

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

TABLE 5-A

Total Media Exposure and Total Media Use

	Total exposure	Multitasking proportion	Media use ¹
Total sample²	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.

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-

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.

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

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.

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

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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.

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.

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.

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 2¹/₄ 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.

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.

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

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.

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.