

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 $\pm 3.8\%$, 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).

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 computers⁴ (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.

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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," "some-what," "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 were 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%