Mutz, Roberts, and Van Vuuren (1993) reviewed a number of displacement studies that examine how TV exposure relates to exposure to other kinds of media, and failed to find a strong case for displacement when the data were examined at an individual level. Similarly, when Roberts and his colleagues (Roberts, et al., 1999) looked at how much time light, moderate, and heavy users of TV, print, and computers devoted to each of the various media, they found little support for the displacement hypothesis, but a good deal of evidence that high exposure to one medium tends to go hand in hand with high exposure to most other media.

To explore this issue further, we classify young people as light, moderate, or heavy users of each of four media: print, TV, console video games,[34] and computers. Determination of light, moderate, and heavy use must take into account the fact that for some of the media, more than 15% of young people report zero use (e.g., 46% of our sample spent no time using a computer for leisure activities the previous day, and 58% report no time with console video games; see Appendices 4.6 and 4.8). Our solution is to define the "light," "moderate," and "heavy" user groups on the basis of what seems reasonable in terms of the exposure time young people reported for each medium. Table 7-D presents the cut-off points used to define light, moderate, and heavy use of each medium, and the proportion of young people who fall into each group for each of the four media examined. Thus, the 26% of kids who reported no reading the preceding day are classified as light in print use and the 19% who read for more than one hour are classified as heavy in print use.

**TABLE 7-E**

## Average Daily Exposure Among Light, Moderate, and Heavy Users of Print, TV, Video Games, and Computers

| Medium | Light | Moderate | Heavy |
|---|---|---|---|
| **A. Amount of previous day print use** | | | |
| TV | 2:53 | 3:05 | 3:16 |
| Videos/movies | 0:55[a] | 1:08[a] | 1:45[b] |
| Video games | 0:50 | 0:46 | 0:59 |
| Music | 1:45 | 1:38 | 1:59 |
| Computer | 0:56[ab] | 0:58[a] | 1:20[b] |
| *Total media exposure* (less print) | 7:19[a] | 7:35[a] | 9:19[b] |
| **B. Amount of previous day TV use** | | | |
| Reading | 0:44 | 0:40 | 0:46 |
| Videos/movies | 0:53[a] | 1:07[b] | 1:53[c] |
| Video games | 0:35[a] | 0:44[a] | 1:26[b] |
| Music | 1:37[a] | 1:41[a] | 2:02[b] |
| Computer | 0:53[a] | 0:59[a] | 1:22[b] |
| *Total media exposure* (less TV) | 4:41[a] | 5:11[b] | 7:29[c] |
| **C. Amount of previous day video game use**[1] | | | |
| Reading | 0:41[ab] | 0:40[a] | 0:55[b] |
| TV | 2:35[a] | 3:32[b] | 4:17[c] |
| Videos/movies | 0:50[a] | 1:30[b] | 2:07[c] |
| Music | 1:39[a] | 1:41[a] | 2:12[b] |
| Computer | 0:53[a] | 1:11[b] | 1:25[b] |
| *Total media exposure* (less video games) | 6:45[a] | 8:52[b] | 11:53[c] |
| **D. Amount of previous day computer use** | | | |
| Reading | 0:42[ab] | 0:40[a] | 0:51[b] |
| TV | 2:50[a] | 3:02[a] | 3:45[b] |
| Videos/movies | 0:59[a] | 1:05[a] | 1:55[b] |
| Video games | 0:42[a] | 0:49[a] | 1:09[b] |
| Music | 1:28[a] | 1:42[a] | 2:38[b] |
| *Total media exposure* (less computers) | 6:42[a] | 7:19[a] | 10:18[b] |

[1] Groupings based on console video games only.

*Note: Within each row, only those mean times that do not share a common superscript differ from one another with statistical reliability. Those mean times without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Light TV users, on the other hand, includes all kids who watched one hour or less (34%), while heavy TV use is defined as watching in excess of five hours (20%). For both computers and video games the light users did not use the medium the preceding day, and for video games the heavy users used them in excess of one hour, while for computers the heavy use group used them for more than two hours.

Table 7-E presents mean daily media exposure for light, moderate, and heavy print users, TV users, video game players, and computer users. When light, moderate, and heavy users of a particular medium are considered, average total media exposure *excludes* time spent with that medium. Thus, for example, total media exposure for light, moderate, and heavy print users does not include time spent reading; total media exposure for light, moderate, and heavy TV users does not include time spent watching TV, and so on.

In our view, the most striking result to emerge from Table 7-E is that high exposure to any of the four individual media tends to go hand in hand with high exposure to most other media, a result replicating findings from 1999. Average total media exposure for each of the four comparison groups consistently shows that regardless of the medium on the basis of which they are classified, youngsters who are heavy users report substantially more overall media exposure than youngsters from the light and moderate groups, with the differences ranging from two hours to more than five hours daily. Heavy print users report two hours more exposure to all other media than light print users (and 1:44 more than moderate print users). Heavy TV users report 2:48 more exposure to all other media than light TV users (and 2:18 more than moderate users). Heavy computer users report 3:36 more exposure to all other media than light computer users (and 2:59 more than moderate users). Heavy video game users report 5:08 more overall exposure to all other media than light video game users (and 3:01 more than moderate video game users).

In addition, examination of Table 7-E also shows that of the 20 comparisons for each of the individual media (five comparisons for each of four media), there are no instances in which kids in the low exposure group report more exposure to any individual medium than kids in the high exposure group. Indeed, there are only four instances where the differences favoring heavy media users are not statistically reliable (and three of them pertain to light vs. heavy *readers*). In other words, in terms of overall media use, there is no evidence for a displacement effect, at least among kids classified as heavy users of print, TV, video games, or computers. Youngsters classed as heavy users of any of these four media do not tend to be light users of other media. To the contrary, there is good reason to infer that heavy use of any one medium is quite likely to go hand in hand with heavy use of other media.

It is important to note, however, that this pattern may not hold for all children; that is, young people classed in the light- or moderate-use subgroups generally do not differ. Kids classed as low in exposure to one of the four media differ significantly from those classed as moderate in exposure in only three instances: light TV viewers spend less time than moderate viewers watching videos and movies, and light video game users spend less

time than moderate video game users watching TV and using a computer. This general lack of differences between kids classed as light and moderate users in the amount of time spent with various individual media indicates that the relationship emerges primarily at the higher ends of the distributions of time spent with each of the various individual media.[35] Another way of saying this is that while being classed as a light or moderate user of any of these four media does not necessarily mean one will be a light or moderate user of any other media, being classed as a heavy user of one makes it a pretty good bet that you are highly exposed to other media.[36] Indeed, given that each of the subsections of table 7-E excludes time spent with the medium on the basis of which kids are classed into the light, moderate, or heavy use groups, the average total media exposure reported by each of the high exposure groups is so high as to give pause. Where could heavy video game or heavy computer users possibly find 11 or 12 hours in their day to spend with other media? The answer, we believe, lies in the kind of media multitasking discussed in Chapter 5. We will look more closely at the relationship between high media exposure and media multitasking when we cover media multitasking later in this chapter.

**Heavy use of any one medium** is quite likely to go hand in hand with heavy use of other media.

A second point to emerge from Table 7-E is that there are notable differences in the pattern of results for heavy, moderate and light print users compared to the patterns for heavy, moderate and light users of other media. First, while heavy use of TV, computers, and video games goes hand in hand with heavy use of almost all of the other media, this is clearly not the case for print use. Rather, although kids who read more than an hour daily also spend substantially more time with videos/movies and with computers, they *do not* report reliably more use of TV, video games, or music. Second, print is the only medium for which there is no significant difference in relation to light, moderate, or heavy TV viewing. Third, the differences in amount of print exposure in relation to light, moderate, and heavy computer use and video game use, although statistically reliable, are small relative to the differences in amount of exposure to other media. In other words, although there are some similarities among high exposure groups for all four media, the results for high print exposure are arguably different from those for the three electronic media.

Several other results emerge for differences in exposure to various individual media as a function of low, moderate, or high exposure to the four media under consideration. We are particularly struck by the high levels of music exposure reported by heavy computer users relative to light computer users — a full hour more (1:28 vs. 2:38). The differences between the low and high subgroups for other media are substantially smaller: 14 minutes for print (1:45 vs. 1:59), 25 minutes for TV (1:37 vs. 2:02), and 33 minutes for video games (1:39 vs. 2:12). We suspect that the ability to access digitized music while engaged in other computer activities facilitates multitasking for these two media.

The high level of TV viewing among kids reporting high use of either computers or video games is also noteworthy. As we saw in Chapter 4, for all 8- to 18-year-olds, daily TV viewing averages 3:04. Thus, both heavy computer users and heavy video game users exceed the overall averages in daily TV use (with heavy video game users exceeding the overall TV average by more than an hour). Finally, heavy video game use is a particularly strong predictor of all other kinds of media use. Not only do kids classed as heavy video game users report substantially more overall media exposure than any of the other high exposure subgroups, but relative to the low exposure group, their *increase* in time spent with each of the individual media is larger than any increase found for any of the other high exposure subgroups (e.g., relative to the light group, heavy video game users spend 1:42 more with TV; heavy print users, on the other hand, spend 0:23 more with TV than light print users, and heavy computer users spend 0:55 minutes more than light computer users).

### Media multitaskers

The strikingly high levels of exposure reported by heavy users of print, TV, computers, and video games returns us to the distinction between media exposure and media use. In Chapter 5 we noted that the sub-set of youngsters from our sample who completed week-long media logs indicated that they spent 26% of their media time using two or more media simultaneously. The result was that six hours and 21 minutes of media use produced exposure to eight hours and 33 minutes of media content. Clearly, the high levels of overall media exposure reported in Chapter 5, and the extremely high levels seen when heavy users of each of the four media are examined separately, point to the importance of media multitasking — that is, to the use of two or more media simultaneously.

In addition to the data obtained from the sub-sample who completed the media diaries, all respondents in 7th–12th grade in the sample were also asked how often they use other media while watching TV, while reading, while using the computer, or while listening to music. For example, kids were asked, "When

**TABLE 7-F**

## Percentage of 7th- to 12th-Graders Reporting Media Multitasking While Using Each Medium

| Medium | Most of the time | Some of the time | Little of the time | Never |
|---|---|---|---|---|
| Reading | 28% | 30% | 26% | 16% |
| Watching TV | 24 | 29 | 28 | 19 |
| Listening to music | 33 | 30 | 25 | 12 |
| Using a computer | 33 | 29 | 23 | 14 |
| Multiple computer activities | 39 | 25 | 19 | 14 |

you watch TV, how often do you do any of the following activities *at the same time*: use a computer, read, or listen to music?" We also asked a separate question about the frequency with which kids engaged in several different computer activities at the same time: "When you use a computer, how often do you do several things at the same time (such as e-mail, instant message, homework, etc.)?" Response options for all of these questions included "most of the time," "some of the time," "a little of the time," and "never." Table 7-F presents the proportion of 7th- to 12th-graders giving each answer to the question as posed for each of the four media. Depending on the medium about which they are asked, from one-quarter to one-third of adolescents report using multiple media "most of the time." The fewest kids multitask "most of the time" when watching TV (24%) and the most when listening to music (33%). It is also clear that in the context of multitasking, the computer must be viewed as a special case. Not only do 33% of kids report that when they use a computer they also use other media (i.e., read, watch TV, or listen to music), but 39% indicate that "most of the time" they use a computer, they engage in multiple activities at the same time (i.e., e-mail, instant messaging, etc.).[37] Clearly, then, the finding reported in Chapter 5 that over one-quarter of 7th- to 12th-graders often use multiple media simultaneously seems quite robust.

**Depending on the medium about** which they are asked, from one-quarter to one-third of adolescents report using multiple media "most of the time."

The next step was to compute an overall "media multitasking" score that would enable identification of heavy, moderate, and light media multitaskers irrespective of medium. This was accomplished by scoring responses to the questions about the four media represented in Table 7-G, assigning a value of one for "never multitask" to a value of four for "multitask most of the time," then summing these scores to obtain an index of multitasking. The scores could range from four to 16. Those kids whose overall multitasking score was below eight were grouped as light multitaskers (15% of the sample). Those kids whose overall multitasking score ranged from eight through 14 were grouped as moderate multitaskers (70% of the sample). Those kids whose overall multitasking score was 15 or 16 were grouped as heavy multitaskers (15% of the sample). In other words, to be classed as a heavy multitasker, a respondent had to respond "most of the time" to at least three of the multitasking questions (see Appendix 7.4).

**TABLE 7-G**

## Average Daily Media Exposure Among Light, Moderate, and Heavy Media Multitaskers

| | Overall media multitasking level[1] | | |
|---|---|---|---|
| Medium | Light | Moderate | Heavy |
| Reading | 0:35 | 0:39 | 0:47 |
| TV | 2:43[a] | 2:31[a] | 3:56[b] |
| Videos/movies | 0:50[a] | 0:58[a] | 1:22[b] |
| Video games | 0:34[a] | 0:33[a] | 0:57[b] |
| Music | 1:12[a] | 2:03[b] | 3:16[c] |
| Computer | 0:44[a] | 1:05[a] | 2:30[b] |
| *Total media exposure* | 6:38[a] | 7:50[b] | 12:49[c] |

[1] Includes only 7th- to 12th-graders.

*Note: Within each row, only those mean times that do not share a common superscript differ from one another with statistical reliability. Those mean times without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

In light of the findings discussed above, it is not surprising that multitasking level is positively related to overall media exposure. As Table 7-G illustrates, kids classed as light media multitaskers (i.e., as infrequently, if ever, reporting that they use several media simultaneously) report significantly less overall media exposure (6:38) than kids classed as moderate multitaskers (7:50), and both of these groups report substantially less overall exposure than kids classed as heavy multitaskers (12:49). The same general pattern holds for exposure to music (that is, exposure increases significantly with each successive multitasking level). There is no difference between light and moderate multitaskers in amount of exposure to TV, to videos/movies, to computers, or to video games, but each of these groups report significantly less exposure to those media than do heavy multitaskers. Finally, multitasking level is not related to amount of print exposure, likely because reading invites less multitasking because of the attention it requires to be successfully pursued (i.e., distraction from reading arguably interferes with information processing to a greater degree than distraction from such media activities as TV viewing or music listening).

**TABLE 7-H**

## Media Exposure and Media Multitasking

**Of light, moderate, and heavy TV, computer, video game and print users, the percentage who are heavy multitaskers**

| | Average exposure[1] | | |
|---|---|---|---|
| | **Light** | **Moderate** | **Heavy** |
| TV | 11%[a] | 16%[ab] | 25%[b] |
| Computer | 8[a] | 14[b] | 33[b] |
| Video games | 12[a] | 21[ab] | 28[b] |
| Print | 15 | 15 | 18 |

[1] Includes only 7th- to 12th-graders.

*Note: Within each row, only those items that do not share a common superscript differ from one another with statistical reliability. Those items without a superscript, or those that share a common superscript, do not differ by a large enough margin to ensure statistical reliability.*

Finally, as noted earlier in this chapter, high exposure to TV, computers, and video games tends to go hand in hand with heavy multitasking. Table 7-H presents the proportion of 7th- to 12th-graders who were classified as heavy multitaskers in relation to whether they report light, moderate, or heavy use of each of four media: TV, computers, console video games, or print. Compared to the low and moderate exposure groups, a significantly greater proportion of kids in the high exposure group for TV, for computers, and for video games report that they use several media simultaneously "most of the time." We suspect that this is a large part of the explanation for the high overall media exposure levels produced by the heavy-multitasking groups. These percentages also tend to support our earlier speculation that print media are relatively less likely to invite media multitasking than are the various electronic media. Regardless of level of print exposure, fewer than one-fifth of 7th- to 12th-grade kids report heavy media multitasking.

Although some media invite multitasking more than others, and although people have probably always engaged in more than one activity while consuming media, it seems clear that *media* multitasking (as opposed to engaging in some media and some non-media activity at the same time) is a growing and potentially important phenomenon. As we noted in Chapter 5, the amount of time young people have available to devote to media seems to have reached some kind of ceiling, but the amount of media messages to which they are exposed apparently has not. Kids seem to be engaging one, two, three, or more media simultaneously — or at least in a manner that looks simultaneous.[38] Whether the consequences of such media behavior are good, bad, or neutral remains an open question. Does media multitasking increase or decrease the amount of information that is processed? Does it impede or facilitate understanding? Does it affect attention, and if so, how? These are only a few of the questions the multitasking phenomenon raises. The one certainty in all of this is that the phenomenon is real and the questions are important.

**The amount of time young people** have available to devote to media seems to have reached some kind of ceiling, but the amount of media messages to which they are exposed apparently has not.

### Summary

Several different individual factors other than demographic characteristics are related to media exposure. Although the relationship is not as strong as that found in earlier studies, there is a tendency for exposure to electronic media to be higher among young people who report the lowest school grades. Although the difference is statistically reliable only for exposure to video games, to a lesser degree the inverse relationship also holds for TV, videos/movies, and audio media.[39]

The findings for contentedness largely replicate those reported in the 1999 study. That is, as in the earlier study, most kids in our sample are relatively content and well-adjusted. Nevertheless, when the 18% of kids who scored lowest on our index of contentedness are compared with either the 13% who scored highest or the 64% who scored in the middle, it is clear that lower contentedness goes with higher exposure to most media. (The only media for which this pattern does not hold are print and videos/movies; exposure to these media is lowest among kids in the moderate-contentedness group). Although it is not possible to infer causality, the inverse relationship between contentedness and media exposure replicates the findings of a number of earlier studies (cf. Comstock, 1991).

Also in line with the results of our 1999 study, we again find that heavy use of any one medium tends to go hand in hand with heavy use of most other media. The difference in "other" media exposure varies from two hours when light and heavy print users are compared to more than five hours when light and heavy video game users are compared. And although the difference between light and moderate groups is not always large, the increase is consistently positive across the three groups regardless of the medium under consideration. And finally, there is no medium for which the difference between the light- and heavy-user groups is not statistically significant. In short, it appears that there is a substantial group of young people who are simply heavy media users, regardless of the medium. It also

seems that, in a media world where multitasking is becoming commonplace, there is little or no evidence for displacement. That is, heavy use of one medium does not seem to displace use of any of the other media.

Media multitasking — that is, using two or more different media at the same time — is a phenomenon that appears to be increasing and that may have important implications for what young people take away from mediated messages, most of which remain to be identified and explored. Fully one-quarter of our sample claims to use multiple media simultaneously "most of the time." Moreover, those who are identified as heavy media multitaskers (i.e., those who appear to multitask regardless of the medium about which the question is asked) also report substantially higher levels of overall media use than either those who score lowest on a multitasking index or those classified as moderate multitaskers. Indeed, the difference between the moderate and heavy groups exceeds three hours and the difference between the light and heavy groups is almost five hours.

Finally, print use stands out in that it is positively related to school grades. That is, quite the reverse of exposure to electronic media, when school grades increase, so too does time spent reading.

# 8. CONCLUDING COMMENTS

This report attempts to provide a detailed picture of the recreational, non-school-related media behavior of young people in the U.S. It is based on a nationally representative sample of 2,032 young people, ranging in age from 8- to 18-years-old, who completed lengthy questionnaires focusing on the prior day's media use. In addition, a self-selected sample of 694 of these youths also completed a seven-day diary detailing their media use. The survey questionnaires and the diaries document:

- which media young people have in their homes
- which media young people use
- the duration of their media use
- where and with whom they use media
- which media genres and activities are preferred
- what young people's home media environment is like
- what rules, if any, govern their media behavior
- what relationships, if any, exist between both overall media use and exposure to individual media and various demographic variables
- what relationships, if any, exist between both overall media use and exposure to individual media and young people's media environment, school grades, contentedness, and other non-media activities.

## Young people's media environment

In the U.S., young people have access to an unprecedented array of media in their homes and in their bedrooms, as well as by means of a variety of highly portable media devices. A typical 8- to 18-year-old lives in a home containing three TV sets, three CD/tape players, three radios, three VCR/DVD players, two video game consoles, and a computer. The TV is likely to receive cable or satellite signals, and there is a better than 50% chance that it receives premium channels. The computer probably has Internet access, and there is a better than 30% chance that it is high-speed access. In addition, substantial numbers of kids have most of these media in their own bedrooms. More than two-thirds (68%) have their own TV and more than half have their own VCR/DVD player (54%); 95% have a personal music source (i.e., a radio, tape, or CD player in the bedroom, and/or a portable device such as an MP3 player); almost half say they have their own video game console and almost one-third report their own personal computer (31%).

In addition to easy physical access to most media, large numbers of these kids also report a social environment that is conducive to media use. Fewer than half (46%) of 8- to 18-year-olds report that their family has any rules governing TV use, and among older youths (7th- to 12th-graders) the proportions with rules governing TV, computers, video games, or music are even lower. In addition, more than half of our sample (51%) reports that in their home a TV plays "most of the time, even when no one is watching," and 63% say that the TV is "usually" on during meals. The result is that one out of every four 8- to 18-year-olds comes from what we call high TV orientation homes — homes in which *no rules* govern TV viewing *and* the TV is on "most of the time" *and* "usually" plays during meals.

## Amount of media exposure and use

Today's young people live media-saturated lives. They spend nearly 6½ hours per day (6:21) using media, during which time they are exposed to more than 8½ hours per day (8:33) of media messages, a result of the fact that a quarter of the time (26%) that kids use media, they use two or more media simultaneously (e.g., reading while watching TV; a phenomenon we call media multitasking). Exposure to TV and music substantially outpaces exposure to other media. When time spent with TV, videos and DVDs, and movies is combined, screen exposure is over four hours daily (4:15). Music listening, that is, exposure to radio, tapes, CDs, and MP3s, garners about 1¾ hours daily (1:44) of kids' time. Young people also report in excess of an hour daily (1:02) using a computer other than for school or work, 49 minutes daily playing video games, and 43 minutes daily of recreational reading (books,

magazines, newspapers). These numbers can be compared with the 2:17 kids say they spend with their parents, the 1:00 they spend on hobbies or clubs, or among 7th- to 12th-graders, the 2:16 they spend with friends (often, we suspect, while using media), the 1:25 devoted to physical activities (sports, exercise), and the 50 minutes doing homework (again, activities that they sometimes combine with media use). When the proportion of time each young person spends with each medium is calculated, the typical U.S. 8- to 18-year-old spends 45% of all leisure media time with screen media (35% with TV and 13% with videos, DVDs, and movies), 22% of media time with audio media (radio, tapes, CDs, and MP3s), 11% with print media (newspapers, magazines, and books), 11% with computers, and 9% with video games.

### Media exposure and demographic characteristics

Exposure to individual media varies in relation to several demographic characteristics. Age is the most consistent predictor of media exposure. For example, as children grow older their exposure to screen media and the time they spend playing video games decreases, while their exposure to audio media and to computers increases. Race is also a strong predictor of exposure to screen media; African American kids spend the most time with TV, videos/DVDs, and movies, followed by Hispanic kids, followed in turn by White kids. Girls spend more time than boys with audio media and less time than boys playing video games. Socioeconomic indicators such as level of parent education or income are related to surprisingly few kinds of media exposure. Kids whose parents completed some college report less exposure to screen media than either kids whose parents completed no more than high school or kids whose parents finished college, and kids whose parents completed no more than high school spend less time reading than kids whose parents completed some or all of college.

Although race is not related to the amount of time kids spend listening to music (i.e., to audio media), it is strongly related to the kinds of music kids prefer. African American youths are significantly more likely than White kids to listen to Rap/Hip Hop, Rhythm & Blues/Soul, Reggae, and Gospel/Christian. White kids, on the other hand, spread their music preferences across Rap/Hip Hop, a number of rock subgenres (Alternative Rock, Classic Rock, Hard Rock/Heavy Metal, Rave/Techno, Ska/Punk, and Soft Rock), Top 40, and Country/Western. Hispanic youth are the most ecumenical, listening to Latin/Salsa, Rap/Hip Hop, Reggae, Rhythm & Blues/Soul, Alternative Rock, Hard Rock/Metal, Ska/Punk, and Top 40. Girls are more likely than boys to listen to Top 40 and to Country/Western, but somewhat surprisingly, gender locates no other differences in music taste. Gender is, however, strongly related to the kinds of computer activities in which kids are most likely to engage. On any given day, girls are more likely than boys to use e-mail (31% vs. 20%), and although the likelihood of engaging in other computer activities does not differ, girls spend more time than boys visiting Web sites, sending e-mail, and instant messaging, while boys spend more time than girls playing computer games.

### The media environment and media exposure

Both the physical and social media environments are strongly related to levels of media exposure. Young people with access to their own personal media, either in their bedrooms or in portable forms, report substantially higher levels of exposure than kids who do not have personal media. Kids with a TV in their bedroom watch TV almost 1½ hours more daily than kids without a TV (3:31 vs. 2:04); kids with a video game console in their bedroom spend 32 minutes more each day playing console video games; kids who have their own computer almost double the computer time of kids who do not have their own (1:30 vs. 0:47). Moreover, kids who have each of these media in the bedroom also use other media more. For example, compared to kids who do not have their own computer, those who do have their own computer watch more TV and videos/movies, play more video games, and listen to more music. Similar relationships hold for personal TV and video game consoles in the bedroom. Thus, personal possession of any of these media predicts in excess of more than two hours per day of overall media exposure. Only print exposure breaks the pattern. Kids with a TV in the bedroom and those with their own computer read significantly less than kids without those media; kids with their own video game console also read less, but the difference is not statistically reliable.

**In homes where there is some attempt to control** amount of viewing, content viewed, or both, kids watch less TV, play video games less, listen to less music, and spend less time on the computer. They also read more.

Media norms within a household, particularly those that apply to TV, are also related to levels of media exposure. In homes where there is some attempt to control amount of viewing, content viewed, or both, kids watch less TV, play video games less, listen to less music, and spend less time on the computer. They

also read more. The overall result is that kids from homes where there is some attempt to control TV viewing report 1:50 less overall media exposure than kids from homes where no TV rules are imposed. Much the same pattern of relationships emerges for kids from homes that attempt to control either video game playing or computer use, but none of the relationships reach conventional levels of statistical reliability.

Congruent with the findings for TV rules, several other indicators of household TV orientation are also strongly related to media exposure. Total media exposure is 2:20 higher in homes where the TV is usually on, even when no one is watching, than in homes where it is not. Indeed, a constantly operating TV predicts significantly higher use of each of the individual media with the exception of print, where it predicts significantly less reading. A similar pattern emerges when kids from homes in which the TV is usually on during meals are compared to those from homes where the TV does not play during meals. Kids from homes where the TV is on during meals spend 1½ hours more daily with all media than do their "no-TV-during-meals" counterparts, and the differences for each individual medium replicate those found for constant TV, although the differences are not always statistically significant.

Finally, when kids from the most "TV-oriented" households are identified by grouping just those who say that in their home: (1) there are no rules governing TV, *and* (2) the TV is usually on, even when no one is watching, *and* (3) the TV usually plays during meals, the relationship between TV orientation and media exposure is most clear. Compared to kids who do not come from high TV orientation homes, those who do come from households highly oriented to TV report almost 2½ hours more daily media exposure (2:25). They watch over one hour more TV each day (1:12), play video games 25 minutes more, listen to almost a half hour more music (0:29), spend 16 minutes more on a computer, and read nine minutes *less*. There is little question that the physical and social media environment that characterizes a household is strongly related to young people's media exposure.

### Heavy media users and media multitasking

There is little evidence that heavy use of one medium displaces time spent with other media — or for that matter, time spent on a variety of non-media activities. Indeed, we find that heavy use of any of four different media tends to predict heavy use of most other media.

The term "heavy media user" defines young people whose use of print, TV, video games, and/or computers is particularly high. Thus, the 19% of kids who read more than an hour daily are classed as heavy readers; the 20% of kids who report more than five hours' daily TV viewing are grouped as heavy TV viewers; the 13% of kids who play video games in excess of an hour daily are heavy video game players, and the 16% of kids who spend more than two hours daily using a computer are heavy computer users. When these kids are compared to those defined as belonging to light or moderate use groups for each medium, heavy use of one kind of media is consistently related to heavy use of most other media. Thus, compared to moderate exposure kids, heavy print users report 1:44 more overall media exposure, heavy TV viewers report 2:18 more overall media exposure, heavy video game users report 3:01 more overall media exposure, and heavy computer users report 2:59 more overall media exposure. For each of these media, the differences between light and heavy users are even greater, and with few exceptions these differences emerge for each of the individual media (i.e., not only is heavy computer use related to more overall media exposure, but heavy computer users also spend significantly more time with each individual medium).

**How could kids possibly devote that** much time to media? The answer, of course, lies in the growing phenomenon of media multitasking.

At first glance, the high levels of overall media exposure attributed to heavy users of each of these media seem almost unbelievable. The mean overall media exposure among heavy computer users is 10:18, and among heavy video game players is 11:53 (and neither of these "total exposure" estimates includes time spent with the medium on which the classification is based). How could kids possibly devote that much time to media? The answer, of course, lies in the growing phenomenon of media multitasking. More and more, kids report using two, three, and even more media at the same time. That is, since most of our analyses are based on measures of exposure to each individual medium, a good deal of young people's media time has been double-counted (perhaps even triple-counted), thus inflating the actual number of hours that kids spend with media. As noted earlier, on the basis of the diary data, we estimate that on average, 26% of the time that young people use media, they use two or more media simultaneously. It appears, however, that for heavy media users, 26% is a very conservative estimate. That is, kids who fall into the high exposure groups tend to be more likely to use several media simultaneously than their counterparts in the low and moderate exposure groups, and this is particularly true for heavy computer users and heavy video game players, the two subgroups producing

the highest levels of overall media exposure (e.g., 33% of heavy computer users are "heavy media multitaskers," compared to just 18% of heavy print users; see Table 7-H). In addition, kids who are classed as heavy media multitaskers overall (that is, kids who report more multitasking across several media) tend to report substantially higher levels of overall media exposure, as well as higher levels of exposure to most of the individual media. In short, to a large extent, kids classed as heavy users of TV, computers, or video games tend also to be heavy media multitaskers (the pattern does not hold for heavy readers).

### Academic performance and media exposure

School grades are related to some media, but not to others. Kids who report school grades of mostly As and Bs, or mostly Bs and Cs, tend to report about 45 minutes less daily overall media exposure than kids who report mostly Cs and Ds or lower, but this difference is not statistically reliable. The negative relationship is significant for video game playing. In line with earlier research, the relationship between academic performance and time spent reading is *positive* and significant. That is, kids who report the lowest grades read substantially less than those who report the highest grades.

### Personal contentedness and media exposure

The young people in our sample are generally happy and well-adjusted. Nevertheless, those who are least content spend more time with electronic media and less time with print than their more contented peers. Compared to the 13% of respondents identified as highly contented, the 18% of the sample classed as least contented spend significantly more time listening to music and playing video games; they also spend more (but not significantly more) time watching TV and using the computer. The result is that they spend a good deal more time with media overall: highly contented kids report 8:07 of overall media exposure, moderately contented kids report 8:22, and the least contented kids report 9:44 of overall media exposure.

### Coda

The sheer amount of time young people spend with media makes it plain that the potential for media to influence significant aspects of their lives should not be ignored, particularly when we consider that, because of media multitasking, for every hour young people use media they are exposed to 1¼ hours of media content.

Despite concerns that parents often express about the impact of media on their children as well as about the sheer number of hours kids seem to spend with media, the kids themselves do not report much parental effort to monitor or curb their media consumption. The number of TVs, video game consoles, VCRs, computers, and the like in families' homes, not to mention in many kids' bedrooms, the proliferation among kids of highly portable media players (e.g., laptop computers, handheld video games, MP3 players), the amount of time the TV is left on in the home and is on during mealtimes, the proportion of kids who say their parents do not establish rules governing their use of TV, computers, or video games — indeed, all these findings — point to the conclusion that the majority of parents either don't feel their children spend too much time with media, or that they have simply given up. Given that young people who spend the most time with media also report high levels of time pursuing hobbies, hanging out with parents, and in physical activity, it may well be that parents (particularly parents of heavy media users) do not feel overly concerned about the amount of time their children spend with media.

**Despite concerns that parents often** express about the impact of media on their children, the kids themselves do not report much parental effort to monitor or curb their media consumption.

To the extent that parents are concerned about media, however, our results indicate that they can have an impact on their children's media behavior if they so choose. Parents who have kept media out of their children's bedrooms, who turn off the TV during meals, who set (and enforce) rules about media use in general and TV in particular, tend to be parents whose children spend substantially less time with electronic media and more time reading.

Without question, this generation truly is the media generation, devoting more than a quarter of each day to media. As media devices become increasingly portable, and as they spread even further through young people's environments — from their schools, to their cars, to their pockets (e.g., cell phones with TV, audio, print, video gaming, and online capabilities) — media messages will become an even more ubiquitous presence in an already media-saturated world. Anything that takes up this much space in young people's lives deserves our full attention.

# FOOTNOTES

[1] For discussions of how the media industry has begun to perceive children and adolescents as a valuable market, and has developed strategies to target them, see Pecora (1998) and Roberts, Christenson, & Strange (2004).

[2] Media *use* refers to the amount of time spent with media, ignoring instances of simultaneous media use (e.g., reading while listening to music). Media *exposure* refers to the amount of media content encountered, adding in both components of simultaneous media exposure. Thus, the child who simultaneously listens to music and reads for one hour is cred ited with one hour of media *use* and two hours of media *exposure*.

[3] The 1999 study also included 2- to 7-year-olds, whereas the current study is limited to 8- to 18-year olds. All comparisons between the two studies reported on here concern only the 8- to 18-year-old portion of the earlier study.

[4] Students were asked about both in-school and recreational computer use. Since our focus is on recreational media use, our reporting of results does not include school-related computer time unless specifically noted.

[5] We have also used number of parents as a third SES indicator to check some of our findings, assuming that single-parent households typically fall into lower income classifications than do two-parent families. In addition, other information relevant to schools' socioeconomic status that can be used to check our results includes whether a school is eligible for federally funded school meal programs, and whether or not a given school is eligible for Title 1 funds.

[6] Questions about digital television recorders and instant messaging capabilities on the computer were not asked in 1999. The form of the question about audio CD and tape recorders in 2004 differed from that in 1999, precluding over-time comparisons of the proportion of households with three or more of this particular type of medium.

[7] Although each of these media provides non-music content, most of the time most young people use them primarily as a source of music (see Christenson & Roberts, 1998; Roberts, et al., 1999).

[8] It is also interesting to note that when the sample was asked whether there were any rules in their home regulating television viewing, those who responded yes were further asked to indicate whether or not the rules were enforced "most of the time," "some of the time," "a little of the time," or "never." Of the 46% who said there were rules, slightly fewer than half in each age-group said the rules were enforced "most of the time."

[9] There was no question about parental attempts to control the amount of time spent listening to music.

[10] Interestingly, these tend not to be the same kids. That is, more parents attempt to control either time or content than try to control both. Thus, of those kids who report either of the two types of television rules, only 20% responded that their parents imposed both. Similarly, of those who report video game rules controlling either time or content, 25% report both kinds of rules, and of those who report either type of computer rules, 34% report both.

[11] Because these percentages for each medium are computed using different bases (i.e., all 7th- to 12th-graders for television, and 7th- to 12th-grade video game owners and computer owners), the proportions are not strictly comparable. Nevertheless, they provide a reasonable rough estimate of the percentage of parents concerned with the content in each of the different media.

[12] Each of the three individual items that make up high TV orientation also relate to TV and VCR/DVDs in the bedroom and to three or more television sets in the home in the same way, although the difference for TV during meals does not reach statistical significance.

[13] This is not to say that viewing television, videos, and movies does not require cognitive activity (cf. Anderson & Lorch, 1983). However, with these media, what appears on the screen at any given moment does not depend on what a viewer does.

[14] "Self-recorded" TV shows include any television program recorded (whether on videotape or a digital video recorder) for purposes of later viewing (i.e., "time-shifting"); commercial recordings include all pre-recorded videos and DVDs either rented or purchased commercially.

[15] The proportion of Hispanic kids from homes in the lowest income category reporting any TV use the preceding day dropped to 68% (compared to 83% for all Hispanic kids). However, so few respondents fell into this particular category (n=40) that we view the number as highly unstable.

[16] It is worth noting that among many people, especially adolescents, distinctions among music genres are topics of intense debate. Although the categories employed here are based on music categories used by various recording industry publications, it is possible to combine and recombine the categories we have used, thus changing the percentages assigned to various categories.

[17] We suspect that what at first seems to be a shared interest among African American and White kids for gospel/Christian music may actually be another group difference due to our decision to combine the two music types. That is, it is likely that African American teens listen to gospel music (a traditionally "Black" genre) and that White kids listen to Christian music.

[18] Separate questions were asked about single-player games and distributed multi-player games (e.g., online games). This report, however, combines responses for both types of game.

[19] Respondents were also asked to estimate total computer use. However, we reasoned that asking youngsters to think about specific activities would elicit more accurate time estimates than would asking for a single, overall estimate. Thus, we rely on the sum of time devoted to each individual activity.

[20] Unfortunately, our methodology does not allow us to adjust for instances when three or more media are used simultaneously, a behavior that is not at all uncommon among today's young people.

[21] Calculations are based on the 694 respondents who completed detailed media use diaries.

[22] Ideally, of course, we would have calculated the proportions for the various demographic subgroups while controlling for other variables (i.e., we would look at the proportion of time spent media multitasking by each race/ethnicity subgroup while controlling for socioeconomic status, or gender, or age). Unfortunately, the numbers for the resulting subgroups become so small as to make the resulting proportions highly suspect.

[23] Wording of questions on video games differed from 1999 to 2004, making direct comparisons difficult.

[24] This figure refers to console games. When time spent with handheld video games is included (see Appendix 6.1), the difference increases to 44 minutes (vs. the 32 minutes shown in Table 6-A). In other words, kids with a video game console in their bedroom also spend more time playing games on handheld systems.

[25] Part of this difference may have to do with the high proportion of kids with their own computer who also report that they have a TV in their bedroom. It is interesting to note that 77% of kids reporting their own computer also have a bedroom TV, but only 35% of kids reporting a TV in the bedroom report having their own PC or laptop computer.

[26] In a few instances, one or another demographic control revealed that the effect of personal media ownership on time spent with one of the individual media differs as a function of background characteristics. For example, a video game console in the bedroom does reduce the amount of reading among White and Hispanic kids, but not among African Americans. Similarly, the effect on reading of having one's own computer moves from near zero among kids in the low-income and low-education subgroups to a substantial difference among kids in the high-income and high-education subgroups. To reiterate, however, demographic controls largely do not affect the overall patterns reported in the text.

[27] The analysis is limited to students in 7th–12th grade because only they were asked about specific kinds of rules governing each medium (i.e., rules about content and rules about amount of exposure).

[28] These TV exposure numbers are lower than the 3:04 reported in Chapters 3 and 4 because the analysis is limited to 7th- to 12th-graders, thereby eliminating the heaviest TV viewers.

[29] We suspect the slight increase in time spent with videos among kids who report TV rules may indicate that some households that control TV viewing do so by providing videotapes as a substitute for broadcast programming.

[30] Roberts and Foehr (2004) found that older kids are much less likely than parents of younger kids to report family rules governing TV. For example, over 70% of 2- to 7-year-olds live in homes with TV rules, but only about 50% of 8- to 10-year-olds, 40% of 11- to 14-year-olds, and 25% of 15- to 18-year-olds report such rules.

[31] We have included the individual items concerning constant TV and TV during meals, because taken alone, they are less stringent indicators of TV orientation. That is, many more respondents answered yes to one or two of the items in the TV orientation index than to all three, and we were interested to examine the relationships using less stringent criteria.

[32] Although the low- and high-contentment groups report identical amounts of print exposure, the difference between the moderate and low groups falls just short of statistical significance.

[33] The value of Cronbach's alpha for this index is 0.61.

[34] Time spent with handheld video games is not included in this analysis. However, when the analysis is repeated including time spent with handheld video games, the results remain largely the same.

[35] Although statistically significant, the intercorrelations among exposure to different media range from a low of 0.05 to a high of only 0.24 (see Appendix 7.6). In other words, they are not particularly strong. We suspect, however, that the strength of the correlation coefficients is attenuated by distributions of exposure time that depart dramatically from the normal curve. For example, high proportions of young people reporting no exposure to several of the different media tend to reduce the magnitude of the correlation coefficient obtainable. The procedure of classifying respondents into light, moderate, or heavy exposure kids, on the other hand, allowed the dramatically different exposure levels of heavy exposure kids to be more easily seen.

[36] This argument receives support from an additional analysis that identified extreme users of each of the four media. Extreme users were defined as kids who watch TV more than eight hours, read or play video games more than two hours, or use the computer more than 3.5 hours (7–8% of the sample). Although the small numbers render statistical comparisons highly unreliable, relative to heavy users, extreme users manifested substantial increases in exposure to each of the other media. In other words, as we move further out on the distribution of use of each of the four comparison media, the tendency to be a heavy user of all other media continues to increase.

[37] In addition, 28% of young people say they sometimes or often go online while viewing TV to do something related to the show they are watching; 60% of those with computers at home say they can see the TV while using the computer.

38 Whether we are witnessing simultaneous processing or very rapid serial processing remains an open question. That is, we still do not know how much of what seems to be simultaneous media processing is, in fact, simultaneous sharing of information processing capacity among two or more inputs as opposed to very rapid shifting among those inputs.

39 In addition, print exposure is positively related to school grades, so its inclusion in total media exposure attenuates the difference between kids who report school grades of Cs and Ds or lower and those who report higher grades. Thus, when print exposure is removed from the total, the difference between kids who earn the lowest grades and those who earn the highest increases even further, although still not to a conventional level of statistical reliability (i.e., $p < .15$).

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# APPENDICES

# APPENDIX 1

# TOPLINES

TABLE OF CONTENTS:

Harris Interactive, Inc. for the Kaiser Family Foundation.
N=2,032 students ages 8-18.
Margin of error: plus or minus 3.8 percentage points
Field period: October 2003–March 2004

Notes: 03/04 data in **bold.** An asterisk (*) indicates a value less than one-half percent (0.5%). A dash (-) represents a value of zero. Percentages may not always add up to 100% due to rounding or the acceptance of multiple answers from respondents.

## A. BACKGROUND INFORMATION

BASE: ALL RESPONDENTS

5. Please write your age here: _____ years

| | 03/04 | 98/99 |
|---|---|---|
| Mean age | **13** | 13 |
| 8-10 | **27** | 26 |
| 11-13 | **32** | 29 |
| 14-18 | **42** | 42 |

BASE: ALL RESPONDENTS

10. Are you a boy or a girl? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Boy | **51** | 51 |
| Girl | **49** | 49 |

BASE: ALL RESPONDENTS

15. What grade are you in? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| 3rd grade | **10** | 11 |
| 4th grade | **10** | 10 |
| 5th grade | **10** | 10 |
| 6th grade | **10** | 10 |
| 7th grade | **10** | 11 |
| 8th grade | **10** | 9 |
| 9th grade | **11** | 12 |
| 10th grade | **10** | 9 |
| 11th grade | **9** | 9 |
| 12th grade | **8** | 9 |

BASE: ALL RESPONDENTS

20. Who are the adults you live with most of the time? (CIRCLE AS MANY ANSWERS AS YOU NEED.)

| | 03/04 | 98/99 |
|---|---|---|
| Mother | **91** | 91 |
| Father | **64** | 69 |
| Stepmother | **3** | 3 |
| Stepfather | **9** | 10 |
| Parent's girlfriend or boyfriend† | **3** | 3 |
| Sitter or Nanny | **2** | 2 |
| Grandparent(s) | **12** | 9 |
| Aunt or Uncle | **7** | 3 |
| Brother(s) or Sister(s) | **5** | 3 |
| Cousin(s) | **1** | * |

†Parent's girlfriend or boyfriend was asked separately in 98/99

BASE: ALL RESPONDENTS

25. What is the highest level of school that your mother completed? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Some high school | **11** | 10 |
| Finished high school | **30** | 26 |
| Some college or special school after high school | **17** | 17 |
| Finished college | **26** | 29 |
| School beyond college (like doctor, lawyer, professor, social worker, scientist) | **7** | 8 |
| No one fills the role of mother in my family. | **2** | 1 |

BASE: ALL RESPONDENTS

30. What is the highest level of school that your father completed? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Some high school | **12** | 9 |
| Finished high school | **26** | 25 |
| Some college or special school after high school | **16** | 13 |
| Finished college | **25** | 27 |
| School beyond college (like doctor, lawyer, professor, social worker, scientist) | **8** | 9 |
| No one fills the role of father in my family. | **5** | 5 |

BASE: ALL RESPONDENTS

35. How many brothers and sisters under the age of 18 do you live with most of the time? (WRITE THE NUMBER IN THE SPACE PROVIDED. DO NOT COUNT YOURSELF. IF "NONE", WRITE 0.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **1.5** | 1.4 |
| 0 | 22 | 23 |
| 1-2 | 54 | 59 |
| 3-6 | 15 | 13 |
| More than 6 | 1 | 1 |
| NA | 8 | 4 |

BASE: ALL RESPONDENTS

40. What grades do you usually get? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mostly A's | **14** | 17 |
| Mostly A's and B's | **36** | 40 |
| Mostly B's | **7** | 7 |
| Mostly B's and C's | **23** | 19 |
| Mostly C's | **5** | 4 |
| Mostly C's and D's | **6** | 5 |
| Mostly D's | **1** | 1 |
| Mostly D's and F's | **3** | 1 |
| My school does not use grades. | **2** | 5 |

BASE: ALL RESPONDENTS

45. What is your race or ethnic background? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| White (not Hispanic) | **55** | 61 |
| Black or African-American (not Hispanic) | **17** | 14 |
| Hispanic/Latino – White | **13** | 10 |
| Hispanic/Latino – Black | **3** | 2 |
| Asian, Asian Indian, or Pacific Islander | **8** | 6 |
| Native American or Alaskan Native | **1** | 3 |
| Some other race | **4** | 2 |
| Hispanic (unspecified) | * | 1 |

BASE: ALL RESPONDENTS

50. Most days when you get home in the afternoon, who else is usually at home? (CIRCLE AS MANY ANSWERS AS YOU NEED.)

| | 03/04 | 98/99 |
|---|---|---|
| No one – I am usually by myself | **12** | 16 |
| Mother | **54** | 50 |
| Father | **22** | 21 |
| Grandparent(s) | **12** | 9 |
| Aunt(s) or Uncle(s) | **6** | 5 |
| Younger brother(s) or sister(s) | **28** | 30 |
| Older brother(s) or sister(s) | **23** | 23 |
| Sitter or Nanny | **2** | 3 |
| Friend(s) | **4** | 3 |
| Someone else (Write answer below) | **2** | 1 |
| Brother or sister (Unspecified as to age) | **1** | - |
| Stepmother | **1** | * |
| Stepfather | **1** | 1 |
| Cousin(s) | **1** | 1 |

55. How well does each of the following statements describe you? Is each statement a lot like you, somewhat like you, not much like you, or not at all like you? (CIRCLE ONE ANSWER NEXT TO EACH ITEM - A THROUGH K.)

| | A Lot Like Me | Somewhat Like Me | Not Much Like Me | Not At All Like Me |
|---|---|---|---|---|
| BASE: ALL RESPONDENTS | | | | |
| A. I have a lot of friends. | **53** | **35** | **7** | **3** |
| 98/99 | 61 | 30 | 6 | 2 |
| BASE: ALL RESPONDENTS | | | | |
| B. I get along well with my parents. | **48** | **38** | **8** | **3** |
| 98/99 | 53 | 35 | 7 | 2 |
| BASE: GRADES 7- 12 | | | | |
| C. I like friends who are exciting, even if they are wild. | **42** | **43** | **10** | **4** |
| Not asked 98/99 | | | | |
| BASE: GRADES 7- 12 | | | | |
| D. I sometimes choose friends my parents disapprove of. | **18** | **33** | **32** | **16** |
| Not asked 98/99 | | | | |
| BASE: ALL RESPONDENTS | | | | |
| E. I am often bored. | **22** | **30** | **30** | **15** |
| 98/99 | 16 | 30 | 35 | 15 |

*Question 55 continued:*

| | | | | | |
|---|---|---|---|---|---|
| BASE: GRADES 7- 12 | | | | | |
| F. | I like new and exciting experiences, even if I have to break the rules. | **30** | **34** | **26** | **10** |
| | Not asked 98/99 | | | | |
| BASE: ALL RESPONDENTS | | | | | |
| G. | I often feel sad and unhappy. | **11** | **19** | **34** | **34** |
| | 98/99 | 7 | 18 | 34 | 38 |
| BASE: GRADES 7- 12 | | | | | |
| H. | I would rather spend my free time with my parents than with my friends. | **6** | **20** | **41** | **33** |
| | Not asked 98/99 | | | | |
| BASE: ALL RESPONDENTS | | | | | |
| I. | I have been happy at school this year. | **33** | **42** | **16** | **8** |
| | 98/99 | 40 | 39 | 13 | 6 |
| BASE: ALL RESPONDENTS | | | | | |
| J. | I get into trouble a lot. | **9** | **16** | **33** | **39** |
| | 98/99 | 5 | 15 | 27 | 50 |
| BASE: GRADES 7- 12 | | | | | |
| K. | When I have a problem, I talk it out with my parents. | **12** | **34** | **26** | **27** |
| | Not asked 98/99 | | | | |

60. Yesterday, how much time did you spend doing the following? (CIRCLE ONE ANSWER NEXT TO EACH ITEM – A THROUGH G.) *Note: Question not asked in 98/99.*

BASE: GRADES 7- 12

A. Hanging out with friends (when you were not at school)

| | |
|---|---|
| Mean | 2:16 |
| None | 24 |
| 5 min - less than 30 min | 6 |
| 30 min – 1 hour | 14 |
| More than 1 hour – 3 hours | 29 |
| More than 3 hours | 26 |

BASE: ALL RESPONDENTS

B. Hanging out with parent(s)

| | |
|---|---|
| Mean | 2:17 |
| None | 11 |
| 5 min - less than 30 min | 10 |
| 30 min – 1 hour | 25 |
| More than 1 hour – 3 hours | 26 |
| More than 3 hours | 26 |

*Question 60 continued:*

BASE: GRADES 7- 12

C. Doing homework

| | |
|---|---|
| Mean | :50 |
| None | 28 |
| 5 min - less than 30 min | 11 |
| 30 min – 1 hour | 36 |
| More than 1 hour – 3 hours | 21 |
| More than 3 hours | 3 |

BASE: ALL RESPONDENTS

D. Being physically active or exercising (playing sports, working out, dancing, running, etc.)

| | |
|---|---|
| Mean | 1:25 |
| None | 16 |
| 5 min - less than 30 min | 10 |
| 30 min – 1 hour | 33 |
| More than 1 hour – 3 hours | 29 |
| More than 3 hours | 9 |

BASE: ALL RESPONDENTS

E. Participating in other activities (such as clubs, music, art, or hobbies)

| | |
|---|---|
| Mean | 1:00 |
| None | 37 |
| 5 min - less than 30 min | 7 |
| 30 min – 1 hour | 28 |
| More than 1 hour – 3 hours | 18 |
| More than 3 hours | 7 |

BASE: GRADES 7- 12

F. Doing chores

| | |
|---|---|
| Mean | :32 |
| None | 27 |
| 5 min - less than 30 min | 24 |
| 30 min – 1 hour | 41 |
| More than 1 hour – 3 hours | 8 |
| More than 3 hours | * |

BASE: GRADES 7- 12

G. Working at a job

| | |
|---|---|
| Mean | :35 |
| None | 84 |
| 5 min - less than 30 min | 1 |
| 30 min – 1 hour | 2 |
| More than 1 hour – 3 hours | 4 |
| More than 3 hours | 8 |

## B. MEDIA IN THE HOME

65. How many of the following items are there in your home? CIRCLE ONE ANSWER NEXT TO EACH ITEM - A THROUGH G.) *Note: 98/99 numbers for 5 in household reflect households having 5 or more of a particular item.*

| | | Mean | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 or More |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BASE: ALL RESPONDENTS | | | | | | | | | | | | |
| A. | TVs | **3.5** | * | **7** | **18** | **27** | **24** | **14** | **5** | **3** | **1** | **1** |
| | 98/99 | 3.1 | * | 6 | 23 | 29 | 26 | 15 | | | | |
| B. | VCRs or DVD players | **2.9** | **2** | **17** | **27** | **23** | **15** | **8** | **3** | **2** | **1** | **1** |
| | 98/99 (VCRs only) | 2.0 | 2 | 34 | 39 | 18 | 5 | 3 | | | | |
| C. | Digital TV recorders such as TiVo, ReplayTV, Sonic Blue, etc. | **.6** | **62** | **20** | **8** | **3** | **2** | **1** | * | * | - | * |
| | Not asked 98/99 | | | | | | | | | | | |
| D. | CD or tape players | **3.6** | **1** | **12** | **20** | **20** | **19** | **13** | **5** | **4** | **2** | **3** |
| | 98/99† | | | | | | | | | | | |
| E. | Radios | **3.3** | **2** | **13** | **21** | **23** | **18** | **13** | **4** | **2** | **1** | **2** |
| | 98/99 | 3.4 | 2 | 7 | 18 | 20 | 23 | 30 | | | | |
| F. | Computers | **1.5** | **13** | **48** | **24** | **8** | **4** | **1** | **1** | * | * | * |
| | 98/99 | 1.1 | 25 | 49 | 17 | 5 | 1 | 2 | | | | |
| G. | Video game players that hook up to a TV | **2.1** | **16** | **27** | **25** | **13** | **8** | **6** | **2** | **1** | * | **1** |
| | 98/99 | 1.7 | 18 | 33 | 25 | 14 | 6 | 4 | | | | |

†CD and tape player asked separately in 98/99, so data not comparable.

IF YOU HAVE A COMPUTER IN YOUR HOME, GO TO THE NEXT QUESTION.
IF YOU DO NOT HAVE A COMPUTER IN YOUR HOME, GO TO QUESTION 80.

BASE: GRADES 7- 12 AND HAS COMPUTER IN HOME

70. Can you see a TV screen when you are at your computer at home? (CIRCLE AS MANY AS YOU NEED.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Yes, because I have a portable laptop computer. | 13 |
| Yes, I can see a TV from a desktop home computer. | 60 |
| No, I cannot see a TV from any computer. | 30 |

BASE: GRADES 7- 12 AND HAS COMPUTER IN HOME

75. Are there any parental controls or filters on any computer in your home? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Yes | 25 |
| No | 49 |
| Don't know | 26 |

BASE: ALL RESPONDENTS

80. Do you have any of the following items in your bedroom, or not? (Please include portables that you use mainly in your bedroom.) (CIRCLE ONE ANSWER NEXT TO EACH ITEM - A THROUGH H.)

| | | Have In Your Bedroom | | Do Not Have In Your Bedroom | |
|---|---|---|---|---|---|
| | | 03/04 | 98/99 | 03/04 | 98/99 |
| A. | TV | **68** | 65 | **30** | 32 |
| B. | VCR or DVD player† | **54** | 36 | **43** | 58 |
| C. | Digital TV recorder, such as TiVo, Replay TV, Sonic Blue, etc. [Not asked in 98/99] | **10** | | **83** | |
| D. | CD or tape player†† | **86** | 88 | **12** | 12 |
| E. | Radio | **84** | 86 | **14** | 9 |
| F. | Computer | **31** | 21 | **64** | 47 |
| G. | Video game player that hooks up to a TV | **49** | 45 | **48** | 34 |
| H. | A telephone (not a cell phone) [Not asked in 98/99] | **40** | | **56** | |

† Asked about VCRs only in 98/99
†† CD and tape player asked separately in 98/99; data shown reflect children who reported having either a CD or a tape player.

BASE: ALL RESPONDENTS

85. Do you have the following items in your bedroom, in another place in your home, or do you not have this item? (CIRCLE AS MANY AS YOU NEED NEXT TO EACH ITEM - A THROUGH D.)

| | | Have In Your Bedroom | | Have In Another Place In Your Home | | Do Not Have Item | | Don't Know | |
|---|---|---|---|---|---|---|---|---|---|
| | | 03/04 | 98/99 | 03/04 | 98/99 | 03/04 | 98/99 | 03/04 | 98/99 |
| A. | Cable or satellite TV | **37** | 29 | **66** | 61 | **14** | 23 | **2** | 2 |
| B. | Premium channels, such as HBO or Showtime | **20** | 15 | **45** | 38 | **34** | 47 | **8** | 5 |
| C. | Internet access | **20** | 10 | **59** | 40 | **19** | 46 | **4** | 4 |
| D. | Instant messenger [Not asked in 98/99] | **18** | | **46** | | **25** | | **13** | |

BASE: ALL RESPONDENTS

90. On any computer in your home, do you have high-speed Internet access, such as a cable modem or DSL hook-up, or is your Internet access through a dial-up telephone modem? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Dial-up telephone modem access | 31 |
| High speed access (such as cable modem or DSL) | 31 |
| I don't have Internet access on any computer at home | 6 |
| I don't have a computer at home. | 11 |
| Don't know | 17 |

BASE: ALL RESPONDENTS

95. Which of the following items do you, personally, have? (CIRCLE AS MANY ANSWERS AS YOU NEED.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Cell phone | 39 |
| Discman or Walkman | 61 |
| MP3 player or Ipod | 18 |
| Pager | 6 |
| A laptop computer | 12 |
| A handheld videogame player (such as a Gameboy) | 55 |
| A personal digital assistant (such as a Palm Pilot or Handspring) | 11 |
| Any handheld device that connects to the Internet (a Blackberry, a cell phone with Internet connection, etc.) | 13 |
| None of these | 12 |

BASE: ALL RESPONDENTS

100. Have you ever gone online or used the Internet? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | | |
|---|---|---|
| Yes | 96 | (GO TO QUESTION 100) |
| No | 4 | (GO TO QUESTION 115) |

BASE: HAVE GONE ONLINE

105. Thinking only about yesterday, did you go online or use the Internet at the following places? (CIRCLE ONE ANSWER NEXT TO EACH ITEM - A THROUGH C.) *Note: Question not asked in 98/99.*

| | Yes | No |
|---|---|---|
| A. At home | 48 | 47 |
| B. At school | 20 | 64 |
| C. Somewhere else | 16 | 66 |

BASE: GRADES 7-12 WHO HAVE GONE ONLINE

110. In general, where do you go online or use the Internet most often? (CIRCLE ONE ANSWER ONLY.)
*Note: Question not asked in 98/99.*

| | |
|---|---|
| I have never gone online or used the Internet | - |
| Home | 65 |
| School | 14 |
| Friend's house | 7 |
| Some other location (public library, Internet café, etc.) | 2 |

## C. PRINT MEDIA USE

### Magazines

BASE: ALL RESPONDENTS

115. Thinking only about yesterday, about how much time did you spend looking at or reading any magazines? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:14** | :15 |
| None | **51** | 45 |
| 5 min - less than 30 min | **27** | 32 |
| 30 min – 1 hour | **19** | 20 |
| More than 1 hour | **2** | 3 |

### Newspapers

BASE: ALL RESPONDENTS

120. Thinking only about yesterday, about how much time did you spend looking at or reading a newspaper? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:06** | :07 |
| None | **65** | 58 |
| 5 min - less than 30 min | **27** | 32 |
| 30 min – 1 hour | **7** | 10 |
| More than 1 hour | * | * |

## Books

BASE: ALL RESPONDENTS

125. Thinking only about yesterday, about how much time did you spend reading a book that was for your own enjoyment (not a homework assignment)? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | :23 | :21 |
| None | 53 | 53 |
| 5 min - less than 30 min | 16 | 17 |
| 30 min – 1 hour | 24 | 22 |
| More than 1 hour | 7 | 8 |

### Total Time Spent Reading

BASE: ALL RESPONDENTS

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:43** | :43 |
| None | **26** | 20 |
| 5 min - less than 30 min | **27** | 30 |
| 30 min – 1 hour | **28** | 29 |
| More than 1 hour – 3 hours | **15** | 19 |
| More than 3 hours – 5 hours | **3** | 2 |
| More than 5 hours | **1** | 1 |

BASE: GRADES 7-12

130. When you read books or magazines, how often do you do any of the following activities at the same time: use a computer, watch TV or listen to music? (CIRCLE ONE ANSWER ONLY.)
*Note: Question not asked in 98/99.*

| | |
|---|---|
| Most of the time | 28 |
| Some of the time | 30 |
| A little of the time | 26 |
| Never | 16 |

## D. TELEVISION

### Morning TV Viewing (7:00 a.m. - Noon)

BASE: ALL RESPONDENTS

135. Thinking only about yesterday morning, from 7:00 a.m. until noon, did you watch TV? (CIRCLE ONE ANSWER ONLY.) *Note: Question asked differently in 98/99.*

| | |
|---|---|
| Yes | 43 |
| No | 57 |

IF YOU WATCHED TV YESTERDAY MORNING, PLEASE GO TO THE ATTACHED MORNING TV GRID. PLEASE CIRCLE EVERY TV SHOW THAT YOU WATCHED YESTERDAY MORNING. ONLY CIRCLE ONE SHOW IN EACH TIME PERIOD. ONLY CIRCLE A SHOW IF YOU WATCHED MOST OF THAT SHOW.

BASE: WATCHED TV YESTERDAY MORNING (Q135/1)

140. Thinking only about yesterday morning between 7:00 a.m. and noon, about how much time did you spend watching TV? Do not include any time spent watching videotapes, DVDs or shows that you recorded earlier. (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **1:16** | 1:08 |
| None | **3** | 0 |
| 5 min - less than 30 min | **23** | 25 |
| 30 min – 1 hour | **40** | 45 |
| More than 1 hour | **33** | 31 |

### Afternoon TV Viewing (Noon - 6:00 p.m.)

BASE: ALL RESPONDENTS

145. Thinking only about yesterday afternoon, from noon until 6:00 p.m., did you watch TV? (CIRCLE ONE ANSWER ONLY.) *Note: Question asked differently in 98/99.*

| | |
|---|---|
| Yes | 59 |
| No | 40 |

IF YOU WATCHED TV YESTERDAY AFTERNOON, PLEASE GO TO THE ATTACHED AFTERNOON TV GRID. PLEASE CIRCLE EVERY TV SHOW THAT YOU WATCHED YESTERDAY AFTERNOON. ONLY CIRCLE ONE SHOW IN EACH TIME PERIOD. ONLY CIRCLE A SHOW IF YOU WATCHED MOST OF THAT SHOW.

BASE: WATCHED TV YESTERDAY AFTERNOON

150. Thinking only about yesterday afternoon between noon and 6:00 p.m., about how much time did you spend watching TV? Do not include any time spent watching videotapes, DVDs or shows that you recorded earlier. (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **1:44** | 1:43 |
| None | **2** | 0 |
| 5 min - less than 30 min | **8** | 7 |
| 30 min – 1 hour | **37** | 38 |
| More than 1 hour – 3 hours | **41** | 45 |
| More than 3 hours | **11** | 11 |

## Evening TV Viewing (6:00 p.m. - Midnight)

BASE: ALL RESPONDENTS

155. Thinking only about yesterday evening, from 6:00 p.m. until midnight, did you watch TV? (CIRCLE ONE ANSWER ONLY.) *Note: Question asked differently in 98/99.*

| | |
|---|---|
| Yes | 68 |
| No | 31 |

IF YOU WATCHED TV YESTERDAY EVENING, PLEASE GO TO THE ATTACHED EVENING TV GRID. PLEASE CIRCLE EVERY TV SHOW THAT YOU WATCHED YESTERDAY EVENING. ONLY CIRCLE ONE SHOW IN EACH TIME PERIOD. ONLY CIRCLE A SHOW IF YOU WATCHED MOST OF THAT SHOW.

BASE: WATCHED TV YESTERDAY EVENING

160. Thinking only about yesterday evening between 6:00 p.m. and midnight, about how much time did you spend watching TV? Do not include any time spent watching videotapes, DVDs or shows that you recorded earlier. (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **2:12** | 2:10 |
| None | **1** | 0 |
| 5 min - less than 30 min | **5** | 6 |
| 30 min – 1 hour | **31** | 30 |
| More than 1 hour – 3 hours | **42** | 43 |
| More than 3 hours | **22** | 22 |

**Total Time Spent Watching TV**

BASE: ALL RESPONDENTS

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **3:04** | 3:05 |
| None | **19** | 15 |
| 5 min - less than 30 min | **3** | 3 |
| 30 min – 1 hour | **11** | 12 |
| More than 1 hour – 3 hours | **28** | 29 |
| More than 3 hours – 5 hours | **18** | 18 |
| More than 5 hours | **20** | 22 |

## Yesterday's TV Viewing

BASE: WATCHED TV YESTERDAY

165. When you watched TV yesterday, how often were you watching with someone else? (CIRCLE ONE ANSWER ONLY.) *Note: Question asked differently in 98/99 and asked after each day-part - not comparable.*

| | |
|---|---|
| I did not watch TV yesterday | 3 |
| Most of the time | 38 |
| Some of the time | 23 |
| A little of the time | 18 |
| Never, I watched by myself the whole time | 17 |

BASE: WATCHED TV WITH SOMEONE ELSE

170. If you watched TV with someone else yesterday, with whom did you watch? (CIRCLE AS MANY ANSWERS AS YOU NEED.)

| | |
|---|---|
| I watched by myself the whole time | - |
| My mother | 41 |
| My father | 27 |
| My brother(s) or sister(s) | 57 |
| A friend(s) | 19 |
| My grandparent(s) | 5 |
| My Stepfather | * |
| My Aunt or Uncle | 2 |
| My cousin(s) | 5 |
| Sitter or Nanny | * |

## General TV Use

BASE: ALL RESPONDENTS

175. How often is a TV usually on in your home (even if no one is watching)? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Most of the time | **51** | 46 |
| Some of the time | **30** | 38 |
| A little bit of the time | **13** | 13 |
| Never | **5** | 2 |

BASE: ALL RESPONDENTS

180. In your home, is the TV usually on during meals, or not? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Yes, the TV is usually on during meals. | **63** | 65 |
| No, the TV is not usually on during meals. | **36** | 35 |

BASE: ALL RESPONDENTS

185. Does your family have any rules about watching television at your home? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Yes, my family has rules about watching television. | **46** | 38 |
| No, my family does not have rules about watching television. | **53** | 61 |

BASE: GRADES 7-12

190. Which of the following is true for you? (CIRCLE AS MANY ANSWERS AS YOU NEED.)
*Note: Question not asked in 98/99.*

| | |
|---|---|
| My parents have rules about doing homework or chores before watching TV. | 36 |
| My parents usually know what shows I'm watching on TV. | 40 |
| My parents have rules about how much TV I can watch. | 14 |
| My parents have rules about when I can watch TV. | 14 |
| My parents have rules about which shows I can watch. | 13 |
| My parents use a V-chip or some other device that blocks shows or channels. | 6 |
| None of these | 37 |

BASE: PARENTS HAVE TV-WATCHING RULES

195. How often do your parents make sure you follow the rules about watching television? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Most of the time | 44 |
| Some of the time | 29 |
| A little of the time | 17 |
| Never | 5 |
| My parents do not have rules about watching television. | - |

BASE: GRADES 7-12

200. How often are you doing other things (such as eating, doing homework, or talking on the phone) when you watch TV? CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Most of the time | 40 |
| Some of the time | 34 |
| A little of the time | 21 |
| Never | 4 |

BASE: GRADES 7-12

205. When you watch TV, how often do you do any of the following activities at the same time: use a computer, read or listen to music? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Most of the time | 24 |
| Some of the time | 29 |
| A little of the time | 28 |
| Never | 19 |

BASE: ALL RESPONDENTS

210. When you watch TV, how often do you go online on your computer to do something related to what you are watching (such as vote in a poll or check background sports statistics)? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Often | 10 |
| Sometimes | 18 |
| Rarely | 24 |
| Never | 48 |

## E. VIDEOS AND PRERECORDED TV

BASE: ALL RESPONDENTS

215. Thinking only about yesterday, about how much time did you spend watching DVDs, videotapes, or TV shows you had recorded earlier? (CIRCLE ONE ANSWER NEXT TO EACH ITEM - A AND B.)

A. TV shows you recorded earlier (TiVo or videotape)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:14** | :14 |
| None | 75 | 71 |
| 5 min - less than 30 min | 5 | 4 |
| 30 min – 1 hour | 10 | 13 |
| More than 1 hour | 6 | 6 |

B. Other videotapes or DVDs (such as movies)

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:32** | :28 |
| None | 58 | 61 |
| 5 min - less than 30 min | 6 | 4 |
| 30 min – 1 hour | 18 | 16 |
| More than 1 hour | 15 | 15 |

## F. MOVIES

BASE: ALL RESPONDENTS

220. Thinking only about yesterday, how many movies did you see in a movie theater? (CIRCLE ONE ANSWER ONLY.)

| | 03/04 | 98/99 |
|---|---|---|
| Mean time spent watching movies | **:25** | :18 |
| None, I did not see any movies yesterday. | 86 | 88 |
| One movie | 8 | 7 |
| Two movies | 3 | 2 |
| Three or more movies | 2 | 2 |

## G. VIDEO GAMES

BASE: ALL RESPONDENTS

225. Have you ever played any of the following types of videogames? (CIRCLE ONE ANSWER NEXT TO EACH ITEM - A THROUGH C.) *Note: Question not asked in 98/99.*

| | Yes | No |
|---|---|---|
| A. A videogame on a game player hooked up to a TV | 91 | 8 |
| B. A videogame on a handheld player such as a Gameboy | 81 | 16 |
| C. A videogame at an arcade | 71 | 22 |

BASE: ALL RESPONDENTS

230. Thinking only about yesterday, about how much time did you spend playing videogames on a videogame player hooked up to a TV? Do not include time spent playing games on a computer. (CIRCLE ONE ANSWER ONLY.) *Note: Question asked differently in 98/99. Question asked how much time did you spend playing video games – it did not specify, or separate out videogame player vs. handheld.*

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:32** | :26 |
| None | **58** | 59 |
| 5 min - less than 30 min | **10** | 9 |
| 30 min – 1 hour | **18** | 19 |
| More than 1 hour – 3 hours | **10** | 9 |
| More than 3 hours | **3** | 2 |

BASE: ALL RESPONDENTS

235. Thinking only about yesterday, about how much time did you spend playing videogames on a handheld player such as a Gameboy, cell phone or PDA? CIRCLE ONE ANSWER ONLY.)
*Note: Question not asked in 98/99.*

| | |
|---|---|
| Mean | :17 |
| None | 64 |
| 5 min - less than 30 min | 14 |
| 30 min – 1 hour | 14 |
| More than 1 hour – 3 hours | 4 |
| More than 3 hours | * |

BASE: GRADES 7-12

240. Which of the following games have you ever played? (CIRCLE AS MANY ANSWERS AS YOU NEED.)
*Note: Question not asked in 98/99.*

| | |
|---|---|
| Duke Nukem | 27 |
| Enter the Matrix | 26 |
| Grand Theft Auto | 65 |
| Madden NFL | 49 |
| None of these | 23 |

BASE: ALL RESPONDENTS

245. Which of the following is true for you? (CIRCLE AS MANY ANSWERS AS YOU NEED.)
*Note: Question not asked in 98/99.*

| | |
|---|---|
| My parents have rules about which videogames I can play. | 21 |
| My parents have rules about how long I can play videogames. | 24 |
| My parents check the parental warning or rating of the videogames I play. | 16 |
| I have played videogames that I know my parents don't want me to play. | 11 |
| None of these. | 54 |

## H. RADIO

BASE: ALL RESPONDENTS

250. People often listen to the radio while they are doing other things (for example, eating, getting dressed, doing homework, walking or riding in a car or bus).

Thinking only about yesterday, about how much time did you spend listening to the radio, either on a radio or through the Internet? (CIRCLE ONE ANSWER ONLY.) *Note: Question asked differently in 98/99, referencing various types of radio such as music, news, talk radio and other broadcasts.*

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:55** | :46 |
| None | **25** | 24 |
| 5 min - less than 30 min | **23** | 22 |
| 30 min – 1 hour | **30** | 31 |
| More than 1 hour – 3 hours | **14** | 19 |
| More than 3 hours | **7** | 4 |

## I. CDS, TAPES AND MP3s

BASE: ALL RESPONDENTS

255. People often listen to CDs, tapes or MP3s while they are doing other things (for example, eating, getting dressed, doing homework, walking or riding in a car or bus).

Thinking only about yesterday, about how much total time did you spend listening to CDs, tapes, or MP3s? (CIRCLE ONE ANSWER ONLY.) *Note: Question did not include reference to MP3s in 98/99*.

| | 03/04 | 98/99 |
|---|---|---|
| Mean | **:49** | 1:02 |
| None | **32** | 26 |
| 5 min - less than 30 min | **18** | 17 |
| 30 min – 1 hour | **32** | 30 |
| More than 1 hour – 3 hours | **13** | 18 |
| More than 3 hours | **5** | 8 |

BASE: GRADES 7-12 AND LISTENED TO RECORDED MUSIC YESTERDAY

260. What types of music, either on CDs, tapes, MP3s or radio broadcasts, did you listen to yesterday? (CIRCLE AS MANY ANSWERS AS YOU NEED.)

| | 03/04 | 98/99 |
|---|---|---|
| Alternative Rock | **32** | 42 |
| Classic Rock | **16** | 12 |
| Classical | **6** | 4 |
| Country & Western | **18** | 14 |
| Gospel or Christian music | **11** | 8 |
| Hard Rock or Metal | **27** | 20 |
| Jazz or Blues | **8** | 5 |
| Latin or Salsa | **8** | 5 |
| Rap or Hip Hop | **65** | 52 |
| Rave or Techno Rock | **13** | 6 |
| Reggae | **14** | 4 |
| Rhythm & Blues or Soul | **12** | 13 |
| Ska or Punk | **23** | 8 |
| Soft Rock | **12** | 10 |
| Top 40 | **17** | 9 |
| Something else (WRITE ANSWER BELOW) | **6** | * |

BASE: GRADES 7-12

265. When you listen to music, how often do you do any of the following activities at the same time: use a computer, watch TV or read? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99*.

| | |
|---|---|
| Most of the time | 33 |
| Some of the time | 30 |
| A little of the time | 25 |
| Never | 12 |

BASE: GRADES 7-12

270. Which of the following is true for you? (CIRCLE AS MANY ANSWERS AS YOU NEED.)
*Note: Question not asked in 98/99*.

| | |
|---|---|
| My parents have rules about what kind of music I can listen to. | 16 |
| My parents check the parental warning or rating of the music I listen to. | 14 |
| I have listened to music that I know my parents don't want me to listen to. | 20 |
| None of these. | 60 |

## J. TELEPHONE

BASE: GRADES 7-12

275. Thinking only about yesterday, about how much time did you spend talking on the telephone, either on a cell phone or on a regular telephone? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99*.

| | |
|---|---|
| Mean | :53 |
| None | 17 |
| 5 min - less than 30 min | 36 |
| 30 min – 1 hour | 25 |
| More than 1 hour – 3 hours | 16 |
| More than 3 hours | 6 |

## K. COMPUTERS

BASE: ALL RESPONDENTS

280. Have you ever used a computer? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99*.

| | | |
|---|---|---|
| Yes | 98 | (GO TO NEXT QUESTION) |
| No | 2 | (GO TO QUESTION 330) |

BASE: USED A COMPUTER

285. Yesterday, did you use a computer...? CIRCLE ONE ANSWER NEXT TO EACH ITEM – A THROUGH C.)
*Note: Question asked in two parts in 98/99: Yesterday, did you use a computer at school; Yesterday did you use a computer someplace else?*

| | Yes | No |
|---|---|---|
| BASE: USED A COMPUTER and HAVE COMPUTER IN HOME | | |
| A. At home | **48** | **45** |
| Not asked in 98/99 | | |
| BASE: USED A COMPUTER | | |
| B. At school | **22** | **60** |
| 98/99 | 26 | 70 |
| BASE: USED A COMPUTER | | |
| C. Somewhere else | **13** | **66** |
| Not asked in 98/99 | | |

IF YOU USED A COMPUTER YESTERDAY, ANSWER THE NEXT QUESTION. IF YOU DID NOT USE A COMPUTER YESTERDAY, GO TO QUESTION 315.

BASE: USED A COMPUTER YESTERDAY

300. When you used the computer yesterday, how often were you using it with someone else? (CIRCLE ONE ANSWER ONLY.) *Note: Question asked differently in 98/99 - asked after each computer activity.*

| | |
|---|---|
| Most of the time | 13 |
| Some of the time | 12 |
| A little of the time | 18 |
| Never, I used the computer by myself the whole time. | 55 |

BASE: USED A COMPUTER YESTERDAY WITH SOMEONE ELSE

305. When you used a computer with someone else yesterday, with whom did you use it? (CIRCLE AS MANY ANSWERS AS YOU NEED.) *Note: Question asked differently in 98/99 - asked after each computer activity*.

| | |
|---|---|
| I was mainly using it by myself. | - |
| My mother | 17 |
| My father | 8 |
| My brother(s) or sister(s) | 27 |
| A friend(s) | 40 |
| My grandparent(s) | 1 |
| My cousin(s) | 10 |
| A teacher | 6 |
| My class | 12 |
| Someone else | 0 |
| My Aunt or Uncle | 1 |

BASE: ALL RESPONDENTS

310. Thinking only about yesterday, about how much time did you spend using the computer for the following activities? (CIRCLE ONE ANSWER NEXT TO EACH ITEM – A THROUGH K.) *Note: Question asked differently in 98/99; different in wording, structure and categories. Refer to 98/99 questionnaire.*

| | | Mean | No Time | 5 - < 30 min. | 30 min - 1 hr. | > 1 hr. - 3 hrs | > 3 hrs |
|---|---|---|---|---|---|---|---|
| A. | School work on a computer, but not on the Internet | **:09** | **72** | **10** | **13** | **2** | * |
| B. | School work on the Internet | **:05** | **77** | **10** | **10** | * | **0** |
| | Total School work time | **:14** | | | | | |
| | 98/99 School work time | :11 | 65 | 12 | 15 | 3 | * |
| C. | Games on a computer, but not on the Internet | **:09** | **68** | **12** | **13** | **1** | * |
| D. | Games on the Internet | **:09** | **72** | **13** | **12** | **2** | * |
| | Total Computer Games | **:19** | | | | | |
| | 98/99 computer games | :12 | 63 | 13 | 17 | 2 | 0 |
| E. | Going to Web sites (for anything besides schoolwork) | **:14** | **62** | **15** | **15** | **3** | **1** |
| | 98/99 Web sites | :07 | 72 | 11 | 11 | 1 | 0 |
| F. | Instant Messaging *(not asked 98/99)* | **:17** | **70** | **9** | **10** | **5** | **1** |
| G. | Visiting chat rooms | **:04** | **86** | **4** | **4** | **1** | **0** |
| | 98/99 Chat rooms | :05 | 81 | 5 | 7 | 1 | * |
| H. | E-mail | **:05** | **71** | **19** | **6** | * | **0** |
| | 98/99 E-mail | :04 | 76 | 13 | 5 | * | 0 |
| I. | Graphics (e.g., Powerpoint, photo editing, design) on a computer, but not on the Internet (not asked 98/99) | **:04** | **84** | **7** | **4** | **1** | **0** |
| J. | Something else on a computer, but not on the Internet | **:03** | **87** | **2** | **3** | **1** | * |
| K. | Something else on the Internet | **:02** | **87** | **2** | **3** | **1** | * |
| | Total Something else | **:05** | | | | | |
| | 98/99 Something else | :06 | 75 | 3 | 4 | 1 | 1 |
| **Total recreational computer** | | **1:02** | | | | | |
| 98/99 Total recreational computer | | :27 | | | | | |

**BASE: USED A COMPUTER YESTERDAY**

310. Thinking only about yesterday, about how much time did you spend using the computer for the following activities? (CIRCLE ONE ANSWER NEXT TO EACH ITEM – A THROUGH K.) *Note: Question asked differently in 98/99; different in wording, structure and categories. Refer to 98/99 questionnaire.*

| | | Mean | No Time | 5 - < 30 min. | 30 min - 1 hr. | > 1 hr. - 3 hrs | > 3 hrs |
|---|---|---|---|---|---|---|---|
| A. | School work on a computer, but not on the Internet | **:15** | **54** | **16** | **21** | **2** | * |
| B. | School work on the Internet | **:10** | **62** | **15** | **16** | **1** | - |
| | Total School work time | **:25** | | | | | |
| | 98/99 School work time | :21 | 37 | 23 | 29 | 6 | * |
| C. | Games on a computer, but not on the Internet | **:15** | **48** | **20** | **22** | **2** | * |
| D. | Games on the Internet | **:15** | **55** | **17** | **18** | **3** | * |
| | Total Computer games | **:30** | | | | | |
| | 98/99 Computer games | :22 | 33 | 25 | 33 | 4 | * |
| E. | Going to Web sites (for anything besides schoolwork) | **:22** | **39** | **25** | **24** | **4** | * |
| | 98/99 Web sites | :13 | 51 | 21 | 21 | 1.8 | - |
| F. | Instant Messaging *(not asked 98/99)* | **:27** | **52** | **15** | **18** | **6** | **3** |
| G. | Visiting chat rooms | **:06** | **77** | **8** | **7** | **2** | - |
| | 98/99 Chat rooms | :09 | 68 | 10 | 13 | 2 | * |
| H. | E-mail | **:08** | **53** | **30** | **10** | * | - |
| | 98/99 E-mail | :07 | 57 | 26 | 10 | 1 | - |
| I. | Graphics (e.g., Powerpoint, photo editing, design) on a computer, but not on the Internet *(not asked 98/99)* | **:06** | **74** | **13** | **6** | **1** | - |
| J. | Something else on a computer, but not on the Internet | **:05** | **79** | **4** | **5** | **1** | * |
| K. | Something else on the Internet | **:04** | **80** | **3** | **4** | **1** | * |
| | Total Something else | **:08** | | | | | |
| | 98/99 Something else | :11 | 56 | 6 | 8 | 2 | 1 |
| **Total recreational computer** | | **1:40** | | | | | |
| 98/99 Total recreational computer | | :52 | | | | | |

BASE: GRADES 7-12 AND USED A COMPUTER

315. When you use a computer, how often do you do several things at the same time (such as E-mail, Instant messaging, homework, etc.)? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99*.

| | |
|---|---|
| Most of the time | 40 |
| Some of the time | 25 |
| A little of the time | 19 |
| Never | 14 |

BASE: GRADES 7-12 AND USED A COMPUTER

320. When you use a computer how often do you do any of the following activities at the same time: read, watch TV or listen to music? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99*.

| | |
|---|---|
| Most of the time | 33 |
| Some of the time | 29 |
| A little of the time | 23 |
| Never | 14 |

BASE: USED A COMPUTER

325. Which of the following is true for you? (CIRCLE AS MANY ANSWERS AS YOU NEED.) *Note: Question not asked in 98/99*.

| | |
|---|---|
| My parents have rules about how long I can use the computer. | 28 |
| My parents have rules about what I can do on the computer. | 32 |
| My parents usually know which websites I'm going to when I go on the Internet. | 30 |
| None of these. | 45 |

## L. CONCLUSION

BASE: GRADES 7-12

330. Which of the following have you ever done? (CIRCLE AS MANY ANSWERS AS YOU NEED.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Downloaded music from the Internet | 64 |
| Used Instant messaging | 66 |
| Gotten information on the Internet about a health issue that affects you or someone you know | 50 |
| Gotten information on the Internet about things that are hard to talk about with other people | 29 |
| Pretended to be older than you are to gain access to a Web site | 31 |
| Created a personal website or webpage | 32 |
| Listened to the radio streamed through the Internet | 48 |
| Bought something online | 38 |
| Gone to an R-rated movie in a theater without your parents | 45 |
| None of these | 9 |

BASE: ALL RESPONDENTS

335. When you do your homework, how often do you do any of the following activities at the same time: talk on the phone, Instant Message, watch TV, listen to music, or surf the Web for fun? (CIRCLE ONE ANSWER ONLY.) *Note: Question not asked in 98/99.*

| | |
|---|---|
| Most of the time | 30 |
| Some of the time | 31 |
| A little of the time | 19 |
| Never | 18 |

THE END

THANK YOU FOR YOUR TIME AND EFFORT!

# APPENDIX 2

# METHODOLOGY

# APPENDIX 2.1

# QUESTIONNAIRE

This report is based on a nationally representative survey of 3rd- to 12th-grade students, designed to explore their access to and recreational (nonschool) use of a full range of media, including newspapers, magazines, books, television, DVDs and videotapes, video games, movies, radio, MP3s, CDs and tapes, computers, and the Internet. In addition to interviews with 2,032 students age 8–18, 694 seven-day media-use diaries — collected from respondents who chose to participate — were used to help guide the survey analyses (primarily to develop a proportion of time spent media multitasking). The findings in this report are based on the nationally representative sample, except where noted. The margin of sampling error for this sample is +/-3.8%.

The Kaiser Family Foundation worked with Dana Markow and Jordan Fein of Harris Interactive, Inc., and with Donald F. Roberts and Ulla G. Foehr of Stanford University, to design and analyze the survey. All parties were involved in all stages of the research; however, Harris Interactive was primarily responsible for sampling and data collection while data analyses and reporting of results were the primary responsibility of the Kaiser Family Foundation and the Stanford team. At the Foundation, the project was directed by Victoria Rideout, and received substantial input from Mollyann Brodie. The current study updates the Kaiser Family Foundation's 1999 study, *Kids & Media @ the New Millennium*, which was conducted by the same team.[1]

What follows is a detailed description of the methods used in this survey research.

## Sample overview

The sample includes 2,032 students in grades 3–12, who completed written questionnaires in the classroom about their media use the previous day (see Appendix 1 for the full text of the questionnaire). Questionnaires were administered by an independent interviewer who proctored the class and was available to answer any student questions. If an independent interviewer was not available, the teacher administered the questionnaire. Interviews averaged 40 minutes in length and were conducted between October 14, 2003, and March 19, 2004. Because questionnaire administration was spread across the days of the week, "time spent yesterday" includes responses for each of the seven days, with the caveat that a slightly lower proportion of questionnaires pertain to Friday, Saturday, and Sunday (8%, 10% and 13% respectively,) than to Monday through Thursday (14%, 19%, 17%, and 18% respectively). In addition, the sample includes seven-day media-use diaries for 694 of these youth who chose to complete them (see Appendix 2.2 for a copy of the diary).

## Creating a school sample

Harris Interactive's national probability sample of schools and students is based on a highly stratified two-stage sampling design. This clustered design employs features similar to the sample designs used in various national surveys of students and schools that are conducted by the National Center for Educational Statistics.

The sample is drawn from a list of approximately 80,000 public, private and parochial schools in the United States. It is selected to account for differences in grade enrollment, region and the size of the municipality where schools are located. A random selection of schools is drawn on the basis of the number of students in each cell proportionate to the number of students in the universe, creating a cross-section of young people in a set of designated grades (in this study, grades 3–12). This sample design also permits oversampling by a variety of criteria (e.g., location,

[1] The 1999 study also included 2- to 7-year-olds, whereas the current study is limited to 8- to 18-year-olds. All comparisons between the two studies reported here concern only the data collected from the 8- to 18-year-olds in the earlier study.

urbanicity, grade level, school type, race/ethnicity). This study includes an oversample of Black and Hispanic students.

There are several benefits that can be gained from school-based interviewing as compared to home-based, in-person or telephone interviewing. The school setting proves to be far more neutral, since young people are allowed to express their attitudes and experiences without the influence of a parent nearby. The privacy of a self-administered questionnaire provides further guarantee of confidentiality when asking young people questions of a sensitive nature. Furthermore, this approach ensures that the sample will include young people in households without telephones or whose parents might otherwise not agree to allow their child to complete an interview.

### The interviewing process

**Gaining the principal's consent and selecting a class.** After sending a letter to principals soliciting their participation, Harris Interactive, Inc. contacted the principals in selected schools by telephone to request their participation in the survey. An eligible grade was randomly assigned to each school. Schools were invited to participate in either the "basic" or "deluxe" version of the survey. The basic survey consisted of the questionnaire only, while the deluxe version consisted of the in-class questionnaire and a seven-day diary to be completed by the student at home. If the principal agreed to participate in either version of the survey, a random selection process was then used to select a particular class to complete the survey. The principal was asked to alphabetize all classes for the grade assigned by Harris Interactive. Using a random number selection grid, an interviewer identified an individual class. For schools serving older youth (11- to 18-years-old), where students attend different classes for each subject, only English classes were used to make the selection. Since all students in all grades must study English, this ensures a more representative sample of students by academic track and level of achievement.

### Maximizing response rates

A number of steps were included in the consent process in order to maximize response rates. An alert letter contained a brief description of the survey process and some background information on Harris Interactive. In addition, a letter from the Kaiser Family Foundation describing the importance and scope of the project was included with the alert letter from Harris. Schools also were offered an incentive to participate.

In addition, at a principal's request, calls were made to local boards or district offices to gain approval from the appropriate officials. If necessary, copies of the introductory letters and other materials were mailed or sent via fax to the principal and/or other school officials.

### Maintaining a representative sample

If a particular school could not participate, it was replaced by a school with similar demographic characteristics so as to preserve the integrity of the primary selection. Another randomly drawn school was chosen within the same region, with similar grade enrollment and size of municipality, and in the same or the nearest zip code to the original school.

### Interviewing the students

A trained interviewer from Harris Interactive, Inc. distributed questionnaires, including TV listing grids for the previous day, and provided instruction on completing the questionnaires to the selected class. If the school had chosen to participate in the deluxe version of the survey, the interviewer also distributed diary booklets.

By providing teachers with educational materials, including *The Basic Primer on Public Opinion Polling*, we hoped to ensure that this exercise was woven into the classroom curriculum in a meaningful way. Furthermore, by surveying only one class in each school, we imposed on the school as little as possible. Students were given envelopes in which to seal their completed surveys before returning them to the interviewer. The survey instrument is anonymous; at no point were the students asked to provide their names.

### Removal of outliers and nonqualified respondents

Of the 2,074 students in grades 3–12 who were surveyed during an English class, 2,032 were kept in the sample and 42 were excluded. All interviews were carefully checked for completeness and accuracy. Twenty-five surveys were removed upon arrival in-house due to significant errors or large proportions of missing data. Nine respondents were removed because they entered an age outside of the targeted age range of this study (8-18). In addition, eight respondents were excluded as "outliers" because their answers fell far outside the normal response range for total media usage. As with all self-administered questionnaires, occasional questions are sometimes left blank. Unless otherwise noted, findings for each question were based on the total number of potential respondents in the sample.

Of the 798 students who completed a seven-day diary recording their use of media, 694 were kept in the diary sample. Respondents were removed from the diary sample if they were removed from

the survey sample (n=12), or if they did not complete at least five full days of the diary (at least 75% of each day; n=92).

## Potential sampling error

The results for sample surveys are subject to sampling error — the potential difference between results obtained from the sample and those that would have been obtained had the entire population been questioned. The size of the potential sampling error varies with both the size of the sample and with the percentage giving a particular answer.

In general, when clustered samples (such as in this study where groups of the sample respondents are all members of the same class in the same school) are compared to pure random samples that involve no clustering, it is found that the cluster samples exhibit somewhat greater sampling variation. The ratio of the variance shown by the cluster sample to the variance that would be expected from a pure random sample of the same size is known as the design effect or DEFF.[2] The square root of DEFF is denoted by DEFT. The design effect is a measure of efficiency of a given sample design as compared to the benchmark of simple random sampling.

On the basis of empirical computation, the values of DEFF and DEFT for this school sample design have been determined as 3.13 and 1.77, respectively. Thus, statistical inferences using data from the school sample which employ standard statistical formulas for the variance and standard error of estimate should be modified through multiplication by the factors of 3.13 and 1.77, respectively.

The margin of sampling error for this sample is +/-3.8%, which accounts for both the size of the sample and the design effect. For smaller subgroups of the sample, the margin of sampling error is larger.

## Weighting the data

As with all school-based surveys, a two-stage weighting process is used to ensure a representative sample of students. These weights are based on data from the National Center for Education Statistics and the U.S. Bureau of the Census, and they control the distribution of students by grade, region, size of place, gender and race/ethnicity. Each class is also weighted to average class size achieved. The average class size was 22 students per class.

Exhibit 1.4 provides a comparison of the demographic profile of the weighted and unweighted total sample.

## Analyses

Findings discussed in this report are analyzed using standard statistical tests of significance, most commonly tests for differences in population proportions and analyses of variance/t-tests for differences among means. All tests have been adjusted to take sample design and weights into account. Standard levels of significance are applied at the $p<.05$ level (i.e., differences as great as those noted would occur by chance no more than five times in 100).

Tables in this report employ a system of superscripted letters to indicate statistically significant differences between proportions or means. Proportions or means with no superscript or that share any superscripted letter do not differ significantly. Hence, proportions or means with no superscripted letters in common also differ reliably. Several examples may help to clarify this convention.

In the first row of proportions depicted below (Example 1), none of the numbers have superscripted letters in common. Thus, the first proportion (20%) differs significantly from both 35% and 48%, and 35% also differs significantly from 48%.

In Example 2, the first two proportions (12% and 30%) do not share a common superscript, but the third proportion (20%) has a superscript in common with both. Thus, the first (12%) differs significantly from the second (30%), but does not differ from the third (20%). Similarly, the second (30%) also does not differ significantly from the third (20%).

**EXHIBIT 1.4**

**Distribution of the Sample of Students**

| | Total sample weighted | Unweighted | Nation-wide |
|---|---|---|---|
| **Base** | % | % | % |
| **Age** | | | |
| 8- to 10-years old | 26 | 26 | 28 |
| 11- to 14-years old | 43 | 35 | 41 |
| 15- to 17-years old† | 31 | 39 | 31 |
| **Sex** | | | |
| Male | 51 | 49 | 51 |
| Female | 49 | 51 | 49 |
| **Race or Ethnicity** | | | |
| Hispanic | 16 | 19 | 16 |
| Black | 17 | 15 | 17 |
| Other | 67 | 66 | 67 |

† Weighting was based on 15- to 17-year-olds because relatively few 18 year-olds are in grade 12.

[2] See, for example, the discussion by L. Kish in Kotz, S. and Johnson, N.L. Encyclopedia of Statistical Sciences: Vol.2 New York: John Wiley & Sons, 1982.

In Example 3, the first proportion (10%) differs significantly from the second proportion (33%), but not from the third (14%). The second proportion (33%) also differs significantly from the third (14%).

Finally, in Example 4, there are no superscripts associated with any of the proportions. Thus, all three numbers share the same "nil" superscript, therefore do not differ significantly

| | | | |
|---|---|---|---|
| Example 1: | 20%[a] | 35%[b] | 48%[c] |
| Example 2: | 12%[a] | 30%[b] | 20%[ab] |
| Example 3: | 10%[a] | 33%[b] | 14%[a] |
| Example 4: | 26% | 21% | 24% |

The focus of this report is on results from the 2004 sample. However, in those instances where there have been important or interesting changes since 1999 in any aspect of media behavior, we also present those findings. For the most part, presentation of results comparing findings from 1999 and 2004 are presented in side-bars and in the appendices. When statistical tests indicate that the results for the two years differ significantly (i.e., that the likelihood of a reported difference would occur fewer than five times in 100), we use a double dagger (‡) to mark that fact. Thus, the two proportions in Example 5 do not differ significantly, while the two proportions in Example 6 do.

| | **2004** | **1999** |
|---|---|---|
| Example 5: | 61% | 54% |
| Example 6: | 24%‡ | 13% |

# APPENDIX 2.2

# DIARY

## Introduction

In addition to the questionnaire, the seven-day media use diaries were analyzed for 694 3rd- to 12th-graders.

To generate this sample of 694 diaries, all schools that participated in the survey were recruited to complete the week-long diary portion of the study. A small incentive was offered for completion of the diaries. Of the 798 students who completed a seven-day diary recording their use of media, 694 were kept in the diary sample. Respondents were removed from the diary sample if they were removed from the survey sample (n=12), or if they did not complete at least five full days of the diary (at least 75% of each day, n=92).

The weighting procedures employed by Harris Interactive for the larger samples were also applied to the subsamples of diaries. It is important to note that the diaries represent a self-selected sample, and as such, are not necessarily representative of all children age 8–18.

## Diary questions and administration

The children were asked to record any media use that occurred in the seven-day diary period. Media use was recorded in half-hour segments covering the time period from 6:00 a.m.–midnight.

If a respondent indicated using media during any half-hour time slot, he or she was asked to indicate whether or not each act of media use occurred in combination with other activities. The list of possible additional activities included: nothing else, chores, eating, talking on the phone, doing homework (either on or off the computer), listening to music, watching TV, videos or DVDs, reading, playing video games, playing computer games, instant messaging, e-mailing, visiting Web sites, other computer activities, or something else. Young people who used media were then asked to indicate where the activity took place: in their bedroom, another room in the house, a friend's home, school, at child care or an after school program, in a car or bus or train, or someplace else. Finally, youths who used media in that half-hour time slot were asked to indicate whether they were alone or with one or more of the following: mother or father, brother or sister, friend, sitter or nanny, grandparent, teacher, someone else.

In addition to the media questions asked about each half-hour, the students were asked to answer four questions about themselves at the beginning of the diary, as well as six questions about time spent in other activities at the end of each day (see sample pages that follow).

## Examples

The following are reproductions of sample pages from the diary, including the instruction page, the "About You" questions, the first page of Day One of the diary, in which children recorded their media use in half-hour increments, and the final page of Day One of the diary, in which children recorded the date, day of the week, and what else they did that day.

# DIRECTIONS

## PLEASE READ ALL OF THE INSTRUCTIONS CAREFULLY

THIS DIARY will be a record of your activities for **seven** days, beginning **today**. In your diary booklet there are seven sections: one for each day. Each section contains an Activities Grid and two end of day questions. Please fill in the Activities Grid throughout the day. At the end of each day, before you go to sleep, please answer the questions at the end of the section and make sure that the Activities Grid is complete.

### ABOUT YOU QUESTIONS:

Before you begin to use the Activities Grid, please answer the "ABOUT YOU" questions on the next page. After you complete the five "ABOUT YOU" questions, please continue on to the Activities Grid.

### ACTIVITIES GRID:

The Activities Grid is designed to help you keep track of the different kinds of media that you have used throughout the day. Each column is for a different half hour period during the day. There are five different questions.

**1. WERE YOU DOING ANY MEDIA ACTIVITIES FOR AT LEAST 15 MINUTES?**

*(CIRCLE ONLY ONE ANSWER - PLEASE DO NOT LEAVE BLANK)*

Yes - Answer the questions below.
No - Go to the next time slot.

*Please see activities listed in Question 2 for examples of media activities.*

**2. WHAT WAS YOUR MAIN MEDIA ACTIVITY?**

*(CIRCLE ONLY ONE ANSWER)*

1. Listening to music
2. Watching TV
3. Watching videotapes/DVDs
4. Watching a movie (in a theater)
5. Reading for fun (books, magazines, etc.)
6. Playing video games (handheld or player)
7. Playing computer games
8. Doing homework on the computer
9. Instant Messaging
10. Emailing
11. Visiting websites
12. Other computer activities

*Please circle the number that matches the **one** media activity that you were paying most attention to.*

*Then answer the next three questions about the media activity that you circled.*

**3. WHAT ELSE WERE YOU DOING?** *(CIRCLE AS MANY ANSWERS AS YOU NEED)*

1. Nothing else
2. Chores
3. Eating
4. Talking on the phone
5. Homework (not on the computer)
6. Homework (on the computer)
7. Listening to music
8. Watching TV, videos or DVDs
9. Reading
10. Playing video games
11. Playing computer games
12. Instant Messaging
13. Emailing
14. Visiting websites
15. Other computer activities
16. Something else: (write in activity)

*Please circle the number or numbers that match the other things you were doing when your were reading, listening to music, playing a video game, watching TV or a movie, or using the computer. If you were doing* "Something else," *please write in your answer.*

**4. WHERE WERE YOU?** *(CIRCLE ONLY ONE ANSWER)*

1. My bedroom
2. Another room at home
3. A friend's home
4. School
5. Before/after school program or child care
6. Car or bus or train
7. Someplace else

*Please circle the number that matches the place where you were when you were doing the activity.*

**5. WHO WAS WITH YOU?** *(CIRCLE AS MANY ANSWERS AS YOU NEED)*

1. I was mainly alone
2. Mother or father
3. Brother or sister
4. Friend
5. Sitter or nanny
6. Grandparent
7. Teacher
8. Someone else

*Please circle the number or numbers that match the people that were with you when you were doing the activity.*

**THANK YOU FOR YOUR HELP ON THIS IMPORTANT PROJECT!**
**REMEMBER: TODAY IS DAY ONE!**

**PLEASE RETURN THIS DIARY TO YOUR TEACHER ON _____**

# ABOUT YOU

**1. WHICH OF THE FOLLOWING BEST DESCRIBES HOW YOU USUALLY WATCH TV?**
(CIRCLE ONLY ONE ANSWER)

1. I mainly watch one program or channel at a time
2. I mainly switch back and forth between a couple of channels at once
3. I mainly channel surf

**2. HOW MUCH DO YOU USE INSTANT MESSAGING TO STAY IN TOUCH WITH FRIENDS AND FAMILY?**
(CIRCLE ONLY ONE ANSWER)

1. A lot
2. Somewhat
3. A little
4. None

**3. WHICH WORD BEST DESCRIBES HOW YOU FEEL WHEN YOU ARE WAITING (SUCH AS IN A LINE, OR IN A DOCTOR'S OFFICE) AND YOU DON'T HAVE ANYTHING ELSE TO DO?**
(CIRCLE ONLY ONE ANSWER)

1. Anxious or nervous
2. Bored
3. Frustrated or impatient
4. Glad to have some time to relax
5. Like I'm wasting time
6. None of these

**4. SOMETIMES PEOPLE USE TWO OR MORE MEDIA AT THE SAME TIME (SUCH AS READING WHILE WATCHING TV OR LISTENING TO MUSIC WHILE PLAYING VIDEOGAMES).**

**WHICH BEST DESCRIBES WHY YOU USE TWO OR MORE MEDIA AT THE SAME TIME?**
(CIRCLE ONLY ONE ANSWER)

1. I never use two or more media at the same time
2. It relaxes me
3. It's the only way I can do everything I need to do
4. It's the only way I can keep up with all of the latest in music, TV, magazines, videogames, etc.
5. So I don't get bored
6. So it's not too quiet
7. That's the way I always do things
8. None of these

**5. WHAT IS THE DATE THAT YOU ARE BEGINNING YOUR DIARY (DAY ONE)?**
(WRITE ANSWER BELOW)

_____ _____ _____
(Month) (Day) (Year)

# DAY ONE

| 1. WERE YOU DOING ANY MEDIA ACTIVITIES FOR AT LEAST 15 MINUTES? (see activities list in Question 2) | 6:00–6:30 AM | 6:30–7:00 AM | 7:00–7:30 AM | 7:30–8:00 AM | 8:00–8:30 AM | 8:30–9:00 AM |
|---|---|---|---|---|---|---|
| | CIRCLE ONLY ONE ANSWER - PLEASE DO NOT LEAVE BLANK | | | | | |
| YES - Answer the questions below.<br>NO - Go to the next time slot. | Yes (Answer the questions below. ↓) No | Yes (Answer the questions below. ↓) No | Yes (Answer the questions below. ↓) No | Yes (Answer the questions below. ↓) No | Yes (Answer the questions below. ↓) No | Yes (Answer the questions below. ↓) No |
| **2. WHAT WAS YOUR MAIN MEDIA ACTIVITY?** | CIRCLE ONLY ONE ANSWER | | | | | |
| 1. Listening to music<br>2. Watching TV<br>3. Watching videotapes/ DVDs<br>4. Watching a movie (in a theater)<br>5. Reading for fun (books, magazines, etc.)<br>6. Playing video games (handheld or player)<br>7. Playing computer games<br>8. Doing homework on the computer<br>9. Instant Messaging<br>10. Emailing<br>11. Visiting websites<br>12. Other computer activities | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 |
| **3. WHAT ELSE WERE YOU DOING?** | CIRCLE AS MANY ANSWERS AS YOU NEED | | | | | |
| 1. Nothing else<br>2. Chores<br>3. Eating<br>4. Talking on the phone<br>5. Homework (not on the computer)<br>6. Homework (on the computer)<br>7. Listening to music<br>8. Watching TV, videos or DVDs<br>9. Reading<br>10. Playing video games<br>11. Playing computer games<br>12. Instant Messaging<br>13. Emailing<br>14. Visiting websites<br>15. Other computer activities<br>16. Something else: (write in activity →) | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16 |
| **4. WHERE WERE YOU?** | CIRCLE ONLY ONE ANSWER | | | | | |
| 1. My bedroom<br>2. Another room at home<br>3. A friend's home<br>4. School<br>5. Before/after school program or child care<br>6. Car or bus or train<br>7. Someplace else | 1 2 3 4 5<br>6 7 | 1 2 3 4 5<br>6 7 | 1 2 3 4 5<br>6 7 | 1 2 3 4 5<br>6 7 | 1 2 3 4 5<br>6 7 | 1 2 3 4 5<br>6 7 |
| **5. WHO WAS WITH YOU?** | CIRCLE AS MANY ANSWERS AS YOU NEED | | | | | |
| 1. I was mainly alone<br>2. Mother or father<br>3. Brother or sister<br>4. Friend<br>5. Sitter or nanny<br>6. Grandparent<br>7. Teacher<br>8. Someone else | 1 2 3 4 5<br>6 7 8 | 1 2 3 4 5<br>6 7 8 | 1 2 3 4 5<br>6 7 8 | 1 2 3 4 5<br>6 7 8 | 1 2 3 4 5<br>6 7 8 | 1 2 3 4 5<br>6 7 8 |
| | 6:00–6:30 AM | 6:30–7:00 AM | 7:00–7:30 AM | 7:30–8:00 AM | 8:00–8:30 AM | 8:30–9:00 AM |

| 11:00–11:30 PM | 11:30–12:00 AM |
|---|---|
| CIRCLE ONLY ONE ANSWER - PLEASE DO NOT LEAVE BLANK | |
| Yes No<br>Answer the questions below. ↓ | Yes No<br>Answer the questions below. ↓ |
| **CIRCLE ONLY ONE ANSWER** | |
| 1 2 3 4 5<br>6 7 8 9 10<br>11 12 | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 |
| **CIRCLE AS MANY ANSWERS AS YOU NEED** | |
| 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16<br>_____<br>_____ | 1 2 3 4 5<br>6 7 8 9 10<br>11 12 13 14 15<br>16<br>_____<br>_____ |
| **CIRCLE ONLY ONE ANSWER** | |
| 1 2 3 4 5<br>6 7 | 1 2 3 4 5<br>6 7 |
| **CIRCLE AS MANY ANSWERS AS YOU NEED** | |
| 1 2 3 4 5<br>6 7 8 | 1 2 3 4 5<br>6 7 8 |
| 11:00–11:30 PM | 11:30–12:00 AM |

## DAY OF THE WEEK

(CIRCLE ONLY ONE ANSWER)

SUNDAY ..... 1
MONDAY ..... 2
TUESDAY ..... 3
WEDNESDAY ..... 4
THURSDAY ..... 5
FRIDAY ..... 6
SATURDAY ..... 7

## Today, about how much total time did you spend doing the following activities?

(CIRCLE ONE ANSWER NEXT TO EACH STATEMENT - A THROUGH F)

| | NONE | 30 MINUTES OR LESS | 1 HOUR | 2 HOURS | 3 HOURS | 4 HOURS OR MORE |
|---|---|---|---|---|---|---|
| A. Being in school | 0 | 1 | 2 | 3 | 4 | 5 |
| B. Working at a job | 0 | 1 | 2 | 3 | 4 | 5 |
| C. Doing chores | 0 | 1 | 2 | 3 | 4 | 5 |
| D. Doing homework | 0 | 1 | 2 | 3 | 4 | 5 |
| E. Participating in a club, sports team, other exercise or hobby | 0 | 1 | 2 | 3 | 4 | 5 |
| F. Being in child care or before/after school program | 0 | 1 | 2 | 3 | 4 | 5 |

# APPENDIX 2.3

# MEDIA GENRES

In the survey, respondents were asked to provide genre information about two media — television and music. The information was collected differently for each medium. For television content, the students were provided with TV listings for their community for the previous day (or weekend day), and were asked to circle each show they had watched (students were allowed to circle only one show per time slot, and were instructed to circle a show only if they had watched "most" of the program). All programs the youth marked were then classified into one of 19 categories or genres listed below:

- Children's
- Children's Educational
- Comedy Series
- Drama Series
- Movie
- Soap Opera
- Music Videos
- News Magazine/News Commentary/Discussion Programs
- Talk Show
- Reality
- News
- Sports
- Entertainment/Variety
- Documentary/Informational/Instructional
- Game Show
- Infomercial
- Other
- Other Spanish Language
- Other (non-Spanish) Foreign Language

For music genres, the young people themselves categorized their music listening by choosing from a list of genres provided in the questionnaire. The youths were asked: "What types of music, either on CDs, tapes, MP3s, or radio broadcasts, did you listen to yesterday? (CIRCLE AS MANY ANSWERS AS YOU NEED.)" and were offered the list of genres below from which to choose.

- Alternative Rock
- Classic Rock
- Classical
- Country & Western
- Gospel or Christian music
- Hard Rock or Metal
- Jazz or Blues
- Latin or Salsa
- Rap or Hip Hop
- Rave or Techno
- Reggae
- Rhythm & Blues or Soul
- Ska or Punk
- Soft Rock
- Top 40
- Something else

# APPENDIX 3

# TABLES ON HOUSEHOLD MEDIA ENVIRONMENT

## APPENDIX 3.1

### In-Home-Media — Percentage of 8- to 18-Year-Olds Whose Homes Have...

| | 2004 Total | 1999 Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| **One or more...** | | | | | | | | | | |
| TV | 99% | 99% | 98% | 100% | 99% | 99% | 100% | 99% | 98% | 99% |
| VCR/DVD | 97% | 98 | 94 | 99 | 98 | 97 | 97 | 99 | 95 | 95 |
| DVR | 34% | NA | 29[a] | 40[b] | 29[a] | 33 | 34 | 30[a] | 39[ab] | 40[b] |
| Radio | 97% | 98 | 94 | 98 | 99 | 97 | 98 | 99 | 96 | 97 |
| CD/tape | 98% | 95 | 95 | 99 | 100 | 98 | 99 | 100 | 96 | 97 |
| Video game player | 83% | 81 | 84 | 84 | 81 | 88[a] | 78[b] | 82 | 87 | 82 |
| Computer | 86%‡ | 73 | 83 | 89 | 86 | 86 | 87 | 90[a] | 78[b] | 80[b] |
| Cable/satellite TV | 82%‡ | 74 | 76[a] | 86[b] | 82[ab] | 84 | 80 | 83 | 83 | 78 |
| Premium channels | 55%‡ | 45 | 51 | 59 | 53 | 56 | 55 | 56 | 65 | 55 |
| Internet | 74%‡ | 47 | 63[a] | 78[b] | 80[b] | 75 | 74 | 80[a] | 61[b] | 67[b] |
| Instant messaging | 60% | NA | 42[a] | 63[b] | 70[b] | 59 | 61 | 63[a] | 47[b] | 55[ab] |
| **Three or more...** | | | | | | | | | | |
| TV | 73% | 70 | 67 | 76 | 74 | 73 | 73 | 73 | 81 | 72 |
| VCR/DVD | 53%‡ | 26 | 42[a] | 57[b] | 58[b] | 53 | 54 | 57[a] | 50[ab] | 44[b] |
| DVR | 6% | NA | 6 | 6 | 5 | 6 | 6 | 4 | 10 | 7 |
| Radio | 63%‡ | 73 | 46[a] | 68[b] | 71[b] | 61 | 65 | 70[a] | 51[b] | 58[b] |
| CD/tape[1] | 66% | | 54 | 69 | 73 | 64 | 69 | 71[a] | 60[b] | 61[b] |
| Video game player | 31%‡ | 24 | 30 | 35 | 28 | 39[a] | 24[b] | 31 | 34 | 32 |
| Computer | 15%‡ | 8 | 10[a] | 14[ab] | 20[b] | 16 | 14 | 15 | 9 | 11 |
| **Mean** | | | | | | | | | | |
| TV | 3.5%‡ | 3.1 | | | | | | | | |
| VCR/DVD | 2.9%‡ | 2.0 | | | | | | | | |
| DVR | 0.6% | | | | | | | | | |
| Radio | 3.3% | 3.4 | | | | | | | | |
| CD/tape[1] | 3.6% | | | | | | | | | |
| Video game player | 2.1%‡ | 1.7 | | | | | | | | |
| Computer | 1.5%‡ | 1.1 | | | | | | | | |

### In-Home-Media — Percentage of 8- to 18-Year-Olds Whose Homes Have... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| **One or more...** | | | | | | |
| TV | 99% | 99% | 99% | 100% | 99% | 99% |
| VCR/DVD | 97% | 98 | 98 | 96 | 97 | 98 |
| DVR | 33%[ab] | 26[a] | 38[b] | 33[ab] | 29[a] | 42[b] |
| Radio | 98% | 98 | 97 | 98 | 97 | 98 |
| CD/tape | 99% | 99 | 98 | 98 | 98 | 99 |
| Video game player | 85% | 79 | 83 | 86 | 80 | 86 |
| Computer | 82%[a] | 84[ab] | 91[b] | 78[a] | 86[a] | 93[b] |
| Cable/satellite TV | 80% | 84 | 83 | 82 | 82 | 82 |
| Premium channels | 55% | 58 | 57 | 58 | 54 | 55 |
| Internet | 68%[a] | 74[ab] | 82[b] | 66a | 72[a] | 84[b] |
| Instant messaging | 56%[a] | 59[ab] | 67[b] | 52a | 56[a] | 71[b] |
| **Three or more...** | | | | | | |
| TV | 74% | 68 | 75 | 76[ab] | 69[a] | 77[b] |
| VCR/DVD | 50% | 55 | 56 | 50 | 51 | 59 |
| DVR | 5% | 4 | 6 | 8[ab] | 3[a] | 8[b] |
| Radio | 59% | 67 | 66 | 58a | 59[a] | 72[b] |
| CD/tape[1] | 63% | 65 | 72 | 64[ab] | 62[a] | 74[b] |
| Video game player | 31% | 29 | 32 | 34 | 27 | 35 |
| Computer | 8%[a] | 9[a] | 22[b] | 9[a] | 13[a] | 20[b] |

[1] Differences in question format preclude comparisons of means and proportion with 3 or more CD/tape players.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

**APPENDIX 3.2**

## Bedroom and Portable Media — Percentage of 8- to 18-Year-Olds Whose Bedrooms Contain...

| | 2004 Total | 1999 Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| TV | 68% | 65% | 69% | 68% | 68% | 72%[a] | 64%[b] | 65%[a] | 82%[b] | 74%[ab] |
| VCR/DVD | 54%‡ | 36 | 47 | 56 | 56 | 59[a] | 49[b] | 54 | 62 | 57 |
| DVR | 10% | NA | 8 | 13 | 9 | 11 | 9 | 7a | 17[b] | 12[ab] |
| Radio | 84% | 86 | 74[a] | 85[b] | 91[b] | 82 | 86 | 87 | 79 | 84 |
| CD/tape | 86% | 88 | 75[a] | 89[b] | 92[b] | 84 | 88 | 89 | 82 | 81 |
| Video game player | 49% | 45 | 52a | 52[a] | 41[b] | 63[a] | 33[b] | 46[a] | 61[b] | 54[ab] |
| Computer | 31%‡ | 21 | 23a | 31[ab] | 37[b] | 35[a] | 26[b] | 28 | 28 | 37 |
| Cable/satellite TV | 37% | 29 | 32 | 38 | 40 | 40 | 34 | 36[a] | 47[b] | 34[a] |
| Premium channels | 20%‡ | 15 | 16 | 21 | 20 | 20 | 19 | 18[a] | 31[b] | 21[ab] |
| Internet | 20%‡ | 10 | 10[a] | 21[b] | 27[c] | 24[a] | 17[b] | 18 | 16 | 26 |
| Instant messaging | 18% | NA | 9[a] | 17[b] | 26[c] | 20 | 15 | 16 | 14 | 20 |
| Telephone | 40% | NA | 31[a] | 39[a] | 50[b] | 39 | 42 | 37 | 46 | 40 |

## Percentage of 8- to 18-Year-Olds With Their Own...

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Discman/Walkman | 61% | NA | 35%[a] | 65%[b] | 77%[c] | 61% | 61% | 65%[a] | 51%[b] | 55%[ab] |
| Handheld video game | 55% | NA | 66[a] | 60[a] | 41[b] | 63[a] | 48[b] | 59 | 54 | 49 |
| Cell phone | 39% | NA | 21[a] | 36[b] | 56[c] | 35 | 42 | 36 | 43 | 36 |
| MP3 player | 18% | NA | 12[a] | 20[b] | 20[b] | 21[a] | 14[b] | 17 | 15 | 18 |
| Handheld Internet device | 13% | NA | 7[a] | 15[b] | 17[b] | 13 | 14 | 13 | 14 | 15 |
| Laptop | 12% | NA | 13 | 11 | 15 | 14 | 11 | 10 | 13 | 16 |
| Personal digital assistant | 11% | NA | 9[a] | 14[b] | 8[a] | 11 | 11 | 11 | 12 | 10 |
| Pager | 6% | NA | 6 | 6 | 5 | 8[a] | 4[b] | 4 | 10 | 7 |

## Percentage of 8- to 18-Year-Olds Whose Bedrooms Contain... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| TV | 73% | 65% | 66% | 76%[a] | 64%[b] | 68%[b] |
| VCR/DVD | 60%[a] | 52[ab] | 50[b] | 60 | 51 | 54 |
| DVR | 8% | 7 | 12 | 13 | 7 | 13 |
| Radio | 84% | 89 | 83 | 82 | 82 | 86 |
| CD/tape | 87% | 88 | 86 | 85 | 85 | 89 |
| Videogame Player | 55%[a] | 43[b] | 45[b] | 52 | 48 | 48 |
| Computer | 28% | 27 | 34 | 27 | 30 | 35 |
| Cable/Satellite TV | 41% | 38 | 35 | 42 | 35 | 37 |
| Premium Channels | 19% | 21 | 21 | 24 | 19 | 18 |
| Internet | 21% | 16 | 23 | 18 | 18 | 26 |
| Instant Messenger | 18% | 15 | 20 | 18 | 18 | 26 |
| Telephone | 40% | 40 | 42 | 42 | 40 | 40 |

## Percentage of 8- to 18-Year-Olds With Their Own... (continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| Discman/Walkman | 54%[a] | 72%[b] | 65%[b] | 51%[a] | 58%[a] | 72%[b] |
| Handheld video game | 53%[ab] | 48[a] | 60[b] | 50[a] | 53[a] | 63[b] |
| Cell phone | 37% | 41 | 41 | 39 | 37 | 41 |
| MP3 player | 16% | 15 | 21 | 16[ab] | 15[a] | 23[b] |
| Handheld Internet device | 12% | 14 | 14 | 9 | 12 | 18 |
| Laptop | 9%[a] | 10[ab] | 16[b] | 13 | 12 | 12 |
| Personal digital assistant | 6%[a] | 9[a] | 16[b] | 12 | 9 | 14 |
| Pager | 5% | 4 | 6 | 9 | 5 | 5 |

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 3.3

### TV Rules and TV Orientation — Percentage of 8- to 18-Year-Olds Who Say They Have...

| TV rules-general | Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|
| Any rules about TV | 46% | 55%[a] | 51%[a] | 31%[b] | 45% | 46% | 44% | 43% | 52% |
| No rules about TV | 53% | 42[a] | 48[a] | 69[b] | 53 | 53 | 55 | 55 | 47 |
| Rules about TV that are enforced most of the time | 20% | 26[a] | 22[a] | 13[b] | 20 | 20 | 19 | 20 | 22 |
| Rules about TV that are enforced some, little or never | 23% | 29[a] | 26[a] | 15[b] | 23 | 23 | 23 | 20 | 28 |
| **TV rules-specific**[1] | | | | | | | | | |
| Rules about homework or chores before TV | 36% | NA | 46[a] | 28[b] | 39 | 34 | 35 | 34 | 42 |
| Rules about how much TV can watch | 14% | NA | 18[a] | 10[b] | 15 | 12 | 13 | 8 | 19 |
| Rules about when can watch TV | 14% | NA | 17 | 10 | 15 | 12 | 13 | 14 | 15 |
| Rules about which shows can watch | 13% | NA | 18[a] | 8[b] | 14 | 12 | 13 | 7 | 15 |
| **Parental oversight**[1] | | | | | | | | | |
| Parents usually know what I'm watching | 40% | NA | 45 | 36 | 40 | 40 | 43 | 35 | 39 |
| Parents use V-Chip | 6% | NA | 9[a] | 3[b] | 5 | 6 | 6 | 6 | 5 |
| **TV orientation** | | | | | | | | | |
| TV on most of the time even if no one is watching | 51% | 52 | 51 | 49 | 48 | 53 | 50 | 59 | 47 |
| TV usually on during meals | 63% | 62 | 62 | 66 | 63 | 64 | 59[a] | 74[b] | 65[ab] |
| No TV rules | 53% | 42[a] | 48[a] | 69[b] | 53 | 53 | 55 | 55 | 47 |
| High TV orientation (all 3 of above) | 25% | 18[a] | 23[a] | 33[b] | 24 | 25 | 24 | 29 | 22 |

### TV Rules and TV Orientation — Percentage of 8- to 18-Year-Olds Who Say They Have... (continued)

| TV rules-general | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| Any rules about TV | 40% | 45% | 48% | 47% | 47% | 42% |
| No rules about TV | 59% | 55 | 51 | 52 | 51 | 57 |
| Rules about TV that are enforced most of the time | 17% | 21 | 21 | 20 | 23 | 16 |
| Rules about TV that are enforced some, little or never | 20% | 21 | 25 | 23 | 23 | 24 |
| **TV rules-specific**[1] | | | | | | |
| Rules about homework or chores before TV | 33% | 39 | 37 | 38 | 40 | 31 |
| Rules about how much TV can watch | 9% | 15 | 16 | 11 | 17 | 12 |
| Rules about when can watch TV | 8%[a] | 11[ab] | 18[b] | 12 | 15 | 13 |
| Rules about which shows can watch | 10% | 12 | 14 | 14 | 13 | 12 |
| **Parental oversight**[1] | | | | | | |
| Parents usually know what I'm watching | 31%[a] | 44[ab] | 44[b] | 43[ab] | 45[a] | 32[b] |
| Parents use V-Chip | 6% | 6 | 5 | 10 | 4 | 6 |
| **TV orientation** | | | | | | |
| TV on most of the time even if no one is watching | 56% | 46 | 49 | 55 | 49 | 50 |
| TV usually on during meals | 70%[a] | 67[a] | 56[b] | 71[a] | 65[a] | 56[b] |
| No TV rules | 59% | 55 | 51 | 52 | 51 | 57 |
| High TV orientation (all 3 of above) | 31%[a] | 26[ab] | 20[b] | 28 | 23 | 25 |

[1] 7th- to 12th-graders only.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

**APPENDIX 3.4**

## Media Rules Other Than TV — Percentage of 8- to 18-Year-Olds Who Say They Have...

| Video game rules[1] | Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|
| Rules about which video games kids can play | 21% | 32%[a] | 25%[a] | 5%[b] | 20% | 22% | 23% | 22% | 21% |
| Rules about how long kids can play video games | 24% | 34[a] | 27[a] | 11[b] | 26 | 22 | 23 | 22 | 27 |
| Parents check parental warning or rating on video games | 17% | 26[a] | 20[a] | 6[b] | 16 | 18 | 19 | 13 | 16 |
| Kids have played video games they know their parents don't want them playing | 12% | 12[ab] | 15[a] | 8[b] | 16[a] | 8[b] | 14 | 12 | 10 |
| **Music rules**[2] | | | | | | | | | |
| Parents have rules about what kind of music kids can listen to | 16% | NA | 22[a] | 11[b] | 18 | 15 | 16 | 17 | 16 |
| Parents check parental warning or rating on music | 14% | NA | 19[a] | 10[b] | 15 | 13 | 17 | 10 | 14 |
| Kids have listened to music they know their parents don't want them listening to | 20% | NA | 21 | 18 | 19 | 20 | 21 | 19 | 12 |
| **Computer rules**[3] | | | | | | | | | |
| Rules about how long kids can use the computer | 28% | 35[a] | 32[a] | 19[b] | 26 | 32 | 30 | 25 | 25 |
| Rules about what kids can do on the computer | 32% | 44[a] | 34[a] | 18[b] | 35 | 28 | 33 | 31 | 31 |
| Parents usually know which Web sites kids are going to | 30% | 39[a] | 33[a] | 18[b] | 27 | 33 | 34 | 24 | 24 |
| Parental filters on computer[4] | 25% | NA | 29 | 21 | 24 | 26 | 27 | 26 | 17 |

## Media Rules Other Than TV — Percentage of 8- to 18-Year-Olds Who Say They Have... (continued)

| Video game rules[1] | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| Rules about which video games kids can play | 17% | 18% | 25% | 19% | 22% | 20% |
| Rules about how long kids can play video games | 22% | 19 | 26 | 24 | 24 | 24 |
| Parents check parental warning or rating on video games | 11%[a] | 17[ab] | 21[b] | 14 | 18 | 18 |
| Kids have played video games they know their parents don't want them playing | 8% | 15 | 13 | 12 | 11 | 13 |
| **Music rules**[2] | | | | | | |
| Parents have rules about what kind of music kids can listen to | 14% | 18 | 17 | 18 | 16 | 15 |
| Parents check parental warning or rating on music | 10%[a] | 19[b] | 15[b] | 14 | 17 | 12 |
| Kids have listened to music they know their parents don't want them listening to | 15% | 20 | 21 | 21 | 22 | 16 |
| **Computer rules**[3] | | | | | | |
| Rules about how long kids can use the computer | 23%[a] | 27[ab] | 32[b] | 30 | 29 | 27 |
| Rules about what kids can do on the computer | 26% | 31 | 35 | 33 | 32 | 31 |
| Parents usually know which Web sites kids are going to | 23%[a] | 30[ab] | 34[b] | 28 | 31 | 30 |
| Parental filters on computer[4] | 24% | 26 | 25 | 27 | 25 | 24 |

[1] Of 8- to 18-year-olds who have a video game player.
[2] Of all 7th- to 12th-graders.
[3] Of 8- to 18-year-olds who have a computer.
[4] Of all 7th- to 12th-graders who have a computer.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 3.5

# Media Rules — Percentage of 7th- to 12th-Graders Who Say They Have...

| | Total | 11- to 14-year-olds | 15- to 18-year-olds | White | Black | Hispanic |
|---|---|---|---|---|---|---|
| **TV rules-general** | | | | | | |
| No rules about TV | 59% | 48%[a] | 69%[b] | 60% | 61% | 54% |
| Rules about TV that are enforced *most* of the time | 17% | 21 | 13 | 16 | 15 | 22 |
| Rules about TV that are enforced some, little or never | 20% | 25[a] | 15[b] | 20 | 18 | 21 |
| **TV rules-specific** | | | | | | |
| Rules about homework or chores before TV | 36% | 46[a] | 28[b] | 35 | 34 | 42 |
| Rules about how much TV can watch | 14% | 18[a] | 10[b] | 13 | 8 | 19 |
| Rules about when can watch TV | 14% | 17 | 10 | 13 | 14 | 15 |
| Rules about which shows can watch | 13% | 18[a] | 8[b] | 13 | 7 | 15 |
| **Parental Oversight of TV** | | | | | | |
| Parents usually know what I'm watching | 40% | 45 | 36 | 43 | 35 | 39 |
| Parents use V-Chip | 6% | 9[a] | 3[b] | 6 | 6 | 5 |
| **Video game rules**[1] | | | | | | |
| Rules about which video games can play | 12% | 19[a] | 5[b] | 14 | 8 | 10 |
| Rules about how long can play video games | 17% | 24[a] | 11[b] | 16 | 13 | 17 |
| Parents check parental warnings or rating on video games | 10% | 14[a] | 6[b] | 13[a] | 4[b] | 2[b] |
| Have played video games they know their parents don't want them to | 12% | 15 | 8 | 15 | 6 | 8 |
| **Music rules** | | | | | | |
| Parents have rules about what kind of music can listen to | 16% | 22[a] | 11[b] | 16 | 17 | 16 |
| Parents check parental warning or rating on music | 14% | 19[a] | 10[b] | 17 | 10 | 14 |
| Have listened to music they know their parents don't want them to | 20% | 21 | 18 | 21 | 19 | 12 |
| **Computer rules**[2] | | | | | | |
| Rules about how long can use the computer | 23% | 27 | 19 | 23 | 23 | 16 |
| Rules about what can do on the computer | 23% | 28[a] | 18[b] | 24 | 20 | 20 |
| Parents usually know which Web sites I'm going to | 22% | 26 | 18 | 26 | 19 | 10 |

[1] Among those with a video game player.
[2] Among those with a computer at home.
*Note: Results for 11- to 14-year-olds in this table do not directly match those in Appendix 3.4 because not all 11 year-olds are in 7th grade. See Appendix 2.1 for a full description of the system of super-scripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

**APPENDIX 3.5 (CONTINUED)**

## Media Rules — Percentage of 7th- to 12th-Graders Who Say They Have... (continued)

| TV rules-general | High school or less | Some college | College + | < $35K | $35K-$50K | > $50K |
|---|---|---|---|---|---|---|
| No rules about TV | 66% | 57% | 57% | 56% | 55% | 67% |
| Rules about TV that are enforced *most* of the time | 14% | 20 | 17 | 17 | 21 | 12 |
| Rules about TV that are enforced some, little or never | 15% | 20 | 22 | 20 | 21 | 18 |
| **TV rules-specific** | | | | | | |
| Rules about homework or chores before TV | 33% | 39 | 37 | 38 | 40 | 31 |
| Rules about how much TV can watch | 9% | 15 | 16 | 11 | 17 | 12 |
| Rules about when can watch TV | 8%[a] | 11[ab] | 18[b] | 12 | 15 | 13 |
| Rules about which shows can watch | 10% | 12 | 14 | 14 | 13 | 12 |
| **Parental Oversight of TV** | | | | | | |
| Parents usually know what I'm watching | 31%[a] | 44[ab] | 44[b] | 43[ab] | 45[a] | 32[b] |
| Parents use V-Chip | 6% | 6 | 5 | 10 | 4 | 6 |
| **Video game rules**[1] | | | | | | |
| Rules about which video games can play | 9% | 10 | 17 | 14 | 13 | 10 |
| Rules about how long can play video games | 14% | 14 | 20 | 19 | 17 | 16 |
| Parents check parental warnings or rating on video games | 5% | 10 | 14 | 9 | 11 | 10 |
| Have played video games they know their parents don't want them to | 7% | 14 | 13 | 15 | 8 | 13 |
| **Music rules** | | | | | | |
| Parents have rules about what kind of music can listen to | 14% | 18 | 17 | 18 | 16 | 15 |
| Parents check parental warning or rating on music | 10%[a] | 19[b] | 15[b] | 14 | 17 | 12 |
| Have listened to music they know their parents don't want them to | 15% | 20 | 21 | 21 | 22 | 16 |
| **Computer rules**[2] | | | | | | |
| Rules about how long can use the computer | 19% | 23 | 26 | 27 | 21 | 22 |
| Rules about what can do on the computer | 16% | 23 | 26 | 24 | 22 | 22 |
| Parents usually know which Web sites I'm going to | 17% | 24 | 23 | 25 | 22 | 19 |

[1] Among those with a video game player.
[2] Among those with a computer at home.
*Note: Results for 11- to 14-year-olds in this table do not directly match those in Appendix 3.4 because not all 11 year-olds are in 7th grade. See Appendix 2.1 for a full description of the system of super-scripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 3.6

### Media Rules Summary — Proportion of 7th- to 12th-Graders With Rules About Media Content or Time

| | Total | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|
| Rules about TV content or time | 22% | 30%[a] | 15%[b] | 23% | 20% | 22% | 13% | 28% |
| Rules about computer content or time[1] | 35% | 43[a] | 29[b] | 38 | 32 | 37 | 36 | 32 |
| Rules about video game content or time[2] | 24% | 35[a] | 14[b] | 28 | 19 | 25 | 18 | 24 |

### Media Rules Summary — Proportion of 7th- to 12th-Graders With Rules About Media Content or Time (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| Rules about TV content or time | 15% | 24% | 24% | 22% | 24% | 18% |
| Rules about computer content or time[1] | 27% | 37 | 38 | 40 | 33 | 35 |
| Rules about video game content or time[2] | 21% | 19 | 28 | 28 | 21 | 23 |

[1] Among those with a computer at home.
[2] Among those with a video game player.

*Note: In all of the above categories, respondents indicated at least one of two items: that their parents have 1) rules about content (which shows, video games, computer activities) OR 2) rules about how long they can spend using the medium. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 3.7

### Media Rules and TV Orientation by Bedroom and Personal Media

| | TV | Video game player | Computer[1] | VCR/ DVD | Handheld video game | Telephone | Cell phone |
|---|---|---|---|---|---|---|---|
| **A. Proportion of 7th- to 12th-graders with/without rules who have each medium in their bedroom:** | | | | | | | |
| **TV** | | | | | | | |
| Rules about TV content or time | 42%[b] | 34% | 33% | 38%[b] | 45% | 37% | 34%[b] |
| All others | 73%a | 49 | 38 | 61[a] | 48 | 49 | 54[a] |
| **Computer** | | | | | | | |
| Rules about computer content or time | 57%[b] | 42 | 35[b] | 51[b] | 52 | 37[b] | 37[b] |
| All others | 74%[a] | 50 | 47[a] | 63[a] | 49 | 57[a] | 61[a] |
| **Video games** | | | | | | | |
| Rules about video game content or time | 56%[b] | 49 | 35 | 45[b] | 61 | 42 | 38[b] |
| All others | 79%[a] | 58 | 40 | 70[a] | 51 | 53 | 59[a] |
| **B. Proportion of 8- to 18-year-olds who have bedroom/personal media, by TV orientation of the home:** | | | | | | | |
| High TV orientation | 85%[a] | 59[a] | 36 | 69[a] | 57 | 50[a] | 46[a] |
| All others | 63%[b] | 45[b] | 34 | 49[b] | 55 | 37[b] | 36[b] |

[1] Includes desktop computer in bedroom or personal laptop.

*Note: In all of the above categories, respondents indicated at least one of two items: that their parents have 1) rules about content (which shows, video games, computer activities) OR 2) rules about how long they can spend using the medium. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

# APPENDIX 4

# TABLES ON INDIVIDUAL MEDIA USE

## APPENDIX 4.1

### Screen Media – Average Time and Proportion of 8- to 18-Year-Olds Who Used...

| | 2004 Total | 1999 Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| **TV** | | | | | | | | | | |
| Average time | 3:04 | 3:05 | 3:17 | 3:16 | 2:36 | 3:04 | 3:04 | 2:45[a] | 4:05[b] | 3:23[b] |
| 5 minutes or more | 81% | 85% | 86%[a] | 83%[a] | 73%[b] | 79% | 82% | 79% | 84% | 83% |
| More than 1 hour | 66% | 69 | 68[a] | 71[a] | 56[b] | 66 | 65 | 64 | 74 | 69 |
| More than 5 hours | 20% | 22 | 23 | 22 | 17 | 21 | 19 | 17 | 31 | 23 |
| **Prerecorded TV/ DVDs & videos** | | | | | | | | | | |
| Average time | 0:47 | 0:42 | 0:53 | 0:46 | 0:44 | 0:45 | 0:49 | 0:45[a] | 1:00[b] | 0:44[a] |
| 5 minutes or more | 42% | 46 | 53[a] | 42[b] | 34[b] | 41 | 44 | 40[a] | 51[b] | 44[ab] |
| **Movies** | | | | | | | | | | |
| Average time | 0:25 | 0:18 | 0:31 | 0:23 | 0:21 | 0:29 | 0:20 | 0:17[a] | 0:48[b] | 0:29[c] |
| 5 minutes or more | 13% | 10 | 15 | 13 | 12 | 15 | 11 | 10[a] | 22[b] | 16[ab] |
| **Total screen media**[1] | | | | | | | | | | |
| Average time | 4:15 | 4:04 | 4:41[a] | 4:25[a] | 3:40[b] | 4:17 | 4:13 | 3:47[a] | 5:53[b] | 4:37[c] |

### Screen Media – Average Time and Proportion of 8- to 18-Year-Olds Who Used... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| **TV** | | | | | | |
| Average time | 3:12 | 2:48 | 3:03 | 3:16 | 2:55 | 3:08 |
| 5 minutes or more | 82% | 75% | 81% | 79%[ab] | 78%[a] | 85%[b] |
| More than 1 hour | 69% | 62 | 64 | 65 | 63 | 70 |
| More than 5 hours | 23% | 16 | 19 | 24 | 20 | 19 |
| **Prerecorded TV/ DVDs & videos** | | | | | | |
| Average time | 0:44[ab] | 0:42[a] | 0:51[b] | 0:50 | 0:49 | 0:41 |
| 5 minutes or more | 42% | 39 | 44 | 46 | 45 | 37 |
| **Movies** | | | | | | |
| Average time | 0:26[ab] | 0:17[a] | 0:26[b] | 0:30 | 0:25 | 0:20 |
| 5 minutes or more | 13% | 11 | 14 | 16 | 13 | 10 |
| **Total screen media**[1] | | | | | | |
| Average time | 4:23[a] | 3:46[b] | 4:20[a] | 4:36 | 4:10 | 4:08 |

[1] For purposes of this table screen media includes TV, videos, and movies.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.2

### TV Genres – Of 8- to 18-Year-Olds Who Watched TV the Previous Day, the Proportion Who Watched...

| | 2004 Total | 1999 Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| Comedy | 37%‡ | 50% | 39% | 36% | 34% | 32%[a] | 41%[b] | 36% | 35% | 43% |
| Educational children's | 25% | 24 | 47[a] | 21[b] | 8[c] | 24 | 26 | 22 | 31 | 27 |
| Children's | 24% | 24 | 45[a] | 22[b] | 8[c] | 25 | 23 | 22 | 30 | 27 |
| Movie | 22% | 18 | 15[a] | 26[b] | 21[ab] | 24 | 19 | 23 | 25 | 18 |
| Reality | 17%‡ | 12 | 12[a] | 17[ab] | 21[b] | 16 | 17 | 18 | 16 | 14 |
| Entertainment/variety | 16%‡ | 11 | 7[a] | 22[b] | 17[b] | 16 | 17 | 16 | 18 | 12 |
| Drama | 15%‡ | 23 | 12[a] | 13[a] | 22[b] | 12 | 18 | 16 | 14 | 12 |
| Sports | 12%‡ | 17 | 9 | 14 | 13 | 19[a] | 5[b] | 13 | 15 | 8 |
| Documentary | 11%‡ | 4 | 9 | 11 | 12 | 10 | 11 | 12 | 10 | 6 |
| Music video | 8% | 10 | 3[a] | 11[b] | 10[b] | 8 | 9 | 7 | 11 | 11 |
| News magazine | 8%‡ | 2 | 6 | 9 | 7 | 8 | 7 | 7 | 7 | 7 |
| News | 6%‡ | 11 | 4[a] | 4[a] | 10[b] | 4 | 7 | 6 | 4 | 5 |
| Talk show | 5%‡ | 10 | 2[a] | 5[ab] | 9[b] | 3[a] | 7[b] | 5 | 7 | 5 |
| Game show | 3% | 5 | 3 | 4 | 3 | 3 | 4 | 4 | 3 | 2 |
| Soap opera | 1% | 2 | 1 | 1 | 2 | * | 2 | 1 | 0 | 1 |
| Infomercial | * | * | * | * | 0 | * | * | * | * | * |
| Other | 20% | 6 | 23 | 17 | 20 | 18 | 21 | 18 | 23 | 20 |
| Other Spanish language | 1% | 3 | 1 | 1 | * | * | 1 | * | 0 | 4 |
| | | | | | | | | | | |
| Broadcast | 49%‡ | 69 | | | | | | | | |
| Cable | 69%‡ | 50 | | | | | | | | |

### TV Genres – Of 8- to 18-Year-Olds Who Watched TV the Previous Day, the Proportion Who Watched... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| Comedy | 38% | 40% | 34% | 31% | 36% | 41% |
| Educational children's | 22% | 19 | 26 | 21 | 25 | 26 |
| Children's | 23% | 18 | 27 | 22 | 25 | 25 |
| Movie | 24% | 24 | 21 | 33[a] | 19[b] | 18[b] |
| Reality | 19% | 22 | 15 | 17 | 18 | 15 |
| Entertainment/variety | 15% | 21 | 17 | 17 | 13 | 20 |
| Drama | 14% | 19 | 15 | 11 | 16 | 16 |
| Sports | 12% | 15 | 11 | 14 | 9 | 15 |
| Documentary | 13% | 8 | 11 | 12 | 10 | 11 |
| Music video | 10% | 10 | 8 | 8 | 9 | 9 |
| News magazine | 7% | 8 | 7 | 10 | 7 | 6 |
| News | 4% | 6 | 6 | 6 | 5 | 5 |
| Talk show | 5% | 6 | 5 | 6 | 5 | 5 |
| Game show | 2% | 5 | 3 | 3 | 4 | 3 |
| Soap opera | 1% | 2 | 1 | 1 | 1 | 1 |
| Infomercial | * | * | * | 1 | * | 0 |
| Other | 22% | 19 | 18 | 21 | 17 | 23 |
| Other Spanish language | 1% | * | 1 | 0 | 1 | 1 |

*Note: Responses do not total to 100% because respondents may have watched more than one genre of program per day. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.3

### Print Media – Average Time and Proportion of 8- to 18-Year-Olds Who Read...

| Magazines | 2004 Total | 1999 Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| Average time | 0:14 | 0:15 | 0:12 | 0:15 | 0:13 | 0:15 | 0:13 | 0:13 | 0:14 | 0:15 |
| 5 minutes or more | 47%‡ | 55% | 35%[a] | 54%[b] | 47%[b] | 47% | 46% | 45% | 43% | 53% |
| 30 minutes or more | 22% | 24 | 16[a] | 25[b] | 21[ab] | 22 | 21 | 21 | 21 | 26 |
| More than 1 hour | 2% | 3 | 3 | 2 | 1 | 3 | 1 | 2 | 2 | 2 |
| **Newspapers** | | | | | | | | | | |
| Average time | 0:06 | 0:07 | 0:04[a] | 0:05[a] | 0:07[b] | 0:06[a] | 0:05[b] | 0:06 | 0:05 | 0:07 |
| 5 minutes or more | 34%‡ | 42 | 21[a] | 35[b] | 43[b] | 34 | 33 | 35 | 31 | 35 |
| 30 minutes or more | 7%‡ | 11 | 7 | 7 | 8 | 9 | 5 | 7 | 6 | 10 |
| More than 1 hour | * | * | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| **Books** | | | | | | | | | | |
| Average time | 0:23 | 0:21 | 0:27 | 0:21 | 0:24 | 0:19a | 0:28[b] | 0:24 | 0:19 | 0:25 |
| 5 minutes or more | 46% | 46 | 63[a] | 44[b] | 34[c] | 45 | 43 | 45 | 43 | 54 |
| 30 minutes or more | 30% | 29 | 40[a] | 27[b] | 26[b] | 27 | 33 | 31 | 24 | 33 |
| More than 1 hour | 7% | 8 | 7 | 5 | 9 | 5[a] | 9[b] | 7 | 5 | 6 |
| **All print** | | | | | | | | | | |
| Average time | 0:43 | 0:43 | 0:44 | 0:41 | 0:45 | 0:40 | 0:45 | 0:42 | 0:38 | 0:47 |
| 5 minutes or more | 73%‡ | 80 | 73 | 75 | 71 | 73 | 74 | 75 | 66 | 77 |
| 30 minutes or more | 47% | 50 | 51 | 48 | 43 | 47 | 47 | 48 | 43 | 50 |
| More than 1 hour | 19% | 21 | 19 | 19 | 20 | 18 | 21 | 20 | 15 | 19 |

### Print Media – Average Time and Proportion of 8- to 18-Year-Olds Who Read... (continued)

| Magazines | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| Average time | 0:11[a] | 0:14[ab] | 0:15[b] | 0:12 | 0:15 | 0:13 |
| 5 minutes or more | 45% | 51% | 47% | 46% | 46% | 47% |
| 30 minutes or more | 17%[a] | 27[b] | 22[ab] | 18 | 24 | 20 |
| More than 1 hour | 2% | 1 | 2 | 2 | 3 | 1 |
| **Newspapers** | | | | | | |
| Average time | 0:05[a] | 0:06[ab] | 0:07[b] | 0:05 | 0:06 | 0:05 |
| 5 minutes or more | 31% | 39 | 36 | 34 | 36 | 30 |
| 30 minutes or more | 5% | 7 | 8 | 6 | 8 | 7 |
| More than 1 hour | 0% | 0 | 1 | 0 | 1 | 0 |
| **Books** | | | | | | |
| Average time | 0:17[a] | 0:23[ab] | 0:28[b] | 0:19 | 0:24 | 0:25 |
| 5 minutes or more | 42% | 40 | 49 | 43 | 48 | 44 |
| 30 minutes or more | 23%[a] | 27[ab] | 35[b] | 25 | 31 | 32 |
| More than 1 hour | 4%[a] | 7[ab] | 9[b] | 5 | 7 | 8 |
| **All print** | | | | | | |
| Average time | 0:32[a] | 0:43[b] | 0:50[b] | 0:36 | 0:45 | 0:44 |
| 5 minutes or more | 71% | 74 | 75 | 72 | 75 | 73 |
| 30 minutes or more | 39%[a] | 50[ab] | 51[b] | 40 | 50 | 47 |
| More than 1 hour | 12%[a] | 22[b] | 22[b] | 16 | 21 | 19 |

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.4

### Audio Media – Average Time and Proportion of 8- to 18-Year-Olds Who Listened To...

| | 2004 Total | 1999 Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| **Radio** | | | | | | | | | | |
| Average time | 0:55‡ | 0:46 | 0:29[a] | 0:57[b] | 1:15[c] | 0:45[a] | 1:06[b] | 0:54 | 0:55 | 0:54 |
| 5 minutes or more | 74% | 76 | 63%[a] | 78%[b] | 79%[b] | 69%[a] | 80%[b] | 75% | 70% | 78% |
| More than 1 hour | 21% | 23 | 8[a] | 21[b] | 30[c] | 15[a] | 27[b] | 21 | 21 | 17 |
| **CDs/tapes/MP3s** | | | | | | | | | | |
| Average time | 0:49‡ | 1:02 | 0:30[a] | 0:45[b] | 1:09[c] | 0:44[a] | 0:54[b] | 0:47 | 0:47 | 0:47 |
| 5 minutes or more | 68% | 72 | 59[a] | 68[ab] | 75[b] | 63 | 72 | 66 | 69 | 68 |
| More than 1 hour | 18%‡ | 26 | 10[a] | 16[a] | 29[b] | 16 | 21 | 18 | 18 | 16 |
| **Total audio** | | | | | | | | | | |
| Average time | 1:44 | 1:48 | 0:59[a] | 1:42[b] | 2:24[c] | 1:29[a] | 1:60[b] | 1:41 | 1:43 | 1:41 |
| 5 minutes or more | 85% | 86 | 74[a] | 87[b] | 90[b] | 81 | 89 | 85 | 81 | 86 |
| More than 1 hour | 44% | 50 | 26[a] | 44[b] | 60[c] | 38[a] | 51[b] | 44 | 41 | 43 |
| More than 3 hours | 16% | 19 | 7[a] | 15[b] | 24[c] | 12 | 19 | 16 | 15 | 13 |

### Audio Media – Average Time and Proportion of 8- to 18-Year-Olds Who Listened To... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| **Radio** | | | | | | |
| Average time | 0:58[ab] | 1:10[a] | 0:50[b] | 1:00 | 0:55 | 0:51 |
| 5 minutes or more | 76% | 80% | 74% | 79% | 73% | 73% |
| More than 1 hour | 21% | 27 | 19 | 22 | 20 | 20 |
| **CDs/tapes/MP3s** | | | | | | |
| Average time | 0:50 | 0:50 | 0:50 | 0:50 | 0:49 | 0:47 |
| 5 minutes or more | 69% | 66 | 69 | 70 | 65 | 69 |
| More than 1 hour | 20% | 18 | 19 | 18 | 18 | 19 |
| **Total audio** | | | | | | |
| Average time | 1:48[ab] | 2:00[a] | 1:40[b] | 1:50 | 1:45 | 1:38 |
| 5 minutes or more | 87% | 87 | 85 | 87 | 84 | 85 |
| More than 1 hour | 46% | 50 | 44 | 47 | 44 | 44 |
| More than 3 hours | 16% | 18 | 15 | 16 | 16 | 14 |

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.5

### Music Genres – Of 7th- to 12th-Graders Who Listened to CDs, Tapes or MP3s the Previous Day, the Proportion Who Listened to...

| | 2004 Total | 1999 Total | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|
| Alternative Rock | 32%‡ | 42% | 27% | 37% | 34% | 31% | 38%[a] | 9%[b] | 16%[b] |
| Classic Rock | 16% | 12 | 11[a] | 20[b] | 20 | 12 | 21[a] | 6[b] | 8[b] |
| Classical | 6% | 4 | 6 | 7 | 8 | 5 | 5 | 6 | 4 |
| Country/Western | 18% | 14 | 19 | 17 | 13[a] | 22[b] | 26[a] | 3[b] | 6[b] |
| Gospel/Christian | 11% | 8 | 9 | 13 | 10 | 13 | 10[ab] | 19[a] | 4[b] |
| Hard Rock/Metal | 27%‡ | 20 | 27 | 26 | 31 | 24 | 33[a] | 7[b] | 20[ab] |
| Jazz or Blues | 8% | 5 | 7 | 8 | 10 | 6 | 7 | 13 | 5 |
| Latin or Salsa | 8% | 5 | 8 | 7 | 6 | 9 | 2[a] | 2[a] | 33[b] |
| Rap or Hip Hop | 65%‡ | 52 | 68 | 63 | 62 | 68 | 60[a] | 81[b] | 70[ab] |
| Rave/Techno | 13%‡ | 6 | 11 | 15 | 12 | 14 | 12 | 6 | 8 |
| Reggae | 14%‡ | 4 | 10 | 16 | 11 | 16 | 9[a] | 24[b] | 17[ab] |
| Rhythm & Blues/Soul | 12% | 13 | 9 | 14 | 11 | 13 | 5[a] | 33[b] | 11[a] |
| Ska or Punk | 23%‡ | 8 | 22 | 24 | 19 | 27 | 29[a] | 6[b] | 14[b] |
| Soft Rock | 12% | 10 | 8[a] | 16[b] | 11 | 14 | 12 | 6 | 9 |
| Top 40 | 17%‡ | 9 | 17 | 17 | 12[a] | 22[b] | 18 | 11 | 13 |
| Something else | 6%‡ | * | 5 | 7 | 6 | 6 | 6 | 2 | 7 |

### Music Genres – Of 7th- to 12th-Graders Who Listened to CDs, Tapes or MP3s the Previous Day, the Proportion Who Listened to... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| Alternative Rock | 26% | 37% | 35% | 20%[a] | 40%[b] | 32%[ab] |
| Classic Rock | 11% | 17 | 19 | 12[ab] | 22[a] | 12[b] |
| Classical | 2%[a] | 8[ab] | 9[b] | 3a | 11[b] | 4[a] |
| Country/Western | 21% | 16 | 18 | 20 | 19 | 15 |
| Gospel/Christian | 13% | 11 | 12 | 13 | 14 | 8 |
| Hard Rock/Metal | 25% | 24 | 30 | 23 | 30 | 26 |
| Jazz or Blues | 6% | 7 | 10 | 8 | 9 | 6 |
| Latin or Salsa | 10% | 7 | 5 | 9 | 7 | 7 |
| Rap or Hip Hop | 70% | 60 | 64 | 73 | 59 | 66 |
| Rave/Techno | 12% | 14 | 14 | 10 | 15 | 13 |
| Reggae | 13% | 12 | 16 | 18 | 12 | 13 |
| Rhythm & Blues/Soul | 11% | 15 | 11 | 12 | 12 | 12 |
| Ska or Punk | 23% | 25 | 24 | 17 | 27 | 24 |
| Soft Rock | 13% | 13 | 12 | 11 | 15 | 10 |
| Top 40 | 13% | 18 | 22 | 19 | 17 | 16 |
| Something else | 4% | 5 | 8 | 7 | 7 | 5 |

*Note: Responses do not total to 100% because respondents may have listened to more than one genre of music during the day. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.6

# Computer – Average Time and Proportion of 8- to 18-Year-Olds Who Used...

| | 2004 Total | 1999 Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| **Games** | | | | | | | | | | |
| Average time | 0:09 | NA | 0:10 | 0:09 | 0:08 | 0:11[a] | 0:07[b] | 0:10 | 0:11 | 0:08 |
| 5 minutes or more | 27% | NA | 30%[a] | 30%[a] | 21%[b] | 31%[a] | 24%[b] | 28% | 28% | 27% |
| More than 1 hour | 1% | NA | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 |
| **Internet games** | | | | | | | | | | |
| Average time | 0:09 | NA | 0:10 | 0:09 | 0:11 | 0:11 | 0:08 | 0:08 | 0:11 | 0:08 |
| 5 minutes or more | 24% | NA | 26 | 25 | 21 | 27 | 21 | 25[a] | 14[b] | 27[a] |
| More than 1 hour | 2% | NA | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 |
| **Total computer games**[1] | | | | | | | | | | |
| Average time | 0:19‡ | 0:12 | 0:20 | 0:17 | 0:19 | 0:22[a] | 0:15[b] | 0:18 | 0:22 | 0:17 |
| 5 minutes or more | 35% | 32 | 37 | 37 | 29 | 38 | 31 | 36 | 34 | 33 |
| More than 1 hour | 8%‡ | 2 | 8 | 7 | 8 | 10[a] | 5[b] | 7 | 10 | 7 |
| **Web sites** | | | | | | | | | | |
| Average time | 0:14‡ | 0:07 | 0:08[a] | 0:13[b] | 0:19[c] | 0:12[a] | 0:16[b] | 0:13 | 0:12 | 0:11 |
| 5 minutes or more | 34%‡ | 22 | 21[a] | 34[b] | 45[c] | 34 | 33 | 35 | 29 | 30 |
| More than 1 hour | 3%‡ | 1 | 1[a] | 3[ab] | 5[b] | 2 | 4 | 3 | 2 | 2 |
| **Instant messaging** | | | | | | | | | | |
| Average time | 0:17 | NA | 0:03[a] | 0:18[b] | 0:27[b] | 0:14[a] | 0:20[b] | 0:19[a] | 0:04[b] | 0:14[a] |
| 5 minutes or more | 26% | NA | 10[a] | 26[b] | 39[c] | 23 | 29 | 29[a] | 15[b] | 23[ab] |
| More than 1 hour | 6% | NA | 0[a] | 5[b] | 11[c] | 4[a] | 8[b] | 7[a] | 0[b] | 4[a] |
| **Chat** | | | | | | | | | | |
| Average time | 0:04 | 0:05 | 0:03 | 0:04 | 0:03 | 0:03 | 0:04 | 0:03 | 0:05 | 0:04 |
| 5 minutes or more | 10% | 13 | 8 | 11 | 9 | 9 | 10 | 9 | 13 | 11 |
| More than 1 hour | 1% | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 |
| **E-mail** | | | | | | | | | | |
| Average time | 0:05 | 0:04 | 0:02[a] | 0:05[b] | 0:06[b] | 0:04[a] | 0:06[b] | 0:04 | 0:05 | 0:04 |
| 5 minutes or more | 25%‡ | 18 | 11[a] | 26[b] | 36[c] | 20[a] | 31[b] | 27 | 22 | 20 |
| More than 1 hour | * | * | | | | | | | | |
| **Graphics programs** | | | | | | | | | | |
| Average time | 0:04 | NA | 0:02[a] | 0:04[b] | 0:05[b] | 0:04 | 0:03 | 0:04 | 0:04 | 0:03 |
| 5 minutes or more | 12% | NA | 9 | 13 | 14 | 12 | 13 | 11 | 16 | 12 |
| More than 1 hour | 1% | NA | | | | | | | | |
| **Total recreational computer**[2] | | | | | | | | | | |
| Average time | 1:02‡ | 0:27 | 0:37[a] | 1:02[b] | 1:22[c] | 0:60 | 1:04 | 1:02 | 0:52 | 0:54 |
| 5 minutes or more | 54%‡ | 47 | 42[a] | 55[b] | 61[b] | 53 | 54 | 57[a] | 44[b] | 47[b] |
| More than 1 hour | 28%‡ | 15 | 18[a] | 26[b] | 37[b] | 27 | 28 | 29 | 26 | 23 |
| **Total recreational Internet**[2] | | | | | | | | | | |
| Average time | 0:48‡ | 0:11 | 0:25[a] | 0:49[b] | 1:06[b] | 0:44 | 0:53 | 0:48 | 0:37 | 0:42 |
| 5 minutes or more | 47%‡ | 24 | 32[a] | 48[b] | 57[c] | 46 | 48 | 50[a] | 39[b] | 40[ab] |
| More than 1 hour | 22%‡ | 5 | 12[a] | 21[b] | 32[c] | 22 | 23 | 23 | 21 | 19 |

[1] 1999 survey did not separate computer games online from computer games on the computer.

[2] 2004 survey included more activities than 1999, which asked about games, Web sites, chat and E-mail.

*Note: NA indicates question was not asked in 1999 survey. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

**APPENDIX 4.6 (CONTINUED)**

## Computer – Average Time and Proportion of 8- to 18-Year-Olds Who Used... (continued)

| | High school or Less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| **Games** | | | | | | |
| Average time | 0:07[a] | 0:08[ab] | 0:11[b] | 0:08 | 0:09 | 0:09 |
| 5 minutes or more | 26% | 24% | 30% | 29% | 26% | 29% |
| More than 1 hour | 1 | 2 | 2 | 1 | 2 | 2 |
| **Internet games** | | | | | | |
| Average time | 0:09[a] | 0:05[b] | 0:11[a] | 0:07 | 0:10 | 0:11 |
| 5 minutes or more | 25%[a] | 14[b] | 27[a] | 23 | 23 | 26 |
| More than 1 hour | 1% | 1 | 3 | 1 | 2 | 3 |
| **Total computer games**[1] | | | | | | |
| Average time | 0:17[a] | 0:14[b] | 0:22[a] | 0:15 | 0:19 | 0:20 |
| 5 minutes or more | 33% | 29 | 38 | 34 | 33 | 38 |
| More than 1 hour | 6% | 6 | 9 | 6 | 8 | 8 |
| **Web sites** | | | | | | |
| Average time | 0:12 | 0:17 | 0:15 | 0:11 | 0:14 | 0:15 |
| 5 minutes or more | 30% | 32 | 39 | 30[a] | 31[a] | 40[b] |
| More than 1 hour | 3% | 4 | 3 | 2 | 3 | 4 |
| **Instant messaging** | | | | | | |
| Average time | 0:15 | 0:16 | 0:20 | 0:15 | 0:15 | 0:21 |
| 5 minutes or more | 22%[a] | 25[ab] | 32[b] | 26[ab] | 21[a] | 34[b] |
| More than 1 hour | 5% | 5 | 7 | 5 | 4 | 8 |
| **Chat** | | | | | | |
| Average time | 0:04[a] | 0:02[b] | 0:04[a] | 0:05 | 0:03 | 0:03 |
| 5 minutes or more | 11% | 6 | 11 | 12 | 8 | 11 |
| More than 1 hour | 1% | | 1 | 1 | 1 | 1 |
| **E-mail** | | | | | | |
| Average time | 0:04 | 0:04 | 0:05 | 0:06 | 0:04 | 0:05 |
| 5 minutes or more | 22% | 26 | 29 | 28[ab] | 21[a] | 30[b] |
| More than 1 hour | | | | | | |
| **Graphics programs** | | | | | | |
| Average time | 0:03[a] | 0:03[ab] | 0:05[b] | 0:03[ab] | 0:03[a] | 0:05[b] |
| 5 minutes or more | 12% | 11 | 14 | 13 | 9 | 16 |
| More than 1 hour | | | | | | |
| **Total recreational computer**[2] | | | | | | |
| Average time | 0:55[a] | 0:57[ab] | 1:12[b] | 0:55 | 0:58 | 1:11 |
| 5 minutes or more | 47%[a] | 51[ab] | 62[b] | 47[a] | 50[a] | 63[b] |
| More than 1 hour | 24% | 26 | 31 | 27 | 25 | 32 |
| **Total recreational Internet**[2] | | | | | | |
| Average time | 0:44 | 0:44 | 0:55 | 0:43 | 0:45 | 0:56 |
| 5 minutes or more | 42%[a] | 41[a] | 55[b] | 41[a] | 42[a] | 56[b] |
| More than 1 hour | 20% | 20 | 26 | 23 | 19 | 26 |

[1] 1999 survey did not separate computer games online from computer games on the computer.
[2] 2004 survey included more activities than 1999, which asked about games, Web sites, chat and E-mail.

*Note: NA indicates question was not asked in 1998/1999 survey. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.7

# Computer — Among Those 8- to 18-Year-Olds Who Used a Computer the Previous Day...

| | 2004 | 1999 |
|---|---|---|
| **Proportion who used a computer previous day:** | 62% | 51% |
| **Of those who used a computer, time spent on:** | | |
| Games | 0:15 | |
| Internet games | 0:15 | |
| Total games[1] | 0:30‡ | 0:22 |
| Web sites | 0:22‡ | 0:13 |
| Instant messaging | 0:27 | |
| Chat | 0:06‡ | 0:09 |
| E-mail | 0:08 | 0:07 |
| Graphics programs | 0:06 | |
| Total recreational computer[2] | 1:40‡ | 0:52 |
| Total recreational Internet[2] | 1:18‡ | 0:22 |
| **Of those who used a computer, proportion who spent time on:** | | |
| Games | 44% | NA |
| Internet games | 39% | NA |
| Total games[1] | 56% | 62 |
| Web sites | 55%‡ | NA |
| Instant messaging | 42% | NA |
| Chat | 16%‡ | 25 |
| E-mail | 41% | 36 |
| Graphics programs | 20% | NA |
| Total recreational computer[2] | 86% | 87 |
| Total recreational Internet[2] | 75%‡ | 48 |
| **Of those who used a computer, proportion who spent more than an hour on:** | | |
| Games | 2% | NA |
| Internet games | 3% | NA |
| Total games[1] | 12%‡ | 5 |
| Web sites | 5%‡ | 2 |
| Instant messaging | 9% | NA |
| Chat | 2% | 2 |
| E-mail | * | 1 |
| Graphics programs | 1% | NA |
| Total recreational computer[2] | 44%‡ | 29 |
| Total recreational Internet[2] | 36%‡ | 10 |

[1] 1999 survey did not separate computer games online from computer games on the computer.

[2] 2004 survey included more activities than 1999, which asked about games, Web sites, chat & E-mail.

*Note: NA indicates question was not asked in 1999 survey. Numbers for previous day computer use include those who used a computer for school work. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.8

### Video Games – Average Time and Proportion of 8- to 18-Year-Olds Who Used...

| | 2004 Total | 1999[1] Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| **Video game player** | | | | | | | | | | |
| Average time | 0:32 | NA | 0:42[a] | 0:32[a] | 0:23[b] | 0:48[a] | 0:14[b] | 0:30[a] | 0:40[b] | 0:34[ab] |
| 5 minutes or more | 41% | NA | 51%[a] | 44%[a] | 29%b | 55%[a] | 27%[b] | 40% | 49% | 40% |
| More than 1 hour | 13% | NA | 15 | 13 | 10 | 20[a] | 5[b] | 12 | 18 | 15 |
| **Handheld video game** | | | | | | | | | | |
| Average time | 0:17 | NA | 0:23[a] | 0:20[a] | 0:10[b] | 0:24[a] | 0:11[b] | 0:15[a] | 0:24[b] | 0:20[ab] |
| 5 minutes or more | 35% | NA | 42[a] | 40[a] | 23[b] | 40[a] | 30[b] | 32[a] | 45[b] | 37[ab] |
| More than 1 hour | 6% | NA | 8 | 7 | 4 | 9[a] | 3[b] | 5 | 9 | 7 |
| **Total video games** | | | | | | | | | | |
| Average time | 0:49‡ | 0:26 | 1:05[a] | 0:52[a] | 0:33[b] | 1:12[a] | 0:25[b] | 0:46[a] | 1:04[b] | 0:53[ab] |
| 5 minutes or more | 52%‡ | 38 | 59[a] | 57[a] | 39[b] | 63[a] | 40[b] | 52 | 58 | 50 |
| More than 1 hour | 22%‡ | 10 | 27[a] | 23[a] | 15[b] | 31[a] | 11[b] | 20 | 29 | 23 |

### Video Games – Average Time and Proportion of 8- to 18-Year-Olds Who Used... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| **Video game player** | | | | | | |
| Average time | 0:34[a] | 0:25[b] | 0:34[ab] | 0:27 | 0:33 | 0:33 |
| 5 minutes or more | 42% | 34% | 44% | 41% | 41% | 42% |
| More than 1 hour | 16% | 10 | 12 | 12 | 13 | 14 |
| **Handheld video game** | | | | | | |
| Average time | 0:18[a] | 0:12[b] | 0:19[a] | 0:17 | 0:17 | 0:19 |
| 5 minutes or more | 35%[ab] | 28[a] | 38[b] | 37 | 34 | 36 |
| More than 1 hour | 7% | 4 | 6 | 6 | 6 | 7 |
| **Total video games** | | | | | | |
| Average time | 0:52[a] | 0:36[b] | 0:53[a] | 0:44 | 0:50 | 0:53 |
| 5 minutes or more | 53% | 46% | 54% | 53% | 50% | 54% |
| More than 1 hour | 23% | 16 | 22 | 22 | 21 | 22 |

[1] In 1999, respondents were not asked separate questions about handheld versus console video games.
*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.9

### Interactive Games – Average Time and Proportion of 8- to 18-Year-Olds Who Used...

| | Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|
| Average time | 1:08 | 1:25[a] | 1:09[a] | 0:52[b] | 1:34[a] | 0:40[b] | 1:03[a] | 1:26[b] | 1:10[ab] |
| Some time | 59% | 65%[a] | 63%[a] | 49%[b] | 68%[a] | 51%[b] | 61% | 60% | 55% |
| More than 1 hour | 30% | 34[a] | 31[ab] | 24[b] | 41[a] | 18[b] | 28 | 37 | 29 |

### Interactive Games – Average Time and Proportion of 8- to 18-Year-Olds Who Used... (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| Average time | 1:09[a] | 0:50[b] | 1:16[a] | 0:59 | 1:09 | 1:13 |
| Some time | 59%[ab] | 52%[a] | 63%[b] | 58%[ab] | 56%[a] | 65%[b] |
| More than 1 hour | 30% | 24 | 31 | 31 | 28 | 30 |

*Note: Includes any video game (handheld or console player) or computer game (computer or online). See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 4.10

# Summary Table — Use of Individual Media by All 8- to 18-Year-Olds

| | Percent who used | Average time | Average time for users | Percent who used for... >1 hour | >3 hours | >5 hours |
|---|---|---|---|---|---|---|
| **TV** | | | | | | |
| 2004 | 81%[a] | 3:04 | 3:48 | 66% | 38% | 20% |
| 1999 | 85%[b] | 3:05 | 3:39 | 69 | 40 | 22 |
| **Magazines** | | | | | | |
| 2004 | 47%[a] | 0:14 | 0:29 | 2 | 1 | 0[a] |
| 1999 | 55%[b] | 0:15 | 0:27 | 3 | 1 | 1[b] |
| **Newspapers** | | | | | | |
| 2004 | 34%[a] | 0:06 | 0:17 | * | * | 0 |
| 1999 | 42%[b] | 0:07 | 0:17 | 0 | 0 | 0 |
| **Books** | | | | | | |
| 2004 | 46% | 0:23 | 0:50 | 7 | 2 | 1[a] |
| 1999 | 46% | 0:21 | 0:46 | 8 | 1 | 0[b] |
| **Total print** | | | | | | |
| 2004 | 73%[a] | 0:43 | 0:58 | 19 | 4 | 1 |
| 1999 | 80%[b] | 0:43 | 0:54 | 21 | 3 | 1 |
| **Prerecorded TV**[1] | | | | | | |
| 2004 | 21% | 0:14 | 1:06 | 6 | 1 | 1[a] |
| 1999 | 23% | 0:14 | 0:58 | 5 | 1 | 0[b] |
| **Videos/DVDs**[2] | | | | | | |
| 2004 | 39% | 0:32 | 1:21 | 15 | 2 | 1[a] |
| 1999 | 35% | 0:27 | 1:16 | 15 | 1 | 0[b] |
| **Total videos/DVDs, VCR/DVR** | | | | | | |
| 2004 | 42% | 0:47 | 1:39 | 19 | 4[a] | 1 |
| 1999 | 46% | 0:42 | 1:31 | 26 | 2[b] | 1 |
| **Movies** | | | | | | |
| 2004 | 13% | 0:25 | 3:06 | 13[a] | 5[a] | 2 |
| 1999 | 10% | 0:18 | 2:57 | 7[b] | 2[b] | 2 |
| **Video games, console player** | | | | | | |
| 2004 | 41% | 0:32 | 1:16 | 13 | 3 | 1 |
| **Video games, handheld** | | | | | | |
| 2004 | 35% | 0:17 | 0:50 | 6 | 1 | * |
| **Total video games**[3] | | | | | | |
| 2004 | 52%[a] | 0:49[a] | 1:34[a] | 22[a] | 7[a] | 2 |
| 1999 | 38%[b] | 0:26[b] | 1:05[b] | 10[b] | 2[b] | 1 |
| **Radio**[4] | | | | | | |
| 2004 | 74% | 0:55[a] | 1:14[a] | 21 | 7[a] | 3[a] |
| 1999 | 76% | 0:46[b] | 1:01[b] | 23 | 4[b] | 1[b] |
| **CDs/tapes/MP3s**[5] | | | | | | |
| 2004 | 68% | 0:49 | 1:12[a] | 18[a] | 6 | 2 |
| 1999 | 72% | 1:02 | 1:25[b] | 25[b] | 8 | 2 |
| **Total music**[6] | | | | | | |
| 2004 | 85% | 1:44 | 2:01 | 44% | 16% | 8% |
| 1999 | 86% | 1:48 | 2:06 | 50 | 19 | 7 |

[1] 1999 survey asked about videos of TV shows taped earlier; 2004 survey included reference to DVRs as well.

[2] 1999 survey asked about other "videos"; 2004 survey asked about videotapes or DVDs.

[3] 1999 survey asked one question about video games, not specifying console player vs. handheld.

[4] Question asked differently in 1999.

[5] 1999 survey asked about CDs or tapes; 2004 survey included reference to MP3s.

[6] "Music" is used as shorthand, because 1999 data revealed that most radio/tape/CD listening was music.

*Note: For purposes of this table, superscripted letters (a, b, c,) are used to designate statistically significant changes over time. If data do not appear for 1999, the question was not asked. Average times for users includes only those respondents who engaged in that specific activity the prior day; for example, only those who used instant messaging or E-mail.*

## APPENDIX 4.10 (CONTINUED)

### Summary Table — Use of Individual Media by All 8- to 18-Year-Olds (continued)

| | Percent who used | Average time | Average time for users | Percent who used for... >1 hour | >3 hours | >5 hours |
|---|---|---|---|---|---|---|
| **Computer games** | | | | | | |
| 2004 | 27% | 0:09 | 0:32 | 1 | * | * |
| **Internet games** | | | | | | |
| 2004 | 24% | 0:09 | 0:38 | 2 | 0 | 0 |
| **Total computer games**[7] | | | | | | |
| 2004 | 35% | 0:19[a] | 0:50[a] | 8[a] | 1[a] | * |
| 1999 | 32% | 0:12[b] | 0:35[b] | 2[b] | 0[b] | * |
| **Web sites** | | | | | | |
| 2004 | 34%[a] | 0:14[a] | 0:39[a] | 3[a] | 1[a] | * |
| 1999 | 22%[b] | 0:07[b] | 0:30[b] | 1[b] | 0[b] | 0 |
| **Instant messaging** | | | | | | |
| 2004 | 26% | 0:17 | 1:02 | 6 | 1 | 1 |
| **Chat** | | | | | | |
| 2004 | 10% | 0:04 | 0:35 | 1 | 0 | 0 |
| 1999 | 13% | 0:05 | 0:36 | 1 | * | 0 |
| **E-mail** | | | | | | |
| 2004 | 25%[a] | 0:05 | 0:18 | * | 0 | 0 |
| 1999 | 18%[b] | 0:04 | 0:19 | * | 0 | 0 |
| **Graphics programs** | | | | | | |
| 2004 | 12% | 0:04 | 0:27 | 1 | 0 | 0 |
| **Total recreational computer**[8] | | | | | | |
| 2004 | 54%[a] | 1:02[a] | 1:53[a] | 28[a] | 10[a] | 3[a] |
| 1999 | 47%[b] | 0:27[b] | 0:58[b] | 15[b] | 2[b] | 0[b] |
| **Total recreational Internet**[9] | | | | | | |
| 2004 | 47%[a] | 0:48[a] | 1:41[a] | 22[a] | 7[a] | 2[a] |
| 1999 | 24%[b] | 0:11[b] | 0:46[b] | 5[b] | 0[b] | 0[b] |

[7] 1999 survey did not separate online and offline computer games.

[8] 2004 survey includes more activities than 1999, which was limited to games, Web sites, chat and E-mail. Computer "users" are those respondents who spent some time using a computer for recreational purposes.

[9] 2004 survey includes more Internet activities than 1999, which was limited to Web sites, chat and E-mail. "Users" are those respondents who spent some time going online for recreational purposes.

*Note: For purposes of this table, superscripted letters (a, b, c,) are used to designate statistically significant changes over time. If data do not appear for 1999, the question was not asked. Average times for users includes only those respondents who engaged in that specific activity the prior day; for example, only those who used instant messaging or E-mail.*

## APPENDIX 4.11

### Internet Access and Use – Percentage of 8- to 18-Year-Olds Who...

| | Have ever used a computer | Have ever gone online | Have a computer at home | | Have Internet at home | | Used a computer yesterday | | Used Internet yesterday | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2004 | 2004 | 2004 | 1999 | 2004 | 1999 | 2004 | 1999 | 2004 | 1999 |
| **Overall** | 98% | 96% | 86%‡ | 73% | 74%‡ | 47% | 62%‡ | 51% | 61%‡ | 24% |
| **Race** | | | | | | | | | | |
| White | 99% | 96 | 90[a‡] | 82[a] | 80[a‡] | 57[a] | 65‡ | 55[a] | 62‡ | 28 |
| Black | 95% | 92 | 78[b‡] | 61[b] | 61[b‡] | 34[b] | 55 | 53[a] | 57‡ | 20 |
| Hispanic | 97% | 95 | 80[b‡] | 55[b] | 67[b‡] | 28[b] | 56‡ | 35[b] | 57‡ | 20 |
| **Parent education** | | | | | | | | | | |
| High school or less | 98% | 94 | 82[a‡] | 55[a] | 68[a‡] | 29[a] | 58[a‡] | 39[a] | 57[a‡] | 17[a] |
| Some college | 98% | 97 | 84[ab‡] | 73[b] | 74[ab‡] | 41[b] | 57[a] | 51[b] | 52[a‡] | 23[ab] |
| College + | 98% | 96 | 91[b‡] | 85[c] | 82[b‡] | 63[c] | 70[b‡] | 59[b] | 69[b‡] | 31[b] |
| **Median income**[1] | | | | | | | | | | |
| ‹ $35K | 98% | 96 | 78[a] | 52[a] | 66[a] | 24[a] | 56[a] | 38[a] | 54[a] | 19[a] |
| $35K–$50K | 98% | 94 | 86[b] | 72[b] | 72[a] | 47[b] | 59[a] | 48[b] | 57[a] | 24ab |
| › $50K | 98% | 97 | 93[c] | 86[c] | 84[b] | 62[c] | 70[b] | 62[c] | 71[b] | 27[b] |

### Internet Access and Use – Percentage of 8- to 18-Year-Olds Who... (continued)

| | Average time spent on a computer | Used computer at school yesterday | | Went online from school yesterday | Went online from home yesterday | Went online from someplace else yesterday | Go online most often from home | Go online most often from school/ someplace else |
|---|---|---|---|---|---|---|---|---|
| | 2004 | 2004 | 1999 | 2004 | 2004 | 2004 | 2004 | 2004 |
| **Overall** | 1:02 | 27% | 26% | 20% | 48% | 16% | 65% | 23% |
| **Race** | | | | | | | | |
| White | 1:02 | 27% | 25[a] | 17 | 51[a] | 14[a] | 69[a] | 22[a] |
| Black | 0:52 | 30% | 39[b] | 24 | 37[b] | 24[b] | 43[b] | 34[b] |
| Hispanic | 0:54 | 32% | 21[a] | 23 | 40[b] | 13[a] | 58c | 30[ab] |
| **Parent education** | | | | | | | | |
| High school or less | 0:55a | 27% | 24 | 19[a] | 41[a] | 17 | 54[a] | 30[a] |
| Some college | 0:57ab | 23% | 23 | 14[ab] | 43[a] | 12 | 65[ab] | 27[a] |
| College + | 1:11b | 30% | 28 | 22[b] | 56[b] | 17 | 74[b] | 15[b] |
| **Median income**[1] | | | | | | | | |
| ‹ $35K | 0:55 | 29% | 26[ab] | 19 | 39[a] | 20 | 50[a] | 35[a] |
| $35K–$50K | 0:58 | 26% | 21[a] | 19 | 44[a] | 15 | 67[b] | 25[b] |
| › $50K | 1:11 | 28% | 32[b] | 21 | 58[b] | 13 | 74[b] | 12[c] |

[1] No direct income comparison between 2004 and 1999 because of the change in income distribution. 1999 categories were ‹ $25K, $25K–$40K, › $40K.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

# APPENDIX 5

# TABLES ON OVERALL MEDIA TIME

## APPENDIX 5.1

### Total Media Exposure, Media Use and Media Budget Among 8- to 18-Year-Olds

| | 2004 Total | 1999[1] Total | 8- to 10-year-olds | 11- to 14-year-olds | 15- to 18-year-olds | Boys | Girls | White | Black | Hispanic |
|---|---|---|---|---|---|---|---|---|---|---|
| **Medium:** | | | | | | | | | | |
| TV | 3:04 | 3:05 | 3:17 | 3:16 | 2:36 | 3:04 | 3:04 | 2:45[a] | 4:05[b] | 3:23[b] |
| Prerecorded TV | 0:14 | 0:14 | 0:19[a] | 0:15[ab] | 0:10[b] | 0:13 | 0:16 | 0:11[a] | 0:26[b] | 0:17[c] |
| Videos/DVDs | 0:32 | 0:27 | 0:34 | 0:31 | 0:33 | 0:32 | 0:33 | 0:34 | 0:34 | 0:28 |
| Movies | 0:25 | 0:18 | 0:31 | 0:23 | 0:21 | 0:29 | 0:20 | 0:17[a] | 0:48[b] | 0:29[c] |
| Video games | 0:49‡ | 0:26 | 1:05[a] | 0:52[a] | 0:33[b] | 1:12[a] | 0:25[b] | 0:46[a] | 1:04[b] | 0:53[ab] |
| Print media | 0:43 | 0:43 | 0:44 | 0:41 | 0:45 | 0:40 | 0:45 | 0:42 | 0:38 | 0:47 |
| Radio | 0:55‡ | 0:46 | 0:29[a] | 0:57[b] | 1:15[c] | 0:45[a] | 1:06[b] | 0:54 | 0:55 | 0:54 |
| CDs/tapes/MP3s | 0:49‡ | 1:02 | 0:30[a] | 0:45[b] | 1:09[c] | 0:44[a] | 0:54[b] | 0:47 | 0:47 | 0:47 |
| Computers | 1:02‡ | 0:27 | 0:37[a] | 1:02[b] | 1:22[c] | 0:60[a] | 1:04[b] | 1:02 | 0:52 | 0:54 |
| **Total media exposure**[2] | 8:33‡ | 7:29 | 8:05 | 8:41 | 8:44 | 8:38 | 8:27 | 7:58[a] | 10:10[b] | 8:52[a] |
| **Total media use**[3] | 6:21 | 6:19 | 5:52 | 6:33 | 6:31 | 6:21 | 6:19 | 6:15 | 6:30 | 6:30 |
| **Proportion of media time spent using more than one medium simultaneously**[4] | 26%‡ | 16% | 27% | 25% | 25% | 26% | 25% | 21% | 36% | 27% |
| **Media budget (proportion of media time devoted to):** | | | | | | | | | | |
| TV | 35% | 40 | 39[a] | 38[a] | 28[b] | 35 | 35 | 33 | 40 | 39 |
| Other screen media | 13% | 11 | 16 | 12 | 11 | 13 | 13 | 12 | 15 | 13 |
| Video games | 9% | 6 | 12[a] | 9[ab] | 6[b] | 13[a] | 5[b] | 9 | 10 | 8 |
| Reading | 11% | 12 | 12 | 10 | 10 | 10 | 11 | 11 | 8 | 11 |
| Audio media | 22% | 26 | 14[a] | 20[a] | 30[b] | 19 | 25 | 23 | 18 | 19 |
| Computers | 11%‡ | 6 | 7[a] | 11[ab] | 15[b] | 11 | 12 | 12 | 8 | 9 |

### Total Media Exposure, Media Use and Media Budget Among 8- to 18-Year-Olds (continued)

| | High school or less | Some college | College + | ‹ $35K | $35K-$50K | › $50K |
|---|---|---|---|---|---|---|
| **Medium:** | | | | | | |
| TV | 3:12 | 2:48 | 3:03 | 3:16 | 2:55 | 3:08 |
| Prerecorded TV | 0:13 | 0:11 | 0:16 | 0:14 | 0:15 | 0:14 |
| Videos/DVDs | 0:31 | 0:31 | 0:35 | 0:36 | 0:34 | 0:27 |
| Movies | 0:26[ab] | 0:17[a] | 0:26[b] | 0:30 | 0:25 | 0:20 |
| Video games | 0:52[a] | 0:36[b] | 0:53[a] | 0:44 | 0:50 | 0:53 |
| Print media | 0:32[a] | 0:43[b] | 0:50[b] | 0:36 | 0:45 | 0:44 |
| Radio | 0:58[ab] | 1:10[a] | 0:50[b] | 1:00 | 0:55 | 0:51 |
| CDs/tapes/MP3s | 0:50 | 0:50 | 0:50 | 0:50 | 0:49 | 0:47 |
| Computers | 0:55[a] | 0:57[ab] | 1:12[b] | 0:55 | 0:58 | 1:11 |
| **Total media exposure**[2] | 8:30[ab] | 8:02[a] | 8:55[b] | 8:40 | 8:28 | 8:34 |
| **Total media use**[3] | 5:54 | 6:26 | 6:42 | 5:02 | 6:25 | 6:44 |
| **Proportion of media time spent using more than one medium simultaneously**[4] | 31% | 20% | 25% | 42%[a] | 24%[ab] | 22%[b] |
| **Media budget (proportion of media time devoted to):** | | | | | | |
| TV | 38% | 33 | 33 | 35 | 34 | 37 |
| Other screen media | 13% | 12 | 13 | 14 | 13 | 11 |
| Video games | 9% | 7 | 9 | 8 | 9 | 9 |
| Reading | 8% | 12 | 12 | 9 | 12 | 10 |
| Audio media | 23% | 26 | 21 | 23 | 22 | 20 |
| Computers | 10% | 11 | 13 | 10 | 10 | 14 |

[1] 1999 data are not always directly comparable to 2004 data: see questionnaire for differences.

[2] Media *use* refers to the actual amount of time spent with media, ignoring instances of simultaneous media use (e.g., reading while listening to music). Media *exposure* refers to the total amount of media content encountered, adding in both components of simultaneous media exposure. Thus, the young person who simultaneously listens to music and reads for one hour is credited with one hour of media *use* and two hours of media *exposure*.

[3] Because Total Media Use numbers are computed at the aggregate level, differences among demographic sub-groups have not been tested for statistical significance.

[4] Computed from media use diaries.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

# APPENDIX 6

# TABLES ON RELATIONSHIP OF MEDIA ENVIRONMENT TO MEDIA USE

## APPENDIX 6.1

### Bedroom Media and Media Exposure —Time Spent with Each Medium, by 8- to 18-Year-Olds With or Without...

| | Total media exposure | Reading | TV | Recorded TV/videos/ DVDs/movies | Video games total | Video game console player | Music | Computer |
|---|---|---|---|---|---|---|---|---|
| **TV in bedroom** | | | | | | | | |
| Yes | 9:09[a] | 0:38[a] | 3:31[a] | 1:16[a] | 0:57[a] | 0:38[a] | 1:46 | 1:02 |
| No | 7:07[b] | 0:54[b] | 2:04[b] | 0:58[b] | 0:30[b] | 0:17[b] | 1:40 | 1:01 |
| **Video game player in bedroom** | | | | | | | | |
| Yes | 9:42[a] | 0:39 | 3:37[a] | 1:23[a] | 1:10[a] | 0:47[a] | 1:46 | 1:05 |
| No | 7:23[b] | 0:47 | 2:30[b] | 0:58[b] | 0:26[b] | 0:15[b] | 1:43 | 0:60 |
| **Computer or laptop in bedroom** | | | | | | | | |
| Yes | 9:58[a] | 0:48[a] | 3:21[a] | 1:23[a] | 0:56 | 0:37[a] | 1:60[a] | 1:30[a] |
| Others | 7:48[b] | 0:40[b] | 2:55[b] | 1:05[b] | 0:46 | 0:29[b] | 1:35[b] | 0:47[b] |

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 6.2

### Rules and Media Exposure – Time Spent Using Each Medium by 7th- to 12th-Graders Who Have...

| | Total media exposure | Reading | TV | Recorded TV/videos/ DVDs/movies | Video games total | Video game console player | Music | Computer | Internet |
|---|---|---|---|---|---|---|---|---|---|
| **TV** | | | | | | | | | |
| Rules about TV content or time | 7:07[a] | 0:50[a] | 2:18[a] | 1:07 | 0:32 | 0:18[a] | 1:30[a] | 0:50[a] | 0:37[a] |
| No TV rules | 8:57b | 0:38[b] | 2:58[b] | 1:01 | 0:40 | 0:28[b] | 2:19[b] | 1:21[b] | 1:06[b] |
| **Computer** | | | | | | | | | |
| Rules about computer content or time | 8:22 | 0:43 | 2:36 | 1:06 | 0:42 | 0:25 | 1:59 | 1:15 | 0:59 |
| No computer rules | 8:59 | 0:36 | 2:59 | 0:58 | 0:39 | 0:28 | 2:20 | 1:27 | 1:12 |
| **Video games** | | | | | | | | | |
| Rules about video game content or time | 8:36 | 0:43 | 2:52 | 1:20 | 0:45 | 0:25 | 1:51 | 1:05 | 0:48 |
| No video game rules | 8:59 | 0:34 | 3:04 | 0:58 | 0:45 | 0:31 | 2:18 | 1:21 | 1:06 |

*Note: In all of the above categories, respondents indicated at least one of two items: that their parents have 1) rules about content (which shows, video games, computer activities) OR 2) rules about how long they can spend using the medium. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 6.3

# Rules About Media Time and Media Exposure

| | Total media exposure | Reading | TV | Recorded TV/videos/ DVDs/movies | Video games total | Video game console player | Music | Computer | Internet |
|---|---|---|---|---|---|---|---|---|---|
| **Time spent using each medium by 8- to 18-year-olds:** | | | | | | | | | |
| **Computer** | | | | | | | | | |
| Rules about computer time | 8:34 | 0:54[a] | 2:58 | 1:10 | 0:50 | 0:31 | 1:36 | 1:05 | 0:49 |
| No rules about computer time | 8:43 | 0:36[b] | 3:07 | 1:10 | 0:47 | 0:32 | 1:50 | 1:12 | 0:57 |
| **Video games** | | | | | | | | | |
| Rules about video game time | 8:04[a] | 0:50[a] | 3:03 | 1:12 | 0:45[a] | 0:26[a] | 1:28[a] | 0:46[a] | 0:33[a] |
| No rules about video game time | 9:11[b] | 0:36[b] | 3:20 | 1:13 | 1:00[b] | 0:40[b] | 1:52[b] | 1:10[b] | 0:55[b] |
| **Time spent using each medium by 7th- to 12th-graders:** | | | | | | | | | |
| **TV** | | | | | | | | | |
| Rules about TV time | 6:14[a] | 0:53[a] | 1:55[a] | 1:02 | 0:25[a] | 0:17 | 1:16[a] | 0:43[a] | 0:33[a] |
| No rules about TV time | 8:56[b] | 0:39[b] | 2:58[b] | 1:03 | 0:41[b] | 0:27 | 2:16[b] | 1:19[b] | 1:05[b] |
| **Computer** | | | | | | | | | |
| Rules about computer time | 8:51 | 0:49[a] | 2:32 | 1:06 | 0:46 | 0:27 | 2:11 | 1:27 | 1:09 |
| No rules about computer time | 8:34 | 0:34[b] | 2:53 | 0:57 | 0:36 | 0:25 | 2:11 | 1:23 | 1:08 |
| **Video games** | | | | | | | | | |
| Rules about video game time | 8:07 | 0:43 | 2:44 | 1:09 | 0:37 | 0:20[a] | 1:50 | 1:03 | 0:48 |
| No rules about video game time | 9:04 | 0:35 | 3:05 | 1:02 | 0:47 | 0:32[b] | 2:15 | 1:20 | 1:05 |

*Note: All results are only among those with each medium in their house. See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 6.4

# Household TV Orientation and Media Exposure — Time Spent Using Each Medium by 8- to 18-Year-Olds from Homes With...

| | Total media exposure | Reading | TV | Recorded TV/videos/ DVDs/movies | Video games total | Music | Computer |
|---|---|---|---|---|---|---|---|
| **High TV orientation**[1] | | | | | | | |
| Highly TV oriented | 10:22[a] | 0:36[a] | 3:58[a] | 1:20 | 1:08[a] | 2:06[a] | 1:14[a] |
| All others | 7:57[b] | 0:45[b] | 2:46[b] | 1:09 | 0:43[b] | 1:37[b] | 0:58[b] |
| **Rules about TV** | | | | | | | |
| Rules about TV that are enforced most of the time | 7:16[a] | 0:55[a] | 2:41[a] | 1:16[a] | 0:34[a] | 0:31[a] | 0:31[a] |
| Rules about TV that are enforced some, little or never | 7:48[a] | 0:40[b] | 2:53[a] | 0:58[b] | 0:50[b] | 0:55[a] | 0:55[b] |
| No rules about TV | 9:17[b] | 0:39[b] | 3:19[b] | 1:13[a] | 0:53[b] | 1:16[b] | 1:16[c] |
| **TV on during meals** | | | | | | | |
| TV "usually" on during meals | 9:06[a] | 0:41 | 3:26[a] | 1:15 | 0:54[a] | 1:50[a] | 1:01 |
| TV not usually on during meals | 7:35[b] | 0:47 | 2:25[b] | 1:04 | 0:41[b] | 1:34[b] | 1:04 |
| **Constant TV** | | | | | | | |
| TV on “most of the time” even if no one is watching | 9:42[a] | 0:37[a] | 3:37[a] | 1:20[a] | 1:03[a] | 1:56[a] | 1:09[a] |
| TV on some/little/never if no one is watching | 7:22[b] | 0:49[b] | 2:30[b] | 1:03[b] | 0:35[b] | 1:32[b] | 0:54[b] |

[1] High TV orientation households are those in which the TV is usually on, the TV is on during meals, and there are no rules about TV; 25% of all 8- to 18-year-olds are from high TV orientation homes.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

# APPENDIX 7

# TABLES ON RELATIONSHIP OF MEDIA USE TO INDIVIDUAL TRAITS

## APPENDIX 7.1

### School Grades, Contentedness, Sensation Seeking and Media Exposure

| | Proportion of all 8- to 18-year-olds | Total media exposure | Reading | TV | Recorded TV/videos/ DVDs/movies | Video games total | Music | Computer |
|---|---|---|---|---|---|---|---|---|
| **Grades** | | | | | | | | |
| Mostly A/Bs | 51% | 8:28 | 0:46a | 3:06 | 1:05 | 0:48a | 1:39 | 1:05 |
| Mostly B/Cs | 35% | 8:27 | 0:39$^{ab}$ | 3:03 | 1:14 | 0:46$^{a}$ | 1:48 | 0:58 |
| C&Ds or below | 10% | 9:15 | 0:29$^{b}$ | 3:07 | 1:19 | 1:09$^{b}$ | 2:08 | 1:03 |
| **Contentedness scale** | | | | | | | | |
| Low | 18% | 9:44$^{b}$ | 0:49$^{ab}$ | 3:25 | 1:15 | 0:56$^{b}$ | 2:02$^{b}$ | 1:16 |
| Moderate | 64% | 8:22$^{a}$ | 0:39$^{b}$ | 3:02 | 1:09 | 0:49$^{b}$ | 1:42$^{a}$ | 1:01 |
| High | 13% | 8:07$^{a}$ | 0:49$^{a}$ | 2:57 | 1:13 | 0:37$^{a}$ | 1:36$^{a}$ | 0:55 |
| **Sensation seeking scale** | | | | | | | | |
| Low | 17% | 7:18$^{a}$ | 0:36 | 2:11$^{a}$ | 1:00 | 0:31 | 2:02$^{a}$ | 0:57 |
| Moderate | 58% | 8:08$^{a}$ | 0:41 | 2:50$^{b}$ | 0:59 | 0:37 | 1:50$^{a}$ | 1:10 |
| High | 22% | 10:20$^{b}$ | 0:41 | 3:17$^{b}$ | 1:11 | 0:42 | 2:55$^{b}$ | 1:34 |

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 7.2

### Time Spent With Each Medium by Heavy, Moderate and Light Users of...

| | Proportion of all 8- to 18-year-olds | Total media exposure | Total minus respective media[1] | Reading | TV | Recorded TV/videos/ DVDs/movies | Video games total | Music | Computer |
|---|---|---|---|---|---|---|---|---|---|
| **TV** | | | | | | | | | |
| Light TV users – 1 hour or less | 34% | 5:00$^{a}$ | 4:41$^{a}$ | 0:44 | 0:18$^{a}$ | 0:53$^{a}$ | 0:35$^{a}$ | 1:37$^{a}$ | 0:53$^{a}$ |
| Moderate TV users – more than 1 hour - 5 hours | 45% | 8:08$^{b}$ | 5:11$^{b}$ | 0:40 | 2:58$^{b}$ | 1:07$^{b}$ | 0:44$^{a}$ | 1:41$^{a}$ | 0:59$^{a}$ |
| Heavy TV users – more than 5 hours | 20% | 15:26$^{c}$ | 7:29$^{c}$ | 0:46 | 7:58$^{c}$ | 1:53$^{c}$ | 1:26$^{b}$ | 2:02$^{b}$ | 1:22$^{b}$ |
| **Computers** | | | | | | | | | |
| Light computer users – None | 45% | 6:42$^{a}$ | 6:42$^{a}$ | 0:42$^{ab}$ | 2:50$^{a}$ | 0:59$^{a}$ | 0:42$^{a}$ | 1:28$^{a}$ | 0:00$^{a}$ |
| Moderate computer users – 5 minutes - 2 hours | 38% | 8:13$^{b}$ | 7:19$^{a}$ | 0:40$^{a}$ | 3:02$^{a}$ | 1:05$^{a}$ | 0:49$^{a}$ | 1:42$^{a}$ | 0:54$^{b}$ |
| Heavy computer users – more than 2 hours | 16% | 14:31$^{c}$ | 10:18$^{b}$ | 0:51$^{b}$ | 3:45$^{b}$ | 1:55$^{b}$ | 1:09$^{b}$ | 2:38$^{b}$ | 4:14$^{c}$ |
| **Video Games**[2] | | | | | | | | | |
| Light video game users – none | 58% | 6:45$^{a}$ | 6:45$^{a}$ | 0:41$^{ab}$ | 2:35$^{a}$ | 0:50$^{a}$ | 0:08$^{a}$ | 1:39$^{a}$ | 0:53$^{a}$ |
| Moderate video game users – 5 minutes - 1 hour | 28% | 9:26$^{b}$ | 8:52$^{b}$ | 0:40$^{a}$ | 3:32$^{b}$ | 1:30$^{b}$ | 0:53$^{b}$ | 1:41$^{a}$ | 1:11$^{b}$ |
| Heavy video game users – more than 1 hour | 13% | 14:44$^{c}$ | 11:53$^{c}$ | 0:55$^{b}$ | 4:17$^{c}$ | 2:07$^{c}$ | 3:48$^{c}$ | 2:12$^{b}$ | 1:25$^{b}$ |
| **Reading** | | | | | | | | | |
| Light readers – none | 26% | 7:19$^{a}$ | 7:19$^{a}$ | 0:00$^{a}$ | 2:53 | 0:55$^{a}$ | 0:50 | 1:45 | 0:56$^{ab}$ |
| Moderate readers – 5 minutes - 1 hour | 55% | 8:03$^{a}$ | 7:35$^{a}$ | 0:28$^{b}$ | 3:05 | 1:08$^{a}$ | 0:46 | 1:38 | 0:58$^{a}$ |
| Heavy readers – more than 1 hour | 19% | 11:43$^{b}$ | 9:19$^{b}$ | 2:25$^{c}$ | 3:16 | 1:45$^{b}$ | 0:59 | 1:59 | 1:20$^{b}$ |

[1] For example, for heavy TV users, this column provides total media exposure minus time spent with TV.
[2] Calculations on heavy, moderate or light video game use were made based on time spent with console players only.
*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 7.3

# Media Multitasking — Percentage of 7th- to 12th-Graders Who...

| **Multitask other media while reading...** | |
|---|---|
| Most of the time | 28% |
| Some of the time | 30 |
| A little of the time | 26 |
| Never | 16 |

| **Multitask other media while watching TV...** | |
|---|---|
| Most of the time | 24% |
| Some of the time | 29 |
| A little of the time | 28 |
| Never | 19 |

| **Multitask other media while listening to music...** | |
|---|---|
| Most of the time | 33% |
| Some of the time | 30 |
| A little of the time | 25 |
| Never | 12 |

| **Multitask other media while using computer...** | |
|---|---|
| Most of the time | 33% |
| Some of the time | 29 |
| A little of the time | 23 |
| Never | 14 |

| **Do multiple things at the same time on the computer...** | |
|---|---|
| Most of the time | 39% |
| Some of the time | 25 |
| A little of the time | 19 |
| Never | 14 |

| **Do other things while watching TV... (eating, homework, phone)** | |
|---|---|
| Most of the time | 40% |
| Some of the time | 34 |
| A little of the time | 21 |
| Never | 4 |

| **Multitask while doing homework...[1] (phone, instant messaging, TV, music, Internet)** | |
|---|---|
| Most of the time | 30% |
| Some of the time | 31 |
| A little of the time | 19 |
| Never | 18 |

[1] Among all 8- to 18-year-olds.

## APPENDIX 7.4

# Multitasking and Media Exposure Among 7th- to 12th-Graders

| | **Proportion of 7th- to 12th graders** | **Total media exposure** | **Reading** | **TV** | **Recorded TV/videos/ DVDs/movies** | **Video games total** | **Music** | **Computer** |
|---|---|---|---|---|---|---|---|---|
| **Multitasking level[1]** | | | | | | | | |
| Light - ‹ 8 | 15% | 6:38[a] | 0:35 | 2:43[a] | 0:50[a] | 0:34[a] | 1:12[a] | 0:44[a] |
| Moderate 8-14 | 70% | 7:50[b] | 0:39 | 2:31[a] | 0:58[a] | 0:33[a] | 2:03[b] | 1:05[a] |
| Heavy - › 14 | 15% | 12:49[c] | 0:47 | 3:56[b] | 1:22[b] | 0:57[b] | 3:16[c] | 2:30[b] |

**Of light, moderate and heavy TV, computer, video game and print users, the proportion who are "heavy multitaskers"[1]**

| | **Light** | **Moderate** | **Heavy** |
|---|---|---|---|
| TV | 11%[a] | 16%[ab] | 25%[b] |
| Computer | 8%[a] | 14[a] | 33[b] |
| Video game (console player only) | 12%[a] | 21[ab] | 28[b] |
| Print | 15% | 15 | 18 |

[1] Multitasking score is comprised of four items (q130, 205, 265, 320). See Chapter 7 for description of scale construction. Heavy multitaskers are defined as having received a multitasking score of greater than 14 as defined in chapter 7.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 7.5

# Time Spent in Other Activities by Light, Moderate, and Heavy Media Users

| | | 8- to 18-year-olds | | | | 7th- to 12-graders | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Time spent with: | | | | Time spent with: | | | |
| **Total media exposure** | | **Proportion** | **Parents** | **Exercise** | **Hobby** | **Proportion** | **Friends** | **Homework** | **Chores** | **Job** |
| Low | 3 hours or less | 18% | 1:57[a] | 1:21[a] | 0:52[a] | 16% | 2:11[ab] | 0:49 | 0:29[a] | 0:32[ab] |
| Moderate | More than 3 hrs - 13 hrs | 62% | 2;16[b] | 1:21[a] | 0:56[a] | 64 | 2:10[a] | 0:52 | 0:31[a] | 0:30[a] |
| High | More than 13 hrs | 20% | 2:35[b] | 1:42[b] | 1:18[b] | 19 | 2:41[b] | 0:45 | 0:39[b] | 0:55[b] |
| **TV** | | | | | | | | | | |
| Light | 1 hr or less | 34% | 2:09[a] | 1:25 | 1:03[ab] | 37 | 2:27 | 0:57[a] | 0:32 | 0:31 |
| Moderate | More than 1 hr - 5 hrs | 45% | 2:11[a] | 1:21 | 0:54[a] | 45 | 2:09 | 0:48[ab] | 0:31 | 0:35 |
| Heavy | More than 5 hrs | 20% | 2:42[b] | 1:34 | 1:07[b] | 18 | 2:10 | 0:38[b] | 0:36 | 0:44 |
| **Print** | | | | | | | | | | |
| Light | None | 26% | 2:05[a] | 1:17[a] | 0:53[a] | 27 | 2:07 | 0:38[a] | 0:22[a] | 0:41 |
| Moderate | 5 min - 1 hr | 55% | 2:17[ab] | 1:26[ab] | 0:58[a] | 55 | 2:16 | 0:50[b] | 0:33[b] | 0:30 |
| Heavy | More than 1 hr | 19% | 2:31[b] | 1:35[b] | 1:13[b] | 18 | 2:29 | 1:08[c] | 0:45[c] | 0:43 |
| **Computer** | | | | | | | | | | |
| Light | None | 45% | 2:16[ab] | 1:25 | 0:59 | 40 | 2:15 | 0:50 | 0:38 | 0:42[ab] |
| Moderate | 5 min - 2 hrs | 38% | 2:24[a] | 1:27 | 0:59 | 39 | 2:13 | 0:49 | 0:30 | 0:24[a] |
| Heavy | More than 2 hrs | 16% | 2:03[b] | 1:25 | 1:05 | 20 | 2:27 | 0:53 | 0:28 | 0:42[b] |
| **Video games**[1] | | | | | | | | | | |
| Light | None | 58% | 2:13 | 1:15[a] | 0:54[a] | 65 | 2:08[a] | 0:52 | 0:33 | 0:36[a] |
| Moderate | 5 min - 1 hr | 28% | 2:22 | 1:39[b] | 0:05[ab] | 24 | 2:25[ab] | 0:50 | 0:30 | 0:41[a] |
| Heavy | More than 1 hr | 13% | 2:21 | 1:40[b] | 1:14[b] | 11 | 2:48[b] | 0:39 | 0:36 | 0:20[b] |

[1] Video game console player only - not handheld.

*Note: See Appendix 2.1 for a full description of the system of superscripted letters (a,b,c) and double daggers (‡) used to denote statistical significance in this table.*

## APPENDIX 7.6

# Correlation Matrix of Time With Media

| | **Reading** | **TV** | **Prerecorded TV/videos/ DVD/movies** | **Video game console player** | **Handheld video games** | **Video games total** | **Music** | **Computer** |
|---|---|---|---|---|---|---|---|---|
| Total media use | .31* | .66* | .58* | .42* | .39* | .48* | .52* | .49* |
| Reading | | .01 | .17* | .05* | .08* | .08* | .06* | .09* |
| TV | | | .22* | .18* | .16* | .21* | .07* | .10* |
| Prerecorded TV | | | | .20* | .21* | .24* | .14* | .14* |
| Video game player | | | | | .42* | .90* | .03 | .09* |
| Handheld video games | | | | | | .77* | .06* | .08* |
| Total video games | | | | | | | .05* | .10* |
| Music | | | | | | | | .21* |

*Note: An asterisk in this table indicates a Pearson Correlation significant at p.<.05.*






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